

Chapter 3

Distributing school funding

This chapter presents an overview of different mechanisms used to allocate funding, whether this is between different levels of education administration or to individual schools. It presents a set of guiding questions that policy makers can follow in designing a funding allocation model that is aligned to the school system's governance structures. The chapter describes different approaches that countries take in distributing funding for current expenditures and capital expenditures. For current expenditures, the analysis focuses on the design of funding formulas that can be adjusted to support policy objectives aiming for greater efficiency, equity and quality. The chapter presents a range of policy options with key principles that can support the design and implementation of more effective funding mechanisms.

The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

This chapter presents an overview of how different countries distribute funding. The focus is on the design of different mechanisms used to allocate funding, whether this is between different levels of education administration or to individual schools. The chapter is organised in three main sections. First, it presents the basic questions to be considered in designing a funding allocation model that is aligned to the school system's governance structures. Second, it presents approaches taken by OECD review countries in the allocation of funding for current expenditures and looks in particular at the design of funding formulas and considerations for related information needs. Third, it presents approaches taken by OECD review countries in the allocation of funding for capital expenditure. Finally, based on this overview of research and OECD review analysis of country practices, it presents a set of policy options for designing more effective allocation mechanisms. A profile of funding transfers between different administrative levels and to schools is provided for countries participating in the OECD review in Annex A.

Basic questions in designing a funding allocation model

The European Commission/Eurydice (2000) identified two factors in deciding on a procedure for determining the volume of resources to be allocated to schools: the responsibilities of those involved in the allocation, and the methods used to calculate the amount of resources allocated. However, there is in general a dearth of available research on the strengths and weaknesses of different funding models (Atkinson et al., 2005). This section presents a series of guiding questions that can be followed in designing a funding allocation model that best fits the established governance structure. It also shows some examples of how countries have reformed funding mechanisms to align to and support major changes in the governance structure of the school system (see Box 3.1).

Box 3.1. Governance changes and the introduction of new funding allocation mechanisms

In **New Zealand**, there was a significant change to educational governance structure in 1989 when the regional education boards were abolished and boards of trustees (composed primarily of parents) were made responsible for administering and managing individual schools. The former system of central regulation and funding supporting regional education boards that governed primary schools was broadly criticised as overly bureaucratic and not responding to student and local community needs (Ministry of Education, New Zealand, 2010). This change in school governance structure led to a change in how funding was allocated. State schools receive funding via four main allocation mechanisms (New Zealand Ministry of Education, 2015). First, each school is provided staffing entitlement in the form of a number of full-time teacher equivalents. The Crown directly meets the salary cost of teachers employed using staffing entitlement. The staffing entitlement received by a school is calculated using standard formula relating to school type, number of students and year level. The boards of trustees employ school principals and

Box 3.1. Governance changes and the introduction of new funding allocation mechanisms (cont.)

teachers. Pay and working conditions are centrally negotiated between unions and the Ministry of Education. Second, schools receive operational funding from the Ministry of Education in cash. This is based on a number of factors including: school type student number; Year level of students; socio-economic status of the community (a decile rated system 1 to 10); and schools location (adjustments for isolated schools). Third, the Ministry of Education may also directly provide schools with services and programmes (e.g. subsidised computers for teaching staff and in-service training). Fourth, the Ministry of Education centrally provides schools with property and building. Schools receive a five-yearly funding allocation to upgrade and modernise schools property. This must be spent according to a property plan prepared by the school and agreed by the ministry. Funding for additional property or major redevelopments is allocated on a needs basis and often the delivery of these projects is centrally managed by the ministry. The board of trustees controls the school's finances and is audited annually by the government's auditor (each school prepares an annual report on financial accounts for the Office of the Auditor-General). The professional standards for schools principals include the ability to effectively manage and administer finance, property and health and safety systems.

In the **Czech Republic**, a significant reform of public administration in 2002 saw the creation of 14 self-governing regions, including Prague the capital city (Shewbridge et al., 2016a). This move away from a centralised governance structure notably gave the 14 regions autonomy to govern their own education system. The Czech regions mainly operate schools providing upper secondary education. There are over 6 000 self-governing municipalities in the Czech Republic, of which only 453 are urban municipalities. Municipalities operate pre-school and basic schools (primary and lower secondary education), although not all Czech municipalities have a school. All current expenditures of schools are divided into two categories: the "direct costs" (central funding) and the "operational costs" (local funding). A central grant is allocated to regions using per student normative amounts to cover the direct costs which are regulated by the state. These include primarily salaries for teachers and other staff, textbooks, teaching aids, further professional development of teachers and other expenditures resulting from labour laws. Thus, for example, if the central government decides to increase teacher salaries or to strengthen curriculum, it has the mechanism to raise the national normative amounts to compensate local governments for the increased expenditures. The regions are responsible for allocating this funding to all schools on their territory (including municipal schools). The operational costs of schools are locally funded as expenditures depend on many diverse factors and on local prices of inputs. This component includes maintenance of schools, energy expenditures (heating, electricity, gas), communal services (provision of water, utilisation of garbage) and small repairs. A separate financial stream concerns investments in schools. This is the responsibility of school providers, that is, municipalities for basic schools and regions for secondary schools and private providers.

In **England (United Kingdom)**, a major reform to local government in 1972 saw the introduction of two tiers of local government, county and district councils, with the upper tier (counties) responsible for education. Since then, there have been a series of reforms and mergers of either counties and districts or various districts into "unitary authorities" to reduce the overall number of authorities and councillors. Counties remain responsible for education, including special educational needs, adult education and pre-school – in 2017 there were 27 county councils and 125 unitary authorities (which carry out all local government functions) (Sandford, 2016).

Box 3.1. Governance changes and the introduction of new funding allocation mechanisms (cont.)

In an overview of governance and funding distribution changes over the period 1988 to 2007, Levačić (2008) distinguishes three main periods in the governance of public schools: establishing local management of schools (1988-97), New Labour and consolidation (1997-2002) and centralising Labour (2002-07) (Labour being the major left-wing political party). From 1998 to 2002 schools were delegated greater financial responsibilities, while local authorities remained responsible for distributing central funding to public schools with a high degree of discretion (local authorities received a block grant from central authorities). However, local authorities were required to use a funding formula to allocate funding to public schools and this was to be mainly driven by student numbers and characteristics. In addition, the central government detailed a set of indicators that should be included in local funding formula. Over this period there were increasing tensions between central and local authorities surrounding the distribution mechanism and this culminated in the introduction of a centrally determined Dedicated Schools Grant in 2006/07, replacing the traditional block grant to local authorities.

In 2016, the Conservative government (right wing) has introduced some simplifications to the overall allocation mechanism to introduce greater flexibility at the local level: the block grants for schools are split into 3 notional blocks (schools block; early years block; high needs block) and most separate grants (targeted funding) have been incorporated into this major grant; and local authority funding formulas have been simplified, including 2 mandatory factors (minimum amounts per primary and secondary student; deprivation – using either an income deprivation index or free school meals data) and up to 12 other optional factors (e.g. sparsity/rural areas, prior attainment).

The introduction of academies (publicly-funded private schools outside the control of local authorities which receive funding directly from central authorities) constitutes a further key development in the governance and funding of school education in England. The academy school model was initiated under the Labour government in the early 2000s to address concerns about the quality of education in some local authorities, usually serving urban inner-city disadvantaged neighbourhoods, and was extended under successive Conservative governments. Like public schools run by local authorities, academies must follow legislation and guidance on admissions, exclusions and special educational needs and disabilities, but they benefit from greater autonomy (e.g. for setting pay and conditions for their staff or for changing the length of school terms). Publicly-funded private schools can operate as single academy trusts or under an umbrella of a multi-academy trusts.

Source: Levačić, R. (2008), “Financing schools: Evolving patterns of autonomy and control”, *Educational Management Administration and Leadership*, <http://dx.doi.org/10.1177/1741143207087774>; New Zealand Ministry of Education (2015), *Education Report: Funding Review – Draft Stock-Takes and Next Steps*, <https://education.govt.nz/ministry-of-education/consultations-and-reviews/education-funding-system-review>; Shewbridge, C. et al. (2016a), *OECD Reviews of School Resources: Czech Republic 2016*, <http://dx.doi.org/10.1787/9789264262379-en>; Sandford, M. (2016), “Local government in England: Structures”, *House of Commons Library Briefing Papers*, <http://researchbriefings.files.parliament.uk/documents/SN07104/SN07104.pdf>; OECD (2015), *Education Policy Outlook: United Kingdom*, www.oecd.org/education/policyoutlook.htm.

Who is responsible for the final allocation to schools?

As presented in Chapter 2, in many systems there is a complex distribution of responsibilities for funding transfers in the education sector. Funding may be initially transferred between different levels of authorities and may be specified for a particular educational purpose (earmarked funding), for compulsory education (block grant) or generally allocated for use in the public sector (lump sum funding) (see next section).

Depending on the type of conditions set in the initial transfer of funds, this will influence the degree of freedom that the authorities with final responsibility for allocating funds to school will have. Responsibilities may differ according to the resource category also. These distinctions are explored more in the sections on current expenditure and capital expenditure. Broadly, OECD (2016) data indicate three groupings of countries according to whether the major proportion of public funding to schools is allocated by local, regional, state or central authorities (Table 3.1).

Table 3.1. Final stage in the transfer of public funds to schools, 2013

Share of sources of public funds by level of government (after transfers between levels of government)

	Local	Regional	Central
Local authorities allocate the major proportion of resources			
United States	98	2	0
Norway	95	x	5
Poland	94	2	4
Finland	90	x	10
Canada	86	11	3
Latvia	76	x	24
Lithuania	74	x	26
Iceland	73	x	27
Slovak Republic	72	x	28
Korea	70	30	1
United Kingdom	59	x	41
State/regional authorities allocate the major proportion of resources			
Argentina	2	96	2
Australia	..	95	5
Japan	17	81	2
Spain	6	80	14
Mexico	0	73	27
Germany	22	72	6
Belgium	3	72	25
Czech Republic	26	62	12
Switzerland	39	60	0
Austria	12	49	39
Central authorities allocate the major proportion of resources			
New Zealand	0	x	100
Netherlands	11	0	89
Hungary	12	x	88
Slovenia	12	x	88
Turkey	..	15	85
Colombia	9	6	85
Luxembourg	16	x	84
Ireland	17	x	83
Italy	11	8	81
Portugal	15	6	79
France	12	17	71
Israel	30	x	70
Estonia	38	x	62
Chile	44	x	56
OECD average	36	23	41

.. : included in a different column of the table

x: not applicable

Note: "Regional" data refer to the first territorial unit below the national level. In federal countries this will be a state.

Source: OECD (2016), *Education at a Glance 2016: OECD Indicators*, <http://dx.doi.org/10.1787/eag-2016-en>.

The approach with allocation of funding mainly at the local level is typified by the United States where school districts have the major responsibility for funding allocation and there is a limited role for the states. Among the OECD review countries, Denmark, Lithuania, the Slovak Republic and Sweden also see local authorities allocating the major proportion of funding. In Denmark, Lithuania and Sweden this concerns the municipal authorities and in the Slovak Republic this concerns the school providers, whether municipal authorities, regional authorities or private schools.

The approach with allocation of funding mainly at the state level is typified by Australia where the states and territories have the major responsibility for funding allocation and there is a limited role for the Australian government, although the local level also plays an important role in funding allocation. A recent review of funding allocation in Australia noted the benefits that distribution via “systems” (government schools; Catholic schools; independent schools) brings as they can achieve efficiencies through economies of scale and use local knowledge of schools and communities to distribute funding to where it is most needed (Gonski et al., 2011). In particular, larger systems had the capacity to apply a greater range of measures of need in their funding formulas for distributing to individual schools and also had greater flexibility to provide additional support to schools where necessary, e.g. rural/remote schools, new schools, schools in financial difficulty. Among the OECD review countries, Austria (the provinces), Belgium (the Communities), the Czech Republic (the regions) and Spain (autonomous communities) have the major proportion of funding allocated at the regional or state level. However, in all cases authorities at different levels play a significant role in funding allocation also.

Finally, the approach with allocation of funding at the central level is typified by New Zealand where all funding is distributed by the New Zealand government directly to schools, as regional level authorities were abolished in 1989 (see Box 3.1). Among the OECD review countries, Uruguay provides an example of a system where funding is distributed directly from the central level to schools. There are four central education councils, each with responsibility to transfer resources in kind to schools in a particular sector. In Chile, Colombia, Israel, Luxembourg, Portugal and Slovenia, central authorities allocate the major proportion of funding to schools. However, in all cases local authorities also play a role in allocating funding to schools, most significantly in Chile and Israel.

As can be seen in Table 3.1, in many systems there is a complex mix of responsibilities for the final allocation of funding to schools. The balance of these responsibilities can be changed according to major governance changes (see for example the cases of New Zealand and the Czech Republic in Box 3.1) but also may be influenced by different conditions set on funding transfers between different administrative levels and/or central regulatory frameworks (see the example of England, the United Kingdom, in Box 3.1) and also by the use of targeted funding external to the main allocation mechanisms. These concepts will be further explored and illustrated below.

What conditions (if any) are set for funding allocation?

Different conditions can be set when a grant is allocated and these can have considerable influence on how the money is spent. A greater degree of decentralisation in funding allocation means that decision makers are better able to account for the particular needs of individual schools; but there is an increased likelihood of different treatment for schools across a country (see Chapter 2). The response to objectively similar circumstances

will not always be the same (European Commission/Eurydice, 2000). A greater degree of centralisation can support greater transparency with all schools treated in a similar way; but it is difficult to take account of particular individual circumstances.

Conditions set by higher level authorities on initial funding transfers

Even if a local authority is responsible for funding allocation, central authorities may specify how (for what purpose) the money should be spent. The various restrictions with which local or regional authorities may need to comply provide a good indication of their room for manoeuvre (Atkinson et al., 2005).

Lump sum transfer. The greatest degree of administrative freedom is granted to local authorities when funding is transferred as a lump sum. The lump sum mechanism leaves discretion to sub-central authorities over the proportion allocated to school education. Among the OECD review countries, Belgium, Denmark and Sweden transfer lump sum grants to regional/state or local authorities (municipalities in Denmark and Sweden; the Flemish Community and the French Community of Belgium). Burns and Köster (2016) find that lump sum funding, along with stronger roles for stakeholders, horizontal accountability and the use of performance indicators to hold local authorities accountable, have helped move away from a hierarchical relationship between central, regional and local authorities to more mutual independence and self-regulation. However, establishing a fair allocation of resources may be more difficult for authorities with budgetary responsibilities for education and other sectors, as there is a need to be fair to schools and other public sectors (European Commission/Eurydice, 2000). Pressure on resources from other services may restrict funding to schools (Atkinson et al., 2005). It is also challenging to identify how much of the variation in expenditures across municipalities can be attributed to differences in municipal income (despite some equalisation via the central allocation), differences in socio-economic contexts and differences in how much public education is prioritised (Chapter 2).

Block grant. There may be funding allocated with the condition that it is spent on a certain type of expenditure, that is, current expenditure or capital expenditure. A block grant consists of funds that lower level authorities are required to use for current expenditure in pre-school or school education at their own discretion. This, therefore, leaves a high degree of discretion over the proportion of the grant that will be allocated to different categories of current expenditure, such as salaries, operational costs, and also over the amount allocated to each school (in the case that the local authority is responsible for more than one school).

Among the OECD review countries, Iceland transfers funding to municipalities in the form of a block grant for compulsory education; and for upper secondary education the bulk of the central transfer in the form of a block grant direct to schools (the central authorities are responsible for operating costs in upper secondary schools). In the Slovak Republic, the major funding transfer to school providers (regions, municipalities and private schools) comprises one block grant for salaries and operational costs. School providers are free to use this grant for any type of expenditure. However, there are limits imposed for the reallocation of funding among schools, with school providers permitted to reallocate a maximum of 10% of the grant calculated for salary costs and 20% of the grant calculated for operational costs. The OECD review in the Slovak Republic found that this gave flexibility to better meet local needs and to respond to difficulties some schools may experience in financing all their costs (Santiago et al., 2016a). However, funding for professional development is included in the

block grant for salary costs (1.5% of the school's allocated amount for salaries) and the OECD review found that teachers reported difficulties in accessing professional development due to a lack of financial support from the school budget. In this context, it could be useful to earmark a certain percentage of the salary grant for professional development, or to set strong expectations that this proportion is spent on professional development or to give each teacher a personal allowance for professional development (Santiago et al., 2016a). In Chile, the major funding transfer to school providers (municipal authorities and private education providers) is a block grant for general education, but this is complemented by a series of earmarked funds and school-specific funds, e.g. to support students with special educational needs or to reward top performing schools respectively.

Earmarked grant. Central authorities may impose greater restriction by specifying a purpose for the grant. An earmarked grant consists of funds that lower level authorities are required to use for specific elements/items of current expenditure in pre-school or school education (e.g. teacher salaries).

In Estonia, the central authorities transfer a set of different earmarked funds to school providers (municipalities and private school operators) for specific educational purposes, the major funding transfer being for general education and covering teacher and school leader salaries and professional development, study materials and school lunches. The OECD review in Estonia found that the use of earmarked funding for teacher salaries offers the advantage that the costs of national policy decisions to raise minimum teacher salaries are not fully imposed on local authorities (Santiago et al., 2016b). It also makes it easy for the national government to ensure that funding has been spent for its specified purpose. In the Czech Republic, the central authorities transfer an earmarked grant to the higher tier of sub-central authorities (regions) to cover the “direct costs of education”, including teacher and learning support staff salaries, textbooks and teaching aids and teacher further professional development. Similarly, the OECD review in the Czech Republic found that this allowed national authorities to align funding to policy changes on salaries and the curriculum (Shewbridge et al., 2016a) (see also Box 3.1). In Lithuania the central authorities transfer an earmarked grant for “teaching costs” to sub-central authorities (municipalities) calculated for each individual school, comprising teacher salaries, management, administration and professional support staff, textbooks for students and some school materials, teacher in-service training and pedagogical and psychological support services provided by local authorities. The use of earmarked funding for teaching costs enabled the national government to ensure a degree of control over the quality of education delivered in schools (Herczynski, 2011).

School-specific grant. Finally, the most restrictive type of transfer from central to lower level authorities implies reduced or no administrative discretion to reallocate funding among different schools (in the case that a local authority is responsible for more than one school). A school-specific grant consists of funds that lower level authorities are required to use for current expenditure in specific schools. In Chile, school-specific funds are allocated to reward top performing schools.

Conditions set on funding transfers to schools

Equally, different conditions can be set when allocating funds to individual schools. As noted, these funding allocations may come directly from central authorities or via other

administrative levels. Depending on the type of conditions set, schools will have more or less freedom in administering the school budget. For an overview of different levels of school autonomy over the use of resources see Chapter 2.

Funds administered by the school

Schools enjoy most freedom over how to spend funding when they receive a block grant. The allocation of a block grant implies that the school may use this funding at its full discretion across all areas of spending. Authorities may impose some conditions on the particular area of spending that the funding should be used for, e.g. for non-teacher salary spending or operating costs, and transfer a restricted block grant. For example, in the Slovak Republic, the school provider must approve a school's request to use part of the salaries grant for operational costs, or vice versa.

Authorities may impose stricter conditions by transferring an earmarked grant. Fazekas (2012) cites the use of earmarked funding as a way for higher level authorities to constrain the school's room for manoeuvre. An earmarked grant is for a specific expenditure item or items, e.g. extra funds for special educational needs or teacher professional development, which the school is required to respect in its administration of the funds.

Resources received in kind or directly paid for/purchased by a body external to the school

Finally, schools may not receive funding directly and not administer the funds. Rather, the school receives resources in kind and/or costs are directly paid for by the relevant authority. In this case, a dedicated grant is issued for a specific use, e.g. teacher salaries or operating costs are paid directly by the relevant authority. Among the OECD review countries, dedicated grants are used for salary costs in Austria, the Flemish and French Communities of Belgium and Israel (all using a funding formula) and for both salary and operational costs in Chile and Uruguay (determined by administrative discretion/on a historical basis). In New Zealand, the Crown directly funds salary costs of teachers and principals employed using staffing entitlement (see Box 3.1). The salary costs of any additional staff (including teaching staff) are met by schools directly through their operational grant funding. An ongoing review of the funding mechanisms is careful to note that a block grant allocation to schools, inclusive of the salary cost of teachers, would not be introduced. This approach was experimented with in the 1980s and met with strong opposition from many stakeholders.

In Austria, there is a dual system for funding teachers at the federal and provincial levels, which sets some unintended incentives, including the possibility for provincial governments to overspend in general compulsory schools. Although the transfer is based on agreed staff plans, the federal government has no control over how provincial governments use these funds, including on policies to support small rural schools that lead to overspending. The OECD review in Austria recommended that the federal government fund all teachers directly, rather than the current complex transfer arrangement of teacher funding through the provincial administrations (Nusche et al., 2016b). Municipalities and provincial governments would continue to be responsible for funding maintenance costs and infrastructure investments.

What proportion of funding is distributed through the main allocation mechanism?

An important consideration in designing a funding allocation model is to determine how much of the public funding for schooling will be distributed via the main allocation

mechanism and how much via other mechanisms (external to the main allocation mechanism), such as targeted funding offered via special programmes.

In the context of designing a funding formula as the main mechanism to distribute funding to schools, Levačić and Ross (1999) present several arguments for retaining a proportion of funding at the central level, including: the need to allow for short term or emergency expenditures with uneven incidence across schools (e.g. structural repairs, early staff retirement); where the central/local authorities hold statutory responsibilities for certain programmes; where central provision would allow significant economies of scale; situations where it is judged that schools would not make adequate provision (e.g. in-service training for staff); when the central level owns the school buildings; and earmarked grants for certain central projects.

Funding mechanisms external to the main allocation mechanism offer a certain degree of flexibility to the overall funding model and if well designed can offer important benefits. Burns and Köster (2016) identify the essential role of policy experimentation and risk-taking for innovation and the evolution of education systems. In this context, targeted funding can provide flexibility within the overall funding model to support pilots of innovative policies. For examples from Austria, the Czech Republic and Denmark, see Box 3.2.

Box 3.2. Examples of targeted funds for specific programmes and priorities

In **Austria**, federal funding is set aside for priority projects like the New Secondary School reform and the promotion of all-day schooling. However, the OECD review in Austria noted that the provision of targeted funding is not always sufficient incentive: the expansion of all-day schooling is slower than expected and provincial authorities had not requested all the available funds (Nusche et al., 2016b).

The **Czech Republic** uses a number of specific education grants to fund development programmes, that is, specific experimental or piloting programmes and new educational initiatives (Shewbridge et al., 2016a). These initiatives are often developed or proposed by some groups of teachers or by locally active and not well resourced non-governmental organisations, so require financial support from the state to be really tested. If these development programmes show positive outcomes, they may be expanded and eventually integrated into mainstream financing scheme, or they will be discontinued. The OECD review in the Czech Republic noted that, in this way, the use of targeted funding supports policy experimentation and by supporting localised, innovative projects can be a fruitful way to test out different approaches to address identified challenges in the education system.

In **Denmark**, there are very few specific or earmarked grants for compulsory public education (the *Folkeskole*) and these represent very low amounts compared to the overall spending in schools – compulsory education is almost exclusively financed by the lump sum from central government and local tax income (Nusche et al., 2016a). A recent example of earmarked funding is a grant for teacher competency development and a grant to facilitate implementation of the 2014 reform in compulsory public education. A key goal of the 2014 reform is to ensure that every teacher has the competencies and qualifications for the subjects they teach by 2020. The related central grant is earmarked to finance the necessary courses and written examinations for teachers to upgrade their skills (although schools must fund the release time for teachers to participate in these).

Source: Nusche, D. et al. (2016b), *OECD Reviews of School Resources: Austria 2016*, <http://dx.doi.org/10.1787/9789264256729-en>; Shewbridge, C. et al. (2016a), *OECD Reviews of School Resources: Czech Republic 2016*, <http://dx.doi.org/10.1787/9789264262379-en>; Nusche, D. et al. (2016a), *OECD Reviews of School Resources: Denmark 2016*, <http://dx.doi.org/10.1787/9789264262430-en>.

At the same time, there is an argument that efficiency is improved the greater the proportion of funding that is included in the main allocation mechanism. Levačić (2008) found that the efficiency of the allocation mechanisms from central authorities in England (United Kingdom) increased between 1998 and 2002 due to the fact that an increasing proportion of overall funding was delegated to schools, with only major capital expenditures and a few local services excluded from the main funding allocation. This was coupled by a requirement that the major proportion of local funding formula be driven by student numbers and characteristics.

Fazekas (2012) pinpoints the phenomenon of an increase in use of targeted funding programmes – external to the main allocation mechanism – as a direct result of high level authority frustration at not knowing how the allocated funding has been used at the school level. In the United Kingdom and the United States, for example, there was a growing concern that even if public authorities can determine and allocate the adequate amount of resources, it is unclear how schools spend the resources, particularly in settings where they are free to manage the allocated block grants. Levačić et al. (2000) warn that the accretion of numerous targeted funds can lead to a piece-meal re-centralisation of funding and undermine the advantages of formula funding. This also weakens administrative efficiency and a proliferation of “added on” grants can lead to obscurity of the funding mechanism. Chapter 5 discusses the administrative burden of monitoring and evaluating the use of targeted funding.

In Uruguay, there are over 130 programmes targeted at improving equity in education which involve the funding of specific groups of students or schools, including programmes for teachers, the provision of free meals in public primary schools, summer school programmes to extend the school year in selected schools and free transportation for all primary school students (Santiago et al., 2016c). The OECD review in Uruguay noted that the use of targeted funding conveys policy objectives and responds to emerging needs in the school system (e.g. a digital learning priority); it also promotes greater vertical equity (for definitions of equity, see Annex 1.A1). However, the multitude of programmes reduces transparency of funding to schools and makes the funding allocation complex and potentially inefficient due to the risk of duplication of efforts, a lack of co-ordination and greater administrative costs.

In Chile, a series of additional grants – external to the basic per capita grant – has been introduced to better address inequities, the major one being the preferential education grant that targets schools with at least 15% of their student population being socio-economically vulnerable, but also grants targeting rural or other specified areas, maintenance costs, special educational provision (Santiago et al., forthcoming). The OECD review in Chile found that the use of targeted funding has helped to address inequities and respond to new policy priorities, such as full-day schooling and an extended coverage of pre-school. However, the overall funding system has become overly complex over time with many different components. The growing share of grants earmarked for specific purposes has introduced high transaction costs, including those related to monitoring how the funding is used, and imposed restrictions on schools that often mean a less efficient allocation of resources at the school level.

How is the amount allocated to schools determined?

The OECD review has identified a range of different bases used to determine the amount of funding allocated to schools. Broadly speaking, there are four main approaches to funding allocation (OECD, 2012; Levačić, 2008; European Commission/Eurydice, 2000):

- Administrative discretion, which is based on an individual assessment of the amount of resources that each school needs. Although it can serve schools’ needs more accurately,

it requires extensive knowledge of each school and measures to prevent misuse of resources. While it might involve the use of indicators, the final allocation might not necessarily correspond to the calculations and these would not be universally applied to all schools.

- Incremental costs, which takes into consideration the historical expenditure to calculate the allocation for the following year with minor modifications to take into account specific changes (e.g. student numbers, school facilities, input prices). Administrative discretion and incremental costs are often combined, and usually these are used in centralised systems.
- Bidding and bargaining, which involves schools responding to open competitions for additional funding offered via participation in a particular programme or making a case for additional resources.
- Formula funding, which involves the use of objective criteria with a universally applied rule to establish the amount of resources that each school is entitled to. The relevant authority uses a formally defined procedure (a formula) to determine the level of public funds allocated based on a set of predetermined criteria, which in most cases are input-, output- or performance-oriented. These predetermined criteria are impartially applied to each recipient (e.g. sub-central authority or school). Formula funding relies on a mathematical formula which contains a number of variables, each of which has a coefficient attached to it to determine school budgets (Levačić, 2008). Formulas typically contain four main groups of variables (Levačić and Ross, 1999): i) basic: student number and grade level-based; ii) needs-based; iii) curriculum or educational programme-based; and iv) school characteristics-based.

The European Commission/Eurydice (2000) noted that methods based on the needs of a given school (i.e. administrative discretion and bidding and bargaining) are more direct than those based on a set of indicators of needs. In general, the greater the number of schools that authorities are responsible for, the harder it is to be aware of specific school needs and the more reliant they will be on indicators.

However, the distribution of funding on a discretionary or incremental basis is rarely efficient or equitable and tends to be associated with low levels of budget transparency (OECD/The World Bank, 2015). When funding is allocated on a historical basis, this funds existing staff year after year and typically involves the payment of invoices submitted by schools for supplementary costs (Levačić and Ross, 1999). Schools have no incentives to reduce their expenditures or increase their efficiency. Nor do they have incentives to improve the quality of their provision (European Commission/Eurydice, 2000). As noted in the OECD Review of School Resources in Kazakhstan, schools have incentives to run into deficits with the hope that others absorb them and to inflate their expenditures with the aim of obtaining larger allocations in subsequent years – a practice known as “deficit budgeting” (OECD/The World Bank, 2015). Negotiation processes are driven by the relative priorities and strengths of local actors. Such perverse incentives lead to extensive regulation with a system of “norms” used to lower the expected allocation.

In Germany, 7 of the 16 states (*Länder*) determine supplementary funding to support the education of migrant children on the basis of the professional judgement of local school administrators (Table 3.2). While this offers the advantages to help address needs at the right time and control costs from year to year, it holds the disadvantages that some schools may receive less than their fair share of funding where school administrators underestimate

funding needs and there have been heated parliamentary debates about the lack of transparency (Sugarman et al., 2016). Similarly, while the allocation of funding to schools based on the amount received in the previous year offers schools an accurate forecast of income, this may inhibit the expansion of schools with high educational demand, while supporting those whose development is lagging behind (European Commission/Eurydice, 2000).

The use of formula funding provides a high degree of transparency to the allocation system and when linked to the number of students provides good forecasting of public expenditure (European Commission/Eurydice, 2000). While administrative discretion plays an important role in funding allocation in many countries, the use of formula funding is well suited for the distribution of current expenditure and many countries have introduced this. The sections on current expenditure and capital expenditure below present an overview of different mechanisms used by countries. Broadly, among OECD review countries the major bases for determining funding allocation include: for current expenditure funding formula, administrative discretion, historical basis and negotiated process (Tables 3.A1.1 and 3.A1.2 and Annex A); and for capital expenditure the assessment of needs, administrative discretion and a competitive basis (Annex A).

How to ensure allocation mechanisms remain optimal?

The OECD review has highlighted the importance of conducting a periodic review of funding allocation mechanisms. The Ministry of Education, New Zealand (13 May 2015) provides some helpful insights into recent funding reviews conducted in Australia and in some of the Australian states and in England and Northern Ireland (United Kingdom). The funding reviews share some common procedural and design aspects. With the exception of England (United Kingdom), there is a substantive role for an independent body (whether an existing independent agency/office/commission or a panel of independent researchers) in providing recommendations for reform, with government officials providing administrative, data and analytical support. Indeed, two recent reviews in the Flemish Community of Belgium were conducted by the Belgian Court of Audit and a consortium of researchers commissioned by the Flemish Minister of Education (Nusche et al., 2015). In England (United Kingdom), the government led the review process, with an open and continued call for stakeholder input, but with an initial steering from the government to reach agreement on the broad aim of the review and intended direction of reform. Other common elements of the various funding reviews include:

- *A clear mandate for the review:* focus, scope and timeline; details of how the review sits within the broader policy context (e.g. ongoing reform plans).
- *Information on mechanisms for collecting evidence:* Consultation of stakeholders (in person, online surveys, online platform for submission of views/evidence); analysis of funding in a sample of schools (selection principles); research.

For example, the review commissioned by the Flemish government on school operating grants relied on a mix of qualitative interviews in 20 schools, a survey of school principals and a survey of municipalities (Nusche et al., 2015), whereas the Belgian Court of Audit's review of operating budgets relied on a direct analysis of school accounts.

How to ensure effective implementation of a new funding allocation mechanism?

A crucial aspect that should not be overlooked is that, no matter how well designed a new funding allocation mechanism is, there will always be winners and losers when

implementing a new model unless additional resources are made available. Experiences in many countries highlight the importance of effectively managing the political economy of funding reform and also having a realistic estimate of the costs involved.

Political economy and stakeholder consultation

A World Bank (2011) study on the implementation of funding formula (per capita financing) in Armenia, Estonia, Georgia, Lithuania, Poland and the Russian Federation underlined the importance that policy makers pay sufficient attention to political economy pressures. The decline in school-age population in all countries studied put pressure on the efficiency gains expected with the introduction of per capita financing. The World Bank (2011) found that the incentives put in place by funding formula may be no match to the political economy pressures of keeping teachers on the payroll, transferring them to bigger schools, or finding alternative employment for them within the school system.

In Austria, there is a debate to introduce socio-economic criteria into the funding formula. The OECD review in Austria noted that while social partners support the introduction of an index-based formula, there may be political opposition from some provinces with a large share of rural schools, as such a formula would likely result in the redistribution of funding from rural to urban schools (since there are high concentrations of students from disadvantaged backgrounds in cities) (Nusche et al., 2016b).

In England (United Kingdom), Levačić (2008) argues that tensions between central and local authorities hindered the development of a rationally based and stable allocative mechanism over the period 1998-2007. Towards the end of this period, the government proposed to reform the allocation mechanism for the central grant for education (dedicated schools grant) to local authorities by introducing a needs-based formula but this met with tough political opposition. The proposed introduction of a needs-based formula aimed to achieve a more equitable and fairer distribution of funding to local authorities. However, in the face of political opposition, the government committed to ensuring each school received at least the national average and based this on historical funding levels (per student expenditure in 2005/06) – thus negating any of the expected benefits for equity and efficiency from the introduction of a national needs-based funding formula. The current government has held an initial consultation with stakeholders to introduce a national needs-based formula and this revealed broad support for the proposed reform (UK Department for Education, 2016). However, implementation has been delayed until 2018/19 as announced by the Education Secretary to underline “the importance of consulting widely and fully with the sector and getting implementation right” (Greening, 2016). Indeed, this is echoed in literature produced by the Ministry of Education in New Zealand in its ongoing review of the funding model, where “the need to bring stakeholders along on the journey” is emphasised.

Implementation costs

In the World Bank (2011) study, Armenia was the country that had seen most success in increasing the student-teacher ratio and there were two important factors to aid implementation: strong political commitment and additional funding provided for teacher redundancy packages. These two factors were also highlighted in the OECD review in Lithuania: the fact that the 2005 education law had made municipal authorities responsible for school network consolidation had supported the efficiency incentives set by the per capita funding formula; however, the OECD review underlined the need to secure funding to offer attractive redundancy packages to teachers (Shewbridge et al., 2016b).

Another example of the costs of implementation comes from the Flemish Community of Belgium, where recent changes to the system of distributing operating grants and staffing went in line with substantial increases in the overall budget (Nusche et al., 2015). In response to a major review of the funding model in Australia, the government explicitly made the promise that no school would lose funding (Australian Government, 2010). The aim of the review of the funding model was to better ensure adequate funding for students with greater educational needs and as such the government needed to commit significant additional resources to implement the funding reform.

Box 3.3. Overview: Key questions in designing funding allocation mechanisms

Who is responsible for the final allocation to schools?

- Central, regional or local authorities or school providers (i.e. division between authorities and private school operators); a mix of these (most typical) and if so, how clear are funding responsibilities?
- Which resource categories does this apply to? Current expenditures (Staff; operational costs); Capital expenditures (infrastructure; investment); or a mix of these? Is it clear which authority is responsible for allocating which resource category?

What conditions (if any) are set for funding allocation?

- Where there are initial transfers of funds between different level authorities, what conditions are set (lump sum transfer; block grant; earmarked grant)?
- What type of resource is allocated? Funding to the school budget (i.e. for schools to administer) or in kind or directly paid by a body external to the school (teaching equivalents)?

What conditions are set on funding transfers to schools?

- Do schools administer the funds? If so, what conditions are set? (block grant; restricted block grant; earmarked grant)?
- Does the school receive resources in kind? Or are resources paid for/purchased directly by a body external to the school?

What proportion of funding is distributed through the main allocation mechanism?

- What proportion of funding is allocated external to the main allocation mechanism (targeted funding)?
- What is the balance between the main allocation mechanism and additional grants?

How is the amount allocated to schools determined?

- Objective criteria with a universally applied rule or an individual estimate of what the school needs?

How to ensure allocation mechanisms remain optimal?

- How to design and conduct reviews of the funding model?
- How to determine adequacy of funding allocation?

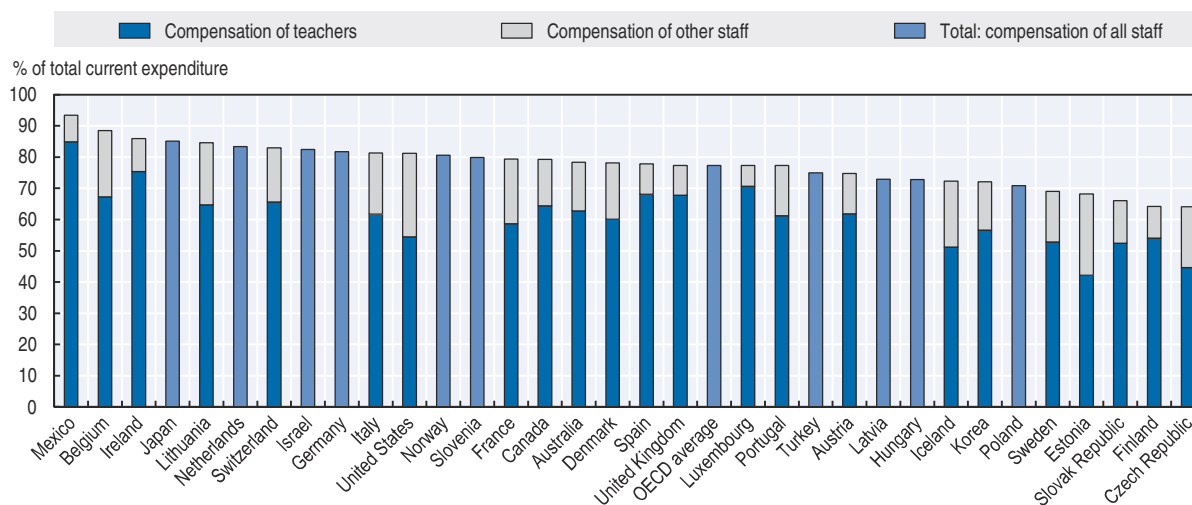
How to ensure effective implementation of a new funding allocation mechanism?

- How to manage the political economy of funding reform?
- How to estimate the costs of implementation?

Distribution of current expenditure

OECD (2016) defines current expenditure as the “spending on goods and services consumed within the current year and requiring recurrent production in order to sustain educational services. Current expenditure by educational institutions other than on compensation of personnel includes expenditure on subcontracted services such as support services (e.g. maintenance of school buildings), ancillary services (e.g. preparation of meals for students), and rental of school buildings and other facilities. These services are obtained from outside providers, unlike the services provided by education authorities or by educational institutions using their own personnel”. International data show that over 90% of annual expenditure by educational institutions (from public and private sources) is spent on school resources used each year to operate schools. In turn, the vast majority of current expenditure is used for the compensation of staff: 77% for both primary and secondary education in 2013 on average in the OECD (OECD, 2016, Table B6.2). While staff compensation primarily comprises salaries for teachers, compensation for other staff exceeds 20% of total current expenditure in Belgium, Estonia, France, Iceland and the United States (Figure 3.1). In contrast, compensation of other staff forms less than 10% of total current expenditure in Luxembourg and Mexico. The cross-country differences likely reflect the degree to which staff, such as school principals, guidance counsellors, bus drivers, school nurses, janitors and maintenance workers are classified as “non-teaching staff” (OECD, 2016).

Figure 3.1. **Compensation of staff as a share of total current expenditure in primary education, 2013**



Source: OECD (2016), *Education at a Glance 2016: OECD Indicators*, <http://dx.doi.org/10.1787/eag-2016-en>.

However, there is sometimes significant variation within a country in terms of the proportion of current expenditure allocated to staff salaries. In Kazakhstan, payroll expenses account for 79% of urban school budgets and 93% of rural ones (UNICEF, 2012, in OECD/The World Bank, 2015). Small class schools and primary schools in rural areas are particularly affected in this sense. On average, 99.6% of their budget is dedicated to salaries (Sange-SFK, 2012, in OECD/The World Bank, 2015).

Among the OECD review countries, the use of funding formulas to allocate funding for teacher salaries is prevalent and in only a few cases are these not used (Kazakhstan, Portugal

and Uruguay) (Annex A). While local authorities have full discretion over the design of funding allocation mechanisms in Denmark and Sweden, the use of funding formulas is quite widespread among Danish and Swedish municipalities (Nusche et al., 2016a; Swedish Ministry of Education and Research, 2016). In Austria, where allocation at the upper secondary level is the responsibility of the central authorities, the predominant mechanism used is funding formulas, while administrative discretion mainly relates to addressing unplanned shortages such as the enrolment of refugees and asylum seekers during the school year (Annex A).

The remainder of this section explores three major aspects related to the distribution of current expenditure: designing funding formulas to meet different policy objectives; accounting for the fact that schools have different resource needs; and understanding the information and analytical needs for an effective allocation mechanism.

How can funding formulas be designed to meet different policy objectives?

Any funding distribution mechanism should be designed to fit the governance and policy context for the school system. There may be different goals that are more important than others depending on the overarching policy objectives.

There are three broad functions that funding formulas can aim to support (Levačić and Ross, 1999):

- Promoting equity (both horizontal equity, i.e. the like treatment of recipients whose needs are similar, and vertical equity, i.e. the application of different funding levels for recipients whose needs differ, see Chapter 1). This is one of the most important functions of a funding formula. To ensure horizontal equity it is crucial to ensure the same basic allocation per student differentiated by year level. Differential amounts can be added to the basic allocation according to the assessed degree of educational need to promote greater vertical equity.
- A directive function to promote certain behaviour in funding recipients. This can be a tool for central, state, regional or local authorities to set certain incentives and support particular policies. For example, an additional amount can be added to the basic allocation to support schools with lower student enrolments or to support the provision of teacher professional development in policy relevant areas.
- Or market regulation (supporting broader school choice policies). The more this function is emphasised, the greater the proportion of total funding to schools is allocated on a per student basis. The formula can establish the per student amount for each child and depending on the system this would be channelled directly to parents as a “voucher” to purchase school education or directly to the school.

A funding formula can be designed to support a balance of these different policy functions. For example, when Lithuania introduced a reform in funding distribution in 2001 (including a central funding formula to allocate funding for teacher and other pedagogical staff salaries), specific goals included an emphasis on eliminating rural-urban disparities (equity), enhancing parental school choice and the development of the private school sector (market regulation) and promoting the optimisation of local school networks and adjustment to the decreasing number of students (directive) (Herczynski, 2011). The specific policy objectives will dictate the different weightings given to each of the main components included in the funding formula. An overview of the funding mechanisms in Lithuania and an evaluation of how well they are meeting policy objectives is provided in Box 3.4.

Box 3.4. Designing school funding formulas to meet policy objectives: Lithuania

Policy context

Lithuania has seen steady emigration over the past 20 years. Between the official censuses in 2001 and 2011, the overall population declined by 12.6%. The population decline has dramatically impacted the school-age population in all school years from primary through upper secondary education and continues to exert pressures on schools. For example, in Years 6 and 7 (lower secondary education) there were almost half as many students in 2014/15, compared to in 2004/05. This demographic phenomenon has presented considerable challenges to the efficiency of the school network.

The vast majority of Lithuanian students are in public schools (just under 3% of students follow general education in the private sector). In Lithuania, the 60 municipalities are responsible for public schools providing general education; the state is directly responsible for vocational training institutions. The provision of public education is, therefore, highly decentralised (in 2014, 84% of students following regular compulsory education or upper secondary education attended a municipal school).

Policy functions emphasised in the funding formula

In 2001, Lithuania introduced an education finance formula which aimed to increase the efficiency of resource use in education and improve education quality. As well as creating a transparent and fair scheme for resource allocation, the reform aimed to promote the optimisation of local school networks and constant adjustment to the decreasing number of students.

Importantly, the funding allocation makes a clear distinction between “teaching costs” (state grant) and “school maintenance costs” (local funds). This design allows the state to directly influence the quality of education provided, as the central grant for “teaching costs” comprises salaries for teachers, school leadership, administration and professional support staff, textbooks for students and some school materials, teacher in-service training and pedagogical and psychological services. “School maintenance costs” cover salaries for maintenance staff, student transportation, communal and communication expenses (utilities), material expenditures and repair works to maintain school facilities. It is important to note that both parts of the school budget include some salary and some non-salary expenditures.

Choice of components within the funding formula and relative importance given to these

The major determinant of funding within the central grant is the number of students in the school. The grant is calculated as a fixed per-student amount (“student basket”) multiplied by the number of “equivalent students” to give a weighted sum of students. This allows for cost differentials in teaching different students. The standard reference student (1.0) studies in a class of 25 students with a weekly number of lessons equal to the average in Years 1 to 10. In 2014, the funding formula contained 67 weighting coefficient values. The major student characteristics are school year, special educational needs and ethnic minority status. However, the funding reform also aimed to eliminate rural-urban disparities and as such the formula includes weights for the size, location and type of school. As a general rule, the final student weighting is the product of the weighting coefficients. For example, a student in a small, rural basic school would receive a weighted coefficient of 1.90, but a student with special educational needs in the same school would receive 2.60, that is 1.90×1.35 weighting for special educational needs. Schools exclusively providing specialised education receive an additional special weighting factor.

Box 3.4. Designing school funding formulas to meet policy objectives: Lithuania (cont.)

Evaluation of how well the funding formula meets policy objectives

The allocation of a fixed per student amount has promoted greater efficiency. However, the per-student amount differs from a pure student voucher system in three ways:

- The grant is transferred to the municipality and not directly to the school. The municipality has the right to redistribute a certain proportion of funding across schools. In 2001, this was 15%, it was gradually reduced to 5%, but now stands at 7%. Municipal reallocation may weaken incentives for schools to compete for resources, as municipalities can choose to support “struggling schools”.
- The grant takes into account school size. This aims to acknowledge that some smaller schools (with higher costs) have lower enrolment rates due to their rural location. However, school size also depends on municipal decisions to consolidate the network.
- The grant includes some specifications on minimal levels of required expenditure such as on textbooks and in-service teaching training.

The 2001 funding reform has helped to stop the declining efficiency of the school network. For example, the student teacher-ratio in primary education plummeted from 16.7 in 2000 to 11.0 in 2004, but was stabilised around 10 students per teacher from 2007 on. The annual adjustments over the exact weighting coefficients used in the funding formula are subject to fierce policy debate, notably around the area of the extent of support to small, rural schools. The use of the formula allows a high degree of transparency on decisions about funding priorities.

Source: Shewbridge, C. et al. (2016b), *OECD Reviews of School Resources: Lithuania 2016*, <http://dx.doi.org/10.1787/9789264252547-en>.

In addition, funding formula can incentivise greater efficiency at the school level. If the per student amount is allocated as a “fixed price contract” the school has incentive to use funding more efficiently and to spend savings in other areas (Levačić and Ross, 1999). In Estonia, the OECD review found that educational authorities with large numbers of schools (e.g. Tallinn) have developed clear and transparent formulas to allocate funds to schools for their operating costs (other than teacher and school leader salaries). These formulas have facilitated the operational autonomy of schools and have allowed school leaders to both save money and reallocate it across budget lines on an annual basis (Santiago et al., 2016b).

How can allocation mechanisms account for the fact that schools have different resource needs?

The overall level of investment in education is an important precondition to ensure the quality of educational provision, but beyond a certain level of investment what matters most is how funding is allocated to schools that are most in need of additional resources (Chapter 1). There are two broad approaches when designing mechanisms to allocate funding that recognises differing needs across schools: the inclusion of additional funding in the main allocation mechanism for particular schools, e.g. by including weighting to systematically allocate additional funding to certain categories; or the provision of targeted funding in one or a series of different grants external to the main allocation mechanism. In particular, the provision of targeted funding can be a useful mechanism for central authorities to address concerns over the equitable distribution of funding. Typically a mix of

these funding mechanisms is found in many systems and different approaches are observed among the OECD review countries (Annex A). The OECD review has shed light on the different criteria included in funding formulas aiming to address differing resource needs, whether due to individual student needs, the provision of a specialised curriculum or specific school characteristics (Table 3.A1.1). For example:

- In the Flemish and French Communities of Belgium the main allocation mechanisms for operating grants and staff allocation to schools include weightings for student socio-economic characteristics and special educational needs and also for school location. Similarly, the provision of dedicated grants (the direct payment of educational staff salaries) takes into account student socio-economic characteristics and special educational needs. There is also additional targeted funding (allocated as a restricted block grant to school providers) for specific student groups, including students from disadvantaged backgrounds, newly arrived immigrants and refugees. In all cases, a funding formula is used either to allocate funding to school providers or to pay directly for staff salaries.
- In Chile, the main block grant for general education is allocated with a funding formula that incorporates different weightings for students from highly disadvantaged socio-economic backgrounds, for schools in rural or highly isolated areas and for special educational provision. Central authorities also allocate earmarked grants to school providers for students with special educational needs and from disadvantaged backgrounds and a salary complement for teachers working in “difficult schools” either due to their geographic location, marginalisation or extreme poverty. The calculation of these earmarked grants is also based on a funding formula.
- In Estonia, the main allocation mechanism (an earmarked grant for general education) is allocated with a funding formula that incorporates different weightings for student special educational needs and weightings for school location and different regions. Central authorities also provide targeted funding, for example, for teaching Estonian to students whose mother tongue is not Estonian or for newly arrived immigrants.
- In Israel, central authorities use a funding formula to determine the direct payment (dedicated grant) of teacher salaries. This incorporates weightings that account for student socio-economic characteristics and special educational needs and school location. There is no provision of targeted funding.

Table 3.A1.2 presents the OECD review countries that do not use funding formulas to allocate current expenditure. Although the same set of criteria is not used systematically to allocate funding, countries may take into account different criteria when making funding allocation decisions. In Uruguay, while the main annual grant does not use explicit criteria to determine the level of funding, the dedicated grant for the direct payment of teacher salaries does take into account different school types and educational programmes and there is targeted funding (also a dedicated grant) that may be allocated for teacher training in support of teaching students with special educational needs. The annual grant in Kazakhstan typically considers criteria such as the school type, location and size and the socio-economic composition of the school.

In most countries in Europe, central authorities provide additional resources targeting schools that are assessed to have additional funding needs (European Commission/EACEA/Eurydice, 2016). Other educational authorities (regional or local) may also be responsible for allocating additional resources to support disadvantaged students. In Denmark and Norway,

the initial transfer of a lump sum grant from the central government does account for certain demographic characteristics (the share of immigrant children in each municipality in Norway; an index of the socio-economic structure of the municipality in Denmark) – although municipalities have complete discretion in how they allocate funding to schools. In Sweden, municipalities are legally obliged to take into account the number of students enrolled and the “different preconditions and needs of different students” when designing their allocation mechanism (Annex A). In the United States, where a significant proportion of initial funding comes from the local level (50% of funding for primary and secondary education in 2013) (OECD, 2016) and where there are great variations among school districts in terms of income and wealth distribution, there is emerging evidence that revisions to funding mechanisms aiming to achieve a more equitable distribution of funding have had positive effects (Box 3.5). This is supplemented by the provision of targeted funding from the federal government.

Box 3.5. Supporting disadvantaged schools with targeted funding and revised funding formulas: United States

In the **United States**, the states are responsible for education (each implementing their own educational laws) and the federal government plays a limited role (in 2014, the federal government contributed 8.6% of public school system funding, varying from less than 5% in Connecticut, Massachusetts and New Jersey to over 13% in Arizona, Louisiana, Mississippi and South Dakota) (US Census Bureau, 2016). Federal funding is most commonly allocated to support a specific programme or need (Atkinson et al., 2005) and is “a means of filling gaps in State and local support for education when critical national needs arise” (US Department of Education, n.d.). Anti-poverty and civil rights laws in the 1960s saw the 1965 Elementary and Secondary Education Act launch a set of targeted programmes. The provision of targeted funding aiming to support schools with socio-economically disadvantaged student populations continues to be a major federal influence. For example, the United States Department of Education’s Title 1 grants represented 2.2% of public school system funding in 2014 (US Census Bureau, 2016). In 2014/15, there were 18 260 school districts operating 98 373 schools, of which 69 531 schools were classified as “Title 1 eligible”, that is, schools where the percentage of children from low-income families is at least 35% of children from low-income families served by the school district as a whole, and 54 623 as “school wide Title 1 eligible”, that is, with at least 40% of children from low-income families in the school (NCES, 2016).

Since the 1970s, 28 states have introduced school funding reforms that have aimed to reduce inequality in school funding and to weaken the relationship between the level of expenditure and the school district’s income and wealth. Recent research demonstrates positive estimated causal effects of school funding reforms with improved inputs and better school district-level outcomes (Lafortune et al., 2016) and high school completion and adult earnings and family income (Jackson et al., 2016). Both studies show, using different methodologies, that the school funding reforms were “productive” and cost effective. There are two main stages of school funding reforms: those undertaken from 1971 to the mid-1980s in response to legal challenges on equity grounds, i.e. local funding was found to violate the state’s responsibility to provide a quality education to all children; and those undertaken from the late 1980s onwards on adequacy grounds, i.e. low per student spending levels in certain districts failed to meet the state’s obligation to provide some adequate level of free education for children. Equity-based reforms tend to reduce the variance of expenditure with limited effect on overall expenditure levels – although there are some examples of a

Box 3.5. Supporting disadvantaged schools with targeted funding and revised funding formulas: United States (cont.)

“levelling down” of overall funding levels within a state. Adequacy-based reforms tend to increase overall expenditure (with higher funding allocations to all districts) with greater increases for low-income districts (high relative allocations in low-income districts).

Jackson et al. (2016) analyse funding reforms undertaken by 28 states in response to legal challenges on either equity or adequacy. In both cases, states changed the parameters in funding formulas and succeeded in reducing inequality in school funding, but employed different funding formula revisions to this end:

- “Foundation formulas” guarantee a base level of per student expenditure, estimate the district’s required local contribution to fund this and provide the difference between the expected contribution and the foundation level. They are designed to increase per-student expenditure in the lowest-spending districts through redistribution of funding. These tended to be introduced in states that saw increased school expenditure overall.
- “Spending limits” prohibit per student expenditure levels above a predetermined amount. These tend to reduce expenditure in all districts in the long run with the most pronounced effect in the more affluent districts.
- “Reward for effort plans” incentivise local expenditure through provision of additional state funds to match locally raised funding and tend to lead to increased expenditure in all districts, particularly in low-income districts.
- Equalisation plans aim to equalise expenditure level by taxing all districts and redistributing funds to lower-income districts.

Lafortune et al. (2016) analyse funding reforms undertaken in 26 states in response to challenges to the adequacy of funding. Using data from 1990 onward from the National Assessment of Educational Progress, they demonstrate that the district-based funding reforms are quite effective at reducing between-district inequities. However, they do not closely target low-income students or minority students, as these students are not highly concentrated in school districts with low mean incomes. This points to the need for complementary policies aimed at reducing within-district resources and student achievement gaps.

Source: US Census Bureau (2016), “Public education finances: 2014”, *Economic Reimbursable Surveys Division Reports*, www.census.gov/content/dam/Census/library/publications/2016/econ/g14-aspef.pdf; Atkinson, M. et al. (2005), *School Funding: A Review of Existing Models in European and OECD Countries*, National Foundation for Educational Research/Local Government Association, Slough; US Department of Education (2017), *The Federal Role in Education*, www2.ed.gov/about/overview/fed/role.html; NCES (2016), *Selected Statistics from the Public Elementary and Secondary Education Universe: School Year 2014–15*, <https://nces.ed.gov/pubs2016/2016076.pdf>; Jackson, C.K., R.C. Johnson and C. Persico (2016), “The effects of school spending on educational and economic outcomes: evidence from school finance reforms”, *The Quarterly Journal of Economics*, <http://dx.doi.org/10.1093/qje/qjv036>; Lafortune, J., J. Rothstein and D. Whitmore Schazzenbach (2016), “School finance reform and the distribution of student achievement”, *NBER Working Paper Series*, No. 22011, www.nber.org/papers/w22011.pdf.

Setting conditions on funding transfers

A recent overview of whether and how European countries allocate additional resources to schools with disadvantaged populations finds that the majority provide resources in kind, most typically additional staff (European Commission/EACEA/Eurydice, 2016). For example, in Ireland, EUR 55.48 million of the EUR 67.46 million allocated specifically to primary schools in 2015 funded additional teachers, head teachers or supporting teacher posts (Ireland Department of Education, 2017). Another form of in-kind allocation is the provision of professional development opportunities for staff (European Commission/EACEA/Eurydice,

2016). For example, the Danish government offers specific professional development for teachers working in schools with disadvantaged student populations. The French government, in its special professional development and support plan for teachers working in priority zones, guarantees teachers in the most difficult areas three days of training per year, plus mentoring for new teachers and special training for executive staff. Taking the example of mechanisms used to target funds to migrant background students, France and Germany mostly allocate resources in kind (in additional teaching hours or positions) and schools have little discretion over how these resources are used (Table 3.2). The main provision is via targeted funding external to the main funding mechanism (categorical funding), but four of the 16 states in Germany do apply weights within the main funding allocation formula. In France, general criteria on the school and neighbourhood demographic data are used. Where criteria are used in Germany, these are more specific and target migrant characteristics. However, in seven of the 16 states in Germany, no criteria are used to allocate funding.

Table 3.2. **Overview of different mechanisms to target funds to migrant students in Canada, France, Germany and the United States, 2015**

	France	Germany	Canada	United States
Initial funding	72% from the national government	75% from the 16 states (<i>Land</i>)	76% from the 13 provinces and territories	39% from the 50 states
Final distribution	71% national level	72% from the states	86% at the local level	98% at the local level
Degree of discretion over funding use	Mostly allocated as teaching hours; primary schools usually do not have discretion; secondary schools have some discretion in determining class sizes, subjects taught, etc.	Schools have little to no discretion; resource use is highly regulated. Typically involves the allocation of additional teaching positions, not discretionary funds.	In most cases, school districts have broad discretion over distribution to individual schools. Where a weighted formula is used, schools generally can decide how to use funds.	In most cases, school districts have broad discretion over distribution to individual schools. Where a weighted formula is used, schools generally can decide how to use funds.
Use of different funding distribution mechanisms	Categorical (all funding)	Categorical (9) Weighted formula (4) None (3)	Weighted formula (8) Categorical (1) None (4)	Weighted formula (34) Categorical (9) Reimbursement (3) None (4)
Basis to determine the level of the grant (e.g. criteria used, administrative discretion)	School and neighbourhood demographic data (including local unemployment rate)	Student migration background, citizenship (school data) Neighbourhood demographic data (including immigrant share of population) Expert judgement by local school administrators (7)	Student immigrant/ refugee status (school data, census data) Language proficiency tests	Language spoken at home (questionnaire) Language proficiency tests State share of Limited English Proficient students and recent immigrant students (census data)

Notes: Initial funding and final distribution data refer to funds for primary and secondary education in 2013. “Categorical” funding refers to targeted funding that is external to the main funding allocation mechanism and that is intended to be used for migrant-background students. The numbers in brackets denote how many states use the funding distribution mechanism.

Source: Compiled from information in Sugarman, J., S. Morris-Lange and M. McHugh (2016), *Improving Education for Migrant-Background Students: A Transatlantic Comparison of School Funding*, www.migrationpolicy.org/research/improving-education-migrant-background-students-transatlantic-comparison-school-funding and OECD (2016), *Education at a Glance 2016: OECD Indicators*, <http://dx.doi.org/10.1787/eag-2016-en>, Table B4.3.

In contrast, Canada and the United States give much more discretion to the local level in how to distribute funding and typically use weightings within the main funding allocation mechanism (Table 3.2 shows for example how targeted funding is allocated to support migrant background students). In general, this allows more discretion at the school level in how to use the funding. In a few European systems (Finland, the Flemish Community of Belgium, the Netherlands and England, Wales and Northern Ireland in the United Kingdom) schools receive additional funding and have discretion over how they use this funding

(European Commission/EACEA/Eurydice, 2016). A recent research study in the Flemish Community of Belgium found that 90% of the school principals surveyed were very positive about the additional funding they received to target socio-economic disadvantage (Groenez et al., 2015). The researchers found that the additional funding provided the necessary material conditions for teachers to do a good job and to cover specific expenditures to address the needs of disadvantaged students, such as specific teaching materials, in-service training or community school activities. It also concluded that it was logical for schools in more difficult financial situations to use these funds to address their most basic needs, such as urgent repair and heating costs. Recent evidence from England, however, indicates that the earmarking (or ring-fencing) of funding for a clearly defined target group (children receiving free school meals) was one of the factors associated with a more successful use of targeted funding (the Pupil Premium), as identified by the external school evaluation body in England (Ofsted, 2012). Less successful approaches included the indiscriminate spending of funds on teaching assistants, no clear audit trail for where the funding had been spent, and not including spending plans within the broader school development plan.

Accountability mechanisms play an important role in a context where schools have large discretion over the use of targeted funding (e.g. Ofsted, 2012; see also Chapter 5). Funding designs must manage the tension between flexibility, that is, allowing room for local judgement on how to most effectively use the funding, and accountability, that is, maintaining public confidence that funds are being used for their intended purpose and achieving the desired results (Sugarman et al., 2016). A recent review of funding allocation in Australia noted the benefits of funding distribution at the local level, but recommended greater transparency on methodologies used and analysis of the impact of funding (Gonski et al., 2011). The importance of striking this balance was raised in the OECD review in Denmark regarding the use of funding to support provision for students with special educational needs in regular schools (Box 3.6). Also, school accountability must manage the tension with unintended consequences for teaching and learning as schools comply with accountability requirements which may steer schools to focus on particular areas of the curriculum, for example (OECD, 2013).

Box 3.6. Matching local flexibility over funding use with transparency on how funding is used: Denmark

The OECD review in Denmark found that municipalities rely to a decreasing extent on earmarked funding to individual students with special educational needs and more on general funding. In the more general approach, resources for students with special educational needs are allocated across schools with respect to general criteria measuring the socio-economic background of students. This approach aims to give schools the flexibility to optimally use these resources, taking factors such as the characteristics of peers into account when allocating resources (Nusche et al., 2016a). Danish students have a legal right to receive teaching in accordance with their needs and school principals, in consultation with the school board, decide on the allocation of resources in their school, but must meet national regulations and ensure recruitment of the relevant teacher competency within the school's budget.

However, there are no national rules on how the additional needs of students recently included in regular schools (following a policy move to reduce the number of students in special education schools) should be translated into extra resources. This raises some concerns

Box 3.6. Matching local flexibility over funding use with transparency on how funding is used: Denmark (cont.)

over a lack of transparency on how resources follow students into regular schools and whether they receive adequate learning support (Nusche et al., 2016a). Regular schools typically employ pedagogues with a specific relevant education to work with students with special needs (pedagogues are not teachers, but focus on intellectual, social, emotional, neuromuscular, ethical, moral and aesthetic development). Municipalities may also apply to the central government for specific targeted funds for special needs education. The OECD review in Denmark recommended greater transparency to the school community about how the school uses resources to facilitate inclusion and the way this translates into learning outcomes for students with special educational needs.

Source: Nusche, D. et al. (2016a), *OECD Reviews of School Resources: Denmark 2016*, <http://dx.doi.org/10.1787/9789264262430-en>.

Chapter 5 provides an overview of different approaches identified in OECD review countries to evaluate how schools use funding that is targeted for student groups with particular needs.

Determining the amount of additional funding allocated to schools

The use of a funding formula, if well designed, can promote greater equity and efficiency. However, a major challenge lies in estimating the different costs involved in providing different types of education. Within a funding formula, coefficients should adequately reflect different per student costs of providing education. This is a difficult task in systems where there is great variation in class size due to schools in rural or isolated locations. Different programmes and types of educational provision will also entail different costs (e.g. for specialised equipment, a specialised curriculum offer such as a recognised language minority). Judgments will also need to be made on the relative importance given to these different elements. Recent reviews of funding allocation mechanisms in Australia and the United Kingdom generally aim to distribute the major share of funding according to student rather than institutional requirements, with a preference for core funding per student supplemented by bands of funding to target particular needs (New Zealand Ministry of Education, 23 May 2015). Box 3.7 presents an overview of the major components that should be included in designing a needs-based funding formula. Table 3.A1.1 provides an overview of the extent to which OECD review countries using funding formulas include weightings for these different components.

Box 3.7. Which major components should a needs-based funding formula include?

Which unit of funding?

What is being funded: the student, teaching group/class, school or school site? A formula may contain a number of different units.

Which major components?

There are four main components which are the building blocks of a formula. Each component relates to a main purpose for allocating funds to schools. Different weightings assigned to each of the major components below will be crucial in balancing the relative importance of the different policy functions for a funding formula (market regulation; promoting equity; directive function).

Box 3.7. Which major components should a needs-based funding formula include? (cont.)

A basic allocation: This could be an allocation per student or per class. If the unit is class, then the formula will include assumptions about the maximum permitted class size before an extra student demands the forming of two classes. There would be a year-level supplement differentiated according to the school year (grade level) or stage of schooling (e.g. primary, lower secondary, etc.). Setting a fixed amount per student in a particular year uses the assumption of the costs of educating a student with normal educational needs. This requires an analysis of expenditure requirements, e.g. activity-led costing. This – particularly with a per student unit – strongly supports the market regulation function.

An allocation for curriculum enhancement: This component would adjust for the costs of providing a specific educational profile and would only apply to selected schools or students. For example, this could be the offer of a specialised curriculum such as a focus on the arts, sports or different vocational fields. It could also be the offer of an adjusted curriculum designed to meet specific educational needs of the school's student group. This allocation can support the directive function, helping to promote areas of the curriculum favoured by policy makers.

An allocation for students with supplementary educational needs: This would aim to adjust for different student characteristics which would require additional resources to ensure the same level of access to the required curriculum. This allocation plays a major role in supporting the equity function.

An allocation for specific needs related to school site/location: This would aim to adjust for structural differences in school site operation costs that are generally beyond the school management's control, e.g. schools located in rural or remote areas with significantly lower class sizes, schools with higher maintenance costs (linked to local economic factors and/or specialised equipment needs). School size is an important determinant of unit cost. Fixed costs (e.g. school leadership, premises, providing a selection of subjects) do not diminish with the number of students. Here it is key to define the "minimum efficient size" which represents the minimum size of a school at which average cost per student approaches its lowest feasible value. This involves a judgement about the extent to which small schools should be supported by additional allocations. This allocation can support the equity and directive functions.

Source: Levačić, R. and K. Ross (1999), "Principles for designing needs-based school funding formulae?", in *Needs-Based Resource Allocation in Education: Via Formula Funding of Schools*, UNESCO International Institute for Educational Planning, Paris.

What are the information and analytical requirements for an effective allocation mechanism?

The OECD review has revealed the importance of paying adequate attention to data requirements and the choice of indicators for funding allocation and understanding the technical and analytical demands that the design and maintenance of effective allocation mechanisms requires.

Choosing indicators to distribute funding to schools

A range of different indicators is used in different countries and different regions of countries to determine the proportion of students with identified needs for additional resources. While each indicator has advantages and drawbacks, no perfect indicator exists

that takes into account all needs students might have, ranging from disabilities to family problems. To construct such an indicator very detailed data on individual students would be required (West and Pennell, 2000).

Indicators vary in the share of the target population they actually reach. For all indicators, targeting areas, schools or students, there is a trade-off between the simplicity and transparency of the indicator and its accuracy (Levačić, 2006) and perceived sensitivity and fairness (Atkinson et al., 2005). Relatively simple indicators will always leave out some part of the target population. For more precise targeting to local contexts, more complicated indicators need to be established, although a higher degree of complexity makes these less transparent and understandable to a wider public (Fazekas, 2012). There are also examples where the use of simpler indicators did not make a large difference to schools' funding levels. For example, in Swidnik, Poland, a funding formula that included a large number of indicators was introduced initially in 1994. In 1996, this funding formula was replaced by a formula relying on the number of students only. This change did not lead to any major differences in individual schools' levels of funding (Levačić and Downes, 2004). The argument for targeting funding to certain areas is based primarily on the additional negative effects that socio-economic disadvantage has when concentrated in a particular area. It is also argued to be more efficient to target certain areas, as this will capture a greater proportion of the disadvantaged population than if funding were distributed more evenly. However, in the late 1990s the use of a "priority area" concept to target funding was challenged by several different studies coming out of European systems using this approach. In the United Kingdom, research on programmes targeting areas showed that these often left out a large proportion of the disadvantaged population and included many individuals who were not disadvantaged (Tunstall and Lupton, 2003; Smith, 1999). Similar results were found for programmes targeting specific areas in Ireland (Weir and Ryan, 2000). The area concept tended to presuppose that the formation of ghettos was inevitable and evidence from Belgium and France showed that the priority area label was stigmatising and encouraged flight of middle class families from these areas (European Commission/Eurydice, 2000; Moisan and Simon, 1997; Bénabou et al., 2004; Bénabou et al., 2007). As a result, there was a broad shift to using indicators that were more specific to the actual population in the school. For example, in the French Community of Belgium, the socio-economic index (*indice socio-économique*) is based on the student's residential area, using indicators such as income, qualification level and unemployment rate (Ministère de la Fédération Wallonie-Bruxelles, 2016). This is reviewed every five years. School leaders report this information in January of each year and this is centrally verified and each student is attributed a value on the socio-economic index. The average for each school is calculated and then schools are ranked according to their average socio-economic index value. In the primary school sector and the secondary school sector, the 25% of schools with the lowest values qualify for additional teaching periods or funding allocation.

In a comparison of different approaches to funding the education of migrant students, Sugarman et al. (2016) note that many German states use demographic characteristics such as country of origin as target indicators which acknowledges a wide range of needs and differences, compared to a narrower target indicator such as language proficiency as used in many school systems in Canada and the United States. The latter target indicator may not adequately account for other factors that undermine student success, whereas the former may provide resources to some students who no longer need such support. The precision of criteria used to allocate targeted funding is also being reviewed in Australia. There is an

ongoing debate on how to further improve the targeting of need-based funding that was introduced as a result of a full funding review in 2010. Considerations include the actual index used to target additional funds to disadvantaged schools and identifying how additional funding has been used.

Paying attention to data collection and stakeholder consultation

The availability and quality of data is a key concern when compiling indicators. There are different challenges presented for data collection. In general, area-based measures may rely on data that is less up-to-date and sample-based, thus limiting the accuracy for targeting smaller areas. In recent years, OECD countries have implemented regular compliancy reporting systems for schools and many of these are now electronic reporting systems (OECD, 2013). This offers a wealth of data for indicators and can allow a more accurate targeting of resources. However, there are some concerns raised about the reliability of school reports when there is incentive to inflate or deflate numbers in order to benefit from additional resources.

A major issue of many indicators used to allocate additional resources to areas and schools is the lack of up-to-date data. This primarily concerns indicators that try to measure different aspects of specific areas. In many cases, census data, which is collected only very infrequently, is used. Harwell and LeBeau (2010), for example, criticise the free school lunch indicator in the United States that is used to allocate additional resources to schools with a large number of disadvantaged students for relying on the national poverty guidelines which have not been updated for a long time. Area-based indices used in Australia are also criticised for being out-of-date (Santiago et al., 2011). The additional educational needs index, used in the United Kingdom, relies on census data which is only collected every ten years and thus tends to be outdated (West, 2009).

A further problem is misclassification and missing data on part of schools, areas or students. For example, data on free school lunch status in the United States is missing for a significant number of students. Students without records or who do not complete the administrative procedure are often simply classified as not eligible for free school lunch (Harwell and LeBeau, 2010). In England, children are classified as eligible for free school meals in administrative data only if they are both eligible for and actually claiming free school meals (West and Pennell, 2000). Children eligible for free school meals but not claiming will not be captured.

The importance of regular review of the basis used to determine funding allocation is illustrated by a recent review in Ireland (Box 3.8). This highlights the possibilities that improved data availability offer to heighten the objectivity of the allocation mechanism. Also, it underlines the importance of ensuring adequate mechanisms for stakeholder consultation, which helps to increase the perceived fairness of the allocation system. Consulting stakeholders can ensure that funding mechanisms are able to reflect desired pedagogical innovations and respond to capacity-building challenges that are not anticipated in funding formulas (Sugarman et al., 2016).

Ensuring technical and analytical capacity

The OECD review has revealed that the design, implementation and maintenance of an effective allocation mechanism poses significant demands on technical and analytical capacity. This relates to the sophistication of information systems, analytical capacity to test out different allocation scenarios and to develop and adjust existing allocation

Box 3.8. **Data developments and opportunities to improve the basis for funding allocation: Ireland**

In **Ireland**, the government has undertaken a recent review (Ireland Department of Education, 2017) of the basis used to determine the allocation of additional funding to disadvantaged schools (the Delivering Equality of Opportunity in Schools [DEIS] action plan started in 2005 and is the main policy initiative to tackle educational disadvantage). The DEIS was established to bring together a range of existing policy interventions that aimed to tackle disadvantage and notably would use a standardised system for identifying levels of disadvantage in schools. The intention was to regularly review this system; however, the first major review was initiated in 2015. The plan included provision to conduct the identification process on a three-year cycle.

The 2005 standardised identification methodology

The initial identification process was managed by the Educational Research Centre (ERC) and approximately 20% of all schools were selected for inclusion. With the aim “to capture the socio-economic variables that collectively best predict the risk of educational disadvantage”, two different approaches were used to identify schools eligible for additional funding:

- Primary schools (primary education): the ERC designed and administered a special survey to collect information from school principals on the percentage of students at the school: with an unemployed parent; in local authority accommodation; with a lone parent; whose family are travellers; from a large family (five or more children); who are eligible for free books. Primary schools were classified in three groups: rural; urban band 1 (the highest concentration of disadvantage); and urban band 2.
- Post-primary schools (secondary education): centrally held data were used, namely, student data on school-level retention rates and examination results (from the central database managed by the Department of Education), plus data examination fee waiver data which indicated that students held a medical card (data collected by the State Examinations Commission).

The ERC conducted analysis of the collected information and compiled a rank order of all schools according to their relative level of disadvantage compared to other schools. This ranking was verified by the Department of Education’s Regional Office Network and the Inspectorate, based on local knowledge. As such, the identification procedure was extremely resource intensive. Some schools perceived that the procedure lacked objectivity (particularly the perceived subjectivity of information provided by school principals at the primary level) and also were critical of the fact that a school’s social context was static as it was established at one point in time (2006) and did not capture demographic changes in school populations. This was compounded by the impact of the financial crisis which meant that no new schools were identified after September 2009. A review by the Economic and Social Research Institute (Smyth et al., 2015) highlighted the need to review whether the scale of funding is appropriate for those schools in urban band 1, given the complexity of their needs, and also the current “cut-off” point for schools to qualify for DEIS funding.

Data developments and opportunities to improve the identification basis

The technical review was conducted by a technical working group (comprising members of the ERC and Inspectorate) and the procedure comprised a review of the relevance of the 2005 identification basis, consideration of new options made possible by developments in data sources, consideration of stakeholder consultations and the input of additional technical expertise. Stakeholder consultation revealed a clear consensus on the need to

Box 3.8. Data developments and opportunities to improve the basis for funding allocation: Ireland (cont.)

establish a fairer basis for identification which is consistent for both primary and post-primary schools and more responsive to demographic change within individual schools. Further, the technical working group judged that the former approach to administer a survey to school principals was too resource intensive both for schools (administration burden) and for the central level (quality control). General developments in data collection in the public sector offer new possibilities and exploratory analysis by the technical working group identifies a strong indicator for a school's socio-economic profile that draws on two data sources:

- The Pobal Haase-Pratschke Deprivation Index (HP Index) based on census data collected every five years. The Central Statistics Office data from the Census of Population now provides socio-economic data at an individual level and for small areas of population. The HP Index uses this data to measure the relative affluence or disadvantage of a particular geographical area.
- The Department of Education's student data bases at the primary and post-primary levels (individual student data collected directly from schools on an annual basis). Individual student data at the primary level has only been available since 2016.

The combination of both these elements is necessary due to the fact that in Ireland students do not necessarily attend their local school. So the use of an area-based indicator in isolation would introduce a degree of inaccuracy. Research has shown that school choice is particularly prevalent among middle class families and in secondary education. School level data are geo-coded to the small area level, anonymised and then matched to the census small area level data.

The technical working group also recommends further exploratory analysis to complement this socio-economic profile information with other correlates of educational disadvantage. The review underlines the importance of ensuring adequate resources within the Department of Education to support the necessary data collection and analysis functions associated with the identification methodology. Such analytical capacity will also support broader policy work.

Source: Ireland Department of Education (2017), *Report on the Review of Deis*, www.education.ie/en/Schools-Colleges/Services/DEIS-Delivering-Equality-of-Opportunity-in-Schools-/DEIS-Review-Report.pdf; Smyth, E., S. McCoy and G. Kingston (2015), "Learning from the evaluation of DEIS", *Research Series Number 39*, www.esri.ie/pubs/RS39.pdf.

mechanisms and building and sharing of capacity within systems. Chapter 2 explores more broadly questions of capacity at different governance levels and Chapter 5 examines different approaches to data and information management.

In the Slovak Republic, the Ministry of Education has capacity to operate a complex funding formula and has been investing in systems to support more efficient data collection at the school level, as part of the annual collection of a large and complex set of data underpinning the formula (Santiago et al., 2016a). Most schools maintain computer databases and export data electronically to the Ministry of Education. The proposed introduction of an information system collecting data on individual students and teachers would improve the reliability of data underpinning the allocation system. The dependency of school funding on student numbers creates an incentive for school leaders to inflate student numbers, but this is easier to do when reporting only aggregate numbers (Santiago et al., 2016a).

In Denmark, municipalities have detailed register data on their inhabitants, providing key information about the socio-economic background of individual students (Nusche et al., 2016a). Municipalities are free to decide on how to use this data in their calculations for school funding distribution. Each municipality develops its own formula based more or less on assumptions regarding school resource needs and some have commissioned research to identify student characteristics identified with learning difficulties. However, there is little system learning regarding effective school funding formulas, despite the fact that many municipalities invest significant effort in developing and maintaining funding formulas.

Herczynski (in Abu-Ghaida, 2011) presents arguments for using computer simulations for all schools in preference to experimental pilots in selected schools when preparing to introduce a per student funding reform. Simulations can be more appropriate and are certainly a more cost effective instrument to test different elements of an allocation formula and its coefficients. Different scenarios can be prepared and can be used to test compatibility with the overall levels of funding available or indeed to make the case for an increase in overall funding levels. In contrast, the use of experimental pilots in selected schools will necessarily be limited in scope and, as pilot schools typically receive higher funding allocations compared to non-pilot schools, it is difficult to draw lessons from the results.

The OECD review in the Czech Republic revealed that the technical complexities of the funding formulas used by two randomly selected Czech regions impaired the ability to adjust these to evolving strategic policy priorities (Shewbridge et al., 2016a). Both regions, in their allocations to pre-schools and basic schools (primary and lower secondary education) adjust two key parameters (the number of students per pedagogical and non-pedagogical staff) with the aim to account for different school sizes. Each uses a complex technical approach including logarithms and fractional powers in their funding formulas, making these incomprehensible to most education experts and meaning that these are either left unchanged from year to year or are only adjusted by external experts. Given the complexity of the funding formulas, the standard approach in each region is to provide a data file listing all the different possible values for key parameters in the formulas. This assumes a lack of analytical capacity by the regional administrators to calculate the parameters, to check whether the calculation is correct or to change the allocation formula and recalculate them. This means that the annual funding allocation follows a mechanistic and rigid approach, therefore, removing any discernment over how to adapt the allocation mechanism to evolving policy priorities. For lower and upper secondary general and vocational education, national law requires that parameters are set for each type of educational programme offered in the region. This may require the determination of between 200 and 400 different normative amounts each year and is a major bureaucratic task. It also obscures important aspects of education policy, such as which programmes or school types are allocated significantly higher amounts.

Distribution of capital expenditure

OECD (2016) defines capital expenditure as the “spending on assets that last longer than one year, including construction, renovation or major repair of buildings, and new or replacement equipment”. Capital expenditure may be financed from current revenue or through borrowing. In 2013, on average in the OECD, the share of capital expenditure in

annual expenditure by educational institutions (from public and private sources) was 8% in primary education, and 7% in both lower and upper secondary education (OECD, 2016, Table B6.1). This was 3% or less in Austria, Hungary, Italy, Mexico, Portugal, the Slovak Republic and the United Kingdom at both the primary and secondary education levels.

Following the OECD definition, expenditure on educational capital is expected to bring value beyond the allocation year. This is an important distinction and means that funding that is intended for maintenance and small repairs that are written off over the course of the school year (funding for “operational expenses”) is included as a small proportion of current expenditure in many countries. In the OECD review countries, this is the case for Austria, Spain and Uruguay (Annex A). However, the actual type of maintenance activities included in current expenditure may be a grey area in many countries. An independent review of the funding mechanisms in Australia recommended a clear national definition of the maintenance and minor works responsibilities of schools and education authorities that should be addressed from funding for current expenditures (Gonski et al., 2011).

For capital expenditure, the resources used by schools constitute movable or immovable (fixed) assets, the value of which decreases annually in relation to their depreciation as they grow older and rises in accordance with any new investment in them (European Commission/Eurydice, 2000). This means that within a school system, schools differ in the state and value of their fixed assets. This has consequences for the type of allocation mechanism that is most suitable: an annual allocation calculated with a standard set of criteria would lead to inequalities, meaning that a general rule to allocate funding for capital expenditure would need to take the differing state of fixed assets across schools into account (European Commission/Eurydice, 2000). Among the OECD review countries, the majority do not provide an annual grant for capital expenditures. This is only the case in the Czech Republic, Denmark and (for upper secondary vocational programmes only) in Chile. In the French Community of Belgium an annual grant for instructional and non-instructional equipment as part of “operational expenditures” is provided to school providers. In all four systems, these are supplemented by other allocation mechanisms for capital expenditures. Another important aspect to consider in the allocation of funding for capital expenditures is that the management of capital resources is less frequently a school responsibility (Atkinson et al., 2005).

The main allocation mechanisms for capital expenditures among OECD review countries, therefore, include the ad hoc administration of grants, discretionary funding and infrastructure investment programmes (Annex A). More targeted funding may also be used to support projects in a broader policy context. For example, in Australia funding was earmarked for the building of new primary schools (also some secondary schools) in order to provide economic stimulus to every community in Australia in response to the global financial crisis. The Building the Education Revolution programme saw the delivery of 23 675 construction projects by 22 separate education authorities (government and non-government) (Commonwealth of Australia, 2011).

The major basis for allocation of funding for capital expenditures among OECD review countries is the assessment of needs. This often entails the targeting of funding to schools with the greatest needs of renovation or remodelling, including emergency repairs. Box 3.9 provides examples of different approaches in Australia and in England (United Kingdom).

Box 3.9. Approaches to support more strategic use of capital funding: England (United Kingdom) and Australia

Better targeting of funding for capital works and more efficient procurement

In **England (United Kingdom)**, there were three major allocations of public funding for capital expenditures (delivered as a capital grant) in 2013/15: basic need funding allocated to local authorities to provide additional school places where needed in their area (based on projections of need and enabling authorities to plan provision over the coming two years); maintenance capital (allocated to local authorities or direct to schools, depending on the management of the school); and devolved formula capital allocated direct to schools. Additional targeted funding (targeted basic need programme) was announced to provide additional support to local authorities with the greatest demographic pressures to expand the provision of school places.

A “Priority School Building Programme” was also established to target renovations/rebuilding of schools in the worst condition across the country (a total of 537 schools). The Education Funding Agency (which was merged with the Skills Funding Agency in April 2017 to form the Education and Skills Funding Agency) designed the programme to make more efficient use of public funding. First, schools are grouped into “batches” to improve efficiency in procurement time and costs. Second, the programme promotes a more standardised design to support construction efficiency and principles for future sustainability. It specifies standard design, works, services and performance requirements for each school. The facilities output specification comprises: a generic design brief with requirements for all schools; a school-specific design brief (e.g. reflecting special provision); schedules of accommodation comprising a list of rooms and spaces required in each school; and area data sheets which identify the requirements for each room and space listed in the schedule of accommodation (comprising services, environmental performance requirements, fittings, furniture and equipment and ICT provision). Key design principles relate to functionality, health and safety, a standardised approach, future-proofing (i.e. flexibility to adapt school facilities to changing enrolment patterns, curricular provision and teaching methods) and sustainability. These principles are illustrated in a set of “baseline designs for schools” which can be consulted at www.education.gov.uk/schools/adminandfinance/schoolscapital/buildingsanddesign/baseline.

A funding stream to support better strategic planning of new school development

In **Australia**, a 2011 review of funding mechanisms found that funding for school capital and infrastructure was un-co-ordinated and lacked planning and that many schools, particularly in the government sector, were suffering from a lack of capital investment (Gonski et al., 2011). It supported the continued allocation of funding for maintenance as part of current expenditures, and the creation of two main capital expenditure funding streams for allocations from the Australian government: one to support new schools and school expansions; and the other to support investment in infrastructure in existing schools. The purpose of a central fund for new schools would be to encourage more efficient provision and planning across different sectors of the education system (government schools, non-government schools, Catholic schools, independent schools) and a balanced development of new schools in towns and new suburbs. A major recommendation was to establish School Planning Authorities in each state and territory that would be responsible for administering the central grant for establishing new schools (a school growth fund).

Source: Gonski, D. et al. (2011), *Review of Funding for Schooling – Final Report*, Australian Government, Canberra.

Policy options

Ensure a stable and publicly known system to allocate public funding to schools

A general principle for more effective funding distribution is to ensure that funds are allocated in a transparent and predictable way. Stability and predictability of financing allows all schools to plan their development in the coming years. This highlights the importance of ensuring continuity in the principles and technical details of the funding distribution system.

Funding formulas are used in many of the OECD review countries, and there are examples where the introduction or review of a formula has helped build general acceptance by stakeholders of formula funding as a fair method for funding allocation. The transparency of a formula can have a beneficial impact on policy debates at the national level. Fazekas (2012) cites the presentation of clear criteria that can be scrutinised and debated as a clear advantage of a funding formula for the allocation of public funding. A funding formula provides a clear framework for debates on the sufficiency and proper allocation of funding. Different parameters within the formula may be debated, which can help stakeholders to express their positions clearly and make agreements that are easy to monitor.

Follow guiding principles when designing funding formulas to distribute resources to individual schools

A well designed funding formula is, under certain conditions, the most efficient, equitable, stable and transparent method of distributing funding for current expenditures to schools. The distribution through a formula is more likely to lead to a more efficient and equitable allocation than other methods, including discretionary and incremental funding models. There is no single best practice funding formula. However, the OECD review has identified a set of guiding principles for designing funding formulas.

Align funding formulas with government policy and establish evaluation criteria accordingly

A number of criteria can be used to evaluate a funding formula, in particular efficiency, equity, integrity, administrative cost, accountability and transparency, and sensitivity to local conditions. The balance struck between the various criteria should reflect the government's policy preferences. With regard to meeting equity objectives, formula funding can be designed to combine both horizontal equity – schools of the same type (for example, primary schools) are funded at the same level – and vertical equity – schools of different types (for example, general programmes and technical-professional programmes) are financed according to their differing needs. However, inadequate formulas may exacerbate inequities and also inefficiencies.

Funding formulas should adequately reflect different per student costs of providing education

A major challenge in designing funding formulas is to adequately reflect that it does not cost the same to educate all students. There will be a need to fund schools differentially for legitimate differences in unit costs which are beyond the control of the school. This demands the introduction of different adjustment components in the formulas and could lead to a high degree of complexity. A balance needs to be struck between a simple formula, which might fail to capture school needs with full accuracy, and a sophisticated formula, which

might be difficult to understand. As a guide for designing formulas to better meet differing needs, research has identified four main components:

- A basic allocation: This could be an allocation per student or per class and would be differentiated according to the school year (grade level) or stage of schooling (e.g. primary, lower secondary, etc.).
- An allocation for a specific educational provision: This component would adjust for a specific educational profile in a given school. For example, this could be the offer of a specialised curriculum such as a focus on the arts, sports or different vocational fields. It could also be the offer of an adjusted curriculum designed to meet specific educational needs of the school's student group.
- An allocation for students with supplementary needs: This would aim to adjust for different student characteristics which would require additional resources to ensure the same level of access to the required curriculum.
- An allocation for specific needs related to school site/location: This would aim to adjust for structural differences in school site operation costs, e.g. schools located in rural or remote areas with significantly lower class sizes, schools with higher maintenance costs (linked to local economic factors and/or specialised equipment needs).

Funding formulas should promote budgetary discipline

Funding formulas can be designed to set incentives for greater efficiency at the local and school levels. This entails not compensating overspending of schools unless justified by exceptional circumstances (i.e. emergency conditions, unexpected enrolment growth, small schools in remote locations). A per student funding allocation can impose greater fiscal discipline, which may be particularly necessary in a context of declining numbers in the student population that can lead to higher costs in terms of smaller school and class sizes. To acknowledge that not all costs are linear, a funding formula that essentially follows an allocation per student approach can incorporate compensation weights for smaller schools. The advantage of such an approach is that this can target more resources to particular schools (as set by a thorough analysis of national data), while keeping the incentive for the majority of schools in the system to reduce the number of classes by raising class size. This compensation allocation can be reviewed and adjusted to increase or alleviate financial pressure on local authorities with small schools and classes.

Ensure the periodical review of funding formulas to assess the need for adjustments

A periodical review of funding formulas is necessary to ensure they are fit for policy needs (which may change). There may be the need to improve the funding formulas as evaluated against the different criteria. This could include the need to increase or decrease the level of complexity in adjustments for student and school needs. The review of funding formulas should also take into account their position and weighting in the overall allocation of school education funding. For example, funding formulas could be better designed to adjust for differing student and school needs in favour of reducing the number of targeted funding programmes aimed at addressing differential funding needs.

Seek more efficient ways to address equity in funding mechanisms

Funding strategies play an important role in achieving equity objectives within school systems. A crucial aspect of policy is to decide on the best mechanisms to channel the extra

resources to student groups with additional needs. This can typically be achieved through the regular allocation mechanism (e.g. a systematic weighted allocation to particular student groups within schools using a funding formula) or through funding directly targeted at specific students, schools or areas (e.g. extra funding to compensate for socio-economic disadvantage). The OECD review has highlighted the importance in striking a balance between targeted and regular funding to more efficiently support greater equity within a school system.

Targeted educational programmes may be used to allocate funding to priority areas. These can ensure responsiveness to emerging priorities and/or promote innovations within the school system. Funding will be earmarked for a specific purpose and can be used to promote specific educational policies. A range of examples are identified across countries, for example to help support mainstreaming of students with special educational needs or to support schools in rural locations. However, an excessive reliance on targeted programmes may generate overlap, difficulties in co-ordinating allocations, excessive bureaucracy, inefficiencies and lack of long term sustainability for schools. Targeted funding often comes along with greater transaction costs, including mechanisms to ensure it has been spent on the purposes it was intended for which may entail greater administrative and reporting burdens for schools (see also Chapter 5). There are, therefore, arguments to reduce transaction costs by including adjustments for vertical equity within the major part of funding allocation via a formula. This can simplify the funding system overall.

Pay adequate attention to the accuracy and reliability of data used as a basis for funding allocation

The OECD review has revealed that a wide range of different indicators are used across countries to distribute funding to schools. There is evidence of considerable refinement in indicators used over recent years and a policy consensus to use indices comprising multiple indicators in order to improve the targeting of socio-economic disadvantage. It is apparent that all indicators have shortcomings and that there is always a trade-off between the accuracy and the simplicity and transparency of an indicator. However, an additional consideration when choosing indicators is that data that cannot be manipulated by schools gives greater integrity to the funding allocation. One example is the use of census-based data as a proxy for data reported by schools on individual student characteristics (see below). While this would be less accurate in targeting individual students, authoritative national research can be used to choose the best proxy indicator or combination of indicators. This also holds the advantage of reducing reporting burden on schools. The accuracy and efficiency of the allocation system will rely upon the level of sophistication of information systems. Many school funding systems aim to strike a balance between using census-based and school-based indicators. All systems should also make sure to regularly review the indicators used to ensure that they reflect evolutions in data systems.

Needs-based allocation mechanisms are intuitive and can be perceived as fair, however, they may have some undesirable effects. For example, when funding is directly linked to the identification of individual students as having special educational needs, this may lead to excessive labelling of students which is stigmatising for individuals and can lead to considerable cost inflation. To avoid inflation of the numbers of students identified over time and inconsistent categorisations, the criteria used for assessing students as having physical or learning impairments should be transparent, unambiguous and applied impartially by educational psychologists. Several OECD countries use targeted funding for more severe

special educational needs, complemented by a census-based funding approach for students with milder special educational needs or those linked to socio-economic disadvantage. Examples of such indicators are variables measuring social disadvantage (such as poverty, unemployment, poor housing, and low education level) in the immediate community of the school. Such indicators hold the advantage that schools cannot manipulate them.

Another way of reducing the incentive for excessive labelling of individuals as students with special educational needs is to allocate some of the funding for students with special educational needs to all schools, as a fixed percentage of their formula budget. Some systems may not use any earmarked funding and this may risk the perception that funding is not allocated to support the learning of students with special educational needs. In such a context, stronger accountability at the school level with scrutiny by school boards on the educational provision in the school for students with special educational needs and the impact it is having on their learning will play a key role.

Share experience about funding formulas developed at sub-national level for system learning

In countries where local authorities have responsibility for funding allocation, there is a great opportunity for system learning. While central authorities cannot directly influence funding allocation, more attention can be devoted to improving efficiency in different approaches used within the country. There will be many different funding formulas developed at the regional or local levels to distribute funding to schools. Many of these will share the aim of providing a more equitable funding allocation. There is, therefore, much potential for local authorities to learn from each other regarding the effective design of funding formulas. Some larger authorities with greater capacity may have developed funding formula with external expertise. Sharing knowledge across authorities can help to avoid duplication of efforts. At the central level there is room to identify and promote best practices in funding allocation.

Evaluate the costs of provision and the adequacy of funding regularly to review allocation efficiency

Improving financial distribution requires regular and detailed analysis of the adequacy of funding and its effects on the quality of teaching, the efficiency of schools and the equity of education. This requires compelling evidence from regular audit work and academic research (Chapter 5 examines these and other monitoring and evaluation mechanisms in depth). Funding mechanisms may be designed to assign additional funding to ensure vertical equity (i.e. providing education of similar quality to different students), but it is important to undertake regular evaluations of the actual costs. Reliable and detailed evidence should be gathered on the costs and adequacy of funding in general, and on specific elements that funding mechanisms aim to address, e.g. concerns for a more equitable distribution to support smaller schools in rural locations, the education of students with special educational needs and equity problems related to socio-economic disadvantages. This would entail an overview of the parameters used, for example, the assumptions for average class size and different school sizes for different educational levels. As funding mechanisms align to policy objectives, these are naturally framed by political preferences. However, comprehensive and compelling analysis and empirical evidence on the exact cost differences would strengthen the basis for policy decisions to review or adjust parameters included in funding mechanisms.

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ANNEX 3.A1

National approaches to distributing school funding

Table 3.A1.1. **Funding formulas: different criteria used for allocation of current expenditure among OECD review countries (ISCED 1-3), 2016**

		Allocation mechanism	Funding allocation		Level of education (ISCED)	Basic unit	School characteristics				Curriculum					Student characteristics			
			From	To			L	S	SES	Other	Lvl	SY	EdT	Pg	WbP	SES	SEN	Min/Imm	Other
Austria	DG	Teacher salaries	CA	St	2 3	S/C													
	EG	Teaching students with SEN	CA	Sc	1 2 3	T/S				✓								✓	
Belgium (Fl. and Fr.)	BG	Operational budget (inc. maintenance staff)	SA	SP	1 2 3	S	✓	✓			✓	✓	✓	✓	✓		✓	✓	
	RBG	Disadvantaged students; immigrants; refugees	SA	SP	1 2 3	S	✓				✓	✓		✓			✓	✓	
	DG	Staff salaries (teachers, management, admin)	SA	St	1 2 3	T/S	✓	✓			✓	✓	✓	✓	✓		✓	✓	
Chile	BG	General and pro-retention subsidies	CA	SP	1 2 3	At/S	✓				✓		✓				✓		
	EG	Complement for teacher salaries	CA	SP	1 2 3	T	✓		✓		✓								
	EG	Students with SEN; disadvantaged students	CA	SP	1 2 3	T			✓	✓	✓								
	EG	Staff salary incentives in top performing schools	CA	SP	1 2 3	At/S				✓									
Czech Republic	EG	Direct costs of school education	CA	RA	1 2 3	S					✓	✓							
	RBG	Direct costs (inc. salaries)	RA	Sc	1 2 3	S	✓	✓		✓	✓	✓	✓					✓	
Denmark	BG	For current expenditure	CA	Sc	3	S					✓	✓		✓					
Estonia	EG	General education (inc. salaries)	CA	SP	1 2 3	S	✓	✓					✓					✓	
	EG	Policy priorities (specialised provision)	CA	SP	1 2 3								✓				✓		✓
	RBG	Schools owned by CA	CA	Sc	1 2 3	S	✓	✓					✓					✓	
	EG	State commissioned VET study place	CA	LA	2 3	Study place								✓				✓	
	EG	Study allowances (VET) to 3 municipalities	CA	LA	2 3	Study place					✓			✓					
Iceland	BG	Any type of expenditure	CA	Sc	3	S	✓	✓					✓	✓				✓	
	BG/EG	Equalise differences in LA income/expenditure needs	CA	LA	1 2	S												✓	✓
Israel	EG	Non-teacher salaries and operational costs	CA	LA	1 2 3	S		✓			✓							✓	✓
	EG	Teacher salaries	CA	LA	3													✓	✓
	DG	Teacher salaries	CA	St	1 2	S	✓				✓							✓	✓

Table 3.A1.1. **Funding formulas: different criteria used for allocation of current expenditure among OECD review countries (ISCED 1-3), 2016 (cont.)**

	Allocation mechanism	Funding allocation		Level of education (ISCED)			Basic unit	School characteristics				Curriculum					Student characteristics			
		From	To	1	2	3		L	S	SES	Other	Lvl	SY	EdT	Pg	WbP	SES	SEN	Min/Imm	Other
Lithuania	EG	Teaching and operational costs	CA	LA/Sc	1	2	3	S	✓	✓			✓		✓	✓			✓	✓
Slovak Republic	BG	Salaries (forms one BG with operational costs)	CA	SP	1	2		S		✓		✓		✓	✓					
	BG	Salaries (forms one BG with operational costs)	CA	SP			3	S				✓		✓	✓	✓				
	BG	Operational costs (forms one BG with salaries)	CA	SP	1	2		S		✓		✓		✓						
	BG	Operational costs (forms one BG with salaries)	CA	SP			3	S				✓		✓	✓					
	EG	Socially disadvantaged students	CA	LA	1	2		S											✓	
	EG	Student competitions/international projects	CA	SP	1	2	3	S				✓								
Slovenia	BG	Any type of expenditure (except SEN/school meals)	CA	Sc			3	S					✓					✓	✓	
	EG	Students with SEN; School meals	CA	Sc			3	S										✓	✓	
	EG	Operating costs of the educational programme	CA	Sc	1	2		S/T	✓									✓	✓	✓
Spain	DG	Staff salaries; Teacher professional development	RA	St	1	2	3	S/T/C												✓
	EG	Supporting students with SEN	RA	Sc	1	2	3	S/T											✓	
	EG	Operating costs/maintenance	RA	Sc		2	3	C	✓	✓			✓		✓			✓	✓	
Denmark ¹	Dis	For current expenditure	LA	Sc	1	2		S/C		✓	✓							✓		
Iceland ¹	BG/EG	Salaries/operating costs; support for specific students	LA	Sc	1	2		S	✓	✓		✓						✓		
Sweden ¹	Dis	Typically for any type of expenditure	LA	Sc	1	2	3	S												✓

1. While local authorities have discretion to design allocation mechanisms, many use funding formulas. The most typical criteria are presented in this table.

Notes: Allocation mechanism: DG = dedicated grant; EG = earmarked grant; BG = block grant; RBG = restricted block grant; Dis = discretionary funding

Funding allocation: CA = central authorities; SA = state authorities; RA = regional authorities; LA = local authorities; SP = school providers; Sc = schools; St = staff

Basic unit: S = student; C = class; T = teacher; At = attendance

School characteristics: L = location; S = size; SES = socio-economic status

Curriculum: Lvl = level of education; SY = school year; EdT = type of education; Pg = programme; WbP = work-based placement

Student characteristics: SES = socio-economic status; SEN = special educational needs; Imm = immigrant background; Min = minority

Full descriptive criteria are provided in the individual country profiles presented in Annex A.

The review team made every effort to ensure, in collaboration with countries, that the information collected through the qualitative survey on school funding is valid and reliable and reflects specific country contexts while being comparable across countries. However, given the qualitative nature of the survey, information should be interpreted with care.

For terms and definitions of allocation mechanisms, levels of governance and levels of education, see Annex B. For country-specific notes to this table, see the end of this annex.

Table 3.A1.2. Predominant basis to determine allocation of current expenditure does not include funding formulas, OECD review countries (ISCED 1-3), 2016

Allocation mechanism			Funding allocation		Level of education (ISCED)			Basis to determine funding allocation	Typical criteria
			From	To					
Kazakhstan	AnG	For any type of current expenditure	CA/RA/LA	Sc	1	2	3	Administrative discretion Negotiated process Historical basis	SchT, L, S, SEC, Lvl, SEN
	EG	For equalising differences in regional/local revenues, and implementing specific government programmes and initiatives	CA/RA	Ad/Sc	1	2	3	Administrative discretion Negotiated process Historical basis	
Portugal	EG	Teacher salaries	CA	SP/Sc	1	2	3	Historical basis Administrative discretion	
	EG	Non-teaching staff salaries	CA	SP/Sc			3	Historical basis Administrative discretion	
	RBG	Operating costs	CA	SP/Sc		2	3	Historical basis Administrative discretion	
	DG	Salaries of non-teaching staff	LA	St	1	2		Historical basis Administrative discretion	
	Dis	Any type of current expenditure, except teacher salaries	LA	SP/Sc	1	2	3	Historical basis Administrative discretion	
	AnG	For any type of current expenditure	CA	Ad	1	2	3	Negotiated process Historical basis	
Uruguay	DG	Teacher salaries and professional development	CA/Ad	Sc	1	2	3	Administrative discretion	SchT, Pg, ER
	RBG	Operating costs	CA	Sc	1	2	3	Administrative discretion	SchT, Pg
	DG	Instructional material and telephone expenses	CA	Sc	1	2	3	Administrative discretion Historical basis	SchT, Pg
	DG	Teacher training in support of students with SEN	CA	Sc	1	2	3	Administrative discretion	SchT, Pg, SEN
	EG	School meals	CA	Sc		2	3	Administrative discretion	SchT, Pg

Notes: Allocation mechanism: AnG = annual grant; DG = dedicated grant; EG = earmarked grant; RBG = restricted block grant
Funding allocation: CA = central authorities; RA = regional authorities; LA = local authorities; Ad = administration; SP = school providers; Sc = schools; St = staff

Typical criteria: SchT = school type; L = school location; S = school size; SEC = socio-economic composition of school; Lvl = level of education; SEN = students with special educational needs; Pg = education programme; ER = enrolment rate

Full descriptive criteria are provided in the individual country profiles presented in Annex A.

The review team made every effort to ensure, in collaboration with countries, that the information collected through the qualitative survey on school funding is valid and reliable and reflects specific country contexts while being comparable across countries. However, given the qualitative nature of the survey, information should be interpreted with care.

For terms and definitions of allocation mechanisms, levels of governance and levels of education, see Annex B. For country-specific notes to this table, see the end of this annex.

Table notes

Table 3.A1.1. Funding formulas: different criteria used for allocation of current expenditure among OECD review countries

Austria:

The earmarked grant for teaching of students with special educational needs from the central education authority takes the school type as criterion into account.

Chile:

Earmarked grants for students with special educational needs and for disadvantaged students take historic school performance as an allocation criterion into account. The earmarked grant allocated to school providers as a salary incentive for education professionals is allocated based on performance within a comparable group in each region as determined by the National Performance Evaluation System of Subsidised Schools (*Sistema Nacional de Evaluación del Desempeño*, SNED). According to the Law 19.410 (Articles 15-17), the subsidy goes to school providers. Every trimester, the school provider distributes 90% of the subsidy among the school's teachers, and the remaining 10% are used for salary incentives for remarkable teachers as defined by the teachers themselves, not the school provider.

Czech Republic:

The restricted block grant from regional authorities to schools for direct education-related costs typically also includes the school's specific infrastructure.

Iceland:

The block grant from local authorities to compulsory schools (ISCED 1-2) typically takes the proportion of low achievers into account.

Israel:

The earmarked grant from the central authority to local authorities for teachers' salaries in upper secondary education (ISCED 3) takes the characteristics of school network into account.

Slovak Republic:

The block grants from the central authority to school providers takes students with special educational needs integrated in mainstream education into account. The earmarked grant from the central authority to school providers for student competitions or participation in international projects takes the number of students placed in the first three positions in the competition and the number of international projects the school participates in into account.

Spain:

The funding formula for the dedicated grant for staff salaries and teacher professional development from the regional authorities includes identified needs of students as one criterion.

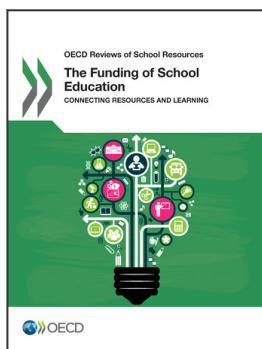
Sweden:

The criteria for allocating funds to schools are at the discretion of the municipality or district. The Education Act stipulates that the municipal funding mechanism should account for the number of students enrolled and also the "different precondition and needs of different students".

Table 3.A1.2. Predominant basis to determine allocation of current expenditure does not include funding formulas, OECD review countries

Kazakhstan:

The allocation of the annual grant from central, regional and local authorities to schools is based on schools' annual budget calls, the administrative levels' annual financial plans, and historical expenditures.



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