

In praise of private infrastructure

In the United States, you know an economic problem is acute when it commands an entire chapter in the Economic Report of the President. Issued in February, the 2008 report contains an edifying chapter titled: "The Nation's Infrastructure."

AN ECONOMY DEPENDS ON INFRASTRUCTURE TO FACILITATE the flow of goods, people, information and energy. Accordingly, ports, roads, bridges, railways, airports, communication networks, power lines, waterworks and many other infrastructure systems represent important inputs into an economy.

Poor infrastructure - either in terms of its quantity or quality - not only increases costs but can literally bring an economy to its knees. India and many other Asian nations have been severely handicapped by poor infrastructure.

Even the US is not without infrastructure problems. For example, the number of vehicle miles traveled in the US has doubled since 1980, but the total road capacity has only increased by 6%. The result has been a dramatic increase in congestion costs (lost time, extra fuel, etc.)

In the US and elsewhere, investments in infrastructure and its maintenance are projected to be enormous. Indeed, for the East Asia-Pacific and South Asia regions, the projected expenditures on infrastructure investment and maintenance in the



2005-2010 period account for 6.6% and 6.9% of GDP, respectively (see table).

A critical question: Should infrastructure be provided by the private or public sector?

Adam Smith answered this question in the *Wealth of Nations* (1776). He concluded as follows: "No two characters seem more inconsistent than those of trader and sovereign," since people are more wasteful with the wealth of others than with their own.

He thought public ownership and administration were negligent and wasteful because public employees do not have a direct interest in the commercial outcome of their actions.

Comparative cost analyses of private versus public provision of goods and services give support to the conclusion that private firms are more cost-effective than public firms. Considerable evidence suggests that the public cost incurred in providing a given quantity and quality of output is about twice as great as private provision. This result occurs with such frequency that it has given rise to a rule-of-thumb: "the bureaucratic rule of two."

With the private provision of infrastructure, however, there is

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a potential problem: introducing and maintaining competition. This potential problem can arise because of the so-called natural monopoly character of many infrastructure projects.

In short, even if there are no artificial barriers to entry, a monopoly will likely emerge because a single firm can produce goods and services more cheaply than multiple firms (multiple ports, bridges, etc. at the “same” location are not economically feasible).

Opponents of infrastructure provided by the private sector are quick to raise the specter of a monopoly but there is a way to solve the natural monopoly problem and introduce competition into the provision of private infrastructure.

It involves a system of competitive bidding for privately-owned infrastructure franchises. Though competition within a market may be impossible, the benefits of competition for that

market may be attainable.

So long as there is vigorous bidding for an infrastructure franchise, the best of both worlds - avoidance of redundant facilities together with competitive prices - can be had. In theory, such a system could ensure that the favorable incentive effect normally associated with private ownership and management of a firm (i.e. that private owners will control costs, enhance efficiency, etc. as a way of maximizing their profits) will actually come about.

How does it work?

THE KEY TO THE FRANCHISE BIDDING APPROACH TO NATURAL monopolies is the following: bidding for the monopoly franchise should not be in terms of a sum to be paid for the franchise, but in terms of the prices that the franchisee would charge and the services the franchise would provide the public on award of the right to be the exclusive supplier.

If the franchises were merely awarded to the bidder willing to pay the highest price for this exclusive right, competition would

drive bids up to an amount equal to the present value of expected future monopoly profits in the market.

This would transfer monopoly profits from the franchisee to whatever authority granted the franchise in the first place, but consumers would still pay monopoly prices.

Instead, an auction should be held in which the franchise is awarded to whichever bidder promises the best combination of price and quality to consumers.

Here, competition would drive bid prices down to competitive levels for each possible level of service quality.

Theory is not necessarily reality, however. Indeed, some scholars have expressed reservations about franchise bidding. One set of concerns relates to the bidding process itself.

Selecting a winner (i.e., determining an optimal price structure and mix of products) may be exceedingly complex, and there is no guarantee that bidding will be truly competitive. For example, new firms may be reluctant to bid on a franchise that has expired when the previous franchisee is also in the bidding, since the previous supplier is almost certain to be better informed about actual cost and demand conditions than are its rivals.

Another set of concerns relates to the likely behavior of the winning bidder during the term of the franchise contract. If the contract is for a reasonably long term, there must be some formula to allow for rate changes as costs, demands, and technologies change over time—or renegotiation must be allowed.

If a formula approach is impractical and renegotiation allowed, the need for some sort of agency similar to a regulatory commission becomes apparent. Such an agency will also be needed to police the franchise contract, since the agreement will not be self-enforcing.

Further problems can arise as the end of the contract approaches, as the franchisee may curtail maintenance operations and under-invest in new assets, leaving “the next guy” to cope with any resulting problems.

Agents

THESE ARE IMPORTANT BUT NOT INTRACTABLE PROBLEMS. Three aspects (the difficulty of selecting a winning bidder, the difficulty of specifying or renegotiating contracts, and the need to police the contract) require the existence of some sort of “buyers’ agency” to represent consumers.

These buyers’ agents must be well-rewarded for monitoring the terms of the franchise contract. France provides evidence that highly paid civil servants can perform this task effectively.

However, critics of franchise bidding have asserted that such an agency would simply be reduced to performing the same tasks assigned to traditional government regulators - with the same difficulties and potential for inefficiency, abuse and corruption

Expected Annual Investment Needs, 2005-2010

	New		Maintenance		Total	
	US\$ (Millions)	%GDP	US\$ (Millions)	%GDP	US\$ (Millions)	%GDP
By Income Group						
Low Income	49,988	3.18%	58,619	3.73%	108,607	6.92%
Middle Income	183,151	2.64%	173,035	2.50%	356,187	5.14%
High Income	135,956	0.42%	247,970	0.76%	383,926	1.18%
Developing Countries by Region						
East Asia & Pacific	99,906	3.67%	78,986	2.90%	178,892	6.57%
South Asia	28,069	3.06%	35,033	3.82%	63,101	6.87%
Europe & Central Asia	39,069	2.76%	58,849	4.16%	97,918	6.92%
Middle East & N. Africa	14,884	2.37%	13,264	2.11%	28,148	4.48%
Sub-Saharan Africa	13,268	2.84%	12,644	2.71%	25,912	5.55%
Latin America & Caribbean	37,944	1.62%	32,878	1.40%	70,822	3.02%
All Developing Countries	233,139	2.74%	231,654	2.73%	464,793	5.47%
World	369,095	0.90%	479,624	1.17%	848,719	2.07%

GDP deflator used is average of the 2005-10 projections. Source: Marianne Fay and Tito Yepes, "Investing in Infrastructure: what is needed from 2000 to 2010," World Bank Policy Research Working Paper 3102, July 2003.

- leaving consumers no better off than they are now.

This is not necessarily the case. The degree of technological complexity and the swiftness of technological change in the relevant industry are the crucial variables.

Selecting a winning bidder may be difficult where technology has created myriad potential service options. But where it is possible to specify a limited number of service standards, awarding the franchise may not be troublesome at all.

And where the pace of technological change is not too rapid, it may be quite easy to agree on some sort of formula for price increases, and the possibility of mid-contract renegotiation may never arise.

Furthermore, enforcing the contract also will be facilitated in industries where the number of specified service standards is relatively limited. These three factors make the water supply a perfect example of an ideal candidate for franchise bidding.

The technology of water supply is well known and relatively static, and specifications about service standards and quality are readily formulable. All the critics' qualms about the practicability of franchise bidding recede in such a context.

The benefits of such a private system would be considerable. Giving the winning bidder a monopoly franchise will ensure that the firm is able to exploit all possible economies of scale in the provision of service, while requiring bidders to compete on price and service standards.

This will prevent the firm from using its market power to overcharge or under-provide. Granting this monopoly franchise to private owners will harness the incentives of these owners to control costs efficiently in order to maximize profits.

ENFORCING THE CONTRACT ALSO WILL BE FACILITATED IN INDUSTRIES WHERE THE NUMBER OF SPECIFIED SERVICE STANDARDS IS RELATIVELY LIMITED.

If the firm's managers are not attentive to cost control, the firms' profits will fall, share prices will decline, and the firm will become a ripe target for takeover by owners seeking to reap the gains which would result from turning out (or better motivating) the inefficient management.

Most nations face daunting infrastructure problems. To solve them, well-tested methods of private provision must be embraced. Private infrastructure franchises that are properly designed and strictly policed hold the key for infrastructure provision.

(For a full treatment of this topic, see: S. H. Hanke and S. J. K. Walters, "Privatizing Water Works", in: Prospects for Privatization, 1987; and S. H. Hanke, "Privatization", in: The New Palgrave: A Dictionary of Economics, Vol. 3, 1987.) GA

To implement the system, the government need only create such a buyers' agency with a mandate to conduct the auction and devise the contracts for the construction, maintenance, or operation of the facilities.

Once the franchise is granted, enforcement of the contract can itself be privatized (if enforcement is not done by the agency).

An accounting firm, for example, could be retained to audit the franchisee and confirm that the terms of the contract have been observed.

To create additional incentives for franchisees to maintain and improve quality, contracts could require the franchisee to post a bond for the duration of the franchise. This bond would be forfeited to the contract enforcers if the franchisee is found to be in violation of the contract; it would serve essentially the same function as a "security deposit" on an apartment.

Once in place, the franchisee will have every incentive to aggressively control costs, adopt new technologies, etc., since every dollar of cost saved is an extra dollar of profit earned.

■ Steve H. Hanke is a Professor of Applied Economics at The Johns Hopkins University in Baltimore and a Senior Fellow at the Cato Institute in Washington, D.C. He was advisor to former President Suharto in 1998.