Designing output-based aid schemes: a checklist

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Any discussion about designing output-based aid schemes must begin with an understanding of the underlying strategy—in particular, how it differs from traditional ways of funding and delivering public services.

Traditional approaches to providing health, education, infrastructure, and other public services channel public funding (whether sourced from domestic taxpayers or international development assistance) to the labor, materials, and other inputs consumed by state-owned monopolies, with at best indirect links between funding and the delivery of services. In the developing world especially, results have often been disappointing. Incentives for efficiency and innovation have been weak. Accountability for performance has been dismal. And opportunities for leveraging scarce public resources through private financing have been limited.

Output-based aid seeks to address these weaknesses by delegating service delivery to a third party under contracts that link payment to the outputs or results delivered. It thus has the potential to improve incentives and accountability while also expanding opportunities for mobilizing private financing. The focus shifts not only from inputs to outputs, but also toward the Holy Grail of development outcomes.

From strategy to implementation

The extent to which the potential benefits of output-based aid can be realized depends critically on the design of individual schemes. There are no standard models or blueprints, and approaches need to be adapted to the characteristics of the service and to the environment in which it will be delivered.

As with any policy intervention, the design of output-based aid schemes often involves tradeoffs between goals—such as providing high-powered incentives for efficiency, attracting sufficient interest from service providers, ensuring effective monitoring of performance, and minimizing

administrative costs. Further complicating design is that many issues are interrelated. For example, the definition of the service to be provided may be influenced by budgetary constraints—and in turn may influence the definition of eligible service providers, the amount and structure of payments, the duration of the contract, and the design of appropriate monitoring arrangements.

For these and other reasons, designing effective output-based aid schemes is neither simple nor mechanical. But while many of the issues are challenging, they are not altogether novel. Indeed, important insights can be gained from the solutions to similar issues in other areas, particularly in private infrastructure arrangements.[1]

To navigate the key issues in designing output-based aid schemes, it may be helpful to group them under eight headings—a checklist of major design questions:

- *Clarifying the role and sustainability of public funding.* What is the rationale for public funding? How might budgetary constraints and sustainability issues influence design?
- *Deciding who will be eligible to receive services that attract public funding.* Who are the intended recipients? How will they be targeted?
- *Deciding who will be eligible to provide services.* What criteria should govern eligibility?
- *Choosing the market environment.* Will services be provided in a competitive or monopolistic market?
- *Defining performance.* What should the service package include? How should key performance standards be defined?
- *Linking payment to performance.* What should be the form and size of payment? How will payments be structured?
- *Shaping other aspects of the contract.* What should be the form and duration of the contract? How will issues of contractual adaptation and dispute settlement be addressed?
- *Structuring the administration of the scheme.* What should be the scope of the scheme? Who should be responsible for administering the scheme?

Clarifying the role and sustainability of public funding

One of the hallmarks of output-based aid is a clear focus on the intended results. This means that policymakers and their advisers must clarify the reasons for public funding and consider the feasibility and sustainability of that funding from a budgetary standpoint.

Establishing the policy rationale for public funding

Many public services can be financed through user fees, without recourse to taxpayer or donor funding. This is increasingly the case for infrastructure services such as electricity, telecommunications, water supply, and many modes of transportation, and for many health and education services. But reliance on user fees alone can give rise to efficiency and equity concerns.

Efficiency concerns will arise if a service has characteristics that make individual preferences as expressed through user fees a poor measure of social welfare. For services that have "merit good" features—as some education services do, for example—consumption creates benefits for society in addition to those captured by individual consumers.[2] For these services, reliance on user fees alone would lead to underconsumption relative to the socially optimal level. For services that have "public good" features—such as public defense and public health interventions—the benefits from consumption are not depleted by additional users, and it is difficult or impossible to exclude people from the benefits even if they are unwilling to pay for them. For this reason, user fees usually are not a feasible financing strategy for services with the characteristics of pure public goods.

Equity concerns will arise if reliance on user fees limits the ability of the poorest members of society to meet their basic needs. This is a particularly pressing challenge in the developing world, where 2.8 billion people live on less than $2 a day (in purchasing power parity terms). And these concerns can be particularly acute in rural areas, where providing services is often more expensive than in urban settings. Complementing user fees with subsidies can be an important part of strategies for promoting universal access to public services. The need for such support will have to be assessed case by case, however, taking into account the costs of providing the service and recipients' willingness and ability to pay for it (box 1).

Questions to consider

- Can the service be adequately funded from user fees alone?
- When public funding is proposed on the basis of "merit good" considerations, has the gap between recipients' willingness to pay and the expected social benefits been assessed?
- When public funding is proposed on the basis of "public good" considerations, has the basis for this claim been assessed?
- When public funding is proposed on the basis of affordability concerns, have recipients' willingness and ability to pay been assessed?

BOX 1

Subsidies and affordability

Traditional approaches to pricing public services have often relied on untested assumptions about the willingness and ability of users to contribute to the financing of the services through user fees. For example, publicly provided infrastructure services in developing countries have typically been priced substantially below the full economic costs of supply, ostensibly to help the poor. But the main beneficiaries have tended to be the more affluent, with the poorest lacking access to any service or paying considerably more for poor-quality substitutes (see World Bank 1994).

In reviewing the need for subsidies for a public service, a first step is to assess users' willingness and ability to pay. One way to do this is through surveys, for which there are established techniques. Another is to look at actual expenditure on substitute services. In many developing countries, for example, the poor often pay prices for water from tankers or other informal providers that are 10–15 times the price for services provided through household connections by an efficient supplier.

Many societies espouse a goal that expenditure on certain basic services should not exceed a fixed percentage of household income. Chile's subsidy policy, for example, is based on a view that subsistence-level water and sanitation services should account for no more than 5 percent of a household's income. Governments considering such policies need to determine whether they can mobilize sufficient funding for the required subsidies in the near term.

Considering the sustainability of financing

Budgetary and donor resources are subject to many competing demands, placing practical limits on public funding for services no matter how compelling the policy rationale. The volume and sustainability of the funding available are therefore key considerations in designing output-based aid schemes, particularly for those involving multiyear commitments. These considerations may influence the size and focus of the scheme, including the services eligible for public funding, the amount of subsidies that can be paid, and the pool of eligible recipients. (For simplicity, the term *subsidy* is used here for public payments designed to address either efficiency or equity concerns.)

Sustainability considerations may be particularly important in choosing the action that will attract public funding. Subsidies for consumption typically require a long-term commitment unless they are directed to one-time events, such as immunizations, or are part of a transition strategy for moving to user fees that fully cover costs, as in Guinea's water sector (see chapter 3). In some

cases it might be more feasible to direct subsidies to household or community connections to such services as water and electricity, leaving consumption to be financed from user fees.

Well-designed output-based aid schemes can help ease budgetary constraints. Improving the targeting of subsidies and strengthening the incentives for efficiency can increase the impact of a given level of public funding. Schemes can also help mobilize private financing in support of service provision.[3] In Peru the rural telecommunications scheme required a subsidy of US$11 per inhabitant, but mobilized an estimated US$22 per inhabitant in additional private investment (see chapter 1). Indeed, in many cases even a relatively modest subsidy payment may be enough to make larger projects attractive to private providers. These factors, coupled with improved accountability for results, can also help reduce resistance to funding assistance programs among taxpayers and donors.

Questions to consider

- What is the budget envelope for financing subsidies for the service, and how long will that funding be secure?
- How will budgetary constraints influence the size and focus of the scheme, including the amount of subsidies that can be paid and the pool of eligible recipients?
- How will sustainability considerations influence the choice of action that will attract public funding?

Deciding who will be eligible to receive services that attract public funding

Both the policy rationale for public funding and budgetary constraints will influence the designation of people eligible to receive subsidized services. Where public funding is justified by merit good or public good considerations, the pool of intended recipients may include most members of society. Where subsidies are aimed at making services more affordable, the pool is usually smaller.

Precisely targeting the people to receive subsidies can be information intensive and costly. In some cases existing census or other data may provide reliable information for means testing of households. Where such information is lacking, some pragmatism may be required, with targeting strategies taking into account the costs of generating reliable information and the potential for errors of inclusion (including an unintended recipient) and of exclusion (excluding an intended recipient). In some cases area of residence may be a reasonable proxy for household income. This criterion determines eligibility for some subsidies in

Colombia, for example. And many rural electrification schemes simply assume that those living in rural areas are relatively poor (see chapter 5).

Subsidies can sometimes be designed so that recipients signal their eligibility. For example, if a subsidy is directed to a low-cost service option, more affluent citizens will be less likely to choose that option. Peru's rural telecommunications scheme directs subsidies to pay phones, in the knowledge that more affluent people will prefer the convenience of their own household or mobile phones. Similarly, subsidies directed to new household connections to infrastructure services will exclude those already connected. Recipients might also be required to take some positive action to qualify for subsidized services, such as registering with local authorities. And they might be required to meet some additional condition, such as paying a share of the bill, as in the water supply scheme in Chile (see chapter 2).

When the pool of potential recipients is large, some mechanism may be needed for determining priorities. In many parts of Africa less than 10 percent of the population has access to electricity. Where do you begin? One practical approach is to allow service providers to address the pool of potential recipients progressively, on the basis of cost and recipients' willingness and ability to pay user fees to complement the available subsidies.

The intended recipients—and the broader community—can also play other important roles in the design and implementation of output-based aid schemes (box 2).

Questions to consider

- When subsidies are justified by affordability concerns, how will intended recipients be identified?
- When the pool of potential recipients is large, how will priorities be determined?
- How will the perspectives of recipients and communities be incorporated into the design of the scheme?

Deciding who will be eligible to provide services

Output-based aid schemes need to mobilize competent service providers that respond to incentives for performance. What criteria should apply?

For some services, the eligible providers may need to be limited to those with certain technical qualifications—for example, adequate training to provide specialized health services. The definition of qualifications needs to take into account policy concerns about the nature of the service to be delivered, trade-

BOX 2

Involving recipients and communities

Traditional approaches to delivering public services have been dominated by the perspectives of public sector suppliers. Output-based aid creates opportunities for increasing the input and involvement of the intended recipients and the broader community in three ways:

- *Designing and evaluating schemes.* Recipients and communities can help clarify the need for subsidies and ensure that service specifications take into account local needs and preferences. They can also help evaluate the operation of schemes, especially important in pilot projects.
- *Providing services.* Small-scale entrepreneurs and community groups can in some cases play the role of service providers.
- *Monitoring services.* Where communities are not involved in providing services, they might play roles in monitoring and verifying the performance of service providers.

offs between cost and quality, and the effect on the supply response. Requiring unnecessarily high qualifications can increase the cost of service provision and reduce the number of potential providers. In some cases it may be necessary or desirable to offer training to expand the pool of potential providers.

The ownership and governance structure of potential service providers may be another important consideration in determining eligibility. Output-based aid schemes rely on high-powered financial incentives for performance, which means that service providers need to be motivated by such incentives, and also have the flexibility to adapt delivery processes and experiment with innovative financing arrangements. Effective contractual discipline and oversight require the service provider to be at arm's length from the scheme's administrators and from regulatory authorities. And effective competition—whether in the market for providing the services or in the bidding for monopoly franchises that attract public funding—requires a reasonably level playing field between potential providers.

Including incumbent public enterprises among eligible providers usually creates difficulties on all these criteria. Moreover, any private financing mobilized by public enterprises generally involves at least an implicit government guarantee, reducing the potential benefits of output-based aid. Private entrepreneurs and firms—local and foreign—more clearly meet these tests. Nongovernmental organizations or community groups might also be potential suppliers.

A range of other design issues also affect success in mobilizing effective supplier interest (box 3).

Questions to consider

- Is it necessary to impose technical qualifications for eligible service providers? If so, what is the appropriate level and form? Is it necessary to offer training?
- Does the definition of eligibility take into account the ownership and governance structures of potential service providers?
- How will other features of the scheme influence the ability to mobilize a supply response?

Choosing the market environment

Traditional approaches to delivering public services have relied on monopolistic supply arrangements. Output-based aid schemes allow more competitive approaches. The choice of approach has important implications for the incentives faced by service providers and the intensity of regulatory oversight required.

Advances in technology and in economic thinking are expanding the scope for competitive delivery of many services traditionally reserved for monopolies. Competition has become the norm in telecommunications and

BOX 3 Mobilizing a supply response

To be effective, output-based aid schemes need to attract competent service providers and, ideally, to mobilize private financing to complement public resources. These considerations need to be taken into account in designing all aspects of a scheme.

Particularly for new and innovative schemes, early efforts may be required to identify potential service providers and to obtain their input on the design of the scheme. Knowing their views on the feasible level of risk sharing, as reflected in such matters as the performance standards and the level and structure of payments, will often be critical to mobilizing an adequate supply response.

The scale of the scheme can also influence the level and source of supplier interest. Schemes requiring substantial investment and service commitments may be too large for local entrepreneurs in many developing countries, while small schemes will be less likely to attract interest from major international firms.

Finally, the credibility of the payment scheme may be critical to mobilizing private financing. Ensuring credibility requires thinking about the security provided by contracts, the choice of scheme administrator, and, in some cases, additional measures such as escrow accounts.

increasingly common in electricity and gas supply and in many modes of transportation. Competition is also being used to spur efficient delivery of a range of other public services, including education and health care. When feasible, competition between service providers improves incentives for efficiency, innovation, and consumer responsiveness while reducing the regulatory burden.

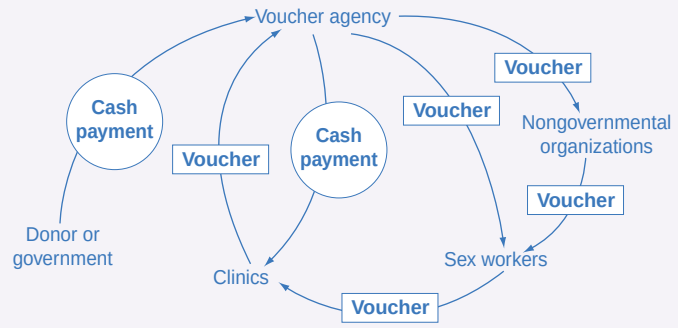
Under competitive approaches, service providers are compensated on evidence that they have served an eligible recipient. This evidence might take many forms, including vouchers that targeted recipients have

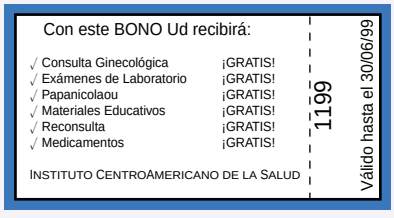
BOX 4

Using competition to improve health services in Nicaragua

Nicaragua has used a voucher scheme to support the delivery of health services to female sex workers since 1995 (before then, government clinics provided services). Targeted participants receive vouchers (see sample below) entitling them to a specified set of diagnostic and counseling services from their choice of preidentified clinics, which include both private (for profit) firms and nongovernmental organizations. The clinics redeem the vouchers for payment from the voucher agency. The voucher scheme is credited with expanding the use of the services, improving their quality, and reducing costs (Harper and others 2000).

How the voucher scheme works





Source: Diagram adapted from Harper and others (2000); voucher from Instituto CentroAmericano de la Salud.

exchanged for services from their chosen provider. Vouchers are being used for a variety of public services, including health services in Nicaragua (box 4). Effective competition may require relaxing regulatory barriers to market entry and in some cases educating recipients or requiring service providers to publish information so that the recipients can exercise well-informed choice.[4]

Competition between providers may not be feasible in very small markets or where service delivery depends on investments with characteristics of a natural monopoly, which may be the case for some infrastructure services, for example. In other cases competition might be technically feasible but deliberately constrained—for example, where a monopoly structure is chosen to help mobilize private financing or to facilitate cross-subsidization between users or services.[5] Restricting competition when it is technically feasible is costly, however, particularly when access to services is low. The tradeoffs between competitive and monopolistic approaches thus need to be carefully evaluated in each case.

Where monopolistic service delivery is chosen, efforts are needed to ensure adequate regulatory oversight and to involve intended recipients more closely in the design of the scheme. The scope of the monopoly also needs to be carefully defined. Should there be a single national monopoly or a number of smaller, local monopolies? While a single national monopoly may offer potential economies of scale, this advantage needs to be weighed against the potential benefits of having several local monopoly franchises: a smaller financing burden on service providers, the ability to adapt approaches to local conditions and preferences, and the potential for using "yardstick" competition between providers. In choosing between a single monopoly and several, the size of the market and the significance of scale economies will often be decisive. Where contracts for monopolistic service delivery are being awarded, some of the benefits of competition can be obtained by tapping competition for the market (box 5).

Questions to consider

- Is competitive delivery of the service feasible? If so, what measures are needed to ensure that competition is effective?
- If monopolistic delivery is chosen, what will be the scope of the monopoly and what measures will be taken to ensure effective regulatory oversight and opportunities for input by recipients?

BOX 5

Forms of competition in public services

Output-based aid schemes might tap one of three forms of competition:

- *Competition in the market*—where service providers compete directly with one another to supply intended recipients. Where feasible, this form of competition usually offers the greatest advantages.
- *Competition for the market*—where potential service providers bid for the right to supply a monopolistic market under a time-bound franchise. Well-designed bidding processes can serve as a market test of the required level of funding. Rebidding franchises at the end of the contract period can help to sharpen incentives for performance.
- *"Yardstick" competition*—where comparative data on the performance of different service providers are used to simulate some features of competition in the market. For example, the relative performance of suppliers in different service areas might influence performance standards or be tied to the reward system to strengthen incentives for performance. Experience with this approach in infrastructure is potentially transferable to a wider range of public services.

Defining performance

The contract between the scheme administrator and the service provider must clearly define the services to be provided and the key standards of performance. The approach taken has important consequences for the costs of the scheme, the incentives faced by service providers, and the strategy for monitoring and verifying performance.

Setting the scope of the service package

The service agreement might cover a package of related services or focus on a single service. For example, health contracts might cover the full range of services available from primary care providers (as in Romania); a package of related services, such as immunization and prenatal and maternal care (as in Haiti); or a single service, such as training in oral rehydration therapy (as in Bangladesh). Education contracts might cover the delivery of education services or focus on the provision and maintenance of facilities used in delivering education (as in early schemes in the United Kingdom). In the roads sector in Argentina initial contracts included only maintenance but were later extended to rehabilitation as well.

The coverage of the service agreement will depend on the policy objective, budgetary constraints, and potential economies of scale and scope in putting together an integrated service package. It will also depend on the

implications for attracting supplier interest, as there may be tradeoffs between the breadth or depth of the service package and the amount of performance risk that can be transferred to service providers. For example, schemes seeking to shift significant performance risk to service providers may need to start with a more narrowly defined service package, expanding the scope as suppliers and their creditors become more familiar with the arrangement. This was the approach taken in the roads sector in Argentina and the education sector in the United Kingdom, for example.

Even when the service agreement covers a range of related services, it may be possible to focus the subsidy payment on a subset of services or actions when the service provider will have access to user fees. An infrastructure service agreement, for example, could cover a range of actions required in delivering services, but target subsidies to new household or community connections.

Questions to consider

- What services will be included in the service agreement?
- How will the breadth of the service package affect the amount of performance risk that can be transferred to service providers?
- When the agreement covers a package of services and the service provider will have access to user fees, is it desirable to focus subsidy payments on a subset of services or actions?

Specifying performance

The services covered by the service agreement can be defined in different ways, with implications for the complexity of the contract, the incentives and performance risk faced by service providers, the cost of subsidies, and the ease of monitoring and verifying performance.

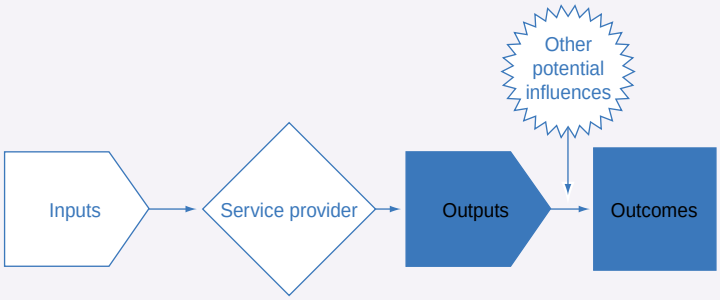
The definition of some services might involve only a few key parameters, such as inoculation with a specified vaccine through a clean syringe. For others, there might be a larger set of parameters. For many health services, for example, effective delivery might require diagnosis, testing, and counseling. Similarly, water supply services might involve consideration of the quality of water provided, the hours per day of availability, the pressure of delivery, responsiveness to service disruptions, billing arrangements, and a host of other matters. The number and nature of the service characteristics that potentially require definition will vary according to the service as well as the approach taken to incentives in the contract. In structuring incentives, it is important to distinguish between measures that focus on inputs, outputs, and outcomes (box 6).

BOX 6

Inputs, outputs, and outcomes

Performance under output-based aid schemes may be defined by reference to inputs, outputs, or outcomes.

- *Inputs* are the resources consumed in producing and delivering a service—such as labor, technology, or physical materials.
- *Outputs* are the immediate results of the service provider's activities—such as the number and quality of the health, education, or infrastructure services provided.
- *Outcomes* are the ultimate effects of services on the community—such as improvements in health or in educational attainment. Outcomes may be influenced by factors other than the activities of the service provider, which distinguishes them from outputs.



Measures focusing on outcomes and outputs create opportunities and incentives for service providers to discover new and better ways of achieving the desired results. A focus on education outcomes, for example, allows service providers to experiment with a range of approaches that achieve better results than traditional ones. A focus on outputs, such as the delivery of electricity services in rural areas, would give service providers opportunities and incentives to try new models of service delivery.

Outcome-related measures are also attractive because they directly target the larger social objective. But outcomes are often difficult to measure with precision and are usually subject to influences beyond the control of the service provider. Success in achieving an intended outcome of eliminating a particular disease, for example, might be influenced not only by the health services provided, but also by the actions of service recipients, the performance of providers of other services, and a range of other factors. And achievement of an intended outcome of improving educational attainment

might be influenced by such factors as differences between individuals and the support provided by families.

In these cases making the service provider's compensation completely dependent on outcomes would be inappropriate, and the high level of performance risk involved might deter potential service providers or lead to demands for larger payments. Nevertheless, some schemes link at least a small part of the service provider's compensation to outcomes beyond the provider's control to align its interests with those of the scheme administrator. For example, contracts for providing and maintaining school facilities in the United Kingdom link part of the payment to the impact on education outcomes, including attendance levels and educational attainment as measured by performance on national achievement tests (see chapter 9).

Measures focusing on outputs—such as the quantity and quality of services provided—are more clearly limited to matters within the service provider's control. Monitoring and verifying the quantity of services provided is relatively easy. But it can sometimes be difficult to assess the quality of those services without at least some reference to the inputs consumed. For example, it is often hard to evaluate the quality of professional services without reference to the qualifications of the provider. Similarly, when service delivery requires the construction or rehabilitation of long-lived assets that are intended to be transferred to the state at the end of the contract period, the scheme administrator may not be indifferent about the construction materials used. Of course, heavy reliance on input-related measures requires much more detailed contracts and limits opportunities and incentives for innovation. The tradeoffs between outcome-, output-, and input-related measures of performance thus need to be carefully evaluated in each case.

Reducing the number of defined service parameters can simplify contracting and monitoring. But the performance measures need to be chosen with care. In Haiti's health care scheme, for example, the waiting time in health clinics was originally included as a proxy for quality. But this indicator was found to be unreliable in a setting where people often must travel long distances for services and might wait an entire day for test results rather than come back (see chapter 7). When schemes focus on a subset of measures, they also need to ensure that this does not lead service providers to neglect other important matters or that it does not otherwise produce perverse results. In a scheme intended to promote recycling of household waste

BOX 7

Establishing minimum quality standards

Performance specifications need to incorporate judgments about the minimum level of service quality. Quality has a cost, however, and budgetary constraints may require careful evaluation of the tradeoffs, particularly when the alternative for intended recipients might be no service at all.

Schemes can sometimes be designed to allow recipients to choose a mix of price and quality that reflects their individual preferences and budgetary priorities. For example, a voucher scheme might allow recipients to choose from a range of service packages—and to "top up" the minimum entitlement by paying additional user fees.

In other cases schemes may need to establish a uniform set of minimum performance standards for a large number of recipients. When this is necessary, it is important to ensure that the performance specifications take into account the views of intended recipients. It might also be feasible to define different service packages for different service areas, to match local conditions and preferences.

in the United Kingdom, for example, focusing on the amount of recyclable material collected rather than the amount recycled resulted in carefully segregated waste being incinerated (U.K. National Audit Office 2001). And when contracts specify multiple service parameters, it may be appropriate to signal the relative importance placed on each, as health care contracts in Haiti do (see chapter 7).

Embedded in any set of performance specifications are judgments about minimum acceptable quality. There are important tradeoffs between quality and cost, however, and these need to be carefully evaluated in each case (box 7).

Questions to consider

- Will service requirements be defined in terms of outcomes, outputs, or inputs—or some combination of these?
- Can the number of defined service parameters be reduced without risking the neglect of other important matters or otherwise leading to perverse results?
- When service requirements are defined in terms of multiple parameters, how will performance against each be weighted?
- Do minimum quality standards reflect appropriate tradeoffs between quality and cost? Do they reflect the priorities of intended recipients?

Linking payment to performance

How an output-based aid scheme links payment to service delivery influences the cost of the scheme, the incentives and risks faced by providers, and the supply response mobilized, including private financing. Key questions relate to the form and amount of payment and to its structure.

Determining the form and amount of payment

Cash is the most flexible, most transparent, and, usually, most appropriate form of payment for service providers in output-based aid schemes. Noncash forms of compensation—such as tax credits or the conferral of special rights or privileges—are less flexible and transparent and can complicate the calibration of payment to results.[6]

In some cases governments might borrow from international financial institutions to finance the provision of subsidies, as the government of Guinea did for water consumption subsidies (see chapter 3). But using access to concessional finance as the sole form of "payment" to service providers under output-based aid schemes can be problematic. If the financing is made available only after the service has been delivered, the critical need for financing will usually have passed. If the financing is made available up front, incentives for performance are dulled and opportunities for mobilizing private financing are forgone.

The amount of payment required depends on the cost of providing the service to the specified standard, less any user fees from recipients. But the actual cost of providing the service is often unknown when a scheme is being designed. A first approximation could draw on benchmarks from incumbent suppliers. But by providing strong incentives for efficiency, well-designed output-based aid schemes lower costs. A recent survey of experience in contracting out services in OECD countries found cost savings averaging around 8–14 percent over a range of services, with savings of 50 percent or more in some cases (Hodge 1999). The actual savings depend on many factors, including the relative efficiency of the incumbent provider, the opportunities and incentives for innovation provided by the contract, the premium required by the service provider to compensate for payment or other risks, and the process used to award contracts.

The process for awarding contracts can be used to reduce costs and provide a market test of the amount of payment required. One strategy for doing so is to award contracts competitively to qualified service providers on the basis of the least payment required to provide the service.[7] In the rural

telecommunications scheme in Peru this strategy resulted in bids 41 percent lower than official estimates and 74 percent lower than an earlier offer from the incumbent telecommunications operator (see chapter 1).

Questions to consider

- Is there any basis for considering noncash forms of payment?
- What benchmarks will be used to estimate the likely costs of supplying the service to the required standard?
- Will contracts be awarded through a process that helps in determining (and minimizing) the payment required?

Structuring the payment

Output-based aid schemes that link payments completely to performance, and withhold payment until satisfactory delivery of services has been verified, create high-powered incentives for performance. Incentives can also be fine-tuned by deducting payments for subpar performance and including bonus payments for service that exceeds minimum requirements. Where multiple dimensions of performance are specified, payments can also be calibrated to reflect the relative weight attached to each, as in the health service contracts in Haiti.

In some cases it may be necessary to include some payment that is not dependent on performance, such as when the service provider is required to bear significant performance risks. This might also be necessary as a transitional measure where suppliers have traditionally been compensated on the basis of expenditures rather than outputs. In the health scheme in Haiti, for example, initially only 10 percent of service providers' compensation depended on performance. As service providers become more familiar with the system, it should be possible to reduce the share of payments unrelated to performance.

Even in schemes where payment depends fully on performance, it might be appropriate to share some risks between the service provider, the scheme, and even the service recipients. When the delivery of a service depends heavily on an input whose price tends to fluctuate, for example, a mechanism for adjusting payments or permitted user fees might be needed to reduce the risk faced by the service provider, particularly when longer-term contracts are involved. Payment might still depend fully on delivery, but changes in the cost of the key input could be reflected in the size of the payments or user fees. Care needs to be taken, however, to avoid reducing the service provider's incentives to negotiate hard with its suppliers.

A credible scheme assuring payment on delivery should help service providers mobilize the financing they need to deliver the services. But when significant investments are required and local capital markets are underdeveloped, some part of the payment may need to be made up front to ensure sufficient supplier interest at reasonable prices. For example, Peru's rural telecommunications scheme paid 35 percent of the subsidy at the start of the project and 25 percent once the facilities were installed (see chapter 1). Argentina's road rehabilitation and maintenance contracts included advance payments of 5–10 percent, followed by 15–25 percent at the end of the first six months, when specified activities had been completed, and 25 percent at the end of the first year, when rehabilitation works had been completed (see chapter 4).[8] When up-front payments are made, it may be necessary to obtain performance bonds or similar guarantees from service providers.[9]

The balance required between up-front and post-performance payment needs to be tested in each case, taking into account the investment required and the feasible level of private financing. This reinforces the importance of consulting closely with potential service providers when designing the scheme. The appropriate balance may change over time as suppliers and their creditors develop greater familiarity with and confidence in the scheme.

Questions to consider

- How will payments be tied to particular dimensions of performance, and will penalty and bonus payments be used to fine-tune incentives?
- Is it necessary to include payments not dependent on performance? If so, what share of the total payment will they be?
- Is it appropriate to share some risks with service providers, such as changes in the prices of essential inputs?
- Is it necessary to include up-front payments? If so, what share of the total payment will they be, and how will the risk of subsequent nonperformance be addressed?

Shaping other aspects of the contract

Clear definition of the services to be provided and the payment arrangements is clearly central to the service agreement. But a range of other issues require attention, including the legal nature of the contract, its duration, and the mechanisms it provides for adjusting its terms during its life and for resolving potential disputes.

Performance contracting between government entities often relies on "quasi-contracts" that are not legally binding.[10] In contrast, the enforceability of

contracts in output-based aid schemes is essential to eliciting a supply response, providing strong incentives for efficiency, and mobilizing private financing. Indeed, the existence of a binding contract may be the basis on which banks or other financial intermediaries extend credit to service providers, as is the case with similar agreements in private infrastructure projects.

The appropriate duration of the contract depends in large part on the investments the service provider needs to make to deliver the service. The term of the contract usually needs to be long enough to allow the investment costs to be amortized over its life. Argentina's road maintenance and rehabilitation concessions are for 5 years, Guinea's water lease was for 10 years, and Peru's rural telecommunications scheme involves (nonexclusive) licenses for 20 years. When the service provider will have access to user fees, it may be possible to limit the commitment for subsidy payments to a period shorter than the service agreement. Subsidy payments under Guinea's water lease were limited to the first six years, and in Peru's rural telecommunications scheme to the first five, after which time the service providers were expected to rely on user fees alone.

Longer-term contracts need to anticipate possible developments during the life of the arrangement. Because anticipating all contingencies is impossible, it is usually prudent to include mechanisms for adjusting contractual terms to unforeseen developments. Particularly when significant investments are required that depend heavily on access to subsidy payments, these mechanisms need to take into account the risk investors may face from opportunistic government action once the investment has been made.[11]

In most cases disputes over the interpretation or application of a service contract will be subject to the jurisdiction of the courts in the host country. But it is usually important to establish mechanisms for the amicable settlement of disputes and—particularly when foreign firms are required to make significant investments—to consider international commercial arbitration.

Questions to consider

- What measures need to be taken to ensure that the contract is legally enforceable?
- What is the optimal duration of the service contract? Does the commitment to provide public funding need to be of the same duration?
- With longer-term contracts, have measures been put in place to facilitate adjustments of the contract to unforeseen developments?
- Have adequate measures been put in place to deal with possible disputes?

Structuring the administration of the scheme

Output-based aid schemes need to be administered competently and at reasonable cost. This requires consideration of the scope of the scheme, the nature of the scheme administrator, and the assignment of responsibilities.

Defining the scope of the scheme

The scope of output-based aid schemes has three main dimensions:

- *Sectoral.* Should the scheme cover a single sector, such as rural electrification, or a broader range of related sectors, such as rural infrastructure services?
- *Geographic.* Should the scheme cover a single subnational jurisdiction, or the country as a whole?
- *Funding.* Should the scheme rely on funding from only one source, or allow the pooling of resources from several sources?

Schemes with a broad sectoral and geographic scope offer potential economies of scale that can reduce administrative costs. For example, the means testing of households in Chile is cost-effective only because the system is used to determine the eligibility for subsidies for a wide range of services. Broader approaches also allow the pooling of expertise, which may be scarce in some countries, and can be helpful in sharing lessons across a range of projects. Schemes that cover two or more similar sectors (such as rural water and electricity) may also allow the bundling of services, offering potential cost savings in service delivery (see Sommer 2001).

Schemes that are open to multiple funding sources can reduce administrative costs and help to ensure that funding is sustainable. They can also aid the coordination of donor activities, which can be important in ensuring that the disciplines of output-based aid approaches are not undermined. The feasibility of this approach depends on the extent to which potential sources of funding share common objectives.

Some pilot schemes might initially cover a relatively narrow set of sectors and geographic areas and rely on a single funding source. In these cases it may be possible to design the scheme in a way that facilitates broadening over time.

Questions to consider

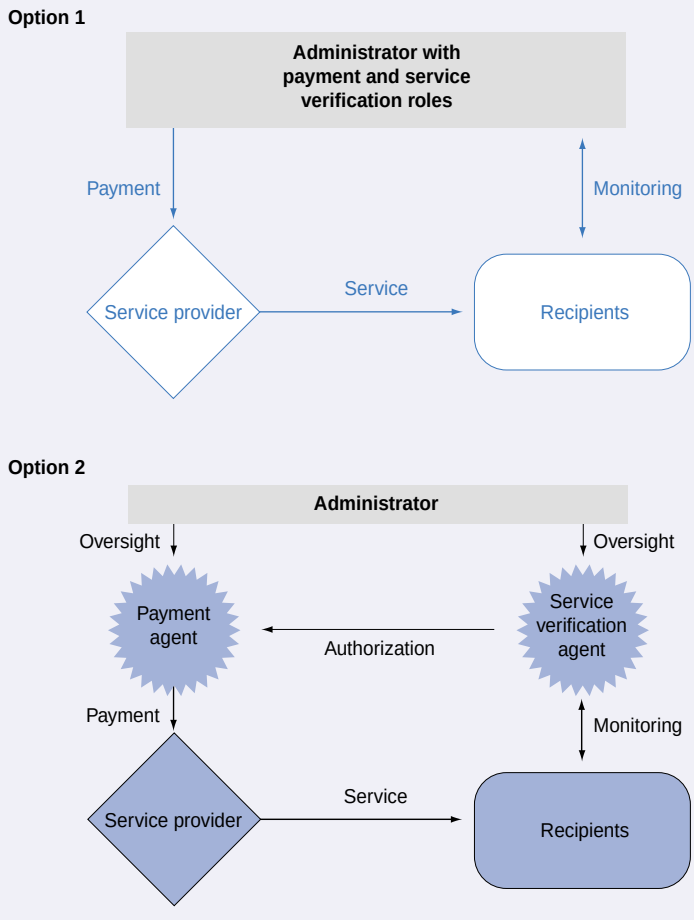
- Are the scheme's sectoral and geographic scope appropriate?
- Does the scheme allow the pooling of multiple funding sources?
- If a pilot scheme is established initially with a relatively narrow sectoral, geographic, or funding scope, does the scheme's design facilitate broadening over time?

Selecting the scheme administrator and assigning responsibilities

All schemes require an entity responsible for their overall management. This role might be performed by existing or new public agencies or contracted out to private firms or to nongovernmental organizations. The credibility and competence of the scheme administrator will be critical to winning the confidence of prospective service providers and thus helping to mobilize a supply response and private financing.

The administration of output-based aid schemes can involve a range of distinct activities—mobilizing resources, designing contracts, awarding con-

FIGURE 1 **Administrative structures—two options**



tracts (including conducting bidding), distributing vouchers or similar instruments, monitoring and verifying service delivery, and paying service providers. There may also be ancillary activities related to marketing the scheme to prospective suppliers and providing capacity building services. These roles might be performed by the scheme administrator or allocated among several entities (figure 1).

The critical responsibility for monitoring and verifying service delivery might be retained by the scheme administrator or contracted out to other entities. Potential candidates include existing regulatory bodies (as in Peru's rural telecommunications scheme), independent institutes (as in Haiti's health care scheme), private consulting firms, and local communities. The appropriate choice will depend on such factors as the expertise required, the need to ensure an arm's-length relationship with service providers, the need to ensure high standards of probity, the administrative costs (including potential economies in bundling responsibilities), and the benefits from involving communities in implementing the scheme.

Questions to consider

- Is there an existing public agency with the competence and credibility to administer the scheme? If not, will a new public entity be created, or will administration be contracted out?
- Will the scheme administrator undertake all responsibilities under the scheme, or will some of these be contracted out to other entities?

Leveraging experience

Output-based aid is a relatively novel approach to financing and delivering public services. But those designing and implementing output-based aid schemes can draw on a large body of relevant experience, particularly in private infrastructure arrangements. Moreover, many schemes are begun as pilots, to test and refine approaches. Building on the lessons from these pilots, output-based aid schemes usually expand progressively within countries, as with roads in Argentina, education in the United Kingdom, and health services in Haiti. There are also important opportunities to leverage lessons of experience across countries and sectors.

The potential for leveraging lessons across countries for a particular service is clear. The design of a scheme for supplying water or education services in one country can provide important insights for schemes covering the same services

BOX 8

Measuring progress

Output-based aid strategies can be implemented in a variety of ways. Progress in applying the key principles can be measured at the level of individual schemes against the following criteria:

- Targeting of development outcomes—reflected in the approach to designating eligible recipients and in the role of outcome-related performance measures.
- Accountability for results—reflected in the extent to which payment depends on achievement of the specified results.
- Incentives for efficiency—reflected in the form and extent of competition and of contract-based incentives.
- Opportunities for innovation—reflected in the balance between input-, output-, and outcome-related performance measures.
- Mobilization of private financing—reflected in the amount of private financing leveraged by the public resources.

Cost-effectiveness is also an important consideration. Pilot schemes usually have relatively high design and implementation costs, reflecting the additional costs associated with pioneering new approaches and the small number of service recipients over which costs are nominally allocated. Follow-on or expanded schemes usually improve cost-effectiveness because they can draw on the lessons of pilots and allocate costs over a larger pool of recipients. Assessments of cost-effectiveness also need to take account of benefits that can spill over to services outside the scope of the service agreement. International experience shows, for example, that contracting out service delivery usually inspires improved performance by public sector providers of the same or similar services (see Hodge 1999).

in other countries. Transferring lessons is particularly important for such matters as specifying performance standards, but can extend to many other aspects of design and administration. While care needs to be taken to avoid cookie-cutter approaches, efforts to distill and disseminate lessons of experience will reduce the costs of designing schemes and avoid needless repetition of mistakes.

There are also opportunities to leverage experience—and in some cases resources—across sectors. The unique characteristics of each public service cannot be ignored. But many common issues arise in designing output-based aid schemes, ranging from the design of contracts to the structure of administrative arrangements. Within a single country there may be advantages in drawing on common approaches to targeting intended recipients, engaging with communities, mobilizing local financing, and dealing with contract design issues—and even in using common entities for administering at least

parts of different schemes. Insights and lessons that transcend sectors can also be shared across countries. Taking full advantage of this opportunity may require a change in mind-set for professionals unaccustomed to looking beyond traditional sector boundaries.

Ultimately, output-based aid strategies and particular schemes will need to be evaluated by the same standard they seek to apply to providers of public services—on the basis of results (box 8).

Notes

Warrick Smith is manager of the World Bank's Private Provision of Public Services Group. This checklist benefited greatly from many conversations with Penelope J. Brook as well as comments on drafts from various members of the Private Provision of Public Services Group. All shortcomings remain the responsibility of the author.

1. For a useful review of design issues associated with infrastructure concessions see Kerf and others (1998).

2. There is often room for debate about what services have the characteristics of merit goods and the extent to which any social benefits exceed the benefits captured by individual users. In some cases underconsumption may result from inadequate understanding by users of the benefits they can derive from consumption, suggesting that public education could be an important part of the policy response.

3. While private financing typically has a higher nominal cost, public financing usually reflects implicit contingent claims against all taxpayers (see Klein 1997).

4. For a review of issues relating to voucher schemes for public services see OECD (1999b) and Steurele and others (2000).

5. Cross-subsidy approaches involve charging higher prices for some services or categories of users to allow lower prices to be charged for others. They require monopoly provision to prevent those paying the higher prices from defecting to other options. Because service providers have no natural incentive to provide the underpriced services (they lose money on each transaction), heavy-handed regulation is required to make the arrangement work; as a result, this approach is not feasible or effective in all environments. Indeed, cross-subsidy systems ostensibly designed to help the poor may act against their interests in many developing countries by both destroying incentives to offer them services and restricting their access to other service options.

6. Under monopolistic schemes, exclusive access to user fees from more affluent users in the service area may itself constitute a form of implicit subsidy. But schemes that do not involve an explicit payment are not considered to be output-based aid schemes here, even when retention of the monopoly or the level of permitted tariffs is conditional on meeting certain performance standards.

7. A variation on this approach is to specify the subsidy and to award franchises on the basis of the user fee component, other obligations assumed by the service provider under the scheme, or some combination of the two.

8. The Argentine case also reinforces the need for careful market testing of the scheme: an initial bidding round offering a smaller share of up-front payments had to be canceled when bids exceeded official estimates by nearly 100 percent because of high financing costs.

9. In Peru firms awarded licenses for rural telecommunications services were required to provide three financial guarantees: a guarantee ensuring the seriousness of their offer, an installation guarantee, and a guarantee against default on their contractual obligations (see chapter 1).

10. For a review of issues associated with performance contracting between government entities see OECD (1999a).

11. For a review of how private infrastructure schemes address issues of political and regulatory risk relevant to output-based aid schemes see Smith (1998).

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