Educational Resource Management

Glover, Derek, Levačić, Rosalind

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In this chapter we will:

- examine the sources of public funding of education (central, local and institutional level)
- distinguish between the level of government that provides funding and the level that determines how it is used
- examine the advantages and disadvantages of central and local funding of education
- examine different methods of allocating public funding
- assess the advantages and disadvantages of different types of funding with regard to efficiency and equity.

**Public funding of education**

We have already demonstrated that there is considerable variation in the resources made available for education from public funds. This can be attributed to the source, the allocation rules applying to resources, and conditionality.

**Source**

The finance for publicly funded education may come directly from central government, which raises the resources needed for national services through direct and indirect taxation and then allocates the funds to educational organizations in different ways. Alternatively, the
funds may come from local taxation – usually related to property values, but also from local direct taxation. The situation, however, is made more complex where local authorities act as agents for school resourcing and where they are supported by funds from central government to which they add locally raised revenues.

The balance in the proportion of funding from central and local government varies from country to country and changes over time. Higher education funding is usually paid directly from central government to universities whereas most basic primary education is funded from local authorities that have varying amounts of central government grants to support their activities. If a local area wishes to make provision beyond the basic level it can only do so by raising local revenues – and some areas are more able and willing to do this than others. The increasing decentralization of control of school administration has resulted in schools being free to enhance their basic funding through locally raised support.

Allocation principles

These affect the way in which funds are distributed to schools and colleges. As we will discuss later, these funds may be distributed according to formulas containing indicators, such as the numbers and age of students attending a particular school or group of schools. Another method is by matching payments, for example, when central government matches local area funding by a set ratio. An alternative is bidding, by which a school or group of schools can put up a bid for funding to meet particular needs, for example, for those with special educational requirements, or submit cost estimates for their entire budget.

Conditionality

This arises when funding is subject to the school or group of schools meeting central or local government requirements, for example, by teaching according to approved methods or to an approved curriculum. Grants with conditions attached to them are called categorical, specific or earmarked. If the provider of funding does not impose conditions on how the recipient uses the funding, it is a block grant.

For and against central or local funding of education

There is considerable policy debate on the appropriate mix of local and central government funding of education. In part this division
is determined by long-standing constitutional settlements. Where these define a federal state, as in Germany, the United States, Canada and Australia, for example, the vast majority of education funding is determined at state level. The state can then decide to be the sole provider of public education funding or to leave a considerable amount of fund-raising to local school districts. Elsewhere, for instance, in the Scandinavian countries, there is a long tradition of the importance of local community government. So, in Sweden more than 70 per cent of education funding is spent by municipalities. In England, by contrast, it used to be 25 per cent until 2006, when the level of local general spending on education became entirely determined by central government through a 100 per cent dedicated schools grant. Since 2011, this system has been further complicated through direct payments to self-managing academies and free schools, with payments to the remaining state schools being made through local authorities.

As this shows, the mix of local and central funding can be very varied. The main dimensions along which variations occur are:

- the extent to which general education is partly funded directly by local government and partly directly by central government
- a split of resourcing responsibility between local and central governments, for example, a common split is central government paying for staff and local government paying for non-staff items
- the extent to which education is funded out of local taxation or central government grants to local authorities, rather than direct grants from central government to schools
- the conditions central government attaches to grants to local governments.

We will now discuss the advantages and disadvantages of local and central government funding of education, focusing on three models of financing arrangements that highlight the main advantages and disadvantages of central versus local financing.

Model 1: fully funded by local government

In this model, educational institutions are fully funded by local government out of local tax revenues. These usually include local property tax and, in addition, may consist of sales taxes or even a local income tax. The local authority can also borrow on the capital market to fund capital projects. The advantage of this model is that
it promotes external efficiency because local people can decide on local levels of education spending and taxation to support it. This was argued initially by Tiebout (1956) and so is known as the Tiebout model. Here households can obtain their preferred mix of local public goods by moving to the jurisdiction that best matches their preferences. Consumers’ satisfaction or utility is thus maximized, so the criterion of external efficiency is met by these arrangements. Locally raised taxes and borrowing also encourages direct democracy, as in Swiss cantons and US school districts, where votes are cast for specific expenditure proposals. The Tiebout model is also likely to promote internal efficiency, as local people are able to ensure that tax revenues they have supplied are used efficiently.

The vital premise upon which local funding of collective goods maximizes social welfare is that these goods are all local public goods. This means that the public benefit from, say, education is shared only by the residents of the jurisdiction and with an immobile population does not spill over to other areas and so affect outsiders.

It therefore follows that this argument in favour of local funding and local provision gets weaker when the collective good in question cannot be confined to one area because of population mobility, and so what occurs in one district has wider spillover effects to the rest of the nation. This applies particularly to education. With globalization, governments have become increasingly concerned about the importance of a well-educated labour force to enable effective competition on international markets. Fifty or more years ago school-level education could be regarded as a local public good in developed countries, since there was work for unskilled labour in industries that were then less mechanized and less technologically advanced. As governments have taken a more active interest in the quality of education nationwide, they have encroached, as far as political conditions allow, on local government freedoms to run education according to local preferences.

Another disadvantage of the Tiebout model is that it promotes horizontal inequality across the nation and diminishes social cohesion. With people grouping themselves into local communities in accordance with their preferences for public goods and tax rates, there will be great differences in the amount spent per head in different areas. Wealthier areas will spend more per head and have better services if they so choose. Poor people would find tax rates high in high-spending areas and move to localities where less tax revenue is collected and less is spent, with consequently lower quality education. These issues are discussed with relation to school vouchers, fee structures and in a straightforward
The allocation of public finance to education manner against the background of state funding in the United States in a blog by Caplan (2012). He argues, within that environment, that the model assumes greater freedom of movement than is realistic, modified choice because of cost factors and employment limitations and an inevitable waste of capacity.

A good example of great differences in per student expenditure for general education are the cantons in Bosnia and Herzegovina, shown in Figure 3.1. The political settlement that ended the civil war in 1995 established 13 local government jurisdictions of greatly varying size, each with its own tax-raising capacity. The absence of national accord had, up until 2003, prevented the establishment of any tax redistribution. The level of spending in each jurisdiction, therefore, was determined by the amount of local tax revenues.

![Figure 3.1: Expenditure per student for primary and secondary schools in Bosnia and Herzegovina (2002) by jurisdiction. Source: Levačić, 2003: Table 6](image)

Consequently expenditure per student was three times greater in the highest compared to the lowest spending area.

The effect of different local priorities may be that education is more favoured in an area where there are many younger people but less so in an area where the demographic balance differs and older people exert greater pressure for social and health services. Within a local area the policy and decision-makers are usually well known and the possibility of lobbying either officially or in private may result in decisions that favour
one organization at the expense of another. Where the disbursement is managed at the local level, the possibility of administrative malpractice, or simply favouring one head who is known to have ‘influence in high places’, may also result in inequalities. As a result there will be considerable differences in the level of provision within areas of a single country and this may lead to population migration in order to secure the services required. Such instability then puts the favoured local area under pressure and, while political theorists argue that this will prompt improvement in the area from which movement has occurred, this is by no means certain.

Model 2: local determination of spending with fiscal equalization

The inequity in local ability to raise tax revenues to fund local services can be removed by fiscal equalization in which tax revenues are redistributed from areas with high tax bases to areas with low tax bases. This can be organized by central government, as in the United Kingdom, or by local governments, as in Sweden. The Tiebout model’s advantage in terms of external efficiency is preserved because local governments receive a block grant to even out the playing field but can then choose their own level of spending on individual services as well as decide how much extra to raise in local taxes. However, the disadvantage of having a national public good subject to local preferences and hence differences in levels and quality of provision remains. Whether public resources are advantageously used to secure efficiency and equity is a matter for local organizational determination. But this is the inevitable price of local discretion and local democratic decision-making. This model is accompanied by considerable political bargaining between local and central government, if the latter is the provider of block grants. This may lead to a situation where central government politicians attempt to put the needs of their locality before the national good (known as ‘pork-barrel’ politics) as they seek to buy local political support. One feature of developing countries is that the central area in and near the capital tends to have better resourced schools even when funding comes from central government grants. Azerbaijan and Ghana are examples.

To operate equitably and transparently, central government funding of local government requires well-managed administrative systems with good accountability relationships. This is often not present in developing countries. As World Bank public expenditure tracking surveys have shown, a high proportion, especially of non-salary funding, has not reached schools — Uganda is an example. In developing countries
with poor tax bases and weak administration of revenue and expenditure flows, fiscal equalization is not feasible. By default, a high proportion of school resourcing is left to local communities to fund, with consequent inadequacy and inequality.

Model 3: central government determined funding

Equity in the funding of public education is secured if central government determines the amount of funding received by schools and allocates it on the basis of an equitable formula that takes into account differences in local spending need. The role of local government in this model, if it has any, is to manage the distribution of funding and the education services for which it has responsibility. Central government funding of schools may be combined with central government determination of all aspects of education – the curriculum, methods of teaching, selection of staff and professional development. Such a high degree of centralization ensures conformity to national standards and gives no or very limited scope for local self-determination on educational matters. The main disadvantage of this model is that national uniformity disregards differences in local tastes for public goods and therefore may harm external efficiency. Another disadvantage is that without a large service such as education to be managed, there are fewer incentives and opportunities for local democratic decision-making. Centralization of the delivery of education is avoided, while at the same time ensuring equity through central government funding according to local need, if financial management responsibilities are substantially delegated to a school council comprising local community representatives.

Models: summary

In short, as we showed in the previous chapter, there is a balance to be struck between central and local funding. Most countries use a combination of both, with four main objectives:

- to ensure basic levels of provision by providing a minimum amount of central funding that is then ‘topped up’ by local taxation
- to promote specific projects that central government wants implemented in addition to standard provision through direct central grants
• to ensure equity between local jurisdictions by providing each with an equivalent amount to provide for local needs, after adjusting for differences in need and in ability to raise local tax
• to create opportunities for local community members to be involved so that differences in local needs and preferences can be addressed.

In some countries the system becomes yet more complex because central or local government may provide a basic level of funding for educational resources but then allow, or encourage, schools to seek some support from their community through sponsorship or fee payment. Complexity is increased where central funding meets certain types of expenditure, such as teaching staff at a stated ratio rate, but where local funding is necessary to provide buildings and non-teaching staff, and school funding is sought through parent and teacher money-raising activities to meet the costs of books and equipment, as is the case in Kenya. In such situations accountability is more difficult and layers of supervisory staffing more likely to occur.

Types of central government grant

Grants from central government take varied forms. This is because they have to satisfy different objectives and can be used to secure particular policy implementation. There are three main dimensions to providing central financing for schools and colleges, which are whether or not the grant is:

• a block grant (also lump sum) or a categorical grant
• a matching or closed grant
• determined by formula or by bidding.

Block (lump sum) or categorical grants

Block grants (also called lump sum grants) are made to a local authority without any specific conditions being imposed as to their use. They allow freedom at local government or at school or college level and may promote a particular response to the needs of the community, for example, by allowing a rural school to concentrate on agricultural education while allowing a school in an urban area to develop specializations that meet local industrial needs. Because these are generally
non-specific payments, the process of resource planning, implementation and evaluation is likely to be left to the school or college, although audit systems will usually seek to secure value for money. As block grants can be used according to local preferences, needs and costs, they tend to promote efficiency.

The opposite to a block grant is a categorical grant – also called a specific or earmarked grant – which central government requires are used for specific purposes: for example, to support teachers’ professional development, or to purchase computers or textbooks. Governments that practise historic funding and pay grants according to the number of staff are also using categorical funding, though the category is a broad one. This is a very typical practice in transition states. Some, like Azerbaijan, practise an extreme form of categorical funding in which the Ministry of Finance allocates precise sums to a very large number of budget lines (for example, staff; stationery; domestic travel, such as hotel expenses; water; gas, etc.) and permits no switching between lines without central approval. This system had persisted for many decades during communism and was still adhered to in 2016. Such detailed and inflexible categorical grants tend to encourage internal inefficiency. However, some categorical grants that support particular projects, which are perceived accurately by central government to increase educational performance, would promote efficiency. Categorical grants that ensure equal national standards of provision promote horizontal equity.

Matching (or closed) grants

A matching grant is one where the money the local school or college receives from central government is dependent on how much it spends. The grant could be for a widely defined purpose, such as education, or for much more narrowly defined projects that the government wishes to promote. In effect, a matching grant makes the items it is used to purchase cheaper to the local unit, because for every £1 they spend, they get a fraction X in grant. It is this reduction in relative price that encourages the local unit to spend on the items for which a matching grant is available.

Matching grants are used to stimulate local mobilization of revenues and promote efficiency by ensuring local people want the expenditure. This system releases funds for a local- or school-based project on the basis of matching the revenue raised locally, either through local government, or from the community or other sponsorship, with a central government ‘top up’. This may vary from a very small central element to support local
community-building efforts in Kenya, to a very large element such as the establishment of specialist schools in England and Wales in the 1990s where the community was required to raise up to 5 per cent of a plan for technological improvement in order to release 95 per cent of government funding over a four-year period. The advantage is that the school will secure support for its aims and objectives, but the disadvantage is that it will have to conform to government requirements if the funding is to be made available.

Formula or bid allocation

All the grants discussed above can be affected by the way in which they are calculated. A formula for allocation is a defined set of indicators, each with a cash allocation, which is the same for all grant recipients in a given category. Common indicators for a funding formula are the numbers of students meeting criteria such as age, social deprivation (free meals or uniform) or special educational needs (SEN). Formulas can be varied in order to meet national objectives, for example, by supporting nursery education more generously than other sectors. These formulas may be applied according to a number of criteria. Income and socially contingent but non-specific grants may be made where schools are deprived because local revenue levels are insufficient to meet needs. Supplementary funds may be allocated, dependent upon markers of deprivation, such as housing conditions, numbers of single parent families, ethnic mix, unemployment statistics and so on. An example (see Case Study 1) of a funding formula, in this case for the allocation of a non-salary budget (NSB) to government schools, was introduced in the state of Punjab in Pakistan. Teachers continued to be funded by the state Ministry of Education.

Alternatively, the decision on whether to allocate funding at all to the local school or college and how much to allocate can be decided through bidding processes. These are used to encourage schools and colleges to develop their own approaches to particular areas of development and to enable central government to allocate limited funding to those projects it thinks will make the best use of the grant money. This kind of funding is used to encourage pedagogic change or to secure the introduction of information and communications technology. It has also been used as a means of securing development through international funding. This is seen in the work of the World Bank where educational development projects have been encouraged by schools bidding for improvement grants.
Case Study 1

The non-salary budget (NSB) formula, Punjab, Pakistan

The 2013/14 formula was a needs-based formula that incorporated principles of adequacy, efficiency, transparency and administrative expediency. It introduced the notion of enrolment-based school financing to Punjab. There were five elements, expressed simply as:

- Fixed school allocation – lump sum by type of school
- Student retention premium – incentive to keep students to completion
- Basic student entitlement – school roll weighted by sector
- Furniture needs – funds for furniture by roll and current need
- Building operations – maintenance and repair according to roll

The available district funds were allocated by a weighting formula applied to roll numbers in each year group in each school.

In 20018/19, revision to weighting was necessary to enhance equity and adequacy for deprived schools through:

- Adding a teacher deficiency indicator
- Adding a missing facilities indicator
- Adding a sub-component of acreage affecting building operations
- Revising the SRP to enhance incentive for retention
- Adding a remoteness component to offset isolation
- Adding an Early Years component

The conclusion of the consultants was:

After including all the revisions, there is a redistribution of resources from high schools to primary schools. The average high school still receives approximately the same amount. It is the ones far above or below the average that would have potentially been impacted by the transfer.


Bosnia and Herzegovina provides a good example of how resourcing practices can cause inefficiency due to inflexibility. After the war of 1992–5, which halved national income per head and from which the newly independent country was only slowly recovering, schools faced great difficulties in operating efficiently and with adequate resources. The inevitable shortage of funding was exacerbated by the system of resource allocation. There was a rigid formula for allocating both teaching and support staff according to the number of classes a school had. Staff were paid directly by the local authority. Schools received very small and irregular amounts for non-staff expenses. As a
consequence, schools were poorly maintained and had few books and little equipment. Heating bills were paid directly by the local authority so there was no incentive for schools to use energy efficiently. Schools were overstaffed, especially with non-teaching staff. Headteachers and school councils could not choose a more efficient pattern of resource use because they could not switch funding between staff and non-staff expenditures. Small but expensive schools could not be closed because there was no provision in the budget for switching the money saved on staff to pay for transporting pupils to a different school. International consultants recommended a switch to per pupil funding so that schools would receive a global budget that could be flexibly allocated between the different resource needs as judged by headteachers and school councils. So far this has been only partially implemented in some districts.

However, Nunnenkamp et al. (2012: 21), following an investigation of improvement grant administration in India, comment that:

> it appears that local needs for aid have to be assessed more systematically in order to render World Bank aid more effective in fighting poverty at the local level. In this context, the Indian case is encouraging as it appears possible for the World Bank to deal directly with state governments and, thereby, avoid political patronage and meddling by the central government.

The disadvantage of bidding is the amount of time it takes applicants to make a bid, especially if it is rejected, with consequent loss of morale. This is worsened for resource leaders when it becomes obvious that only schools in certain contexts are able to secure support or where the bid allocation system appears to be favouring areas where it is important to secure political support. Bidding arrangements of this sort are often dependent on cumbersome evaluation procedures and the resultant administrative inefficiency. The gains are that change is encouraged, cutting edge planning is facilitated (if well-judged value-for-money projects are invested in) and those organizations securing aid develop heightened self-esteem.

Grants: summary

Grants from central government can take varied forms that draw upon all three dimensions. This is because they are aimed at satisfying different objectives and can be used to secure particular policy implementation.
Therefore, it is possible to have a non-categorical matched grant allocated by formula (for example, number of pupils).

As the above discussion indicates, the criteria by which resources are allocated to individual schools or universities are important for the efficiency incentives they signal to educational managers and for their equity implications. The use of formulas for allocating a ‘global’ budget to schools (based mainly on the number and ages of its pupils) has become more widespread.

As Ross and Levačič (1999) argue, a properly constructed formula can encourage efficiency in resource use, horizontal equity (the same amount spent per similar student) and vertical equity (differential amounts per student, depending on indicators of social and educational need).

**Applying the criteria to allocation systems**

In Chapter 2 an outline was given of the criteria by which the use of educational resources can be judged. The varying demand for education is manifest in different ways and met through a combination of central, local and cost-sharing methods. It is important for educational leaders to apply judgement when using criteria, in that they need to be aware of the ways in which they can argue for enhanced or changed systems of allocation.

To remind you briefly of definitions: efficiency is maximizing educational outputs given the resources available, effectiveness is a judgement of the extent to which objectives are met (value for money is achieved by both efficiency and effectiveness) and equity is the allocation of resources in a socially fair manner. This is illustrated in Table 3.1 showing how the criteria for resource allocation and evaluation may be applied to primary education in Luxembourg. It demonstrates the complexity of funding at commune, canton and national levels (even in such a small country). Each element that is differently funded can be considered against the criteria of efficiency in using funding, effectiveness in securing objectives, and equity in providing according to local need.

Table 3.1 shows the general principles and systems used to ensure that funds are properly allocated in accordance with national and local resource control policies in Luxembourg. However, to judge whether resources are being used effectively or efficiently requires rather more financial detail than the table suggests – for example, if two adjoining
Table 3.1: Funding arrangements for primary education in Luxembourg

<table>
<thead>
<tr>
<th>Element</th>
<th>Funding</th>
<th>Context</th>
<th>Efficiency</th>
<th>Effectiveness</th>
<th>Equity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary education – buildings and infrastructure</td>
<td>District level annual budget</td>
<td>National – Aim for primary class sizes of 25 pupils. Communes urged to co-operate to secure maximum use of premises</td>
<td>Build within a set of standards to be eligible for central government grants to municipality</td>
<td>Centralized inspectoral system applies audit procedures to building use in adjoining communes</td>
<td>Additional funding for communes with low population density and isolated communities</td>
</tr>
<tr>
<td>Primary education – staffing</td>
<td>Centrally by application of pupil–staff ratio to cover ‘notional lessons’ needed to reflect social need</td>
<td>Commune amalgamation to ensure classes of near ratio size 1:25</td>
<td>Ratio use ensures that basic needs are met. Communes may pay for more staff</td>
<td>Inspectoral system checks that schools are providing value for money in staff use</td>
<td>Schools in areas of social deprivation or with high ‘new worker’ responsibility have an improved ratio</td>
</tr>
</tbody>
</table>

*Source: local fieldwork*
communes purchase additional staff to work with a small number of children in each of two schools, this may not be the most efficient use of resourcing compared to sharing the teachers between the two schools or employing them in one amalgamated school.

Some of the grants made for educational resourcing are allocated by applying formulas, for example, by giving a per capita payment for each student in an area or school. A refinement is to ascertain the actual needs of each student if they are to achieve their potential and then use this as the basis of formula development. This is known as needs-based allocation because it tempers allocation in the light of social and educational contextual issues to secure equity of opportunity. Researchers have looked at the way in which countries reconcile educational resourcing and policy development through formula and needs-based approaches. The criteria discussed above can be linked up with the agreed social, political and cultural aims of national life by using the framework of values suggested by Swanson and King (1991: 183). These values are:

- liberty (offering choice and diversity in educational provision)
- equality (offering similar opportunities for all to access educational resources)
- fraternity (offering social cohesiveness despite the context of a school or college)
- efficiency (the achievement of the highest outputs for a given set of inputs)
- economic growth (through the application of educational standards).

In reality most countries ensure that accountability is through financial measurement to give some indicator of efficiency, for example, in Luxembourg secondary funding is subject to a report to the service for secondary education on how, and to what end, state-funded allocated lessons have been used. Their financial accounts are submitted to the Ministry of Education, where they are controlled by the financial audit service. The accounts are then transferred to the financial control of the Ministry of Finance, which is in charge of controlling the commitment and authorization of all state expenditure (Eurydice, 2001).

Conclusion

This chapter has examined approaches to the allocation of funds for education at central and local levels. Systems vary in their underlying
political philosophy as well as in their degree of local autonomy, in their capacity to raise funds for educational purposes and in the degree of control at all levels. Where public funding is limited it is also likely that private capacity to support education will be limited, but schools and colleges may seek this support to supplement or fulfil their needs. Leaders and managers in these institutions have to be aware of their funding systems so that they can encourage public pressure where there is inadequacy or inequity. In those countries where there is a significant degree of devolved funding, the responsibility for efficiency and effectiveness, and hence value for money, rests with them. In the next chapter we consider the need for awareness of cost structures.