

Pursuing output-based education

The evolution of contracts for schools in the United Kingdom

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The private sector has provided investment funding and services for U.K. public schools under output-based contracts since 1997. Under these contracts firms provide accommodation and related services, while teachers, still employed by the public sector, provide the core education services. Firms bid their lowest price, and payments to the winning bidder begin only when services become available at defined standards. The contracts have evolved from building new schools, to providing maintenance and rehabilitation across many schools, to setting up and supporting information technology systems while incorporating learning targets for students. Contracts focused on facilities can improve education outcomes, but only to a limited extent—raising questions about whether output-based contracting could be extended to education services.

New schools have traditionally been procured by local governments through input-based construction contracts specifying the inputs—or the entire design—in great detail. Once a school was built, the local authority and the school were responsible for managing and maintaining the asset and delivering such services as cleaning, catering, security, and utilities.

But the input-based approach has had a rather inglorious history of leading to delays in construction, significant cost overruns, and maintenance costs that became steadily less affordable. A key attraction of the output-based contract, pioneered in the United Kingdom by the Private Finance Initiative in the early 1990s for asset-intensive transport and government accommodation services, is its focus on outputs—what is required rather than how it is to be delivered (box 1). That transfers the risk of cost and time overruns from the school and local authority to the contractor, which is paid only when the outputs are delivered. In most cases the private contractor must raise finance in the private sector to cover the initial construction works.

Under this approach the contract goes beyond just the provision of the asset—the school. By transferring responsibility and risk for the ongoing management, maintenance, and operation of the asset to the contractor, it gives the contractor the incentive to develop design solutions that take into account the costs of managing the asset over its entire life. This ensures that the contractor does not design an asset that is cheap to build but unaffordably expensive to manage and maintain over the rest of its life—as the public sector often has in the past.

This approach offers important advantages to the government, not only more efficient risk allocation and access to private sector expertise but also the delivery of new assets without pressure on government resources. The

**BOX
1****Public-private contracting for education services****Key features of the output-based approach:**

- A competitive bidding process (reputable bidder with lowest price and best value for money wins).
- Specification of the outputs required, not the method of delivery.
- Procurement of a service, not the underlying asset.
- Allocation of risks to the party best able to manage them.
- Value for money as the overriding objective.
- Value for money assessed over the whole life of the asset.
- Payment for service as received, not as asset delivered.

approach started later in education than in other asset-intensive service sectors, largely because local authority regulations constrained it until 1996.

Moving from single to bundled contracts

The first stage of the Private Finance Initiative in U.K. schools was an output-based contract for a single school in the Dorset area of southwest England (table 1). This first contract set a precedent in defining outputs that has been widely followed as school projects have evolved. The contract defined output requirements in terms of the conditions that would make a room or space “available” for use, such as the level of lighting, heating, and ventilation. It also defined standards for ongoing services, such as cleaning, catering, and building and grounds maintenance.

The contractor’s incentive to meet the requirements was established mainly through the fact that payment would occur only when the output standard was met. If a space (or the entire school) was not available for use, no payment relating to that space would be made. Deductions for nonavailability were weighted to reflect the operational importance of different areas—with faculty offices, for example, weighted less than classrooms. Deductions could also be made if rooms were available but the performance standards had not been met.

Local authority and contract date	Schools	Requirement	Pupils	Value (millions of U.S. dollars)
Dorset, 1997	1	Replace secondary school	1,000	35.6
Stoke, 2000	122	Refurbish or replace all schools	38,000	185.0
Dudley, 1999	104	Provide managed information and communications technology service for all schools	44,000	49.8
Glasgow, 2000	29	Refurbish or replace secondary schools and provide managed information and communications technology service	30,000	540.6

Source: Author's compilation.

Payments are made in roughly equal installments (minus any penalties) from the date of first availability over the life of the contract. They are partially indexed to reflect the fact that some of the contractor's costs (such as running costs) will rise with inflation, while its capital costs will be incurred early in the contract, financed by borrowing at a fixed rate, and therefore do not require indexation.

The next step was to bundle groups of schools into one project. This approach offered a range of benefits, including lower transaction costs for both the public and the private sector. Several such projects are now in operation. The new facilities have generally been delivered on time and to cost and have met—and in some cases exceeded—expectations. But the projects have involved little innovation.

The next stage of contracting began to address this issue. The Stoke schools project, covering all 122 schools in Stoke on Trent, defined its requirements in terms of standards that should apply to categories of accommodation in any school, rather than school by school as in previous contracts. The specification document was brief—much briefer than those for many single-school schemes, which have typically given a lot of detail about such issues as site constraints and design aesthetics. Covering, as before, only such areas as thermal comfort, ventilation, lighting, and fixtures, the specifications defined for each standard a performance level that would make the accommodation available, a level at which it would be available but performance deductions could be made, and a level at which it was nonavailable and no payment would be made. By focusing purely on accommodation standards, the local authority gave the contractor complete discretion over how to meet the standards.

As a result of the Stoke project's focus on high-level outputs, the contractor's solution has shown much more innovation than those in many single-site schemes. For example, many schools that the local council expected to be refurbished or repaired are being demolished and replaced, because this solution is more cost effective over the 25-year life of the contract.

The payment arrangements in the Stoke scheme have higher-powered incentives too. If nonavailability continues for a long time or recurs often, the payment deductions can exceed the total payment for the affected space and start to eat into payments for other parts of the contract. Thus the contractor's incentive to meet the output requirements increases as its exposure increases.

Extending standards to learning

Contracts developed from the focus on school buildings to encompass the installation and maintenance of information and communications technology

systems across many school properties. These contracts have extended output requirements to education performance.

Output standards and incentive structures centering on education performance began with the Dudley Grid for Learning scheme. In this project the contractor is providing a managed information and communications technology service—an integrated network, with hardware (computer labs with personal computers and printers, a personal computer in each classroom) and software (word processing, spreadsheets), access to email and the Internet for everyone, school administration systems, user support such as data backup and help desks, and maintenance. The project includes refreshing the technology over the 10-year life of the contract and extending use of the facilities to the wider community to support lifelong learning and strengthen community links.

Payment for the service is based on performance against availability, usage, and learning gain targets. Availability payments are based on the availability of the required services and facilities for use at the required standards, and usage payments on the number of pupil log-ins during each school term. The usage payments are designed to give the contractor an incentive to make the service useful to pupils in doing their work: the more they use it, the more the contractor will be paid.

The learning gain payments increase over the life of the contract, after performance benchmarks are established in the early years. In the second half of the contract period, in years 5–10, 15 percent of the payment will be based on the impact on education outcomes. This impact will be assessed by an independent third party on the basis of such criteria as pupils' and teachers' attitudes about using technology in learning, attendance levels, and educational attainment, including performance on national achievement tests.

By including payments linked to education outcomes, the Dudley contract begins to match the contractor's objectives much more closely with those of the teachers. Equally important from the contractor's point of view, the risk related to education outcomes is a relatively small part of the total project risk and so is proportionate to the level of influence that the contractor's performance can have on education outcomes.

A more recent project, the Glasgow Secondary Schools Project, is unique in many respects, but its key feature is its strategic focus on achieving rapid improvement in education performance across the whole secondary school population in a big city. This project is the only one that has combined a whole system approach to accommodation requirements with a require-

ment for fully managed information and communications technology service. The Glasgow schools contract was signed at the end of July 2000 by the local council and the 3ED consortium. The principal service providers under 3ED's contract are a construction company, a business services firm, and several information and communications technology firms. The technology agreement will run for 12 years, and the accommodation requirements for 30 years. With the new technology installed almost immediately after the contract was signed, education benefits are already being achieved.

As in the Stoke project, the focus on outputs allows the contractor to opt for new construction as a way to meet the council's requirements for many of the schools in the scheme. The council had expected 2 of the 29 schools to be rebuilt, but the contractor is rebuilding 11.

The specifications and payments relating to accommodation requirements are similar to those in earlier school projects. But as in the Dudley project, the technology elements of the agreement require the contractor to enhance education performance, and payment is at risk if it does not. The main emphasis is on availability of the technology service. A sliding scale of penalties tied to the impact of the problems on the teaching process creates an incentive to ensure continuity of service.

The Glasgow contract also features a learning gain element, with deductions made if achievements in reading, writing, and mathematics (in national tests for pupils age 13) do not improve by agreed margins each year. This element accounts for only 5 percent of the payment linked to the information and communications technology, but it is significant in aligning the interests of the contractor with those of the teachers. As in the Dudley scheme, the contractor's risk relating to education outcomes is supposed to be proportionate to the influence it can bring to bear.

The contractor's current rate of progress suggests that all 29 Glasgow secondary schools will have been replaced, expanded, or refurbished—with fully managed information and communications technology services installed and operational—within two years of the contract signing. Moreover, according to the published comparator, the contractor will do all this for 9 percent less cost than the council could have if it had carried out the project itself.

Could the scope be widened?

Better school facilities and up-to-date technology are widely recognized as beneficial in education—in boosting students' and teachers' morale and motivation, in making modern education methods possible, and in enabling teach-

ers to focus on teaching rather than dealing with failures in facilities or systems. In this way output-based schools contracts can have an impact on education outcomes—but only a limited one. Much more important than facilities and technology are the quality of teaching, the management of the school, and the nature of the school's intake.

Could the scope of education contracts be widened? To do so would require specifications and performance and payment regimes for contractors that focus on education outcomes for the pupils. In drawing up such regimes, local authorities would have to decide whether to measure performance against an absolute standard, based on, say, national targets, or against a target reflecting the schools' intake and historical performance. These would be difficult issues to resolve both technically—where to pitch the standards?—and commercially—how would the contractor respond to, and price, the risks involved?

Difficult issues touching on education policy would be raised—for example, relating to a contractor's ability to influence a school's intake or to exclude pupils, and to its employment policies for teachers. And contractors exposed to risk linked to education performance would want full control over the inputs that affect outcomes and so might challenge existing public sector approaches to delivering education services—a political hot potato.