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Provider Competition, Marketization and the Quality of Public Service Provision

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I. Introduction

A basic economic principle is that social welfare is maximized when markets are competitive – outcomes are both technically efficient (goods and services are produced at the lowest possible unit cost) and allocatively efficient (consumers pay prices that reflect those costs). Competition compels firms to be responsive to consumer demands, to supply the goods and services their customers want at prices they are willing to pay. Social welfare is promoted by competitive market conditions because it provides alternatives: incumbent producers must indulge consumers' preferences or risk losing business to rivals who offer better values in terms or quality or price. Likewise, new firms can enter the market and compete the excess profits of established sellers away by providing higher quality products, lower prices, or both. For firms to survive in a competitive market environment, they must use the most efficient production methods, combine inputs optimally, continually search for and adopt innovative, cost-reducing technologies, and remain alert to customers' wants. For these reasons, competition in the market fosters efficiency and promotes important social values by allowing buyers and sellers to fully capture the gains from trade.

Traditional economic analyses of market structure and industrial performance suggest that the best outcomes emerge when markets are characterized by what is generally referred to as "perfect competition". However, more recent analysis shows that efficient results can be achieved if there are no artificial barriers to entry (or exit). Beers observes that "as long as entry into the market is open, competition (actual or potential) ensures that entrepreneurs stay on their toes by constantly increasing efficiency and finding new, better ways to produce. It is the producers' perpetual reality check" (p. 1).[1] Thus, a single firm could be an efficient producer if it faces a credible threat of entry. In essence, economic theory suggests that actual *and* potential competitors both contribute to the realization of productive efficiency, which translates into lower prices and greater responsiveness to

[1] See also James Gwartney and Richard Stroup, What Everyone should Know about Economics and Prosperity.

consumer preferences. Therefore, an important implication of economic theory is that social welfare will be enhanced by adopting policies that improve the functioning of markets by removing artificial barriers to competition. Even where there are only a few firms in the market, their behavior will be consistent with welfare maximization as long as competitors are free to enter.

Competitive production by the private sector represents a first-best case. There are nevertheless many instances where private markets are not perfectly competitive and may even be characterized by monopolistic or oligopolistic market structures. Although efficient results can emerge if firms can freely enter and exit such industries, situations exist when private provision of goods and services might not be feasible, resulting in what is referred to as *market failure* – circumstances where the private sector fails to produce goods and services at all or only produces them in suboptimal quantities. In such cases, government provision may be necessary. This is particularly so in the production of what are known as public goods. Public goods are by definition those goods, such as national defense, that are non-excludable, non-rival and indivisible both in production and consumption. Government also frequently intervenes in the provision of impure or quasi-public goods that are only partially rival or partially excludable. Quasi-public goods, such as education, roads and healthcare, can be supplied by the market but government provision is justified on the basis of equity and by the merit goods argument.

Public provision of goods and services is, however, marred by numerous inefficiencies – what is generally referred to as *government failure*. Government failure arises from the nature of collective decision-making processes and particularly the principal-agent relationships between citizens and the officials responsible for public sector production. Unlike private goods, for which consumers can vote with their money and thus are able to select among alternative suppliers, public production normally is monopolistic in nature and consumers therefore do not have the option of exiting when they are dissatisfied with the goods and services on offer. Although voters can punish

elected officials for service provision failures, there is not much they can do between elections.[2] The other cause of government failure is the fact that the agencies responsible for public provision are vulnerable to capture by special-interest groups. The interest-group theory of government (Stigler 1971; Pelzman 1976) posits that public policymakers are not benevolent maximizers of social welfare, as assumed by the market failure model, but are instead motivated by their own self-interest. In particular, policymakers seek to maximize stay in office and engage in wealth transfers in order to buy political support. In addition, public provision is subject to rent-seeking, which wastes valuable resources and creates other inefficiencies (Tullock 1967; Krueger 1974). Likewise, bureaucrats may be more concerned with enhancing their own welfare and thus seek to maximize the budgets under their control (Niskanen 1971). As White (1978, p. 190) observes, expansion in the bureaucracy is not linked to efficiency:

> The natural tendency of a public bureaucracy to expand and perpetuate itself is not limited (as the tendency of a successful private firm is) by the extent of genuine customer demand for its service nor by its comparative efficiency in meeting that demand. Public agencies face no profit-and-loss test of viability. Never allowed to die, they can persist indefinitely in extensive productive inefficiency.

Another reason for government failure involves what economists refer to as rational ignorance. Because the government is involved in many activities, it is costly for any individual citizen to invest his or her own time and resources in studying the issues and in monitoring the behavior of public officials. This is because public provision lacks well-defined property rights: voters are numerous and dispersed; no one person has sufficient wealth at stake to make it worthwhile to oversee government officials on a day-to-day basis. Thus public provision is characterized by weak monitoring by the clients. Furthermore, government output is often difficult to evaluate: the average citizen cannot determine if public goods and services are being produced efficiently. Public employees therefore have a great deal of discretion they can exercise to benefit

[2] Assuming that political markets are competitive in the first place.

themselves at the expense of the general public (Shughart and Kimenyi 1991). All of these factors undermine the quality of public service provision.

Inefficiencies in the delivery of public services are more pronounced in developing countries that are often characterized by weak institutions of governance, poor information flows and limited participation in decision-making by large segments of the population. In addition, government institutions in those countries may be plagued by widespread corruption and bureaucratic laxity which add to the cost of provision and low service quality.

Thus, although government may be necessary to correct market failures and to provide merit goods, government is itself subject to failure. The cost burden to consumers and taxpayers associated with inefficient public provision could be substantial. It is therefore not obvious a priori that government intervention to correct market failure necessarily improves society's welfare.

The current state of service delivery in developing countries rarely contributes to accelerated economic development and in particular to the achievement of Millennium Development Goals. This is particularly true for countries in Sub-Saharan Africa, where service delivery is characterized by numerous inefficiencies. Improving service delivery is in fact one of the core poverty reduction strategies and also a primary focus of the New Partnership for Africa's Development (NEPAD) initiative. Based on the experiences of developed countries, the role of the public sector in providing some goods and services will remain important in developing countries. As such, improving the quality of public service delivery is crucial to the achievement of long-term economic development.

When the production of a good or service is undertaken by a public bureau, the well-known inefficiencies of such agencies are likely to emerge. It is nevertheless true that one reason for the apparent weaknesses of public provision can be traced to the absence of market forces that otherwise compel providers to be efficient. Hence, while acknowledging that service provision by the public sector is subject to much inefficiency, it is possible that such inefficiencies could be

reduced substantially if alternatives were available from which consumers could choose. In other words, public sector providers can behave more like private sector providers if they are forced to compete. Thus, a key factor determining the efficiency with which publicly funded services are provided is not just whether provision is by a public or private sector entity, but rather whether provision is subject to competitive pressures.

A direct form of competition to public providers comes from private providers who offer the same service for a fee. But competition could also take place between different public providers. Both forms of competition alter the behavior of public providers by subjecting them to a market test. In addition, there are several alternative delivery arrangements that involve reliance on market forces – what is broadly referred to as *marketization* – which change the principal-agent relationships by creating market-like conditions in the provision of public services. Put differently, public provision of goods and services tends to be inefficient, not because public officials necessarily are more corrupt or less capable than their counterparts in the private sector, but because public agencies are insulated from the market.

This paper highlights the role of competition and marketization in enhancing the quality of the goods and services provided by the public sector. The primary objective is to supply a framework for analyzing how competition and marketization impact the quality of service provision in developing countries, with special attention to Africa. In Section II, we provide an overview of the current state of public service delivery in developing countries, focusing primarily on some of the important features of public service delivery. Section III provides a brief overview of the concepts of competition and marketization, placing them in the context of the alternative institutional arrangements available for delivering public services. In Section IV, the paper reviews existing evidence addressing the impact of competition and marketization on the quality of public service provision. Section V looks at some of the key elements in the design of field studies aimed at

investigating the effects of competition and marketization on the quality of public service delivery in Africa. Section VI concludes.

II. Provision of Public Services in Developing Countries

The primary mode of service provision in developing countries is by public sector bureaus. Relying on the public sector to deliver social services is often justified by two fundamental policy objectives – *efficiency* and *equity* (Castro-Leal et al., 1999). Education and health, in particular, are key basic services that are considered essential in the fight against widespread poverty and are therefore primarily provided by governments. The efficiency argument is that these services are characterized by large positive externalities and that private production would result in underinvestment. It is also argued that the private sector in many developing countries is immature and therefore has limited capacity to offer these services. It is also true, however, that public sector service delivery has been quite inefficient. Evaluated on various dimensions of quality, service provision in developing countries is quite poor. In many of the countries, large numbers of children do not have access to basic education and the rate of illiteracy remains high. Even in areas where there the necessary infrastructure is in place, the services provided are of low quality. In many urban areas, residents face frequent water shortages and power blackouts while refuse collection is irregular or absent.

In this section, we provide a brief account of some of the observed inefficiencies in service delivery in developing countries.

The quality of service provision typically is evaluated on both "objective" and "subjective" dimensions. Objective dimensions include measures with clear performance indicators, such as costs and quantities of goods and services, while subjective dimensions include outcomes such as consumers' expressed degree of satisfaction. An important indicator of the "quality" of provision is ***access*** which includes both physical availability and affordability. Physical availability implies that

services are within reach of the target population – schools and health clinics are within walking distance, piped water is regularly available at homes, or agricultural extension agents provide services directly to their clients. Access also means that service is available in sufficient quantities such that clients do not experience long waits before service is received. A service may be *physically* available but may impose such large costs in terms of customer waiting times that it is not *functionally* available to many clients. For example, a health clinic in a village with only one doctor or a few health officials may mean protracted delays before patients are seen. Functional availability is particularly important to the poor, who may not have alternative means of accessing a service.

Affordability relates to the cost of obtaining (providing) the service, including both direct costs and indirect (opportunity) costs. Direct costs can be broadly defined to include the costs incurred in traveling to the place where the service is to be obtained (offered), and any other out-of-pocket expenses (e.g., bribes, user fees) that the client must incur before obtaining the service. Affordability is determined by cost of the inputs used to produce the service and the efficiency of the service production and delivery process. Another important determinant of cost is the transparency of the service delivery process. The affordability of services can therefore be increased by ensuring efficiency in the production and delivery process, by eliminating corruption and by enhancing transparency. Indirect costs include costs such as the delay incurred before a service is rendered.

A service is accessible only if it is generally affordable by the target population. Thus, the price charged should take ability to pay into account; otherwise the service will not be accessible to the majority of the population. Charges for services that are too high with respect to the target population's ability to pay may imply that although a service is physically available, it may be out of reach to many people who may not have the resources needed to cover the out-of-pocket payment expected before service is rendered. Related to this is the opportunity cost as reflected in the value

of waiting times. Clients may opt out of receiving a service such as medical care if the waiting time is too long, suggesting large opportunity costs.

The other dimension of service provision is the "quality" of the service itself, such as the purity of water; the standards of care rendered at health clinics, including the availability of diagnostic tests, drugs and other medical supplies; and the quality of instruction at schools. For example, merely having a school adequately staffed with teachers does not guarantee educational quality if administrators and classroom instructors teachers are not dedicated, come to school late, arrive at work intoxicated or do not show up at all. Service quality is an important parameter that directly influences the degree of consumer satisfaction. Specific components of quality relate to the ***appropriateness***, ***effectiveness***, and ***timeliness*** of the service being provided.

Appropriateness is concerned with how well the service provided actually matches the client's needs. For example, while a school may be providing competent instruction, it may turn out that the knowledge and skills imparted have no relevance to what students actually do after leaving school. Appropriateness may also be concerned with whether or not the services are responsive to the age, culture, language and other demographic characteristics of the clients. Consumers are not homogenous and, as such, their preferences for services should be expected to vary across communities. The availability of services may therefore not be a sufficient indicator of the quality of services unless the services provided also reflect consumer preferences. In other words, evaluations of the quality of service provision should take into account the *diversity of preferences*. If the services provided are not reflective of preferences, rates of utilization may be low because clients place low values on them. This implies that workable mechanisms through which consumer preferences are incorporated into service delivery decisions are necessary to ensure quality. Service providers must also be responsive, altering quantity and other attributes of a service, such as hours of operation, in line with local conditions and changes in consumers' preferences.

Effectiveness looks at the changes in the client's status or condition as a result of receiving the service. Effectiveness may be measured by health status after treatment, skills imparted through education, and changes in competence after undergoing job-specific training. The effectiveness of the service delivered may also be determined by the qualifications of the staff providing the service and the relevance of the materials and other equipment being used to provide the service.

Timeliness of service delivery is an important aspect of the quality of provision and implies that services are available when needed. Providing services after long delays necessarily lowers consumers' level of satisfaction. Improving the quality of service delivery therefore means reducing the time separation between expressed demand and time of provision.

The most worrisome feature of service provision in developing countries is limited access to basic services. Tables 1.1–1.4 provide descriptive statistics on some indicators of access to services in African countries. Although there are notable variations across countries, the data reveal that access to key services is quite poor. Specifically, a large proportion of Africans do not have access to health and sanitation facilities, water and education, among others. Thus, one of the most pressing problems in Africa and other developing countries is making services available to the majority of the people.

Although resource constraints may be a factor in Africans' limited access to services, recent evidence shows that they are only part of the story. Probably the most important determinant of poor service delivery in Africa is weak accountability in the service delivery chain. Two pieces of evidence seem to clearly reveal the problem of accountability – the significant leakage of public funds and the laxity of service providers. Leakage means that monies appropriated for providing particular services do not reach the intended clients. This directly lowers the quality of service provision both in terms of access and the actual quality of services (quantities, appropriateness, timeliness and affordability). Absenteeism is evidence of bureaucratic laxity, which can be traced to

weak monitoring of public service providers. Such absenteeism greatly undermines the provision of services.

The common approach to investigating resource leakages is through what are known as Public Expenditure Tracking Surveys (PETS). These surveys generally follow the trail of budgetary resources from the central government to the intended clients. Some of the first studies of the impact of leakages on service delivery focused on the provision of primary school education and healthcare in Uganda (Ablo and Reinikka 1998; Reinikka 2001). The education PETS study was based on a survey of 250 government primary schools in 18 local jurisdictions (Districts). The study was motivated by the observation that increased public spending on education did not translate into significant increases in primary school enrollments. The researchers hypothesized that one reason why more funding did not produce the desired outcomes was that the funds were not reaching the frontline providers. The study's results showed that, during the period 1991–1995, only 13% of the annual capitation (per-student) grant from the central government reached the schools, on average, and that district officials captured 87% of the resources for purposes unrelated to education (Reinikka and Smith 2004; Reinikka and Svensson 2004, 2005).

The Ugandan study revealed that one cause of the large leakages was that schools had little or no information about their entitlement to grants. In response, the Ugandan government initiated a newspaper campaign to provide information to parents and schools in order for them to better monitor local officials' uses of funds. The evidence indicated that the information campaign was a powerful deterrent to the capture of resources by public officials (Reinikka and Svensson 2005). This study shows the importance of information in improving the accountability relationships in public service delivery.

Gauther and Wane (2006) investigated healthcare delivery in Chad, focusing on extent of leakages of public resources. The study used data on 281 primary healthcare centers and hospitals

obtained from a survey conducted in 2004. In evaluating the efficiency of delivery, the study considered a number of performance factors, such as competition, private provision, degree of managerial discretion, and the monitoring capacity of clients. The study found extensive resource leakages, with a very small fraction of the resources allotted actually flowing through to the clients. Specifically, the study found that less than 50% of the resources allocated to regions made it that far down the administrative hierarchy and much less reached frontline providers. Because of the large leakages, the frontline providers tended to increase the user fees they charged in order to cover the cost of providing services, predictably reducing the number of clients served. Gauther and Wane estimate that had all resources reached the frontline providers, the number of patients seeking primary healthcare in Chad would have more than doubled. This is a clear example of how inefficiency in service delivery reduces access.

Das et al. (2004) present the results of a comprehensive study conducted in Zambia to evaluate the delivery of primary school education. The study was based on a survey conducted in 182 primary schools (grades 1–9) and basic schools (grades 1–9) in 2002. The survey distinguished the source of funds by mode of disbursement (earmarked versus discretionary). The study sought to quantify the proportion of resources reaching frontline providers. The results show that rule-based funds were disbursed exactly as earmarked. However, only 25% of the discretionary funds that were controlled by district education officers reached the schools. These results demonstrate the importance of institutional arrangements in service delivery. Specifically, where monitoring is weak, provider discretion is bound to result in low levels of accountability and consequently poor service delivery.

Another interesting approach to evaluating service delivery in developing countries has focused on absenteeism among primary providers. One common observation is that because of poor accountability relationships coupled with weak incentives, provider absenteeism, which

translates into low service quality, is prevalent in developing countries. Chaudhury et al. (2004) assessed provider absenteeism in six countries – three in Asia, two in Latin America and one in Africa. The authors verified absenteeism directly by conducting random unannounced visits to health clinics and schools. Chaudhury et al.'s results show absenteeism rates of between 11% and 27% percent for classroom teachers and of 27% to 40% for healthcare providers. The absenteeism rates were shown to be linked to poverty and community characteristics, factors related to effectiveness in monitoring the providers. Rogers et al. (2004) studied teacher absenteeism in Ecuador and found that teachers are absent 14% of the time nationally. Again, the evidence shows the importance of accountability relationships in monitoring teacher performance. The Ecuador study also confirms the importance of community characteristics, poverty and monitoring through inspections in explaining teacher absences. Similar evidence was found by Glewwe, Kremer and Moulin (1999) in the case of Kenya, where teachers in one area were absent from school 28.4% of the time, and in school but absent from their classes an additional 12.4% of the time. Such absenteeism undermines the effectiveness of public spending in service delivery.

A study of service provision in Honduras found that leakage due to bureaucratic or political capture was less critical than other issues related to staff behavior and incentives in public service, both of which can have adverse effects on service delivery (Reinikka and Svensson 2002). The study revealed that the central payroll office in Honduras has no means of ensuring that public employees really exist ("ghost workers") and whether they are actually working where they were supposed to work ("migration of posts"). With the central ministry having discretion over the geographic distribution of posts, there is an incentive for frontline staff members to lobby the ministry to have their positions transferred to more attractive locations, most often in urban areas. Thus, posts tend to migrate from rural and primary healthcare/school levels towards cities and higher levels of

healthcare/schooling. This migration reinforces inequalities in service delivery across geographical areas.

Chaudhury and Hammer's (2003) study of healthcare provision in Bangladesh reports similarly high rates of provider absenteeism. The presence of doctors and paramedics at sampled facilities was recorded at approximately 9:30 a.m. and again at approximately 2:30 p.m. No prior notification of the survey team's visit was given. A staff member was considered "absent all day" when he or she was at the facility at neither time, "absent half day" when present at only one of the times and "present" when there both times. The absentee rate was found to be 35%.

A related factor compromising service delivery in developing countries is the prevalence of official corruption. In many countries, bribes are demanded from clients as a condition for receiving services. Klaus and Mpuga (2004) provide evidence that a lack of accountability has produced growing levels of corruption in Uganda. The level of corruption varies substantially among various government institutions, some of which are responsible for the provision of basic public services. The institutions perceived to be most corrupt are the traffic police, the Ugandan Revenue Authority, the Tender Boards, the Electoral Commission, the non-traffic section of the police department, and the Ministry of Defense. A survey of Ugandan households indicated that the overall level of confidence in public institutions is quite low. The authors' evidence showed education to be the least corrupt service sector (7%), followed by health (21%) and productive services (26%). The police department was reported to be the country's most corrupt institution (36%). Poor Ugandans tended to be less satisfied with the quality of service provision than the rich, even though the latter paid more bribes.

In summary, there is ample evidence of service delivery failures in developing countries. While this is partly explained by resource constraints, it is apparent that service delivery can be improved substantially if accountability is enhanced. The next section looks at various institutional

innovations that can improve the quality of service provision by changing the incentive structures and improving accountability.

III. Competition and Marketization in the Provision of Public Services

The most prevalent model of delivery of public services, such as education, health, water and sanitation, refuse collection, public transport, and so on, is a government bureau, such as a central government ministry or department, a state or provincial government, a municipality, a county or a town government. Typically, these services are financed with tax revenues that may be generated nationally or within the local community. The taxes might be broad-based, such as an income tax, in which case the funds are not specifically designated for particular purposes, or they could be selective and earmarked for specific services, such as local property taxes for funding schools or gasoline taxes for road maintenance. In developing countries, a significant portion of the funds available for financing public services originates from external donors and is either designated for particular services or added to the general budget. Whatever the mode of funding or source of funds, a public bureau is charged with the responsibility of providing the services. In most cases, the public bureau holds a monopoly in service provision and civil servants answer not to consumers but to their principals – the politicians. For example, the Ministry of Health may be responsible for healthcare provision, overseeing the funding of hospitals and recruitment of personnel. In major urban centers, city governments are responsible for services such as refuse collection and water distribution.

Although public bureaus may have a monopoly in the provision of services, some face competition from private providers. For example, private provision of education and healthcare is common in many countries. While private schools and health clinics may not benefit from public funds, they do provide competition to public schools and public health centers. Likewise, education

and health services are provided by religious organizations and other not-for-profit entities, all of which subject public providers to some degree of competition. To the extent that lack of alternatives to public provision creates inefficiency, it is conceivable that competition from both private and nonprofit providers changes the behavior of public providers such that they become more responsive to their clients and thereby increase the availability and quality of public services. Simply put, the presence of private and nonprofit providers enhances choice and creates competitive pressures on public providers. For example, the loss of students to private schools could signal poor public school quality, which may compel administrators to reform, especially if fewer students also means less public funding.

Even in the absence of private providers, significant competition between public providers could influence the quality of service delivery. For example, in some countries where education is funded by the central government, parents have the option of enrolling their children at more than one public school. While the choice set is constrained by residential location (because of distance to different schools), parents nevertheless do have a choice. In such situations, some form of public-public competition emerges and can have significant impact on the quality of public provision. Gibbons, Machin and Silva (2006, p. 5) observe that:

> Indeed, community-based schools serving single neighbourhoods work in a relatively monopolistic market, and the incentives for improvement or adoption of new teaching technologies may be weak. Incentives need to come from good governance, supported by strong institutional arrangements including training, monitoring, mechanisms for self-evaluation and performance-related pay; yet, these may not be effective. Allowing parents free choice, instead, and linking school finance to school popularity, creates a direct market incentive mechanism: unpopular schools lose pupils and money, popular schools gain pupils additional funding; head-teacher and staff are rewarded accordingly; schools must adapt to meet parental demands – which may include provision of high educational standards – or fail and close.

An important form of public-public competition involves what is known as "voting with the feet", also referred to as the Tiebout process (Tiebout 1956). In this model, different jurisdictions offer varying mixes of public services and tax-prices. Individuals can then vote by moving to

jurisdictions they prefer based on the various tax-price/quality combinations. Because the quality of services also influences the price of housing, residents have a strong financial interest in maintaining high-quality public services, such as education and sanitation. If quality is allowed to degrade or tax-prices rise to exceed actual quality, housing prices will fall. Voters therefore have an incentive to monitor the performances of the public providers. Public pressure from property owners, coupled with the threat of a shrinking tax base as residents move to other jurisdictions, can be expected to compel managers to be more responsive to local preferences for service quality and price. The Tiebout process therefore introduces competition amongst public providers.

The quality of public provision for some services can also be influenced significantly by transferring such responsibilities to governmental units at lower levels. Decentralization of service delivery reduces the negative aspects of public provision by strengthening the principal-agent relationships between citizens and public officials. Local communities are better able to monitor the manager of provider agencies, have more information and are more likely to participate in the policy process, all of which effect performance positively. If the sacrifice of scale economies is not too great, decentralization also promotes efficient service provision by supplying more scope for inter-jurisdictional Tiebout-type competition. Consequently, one innovation leading to improved service delivery quality involves transferring service provision responsibilities to local governments.

Public funding of services does not imply that services must necessarily be provided by the public sector. There are several alternative arrangements for delivering public services which, though financed publicly, introduce varying degrees of competition to the provision of public services. Table 2 outlines the various modes of service provision. In addition to pure public provision, competition from private for-profit providers and not-for-profit organizations, already discussed, other modes of service delivery include ***contracting out***, ***franchising***, ***grants and subsidies*** and

voucher schemes. All of these approaches incorporate elements of market-based institutions and generally serve to inject competition in the provision of publicly funded services.

Contracting out of public services involves competitive tendering for the right to supply a particular service. Ordinarily the tender should specify the quality of services and should be open to market competition. Under a competitive and transparent tendering process, the winning bid is evaluated on a number of dimensions, including cost and reliability. Competitive tendering provides an effective mechanism for revealing the true costs of service. Contracting out of public services to the private sector separates the public financing aspect of a service from the mode of production such that the inefficiencies associated with public provision are reduced. Services commonly contracted out by city and municipal governments include refuse collection, street maintenance and lighting.

An important aspect of contracting out is that a particular service could be performed by one or more suppliers (e.g., competing firms for refuse collection). A service could also be fractionalized and different components of the service contracted to different firms. Likewise, a firm that wins the tender could subcontract provision of support services, which permits taking advantage of economies of scale, thereby improving the efficiency of overall service delivery. Contracting out works best when the agency tendering the contract is able to articulate clear goals and performance standards, can readily monitor contract performance, can impose effective penalties for non-performance and can turn to alternative suppliers if the incumbent contractor fails to fulfill its obligations.

Another alternative is ***franchising***, which involves awarding monopoly rights to a private firm to supply services in a particular area. Unlike the case of contracting out, where the private firm is paid directly by the government, a franchisee charges the consumer for franchise services and the government pays for the contract services. While it is common for franchises to be granted an

exclusive territory, there are cases where multiple franchises operate in the same area and consumers can then choose between them.

Public services can also be provided by awarding ***grants and subsidies***. Grants and subsidies are common modes of delivery for goods and services whose consumption governments want to promote. In such cases, the government provides a grant to a private producer of a service, which has the effect of expanding the quantity supplied, lowering its price and, hence, increasing the amount consumed. Good examples are subsidies awarded to private developers for low-income housing and bulk purchases to encourage the production of vaccines. If grants and subsidies are given to more than one provider, consumers have options that subjects provision to some market test.

A final approach to injecting market forces and competition in the provision of publicly funded services involves the use of ***vouchers***. A voucher system provides a coupon to the users of a public service, allows the users to choose among suppliers, who submit the vouchers for reimbursement to the agency paying for the service, and, hence, opens public provision to competition. Often, the choice is restricted to public providers, such as public schools. But in any case, the opportunity to select amongst various public providers compels the providers to compete for clients, which necessarily entails improvements in the quality of service delivery. An even better alternative for increasing competition is to extend the use of vouchers to both public and private providers.

The foregoing discussion outlines various innovations in the delivery of public services. The primary motivation for these innovations has been concerns about the inefficiency of traditional service delivery by the public sector, which is generally associated with escalating costs and declining quality. The important feature of these innovations is that they inject market forces into the provision of publicly funded services. More specifically, these innovations involve creating market-

like conditions, such as responsiveness to prices, competition, choice and profit-seeking behavior. From a theoretical perspective, these innovations reduce the inefficiencies associated with monopolistic public provision. The next section evaluates empirical evidence of the impact of these innovations on service provision.

IV. Empirical Evidence of the Role of Provider Competition and Marketization on Quality of Service Provision

The observed shortcomings of public sector service provision have motivated numerous studies of the determinants of service quality. These studies focus on an evaluation of:

- the comparative efficiency of private firms and public firms;
- changes in the quality of public service delivery in response to marketization reforms, such as contracting out, franchising and vouchers;
- the impact of competition by for-profit and non-profit providers on the quality of public service provision; and
- the impact of public-public competition, including inter- and intra-jurisdictional competition on the quality of public service provision.

Comparisons of the efficiency of public and private providers serve to show whether privatizing particular services could in fact improve the quality of provision and also cut down on government spending. Outright privatization of the production of some public services is seen by some commentators as a solution to governmental inefficiency and waste. By transferring the provision of services entirely to the private sector, privatization completely changes the incentives of providers with consequential improvements in both productive and allocative efficiency. Likewise, various marketization approaches alter principal-agent relationships and reduce the role of public officials in service provision, even though the services continue to be publicly funded. In many

cases, these marketization programs also create competitive pressures either directly (services contracted to many firms) or indirectly (by increasing consumer choice).

Comparative studies generally find that the public sector is much less efficient than the private sector. Sam Peltzman (1971), for example, found that publicly owned electric utilities typically charged lower prices and engaged in less output-expanding price discrimination than private, investor-owned electric companies. (Importantly, the price advantage enjoyed by the customers of municipal power companies seemed to be largely accounted for, not by efficiency effects, but by the preferential tax treatment accorded to these firms.)

Peltzman also found that the pricing policies of the public enterprises tended to favor business customers relative to residential customers and voters relative to nonvoters. The former result can be explained by the fact that business customers typically are better situated to mobilize political influence; the latter, by the fact that the opposition to regulation faced by local politicians is reduced when part of the cost burden is shifted to consumers who reside (and vote) outside the relevant political jurisdiction (Maloney, McCormick and Tollison 1984). Similarly, there is evidence that, compared with privately owned electric companies, municipal enterprises have greater generating capacity and higher operating costs (Moore 1974), maintain managers in office longer (De Alessi 1974), and exhibit larger variations in their rates of return (Shepherd 1966).

The evidence gathered from other industries points in the same direction. Publicly owned firms have been found to be less efficient than privately owned firms in supplying a variety of goods and services, including water (Crain and Zardkoohi 1978), urban mass transit (Pashigian; Shughart and Kimenyi 1991), banking (Davies 1981), commercial air transport (Baldwin 1975; Davies 1971, 1977), fire protection (Ahlbrandt 1973),[3] and hospital care (Clarkson 1972; Lindsay 1976).[4]

[3] Also see McChesney (1986), who presents evidence suggesting that public fire departments displaced private organizations because of the personal benefits to fire fighters, insurance companies, and politicians.

Systematic empirical evidence supporting private enterprise's performance edge has been produced by Boardman and Vining (1989), who studied the track records of a sample consisting of the world's 500 largest non-U.S. industrial firms.[5] Included in their sample were 419 privately owned firms, 58 fully state-owned enterprises, and 23 companies with "mixed" ownership rights (i.e., both private and public owners). Boardman and Vining compared the 1983 performances of these firms – all of which faced competition to greater or lesser degrees – on a number of dimensions, including profitability (measured in several ways: rate of return on equity, rate of return on assets, rate of return on sales, and net income) and cost efficiency (sales per employee, sales per dollar of assets, and assets per employee).

The study's key results are summarized in Table 3, which displays the means of the performance measures classified by ownership type. These data show that the privately owned firms outperformed their publicly owned counterparts in terms of profitability. The average rate of return on equity is 4.3 percent for the private firms; it is –10.2% for state-owned enterprises, and –14.1% for mixed enterprises. Similar conclusions can be drawn from the other rate-of-return measures, which are uniformly negative for the state-owned and mixed enterprises because they lost money in 1983: while the average privately owned firm earned $57 million, the average mixed enterprise lost nearly $17 million and the average state-owned enterprise lost nearly $28 million.

Turning to the efficiency indicators, it is apparent that privately owned firms have the highest average dollar volume of sales per dollar of invested assets, but that there is little difference between the mixed and state-owned enterprises on this basis. In terms of sales per employee, state-owned enterprises rank slightly higher than private firms which, in turn, rank considerably higher

[4] Two sets of researchers finding no differences in productive efficiency between public and private firms operating in the same or similar markets are Feigenbaum and Ronald Teeples (1983), who studied water delivery, and Caves and Christensen (1980), who studied the Canadian railroads.

[5] The sample includes Italian, French, Canadian, German, British, and Japanese firms producing machinery, fabricated metal products, chemicals, wood and paper products, rubber, transportation equipment, textiles and petroleum. See also Vining and Boardman (1992).

than mixed enterprises. Mixed enterprises and state-owned enterprises tend to be larger, on average, than their privately owned counterparts, whether size is measured by total assets, total sales, or total employment.

A large number of studies have investigated the impact of outright privatization or other marketization initiatives on quality of service provision (e.g., Hilke 1993; Mueller 2003). The primary finding of these studies is that both privatization and marketization generally produce substantial cost savings and service quality improvements. The results from the various studies show that private firms perform better than public agencies for several reasons, including: (1) superior management techniques, (2) better and more productive equipment; (3) greater incentives to innovate; (4) incentive pay structures; (5) more efficient deployment of workers and utilization of capital; (6) greater use of part-time and temporary employees; (7) utilization of comparative-cost information; and (8) more work scheduled during off-peak hours. All of these benefits stem primarily from the introduction of competition into the bidding process for rights to perform the service (Hilke 1993).

Another group of studies focuses on the impact of competition from both for-profit and not-for profit providers on the quality of public service delivery. The majority of these studies have done so by evaluating the impact of private and religious schools on the quality of public schools. According to Hoxby (1994, p. 1), greater private school competitiveness enhances educational outcomes "because competition compels public schools to improve quality and … as private schools become a more competitive alternative to public schools, increased sorting of students among schools takes place." Competitive pressures from nonprofit providers also compel public providers to use their inputs more efficiently. As noted by Hilke (1993, p. 1):

> Insulated from competition, most governments units have lower incentives to, or are even prohibited from, adopting the productivity-increasing techniques of private firms. When government units compete against private bidders to provide a service,

> cost savings are significant regardless of who wins the contract because the government unit typically responds by cutting costs greatly.

A large volume of literature finds that competition indeed makes public providers more cost-effective. Miller (1996) and Franciosi (1998) provide an analysis of the impact of private/public competition on the delivery of services in the City of Phoenix, Arizona, and report that the introduction of even limited competition translates into substantial reductions in costs. Table 4 shows some conservative estimates of the cost savings for a number of city services which are subject to provider competition. The savings amount to about 0.1% of the FY 1997–98 budget for the City of Phoenix.

The impact of private-public competition is illustrated clearly by the case of competition in refuse collection. The City of Phoenix was divided into three sectors and refuse collection was subject to competitive bidding on a rotating schedule with private firms bidding against the in-house unit. Between 1975 and 1994, the real cost per ton of refuse collection in Phoenix dropped by 38% (from $67.88 to $41.96). After the competitive contracting model was implemented in 1979, the real cost per ton actually increased slightly. However, it dropped dramatically after the second auction in 1983 awarded collection rights in the southwest sector to a private firm. During the city's win streak in the mid-1980s, the real cost of collection declined moderately. What is striking is that substantial cost decreases followed the award of contracts to private firms, but that cost reductions were more moderate when contracts were awarded to the city (see Figure 1). Competition evidently does not solve all of the problems of public service provision. Because property rights are less well-defined in the public sector, incentives to use resources efficiently predictably are weaker (De Alessi 1982, 2001).

Research has shown that the cost of Phoenix's trash collection is lower than for similar cities, primarily because of the competition from private firms (Miller 1996). Put simply, forcing public providers to compete with private providers seems to compel the public providers to be more

efficient, if not as efficient as a private provider would be. Savas (1981) supplies another analysis of the impact of intra-city competition between public and private service delivery modes. Using data from six North American cities, he finds that municipal trash collection is generally less efficient than contract collection (Table 5).[6] Beers (2006, pp. 1–2) similarly demonstrates the importance of competition on quality of service delivery by comparing refuse collection in Wichita, Kansas, and Houston, Texas:

> In Wichita, trash collection is a competitive industry. Dozens of local companies offer subscriptions to pick up residential waste. The fact that a dissatisfied subscriber can make two phone calls and change her trash company has resulted in low prices, and excellent service. Companies provide and maintain free 90-gallon trash barrels with sturdy wheels and hinged tops. On trash day (twice a week) they come up to the house to get the barrel and take it out to the street. Most services pick up almost any kind of trash that is left for them – even large appliances!
>
> In Houston, by contrast, the city maintains a legal monopoly in residential waste pick-up. Competition is forbidden. No barrels are provided. In fact, Houston trash collectors won't touch trash barrels of any kind – all trash must be placed by the resident in plastic bags at the curb. What about heavy items that won't go into bags? Houston residents must remember to put those on the curb on a particular day that comes once a month. Sometimes the city will pick them up then. If not, haul the stuff back in the garage and try again next month.

Similar findings were reported in an earlier study of the performances of public and private garbage collection services in 340 U.S. cities (Stevens 1978). The author assembled cost data from the individual firms servicing these markets and compared their cost-effectiveness, controlling for city size and other relevant local market characteristics. Her findings show that scale economies are important in the collection and disposal of household trash. Across all of the cities included in the author's sample, competitive arrangements for collecting garbage were from 26% to 48% more costly than private monopoly arrangements. This evidence suggests that when rival trash collection services compete for customers in the same market area, the absence of exclusivity tends to create

[6] See also Bennett and Johnson (1979), Reeves and Barrow (2000), McDavid (1985) and Dijkgraaf and Gradus (2003).

firms that are too small, implying wasteful duplication of garbage trucks and collection personnel, inefficient billing arrangements, and so on.

More important, perhaps, the empirical evidence shows that for equivalent levels of service, both public monopolies and competitive trash collection arrangements had costs that were 27% to 37% higher than those of privately owned monopolies. Lower labor productivity was a key source of the public sector's cost disadvantage. In particular, the typical municipal trash collection agency used a crew of 3.26 people to operate its garbage trucks, while the privately owned monopolists used a crew size of 2.15 people per vehicle, on average. (This labor productivity gap widened with city size.)

The public monopolies also tended to employ capital less productively: The garbage trucks used by the city owned garbage collection services had an average capacity of 20.63 cubic yards, while the capacities of those used by the private monopolies averaged 27.14 cubic yards. Taken together, these figures suggest that to collect the same amount of garbage, the public monopolies made more trips using more trucks and employing more labor than their privately owned monopoly counterparts. Failure to adopt least-cost production methods seems to account for the bulk of the inefficiencies associated with public ownership arrangements in the collection of household garbage. The Stevens study also suggests that competitive tendering or franchising of a single private refuse-collection firm is the most cost-effective way of providing this essential public service.

Hoxby (1994) provides a rigorous analysis on the impact of private school competition on public school performance. Focusing on data from the National Labor surveys of Youth (NLYS), Hoxby finds that private school competition has beneficial effects on public schooling outcomes. Her results show that a 10% increase in the share of county secondary enrollment in Catholic schools improves the average public school student's educational attainment by 0.33 years and wages by 2%. Other studies that find support for the positive effects of competition include Couch, Shughart and Williams (1993), Hoxby (2003), Dee (1998), Green and Kang (2004), and Hall and

Vedder (2004). However, other studies do not find significant improvements in public school outcomes as a result of competition (Newmark 1995; Simon and Lovrich 1996; Sander 1999; Jepsen 2000; and Geller, Sjoquist and Walker 2006). Such differences in findings could result from differences in data samples analyzed, time periods covered and methodological approaches adopted. Thus, in drawing condusions about the role of private competition on public provision, such issues must be evaluated carefully.

Another group of studies focus on competition between public schools either in the same jurisdiction or across jurisdictions. Hoxby (2002) studies the impact of competition among public schools on student achievement and per student expenditures. Competition is measured by the number of school districts within a metropolitan area. The thesis put forth is that through the operation of Tiebout-type choices, parents are able to locate in areas that have higher school quality, lower tax-prices, or both, and thus force school districts to compete by improving their educational product. Hoxby (2002) finds that metropolitan areas with greater Tiebout choice have more productive schools. Likewise, Borland and Howsen (1992), Zanzig (1997), and Marlow (2000) find that competition results in better public school performance. Blair and Staley (1995), Millimet and Rangaprasad (2006), and Millimet and Collier (2004) use models of spatial interaction and find that public schools engage in strategic competition such that decisions on education inputs in one district are influenced by those of neighbouring schools. For example, Millimet and Collier (2004) investigate the impact of public school competition in the State of Illinois over the period 1997–1998. The study seeks to determine whether public school efficiency is influenced by efficiency levels in neighboring districts. Thus, the focus is on the impact of competition arising from nearby public schools. Millimet and Collier find that public school districts respond strategically to changes in efficiency in competing districts. In other words, public school districts become more efficient if neighboring districts become more efficient. Hanushek and Rivkin (2003) study the impact of public

school competition using metropolitan data from Texas, and find that public school competition has a positive impact on teacher quality.

Sweden, a "big" government nation, represents an interesting case study of the impact of competition in education. Before the 1990s, Swedish schools were operated by municipal governments under strict national rules and regulations, including a standardized curriculum. The national government also recruited teachers and paid their salaries. Thus, the municipalities had a monopoly in the provision of education, did not bear the full cost of staffing their classrooms, and gave parents very limited choices. During the early 1990s, Sweden undertook far-reaching educational reforms that allowed public funding of independent schools. The reforms gave more authority to municipalities over their own schools and obligated the municipalities to allocate funds to schools established by individuals, groups and corporations under procedures promulgated for approving their creation. Except for expecting them to comply with some broad guidelines, the schools were free to establish their own operating rules. Prior to implementing the reforms, Sweden had 106 independent primary and lower secondary schools as well as 16 independent upper secondary schools. By 2001–2002, the numbers had increased to 488 and 149, respectively, and the number of applications to establish new independent schools has continued to increase The independent schools are located in both affluent and low-income urban areas and regions. A study by Bergstrom and Sandstrom (2002) investigated the impact of the resulting competition on the quality of education, controlling for various factors. The study found that the reforms resulted in improved quality of education. The authors conclude that:

> None of our results indicated that the competition from independent schools had a damaging effect on municipal schools. To the contrary, we found support for our conclusion that the municipal school improves through competition. In all cases, the results in the municipal schools were better the larger the share of pupils attending independent schools. For more than half of the result measurements, the effect was statistically significant. (Bergstrom and Sandstrom 2002, p. 13)

Although some studies do not find significant impact of competition on quality, the majority do even when using different definitions of quality and measures of competition. Thus, it does appear that the predictions of economic theory hold true in regard to competition and quality of outcomes in public service provision. Indeed, the beneficial effects can run in the opposite direction: one study shows that competition from the publicly financed Tennessee Valley Authority led to improvements in the performances of nearby private electric utilities (Hellman 1972).

The studies summarized above focus on developed country experiences. There have also been various innovations in developing countries that introduce choice and competition in the provision of publicly funded services. We discuss some of these cases below.

An interesting innovation in the delivery of education services in a developing country has been the establishment of Concession Schools in the City of Bogota, Colombia. The concession schools program was started in 1999, and involves a contract between private schools and the public education system in which private schools provide education to low-income people. Schools participating in this program are located in extremely poor areas of Bogota and also where the demand for primary and secondary school education was higher than the city supplied. Thus, the program was meant to expand educational access to the poor who had been poorly served by the public system. The basic features of the program involve the city government providing infrastructure and selecting students to be enrolled in the private schools and then paying the private school a fee based on number of students enrolled. The private school in turn commits to complying with performance standards established by the city. Osorio (2005) tests the impact of the reforms on educational outcomes and finds that concession schools reduce dropout rates and increase achievement.

Many developing countries have also experimented with reforms in the delivery of healthcare services. These reforms include many of the marketization approaches discussed

previously. Loevinsohm and Harding (2005) review ten country experiences with innovations in healthcare services delivery, such as contracting out and other approaches that change the incentive structure of the providers. Detailed results of these studies are shown on Table 5. The authors observe that:

> All the studies found that contracting yielded positive results; however, the most rigorously assessed cases tended to show largest effect. For example, the service delivery contracts in Cambodia increased immunization coverage by 40 percentage points compared with 19 in the control districts (a double difference of 21 percentage points). In the four studies with controlled before and after designs, the median double difference ranged from 3.4 to 26 percentage points. (Loevinsohm and Harding 2005, p. 678)

Thus the available evidence shows that innovations that introduce market forces and change the incentive structure of providers generally yield better results even in developing countries. Also notable is that non-state providers are better able to offer services to groups that are often isolated and poorly served or completely left out by government agencies.

V. Research Design

The Collaborative Project on Service Delivery in Africa seeks to undertake extensive field work on various aspects of service delivery in Africa. This will involve the collection of a wide range of data necessary to evaluate service delivery on a number of dimensions. The quality of the research results produced by such studies largely depends both on the quantity and quality of the data assembled as well as on the appropriateness of the methodology applied. In this section, we briefly discuss some of the important data and methodological issues that researchers should address in designing studies on service delivery, focusing on issues related to competition and marketization.

a. Defining the service to be evaluated and its dimensions, characteristics

In gathering data on service provision, it will be necessary to start by establishing the various aspects of a service to be evaluated. For example, in the case of healthcare delivery, it is important to be

specific in terms of the particular aspect of healthcare to be investigated. This is because there are many health services that are offered, say, by a health clinic, to different types of clients and also requiring different types of inputs. Because service quality can be evaluated on a number of dimensions, it is also necessary that these be clearly defined so that there is consistency in measuring and comparing the quality of service provision. Ideally, the more specific one is in defining the service to be evaluated, the better.

b. The relevant market that will be evaluated

To be able to evaluate the role of competition and marketization in the delivery of services, it is critically important to define the relevant market. Here, the market should be defined by the relevant geographical region, including the numbers and characteristics of consumers served. Hoxby (2000) argues that school districts in the United States can be considered to be in the same educational market if they are within commuting distance of the same center of employment. Other scholars define educational markets at the county or metropolitan area level (Braginghton 2000; Borland and Howsen 1992; Zanzig 1997; Barrow and Rouse 2004). For developing countries in general and poor African countries in particular, where travel to school is primarily on foot, the relevant market for primary education may be defined as the area within which students can walk to school or commute at reasonably low cost. In the case of refuse collection in urban centers, markets typically are administratively defined. Thus, when evaluating different services, it is apparent that the markets for different services will differ – both in terms of geographic area and consumers served. Put simply, the boundaries of the market will depend on the type of service at issue.

After identifying the market, it is then necessary to gather both demographic and economic data since all of those characteristics potentially influence service delivery outcomes. These could, for example, include incomes, educational attainments, economic activities, population densities, age distributions and poverty levels.

c. How the service is provided, including the numbers of and types of competitors

As discussed previously, the provision of publicly funded services could be impacted by various forms of competition, including other public providers, for-profit and nonprofit entities. In addition, provision could be subject to market-like forces, including voucher programs, contracting out, and grants and subsidies. It is therefore necessary to carefully identify the modes of provision and also quantify the degree of competition in a particular service market. Many studies use the number of alternatives that can be accessed by consumers in a given geographical region (e.g., the number of schools or dinics). Other studies employ the standard measures of market concentration as used in industrial organization, such as the Hirschman-Herfindal Index (HHI). Again, the appropriate measures of competition will depend on the specific service and setting. What is important is to be careful that the measures used adequately capture the strength of competition, if any.

Likewise, it is important to carefully identify and categorize the various forms of innovative delivery methods and, in particular, to be able to pinpoint the channels (choice, competition or both) through which they impact on the quality of outcomes.

d. Provider characteristics

In addition to assessing the alternative channels of choice, if any, it is important to gather comprehensive data on existing public service providers. It is apparent from the data presented in Tables 1.1–1.4 that there are large disparities across African countries in the efficiency and effectiveness with which services are now being delivered. Hence, researchers should collect information on provider characteristics, such as annual budgets, number of employees (both supervisory and frontline workers), capital assets (e.g., vehicles, numbers and locations of field offices), lines of administrative authority, hours of operation, and other organizational features that may impact performance.

e. Measures of outcomes

A key variable is the measure of service quality. This is the variable that will capture the impacts of various innovations in service delivery. The definition of service quality usually will differ according to some particular policy objective. Possible output-based measures of service quality could include the number of additional people immunized, school enrollment and completion rates, performances on national examinations, customer waiting times, frequency of refuse collection, and cost of service. In gathering data it is necessary that the researcher be quite clear on the quality dimensions and the appropriate measures.

f. Empirical implementation

Finally, the choice of empirical methodology is crucial to the relevance of results so derived. The estimation methodologies are discussed in another framework paper. However, when evaluating the impact of competition and marketization on quality of service, it is critically important to be aware of some of the common problems and issues that could weaken the soundness of the results. Some of the most important include endogeneity (simultaneous-equations bias), heteroscedasticity (in cross-sectional studies), serial correlation (in time-series models) and the omitted variable problem. All of these factors should be kept in mind both during the data-gathering stage and also in the choice of the estimation strategy.

VI. Conclusion

This framework paper has reviewed the literature on public service provision, focusing specifically on innovations that introduce market forces into the delivery of such services. These innovations represent important strategies for alleviating the inefficiencies associated with public provision of goods and services. The theoretical and empirical literature both largely support the idea that subjecting the provision of public services to some market test improves outcomes – quality, cost,

access, and so on. The evidence seems to suggest that such innovations are crucial to improving the quality of service delivery in developing countries and, hence, research studies that investigate the impact of such innovations on the quality of service delivery in developing countries are important and timely. The paper also discusses some important issues that should be taken into account in designing studies to evaluate the impact of competition and other innovations that introduce market forces into the delivery of collectively provided goods and services.

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Figure 1. Real Cost of Refuse Collection in the City of Phoenix, Arizona

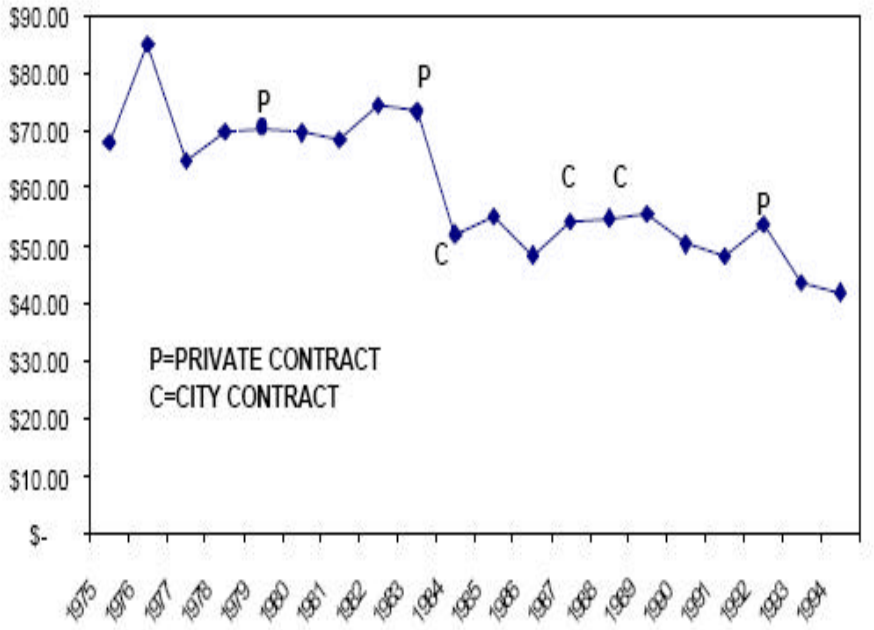

Table 1.1. Health indicators

	Time period	Number of countries	Minimum	Maximum	Mean	Standard deviation
Physicians (per 100,000 people)	1990–2004*	45	1	212	21.24	36.203
Population per hospital bed	1990	31	239	4141	1060.48	849.105
	1991–2002	15	232	8506	1915.47	2217.355
Births attended by skilled health personnel (%)	1995–2003	44	6	99	53.84	22.394
Percentage of the population with access to health services	1990–2000*	17	24	100	60.71	25.164

* Annual averages.
Sources: Raw data from *World Bank* 2005 and *Human Development Report* 2005.

Table 1.2. Access to Sanitation Facilities

Year	Location	Percentage of population with access to sanitation facilities				
		N	Minimum	Maximum	Mean	Standard deviation
1990	Total	38	4	99	36.39	22.062
	Urban	38	14	100	54.55	20.269
	Rural	40	0	99	26.58	22.050
2002	Total	45	6	99	41.36	20.827
	Urban	45	14	100	58.27	18.817
	Rural	45	0	99	30.64	21.529

N = Number of countries for which data are available.
Source: Raw data from *World Bank* 2005.

Table 1.3. Literacy and School Enrollment

	Year	Number of countries	Minimum	Maximum	Mean	Standard. deviation
Adult literacy rate	1990	38	11.4	81.2	52.174	18.7309
(% ages 15 and above)	2003*	41	12.8	90.0	60.163	20.6433
Youth literacy rate	1990	42	17.0	93.9	67.245	19.9173
(% ages 15–24)	2003*	38	19.4	97.8	70.637	21.9392
Net primary enrollment	1990	47	16	96	59.00	23.123
ratio (%)	2003*	40	36	97	68.57	17.928

* Estimates.
Source: Raw data from Human Development Report 2005.

Table 1.4 Access to Safe Water

Year	Location	Percentage of population with access to safe water				
		N	Minimum	Maximum	Mean	Standard deviation
1990	Total	37	20	100	55.57	19.696
	Urban	39	11	100	78.95	20.417
	Rural	37	13	100	46.89	20.911
2002	Total	46	22	100	65.09	17.629
	Urban	46	40	100	83.87	13.259
	Rural	46	11	100	54.04	19.799

N= Number of countries for which data are available.
Source: Raw data from *World Bank* 2005.

Table 2. Alternative Institutional Arrangements for Delivering Public Services

Institutional Arrangement	Functional Areas								
	Education	*Police protection*	*Streets and highways*	*Fire protection*	*Parks and recreation*	*Hospitals*	*Housing*	*Refuse collection*	*Transportation*
Government service	Conventional public schools and state universities	Traditional police department	Municipal highway department	Traditional fire department	Municipal parks department	Municipal hospitals	Public Housing Authority	Municipal sanitation department	Public transit authority that runs bus service
Intergovern-mental agreement	Pupils from one town attend school in neighboring town-first town pays the second	Town purchases patrol services from county sheriff	County pays town to clean and plow county roads located in town	City purchases services from special fire district	City joins special recreation district in the region	City arranges for residents to be treated at county hospital	Town contracts with County Housing Authority	City establishes independent solid-waste utility	City is part of a regional transportation district
Contract	City hires private firm to provide training or conduct vocational education program	City hires a private guard service to protect government buildings, garages	City hires private contractor to clean, plow and repair street	City hires private fire protection firm	City hires private firm to prune trees and mow grass		Housing authority hires private firms for repairs, painting, grounds, custodial services	City hires private firm to provide service	School board hires private firm to provide school bus
Franchise					City authorizes firm to operate city-owned tennis courts and to charge fees			City gives exclusive franchise to private firm to provide service for a fee	Government gives a private firm the exclusive right to provide bus service along a route
Grant	Private colleges receive a grant from government for every student who attends					Capital construction grant to expand a non-profit hospital	Government grant to private builder to construct and operate low-income housing	City has user fee for service but subsidizes elderly and low-income households	Government grant to private company to subsidize the acquisition of new buses
Voucher	Tuition voucher for elementary school, GI Bill, government scholarships good for any college					Medicare/ Medicaid cards permit patients to seek service anywhere	Housing voucher to enable low-income tenants to rent any acceptable, affordable unit.		Transporta-tion vouchers that special users (handicapped, elderly) can use for taxis, private cars, etc.
Market	Private school	Banks hire private guards	Local merchants' association hires workers to clean commercial street		Commer-cial tennis courts	Proprietary (for profit) hospitals	Normal private housing market	Household hires private firm to provide service	Free-market for jitneys, private cars for hire
Voluntary association	Parochial schools	Block association forms a citizens' crime watch unit	Home-owners' association arranges to clean and repair local private streets	Volunteer fire department	Tennis club for members	Non-profit hospitals	Housing cooperative	Neighborhood association hires firm to provide service	Car pools, van pools, commuter buses chartered by groups of suburban neighbors

Institutional Arrangement	Functional Areas								
	Education	*Police protection*	*Streets and highways*	*Fire protection*	*Parks and recreation*	*Hospitals*	*Housing*	*Refuse collection*	*Transportation*
Self service	Reading books at home, learning from parents	Individual installs locks, alarms, and has a weapon	Storeowner cleans street in front of shop	Property owner practices fire safety, installs smoke alarms, sprinklers, has fire extinguish-ers	Private tennis courts at home.	Accident prevention, self-medication, chicken soup, other traditional cures for common illnesses		Household brings refuse to town disposal site.	Driving in one's own car, cycling, walking

Table 3. Comparative Performances of Private, Mixed and State-Owned Enterprises, 1983

Performance Measure	Private Corporations	Mixed Enterprises	State-Owned Enterprises
Return on Equity[a]	4.343	–14.095	–10.195
Return on Assets[a]	1.784	–2.665	–1.184
Return on Sales[a]	1.484	–2.523	–1.732
Net Income[b]	56.553	–16.800	–27.676
Sales/Employee	$201,164	$137,744	$204,649
Sales/Assets	1.472	1.168	1.157
Assets/Employee	$144,728	$132,094	$189,517
Sales[b]	3,199.3	7,054.4	4,843.7
Assets[b]	2,619.9	6,113.7	4,852.8
Employees	32,780	52,007	50,332

[a] Percent.

[b] $ millions.

Source: Anthony E. Boardman and Aidan R. Vining, "Ownership and Performance in Competitive Environments: A Comparison of the Performance of Private, Mixed, and State-Owned Enterprises," *Journal of Law and Economics* 32 (April 1989), p. 14.

Table 4. Savings from Public/Private Competition in Phoenix, Arizona

Department	Service	Savings
Aviation	Airport landscaping	$1,000
	Nursery/plant maintenance	14,400
Fire	Emergency transportation	2,898,000
	Billing and collection services	560,000
Housing	Low-income housing maintenance	23,000
	Senior-housing management	123,000
Neighborhood services	Lot maintenance	13,600
Parks, recreation and library	Median maintenance	470,000
Public works	Refuse collection	18,010,800
	Landfill operation	7,711,000
Street transportation	Street sweeping	36,000
	Street repair	109,000
	Landscape maintenance	549,000
Water services	Water meter repair	176,000
	Wastewater instrument calibration	133,200
TOTAL		$30,828,000.00

Source: Franciosi (1998, p. 6).

Table 5. Private-Public Competition

	Akron	Kansas City	Minne-apolis	Montreal	New Orleans	Oklahoma City
Date initiated	1969	1971	1971	1955	1977	1977
Primary reason for initiation	Combined collection	Combined collection	Combined collection	Efficiency	Efficiency	Efficiency
Fraction served by contractor	21%[a]	48%[a]	60%	91%	8%[b]	62%
No. of contractors	1	4	1	38	1	2
No. of areas served by contractors	1	25	1	164	1	3
Average no. of bids per area	1	16	1	22	2	2
Population of average area	35,000	8,000	240,000	8,000	50,000	70,000
Average population per contractor	35,000	50,000	240,000	32,000	50,000	105,000
Intermixed areas	No	No	Yes	Yes	No	No
Annual cost per household						
Municipal	$50.09	$33.20	$37.78	$30.48	$23.54[c]	$57.98
Contract	$34.55	$23.86	$38.23	$23.22	$19.37[c]	$49.90
Cost per ton						
Municipal	$45.64	$37.72	$37.97	$36.19	$37.37	NA
Contract	$23.06	$19.09	$37.44	$27.60	$30.29	NA
Households per man-day						
Municipal	133	NA	NA	405	224	247
Contract	196	NA	NA	408	448	344
Tons per man-day						
Municipal	3.70	NA	2.45	3.30	NA	NA
Contract	5.68	NA	3.35 (est.)	3.55	NA	NA
Municipal/contract ratio						
Cost/hh	1.45	1.39	0.99	1.31	1.22	1.16
Cost/ton	1.98	1.98	1.01	1.31	1.23	NA

[a]Percent of municipal plus contract collection; excludes private collection, self service, etc.

[b]Subsequently increased to 24%.

[c]Comparison in same area before and after change from municipal to contract collection.

NA = not available
hh = households

Table 6. Experiences with Innovations in Healthcare Service Delivery in Developing Countries

Location and type of services	*Type of contract and intervention*	*Evaluation methodology*	*Main results*
1. Cambodia rural PHC and district hospital services	Service delivery contract compared to management contract and control comparison (i.e., government provision of services).	Randomized controlled study with 12 districts as experimental units. Household survey and health facility survey undertaken before and after 2–5 years of implementation.	Service delivery contract much better than control comparison. Median double difference on seven indicators for service delivery contract versus control comparison was 21.3 percentage points for management contract versus control comparison was 9.3 percentage points.
2. Bangladesh rural community nutrition services	Service delivery contract with NGOs compared to control areas with no organized nutrition services (i.e., normal government health services with no nutrition component).	Controlled before and after study with six experimental and two control subdistricts. Household survey conducted by third party.	Malnutrition declined 18 percentage points in service delivery contract subdistriucts compared to 13 percentage points in controls (double difference = 5 percentage points). Double difference for vitamin A was 27 percentage points.
3. Bangladesh urban primary health care	Service delivery contract with NGOs compared to government provision of services.	Controlled before and after study with 15 contracts compared with a large area implemented by the Chittagong City Corporation. Household surveys and health facility surveys by third party.	Median double difference on 10 household survey indicators was 3–4 percentage points after 2 years. Much larger differences in quality care indicators.
4. Bolivia primary health care	Limited management contract in phase II. Management contract with expanded authority in phase III. Control area had continued public sector management.	Controlled before and after design, but data from routine reporting system, only few indicators examined.	Double difference for deliveries between management contract and control was 21 percentage points for bed occupancy.
5. Guatemala rural primary health care in mountainous areas	Management contract in selected municipalities and service delivery contract in more remote areas, compared to government provision (control).	Controlled design based on household survey undertaken by third party 3 years after contract began.	Median difference between management contract and control on five indicators was 11 percentage points (range 5–16 percentage points).
6. Haiti bonuses for NGOs delivering primary health care in rural areas	NGOs with service delivery contracts offered performance bonuses based on agreed targets.	Before and after (7 months later) design based on household surveys done by third party.	Average follow-up minus baseline ranged from –3 percentage points (parental care) to 32 percentage points (vaccination coverage).

Location and type of services	*Type of contract and intervention*	*Evaluation methodology*	*Main results*
7. India urban TB control services in Hyderbad	NGO under service contract delivered TB control services in defined population and worked with private providers compared to publicly managed area of similar size.	Controlled design with after only data from recording system verified by national TB programme officials. Cost data obtained by third party.	NGO found 21 percent more TB cases and had 14 percentage points better treatment success rate. Costs per successful treatment $118 for NGO versus $138.
8. Madagascar and Senegal community nutritional services	Madagascar: service delivery contracts with 50 NGOs. Senegal: service delivery contracts with NGOs who worked through small groups of unemployed youth.	Before and after (17 months) household surveys of nutrition status in Senegal. Third party survey of participation in project and control areas.	Severe and moderate malnutrition declined 6 percentage points and 4 percentage points respectively. Participation was 72 percent in project and 35 percent in control areas.
9. Pakistan rural primary health	Management contract for the 104 basic health units in one district.	Interrupted time series design based on routine recording and reporting system.	Nearly four-fold increase in the number of outpatient visits.
10. India improving quality of care by private practitioners	Service delivery contracts for NGO working with private providers to improve maternal and child health services.	Before and after (6 months later) design based on household survey by community health workers.	Rapid improvement in provider skills ranging from 25 percent to 57 percent compared with baseline.