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The Challenges of Infrastructure Privatisation

Ioannis N. Kessides*

During the past two decades we have witnessed a profound reassessment of public policy towards the infrastructure sectors in both the advanced industrial and developing and transition economies (World Bank 2004). It is part of a much broader policy reform movement that is going on all over the world – the breaking up of centralised planning, privatisation, regulatory reform and deregulation, and a renewed reliance on the market mechanism. This paper presents a brief overview of this massive policy redirection, with a special focus on the infrastructure sectors (network utilities) and within the historical, economic and institutional context of developing and transition economies.

Deregulation in the US and the EU

The assault on regulation began in the United States (Joskow and Noll 1994). There were several historical forces that created the "perfect economic storm" and propelled the revolutionary deregulation of a wide variety of economic activities and much of the country's public utility industries in the late 1970s and early 1980s: double-digit inflation, "energy crises", stagflation, heightened environmental concerns, the virtual bankruptcy of a backbone industry (rail), and a perceived erosion of the country's productivity edge and its international competitiveness. Proponents of deregulation emphasised its potential to combat inflation and restore the growth in productivity by unleashing market forces of competition. The promise of deregulation to contribute to the resolution of the country's macroeconomic dilemmas had considerable political appeal. Moreover, concerns about the energy crises and environmental protection facilitated the introduction of economically efficient pricing that would discourage wasteful consumption (Kahn 2001).

Roughly during the same period, major sectors of the British economy also underwent far-reaching regulatory reform. Deregulation and new methods of regulation were introduced in the financial services and the professions, and radical regulatory reform accompanied the privatisation of the utility industries (Newbery 2000). In the process, several new regulatory institutions were established and new tasks were given to existing agencies such as the Monopolies and Mergers Commission (Armstrong et al. 1994). In the European Union, a series of directives beginning in the late 1980s sought to achieve the ultimate political objective of creating a single market – an area without internal borders in which free movement of goods, persons, services, and capital is ensured. These directives spelled out common rules for telecommunications, electricity, natural gas and transportation markets across the Member States. Taken together, they provided a roadmap for the development of a common regulatory framework and the extensive liberalisation of these industries. In fact, water is the only EU network utility where liberalisation is still in its infancy.

With the exception of the United States, almost all other countries in the past have chosen nationalisation over regulation as the instrument for control of monopoly power in the network utilities.[1] While the US deregulatory policy was being implemented and as the EU directives (which called for extensive liberalisation but remained silent on the issue of ownership) were building the policy foundation of a single market, another revolution begun to sweep the globe – privatisation.

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[1] This refers mainly to the period after World War II. For example, private ownership in electricity was initially the norm in many countries in Europe and South America. State ownership spread later, especially after World War II, either because of ideological reasons (as in England and France) or because political constraints on prices forced private firms into bankruptcy (as in Latin America). Similar situations prevailed for railroads and water in many countries. Telephone services became captive of state-owned post offices in Europe and Japan, but not in Canada, or, initially, Latin America.

The privatisation revolution

Since the early 1980s, privatisation has been a key component of structural reform programs in both developed and developing and transition economies. National leaders burdened by sizeable budget deficits and stagnating economies have been outspoken on the need to foster private initiative in the interests of productivity and growth, and have been taking substantive steps to move economic activities from governmental to private control in all sectors, including infrastructure (Willig 1994; Megginson and Netter 2001).

The initial impetus for privatisation in the developing countries was provided by the debt crises that emerged in the early 1980s. In many of these countries, the external sovereign debt problem led them through a decade of low to negative growth, macroeconomic instability and a series of forced adjustments. Developing countries simply could not continue absorbing the fiscal burden of their state-owned enterprises. (Lieberman 1997). At the same time, there was abundant evidence accumulating that the state-owned enterprises in core sectors of their economies, like infrastructure, were suffering from severe performance problems (Shirley and Walsh 2001).

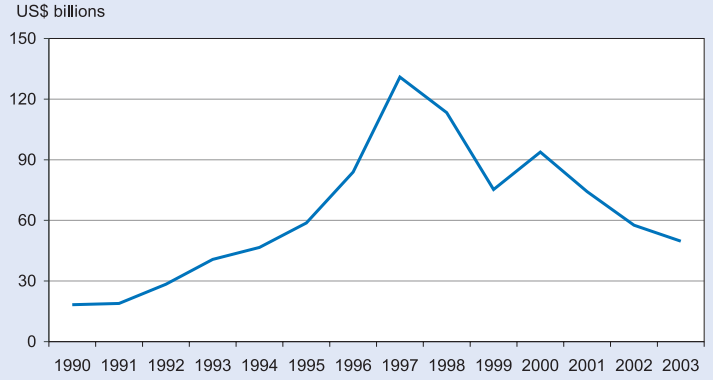
State-owned entities were forced to pursue multiple, poorly-defined and conflicting objectives. They were frequently used as instruments of stabilisation policy through price controls and investment targets. Their management was often appointed on the basis of political loyalty rather than professionalism, and their employment and investment patterns reflected bureaucratic preferences rather than market demand and supply conditions. Scarce public investment funds allocated to the infrastructure sectors were in many cases squandered through policies reflecting political expediency and other short-run objectives rather than careful long-run planning in the public interest. Moreover, price controls were imposed in disregard of their performance implications, subjecting the operating entities to considerable financial distress and substantially impairing their ability to provide reliable service (Kerf and Smith 1996).

Attempts at reforming the public enterprises largely failed (World Bank 1995). These efforts either did not bring the desired results or the improvements were not sustained. Very few governments, if indeed any, were able to introduce and maintain the large number of complex and demanding policy measures needed for efficient public enterprise performance. In the meantime, the costs of state ownership were increasing because of dramatic technological changes, increased globalisation, and ever increasing scarcity of public funds. In many countries, inefficient public enterprises, especially in the infrastructure sectors, were draining the state budgets, diverting resources from health and education, undermining the banking sector and impeding the development of the private sector. In the context of a globalised economy, the poorly performing state-owned infrastructure sectors were increasingly seen as constraining economic growth and undermining international competitiveness. It became evident to policymakers throughout the world that the long-term solution to the problems of poor service delivery, lacklustre growth and damaging political interference required radical structural change – privatisation, with the public's role mainly restricted to that of regulation which seeks to ensure a fair policy development and recognition of social and other policy goals.

The dimensions of the privatisation revolution in both the developed and developing and transition economies (DTEs) has been huge. Between 1990 and 2003 more than $890 billion was invested (in the form of divestitures, green field projects, and management and operational contracts with major capital expenditures) in approximately 2,700 private infrastructure projects in developing and transition

Figure 1

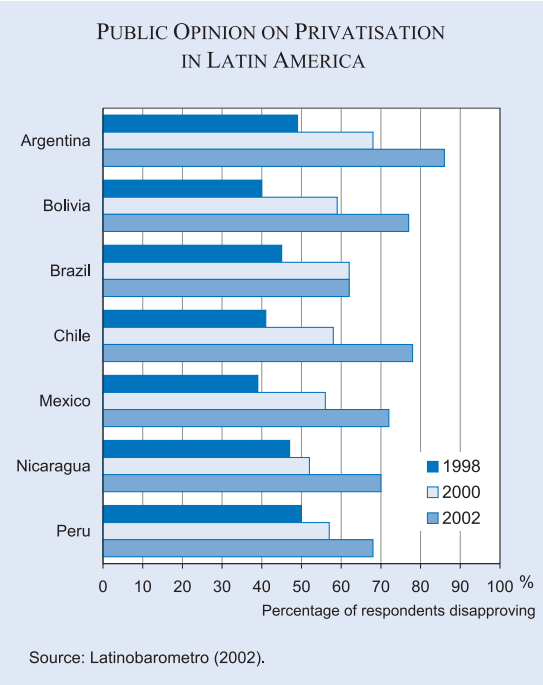
INVESTMENT IN INFRASTRUCTURE PROJECTS WITH PARTICIPATION IN DEVELOPING COUNTRIES, 1990 - 2003



Source: Izaguirre (2004).

countries alone (Figure 1). However, annual investment flows peaked at around $130 billion in 1997 and have since dropped by more than half – for example, investment totalled $47.5 billion in 2002, falling back to 1994 levels (Izaguirre 2004). The steep decline in overall investments since 1997 has been arguably a consequence of both the continued lack of deeper economic reforms, often beyond just the infrastructure sectors, as well as the deteriorating market environment for private financing of infrastructure assets. The Argentina crisis, the Enron debacle and its impact on investor confidence, together with developments in developed financial markets, such as a sharp drop in equity valuations, widening credit spreads and a withdrawal from banks in response to increasing loss provisions, provided a hostile external environment for emerging market financing over the last few years.

Figure 2



Promises, perils and tradeoffs

Just a few years ago, privatisation was heralded as the elixir that would transform ailing and lethargic state-owned enterprises into sources of creative productivity and dynamism for the public interest. National leaders burdened by sizeable budget deficits and stagnating economies were outspoken on the need to foster private initiative as a means of promoting growth and prosperity and enhancing the economic opportunities of all citizens. Multilateral institutions offered advice and added stimulus to this movement among their national recipients of aid. The world-wide press provided a near harmony of voices in praise of the new trend in policy thinking (Willig 1994).

However, as with all economic elixirs, privatisation was oversimplified, oversold and ultimately disappointing in delivering less than promised. Recently, the alleged "failures" of privatisation, improper restructuring, and too rapid regulatory decontrol, have led to street riots, sceptical press coverage and mounting criticism of multilateral institutions. Today, privatisation is undergoing a multifaceted revisionism and its critics are numerous and vocal. This hostility is not limited to a few radical protesters. Opinion polls in several DTEs, especially in Latin America, reveal growing public dissatisfaction and disenchantment with privatisation. The disapproval ratings in 2002 were higher than in 2000, and the latter were higher than in 1998. In 2002, almost 90 percent of the Argentines and 80 percent of the Chileans polled disapproved of the privatisation process even though there were demonstrable performance improvements (Figure 2).

At the same time, however, many of privatisation's current critics are unduly impatient and suffer from a measure of illusion and misunderstanding. One of the distinguishing characteristics of most DTEs was the extraordinarily low level of objective performance in their infrastructure sectors compared to the equivalent sectors of advanced industrial economies. However, the structure of ownership was not necessarily the key explanatory variable for the observed differential in performance. After all, during the same period state ownership in these sectors was also prevalent in most developed economies where performance was reasonably good. The deeper explanation arguably lies elsewhere.

It can be plausibly argued that the performance of the state-owned network utilities has been an accurate summary statistic of a variety of country-specific observable and unobservable characteristics (institutional development, nature of organised interest groups and patterns of social conflict, business culture and code of conduct, etc.). It would be utterly unrealistic to expect that these characteristics would change on a time scale comparable to that of executing privatisation transactions, or that their less prepossessing attributes would disappear overnight. Even in the advanced industrial econo-

mies it took a long time for their institutions to develop. It would be difficult to create such institutions overnight in societies that do not have the supporting constitutional, political and legal traditions, or infrastructure to support them. Thus, achieving the public interest objectives of privatisation is likely to require a longer time period than that which has elapsed since the reforms were introduced in the majority of the DTEs. It should be noted that several decades were required in the "miracle economies" of the Far East before the invested effort began to produce any noticeable results (Baumol 1993).

Disappointment has been engendered by the price increases and reductions in jobs that often accompany infrastructure reforms, as well as by the high profits of the firms that are successful in improving physical operating performance, an outcome that has occurred in most cases. However, it is important to note that one of the key problems of the old utility model was underinvestment, in large part caused by underpricing. The state-owned utilities were hopeless at attributing the right cost of capital, particularly during periods of high inflation, so prices often fell to levels that could not sustain a rate of investment out of retained profits to meet demand growth. Government subsidies simply perpetuated the problem until the fiscal crunch occurred. The choice was either more taxation or higher prices. The latter would generally fall on those who benefit from existing services – the middle class and richer consumers – while the former was likely to be felt partly via inflation taxes which hit the poor, or other groups without protective assets. A sensible, and arguably less regressive, response was to realign prices with underlying costs. Thus, the fact that privatisation renders such price adjustments mandatory before investors are willing to invest is actually one of its main attractions.

In the pre-reform era, the operations of state-owned utilities in most DTEs were characterised by extremely high levels of excess employment. Efficiency and competitiveness, on the other hand, require the elimination of redundant jobs. Restoring efficiency is especially important in the infrastructure sectors because they provide services that are critical inputs in manufacturing, transportation and commerce – services that are essential to boosting economic activity and increasing competition through the expansion of product lines and geographic spheres of distribution. Therefore, failure to improve efficiency in these sectors risks their becoming a serious burden on the economy in general and on the evolution of competitive markets in particular. Moreover, the market's key incentive mechanism is founded upon the prospect of profits for those firms that succeed. Thus, while prevention of monopoly profits is a legitimate public policy goal, it should not lead to artificial limits on post-privatisation profits or restrict such profits on the basis of mechanistic formulas or populist demands. Otherwise, the incentives for investment, efficiency, productive growth and innovation – badly needed in the network utilities of most DTEs – would be undermined or eliminated.

Efficiency impacts of privatisation and liberalisation

The future course of privatisation and regulatory reform in the DTEs will be determined not only by the prevailing economic and political philosophies, and macroeconomic conditions, but also by the collective assessment of the record so far. A review of the evidence suggests that while there have been disappointments, there have been substantial gains that are not always obvious. However, seeing a clear picture of results is difficult because the performance of each network utility is multi-faceted, and different observers may weigh various aspects of performance differently. It is even less possible to reach an unequivocal verdict about the effects of privatisation and regulatory reform on the diverse collection of network utilities and countries that have experienced them in varying ways and degrees – these industries and countries are just plain different and should not be lumped into a single cookie cutter reform model. Assessment is further complicated by the very short time span of privatisation, restructuring and major regulatory reforms in the majority of DTEs; by the severe measurement problems with respect to important economic variables; and by the fact that privatization and regulatory reform were implemented simultaneously, so it is virtually impossible to econometrically identify their separate effects. Only in the United States, where the structure of ownership remained constant, can changes in performance be confidently traced to changes in the regulatory regime.

All of the above measurement difficulties notwithstanding, most of the empirical evaluations of privatisation and restructuring seem to be favourable

(Gray 2001, Megginson and Netter 2001). At the microeconomic level, the emerging empirical evidence provides support to the view that privatisation has positive effects on efficiency (labour and total factor productivity), financial performance of utilities and service expansion. This empirical support is derived from a variety of studies that analyse the pre- and post-privatisation performance of specific firms, a cross-section of firms from different industries within a given country and a cross-section of firms from different countries (Galal et al. 1994, Bourbakri and Cosset 1998, Dewenter and Malatesta 2001, Sheshinski and Lopez-Calva 2000, Delfino and Casarin 2001).

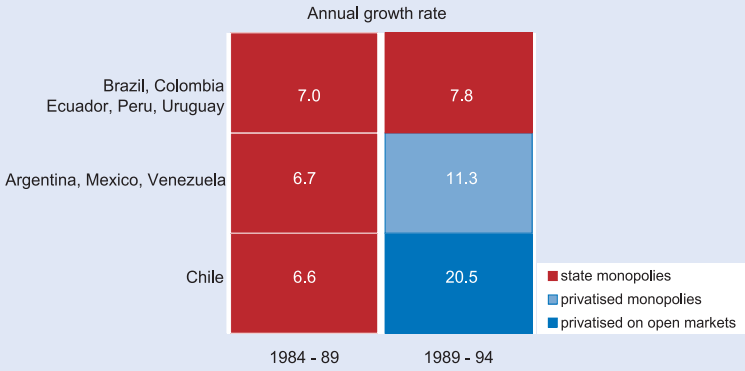
Reforms have expedited service expansion in a variety of sectors and countries. Telecommunications coverage has seen the largest jump, but significant increases have also occurred in electricity, transportation and access to safe water (Harris 2003). The size of such changes depends enormously on the extent to which the market is liberalized and the effectiveness of regulation. For example, increased competition has been particularly powerful in boosting telecommunications coverage. Networks have expanded almost twice as quickly in Latin American countries that have allowed competition in telecommunications after privatisation as in countries that simply converted to private monopolies. But even private monopolies have expanded faster than public ones (Figure 3).

Privatisation and deregulation have significantly improved physical performance, service quality and other aspects of efficiency in many developing and transition economies. Railroad privatisation has led to spectacular gains in labour productivity (Thompson 2003). For example, in many Latin American rail systems output per employee (measured as the sum of ton-kilometres and passenger-kilometres) has doubled, tripled, or even quadrupled after privatisation (Thompson and Budin 2001). Reforms have also led to significant improvements in the operating performance of ports. Privatisation generated significant efficiency gains in the operations of Kelang Port Authority, Malaysia's largest port (Peters 1995). Crane handling improved from 19.4 containers an hour in 1985 to 27.3 in 1987, bringing Kelang's performance close to Singapore's (Tull and Reveley 2001). The return on fixed assets grew at an average annual compound rate of just 1.9 percent in 1981–86, but jumped to 11.6 percent in 1986–90, a result of improvements in productivity and throughput, not higher prices. Workers also benefited from the gains in productivity: by 1990 they were paid 60 percent more an hour in real terms, put in 6 percent more hours and produced 76 percent more than before privatisation (Galal and others 1994).

Reforms have had remarkable effects on the quality of electricity supply. In Chile the average time for emergency repair service declined from 5 hours in 1988 to 2 hours in 1994. In addition, power outages due to transmission failures have fallen steadily since privatisation (Rudnick and Zolezzi 2001). Energy losses, including theft, have also shrunk, from 21 percent in 1986 to 9 percent in 1996 (Fischer and Serra 2000). In Argentina, Edenor's losses fell from 26 percent of its distributed electricity in 1993 to just 10 percent in 2000. In the greater Buenos Aires area the hours of supply lost per year dropped from 16.8 in 1994 to 5.0 in 2001. Technical losses in transmission also fell, from 6 percent in 1992 to 4 percent in 2000.

Figure 3

GROWTH IN TELECOMMUNICATIONS LINES IN LATIN AMERICA UNDER DIFFERENT FORMS OF OWNERSHIP, 1984 - 1994



Source: Wellenius (1997).

Before reforms, the failure of many governments to adequately increase service rates, especially during periods of high inflation, effectively decapitalised their infrastructure systems. In the past few years, many countries have begun dismantling long-standing policies of underpricing and cross-subsidies. Electricity reforms have better aligned prices with underlying costs to reflect

resource scarcity, as efficiency requires. In many countries this has meant increasing prices that previously were too low (Joskow 2003). But in some countries prices have been falling because of the efficient exploitation of regional natural gas networks and new production technologies (mainly combined-cycle gas turbines). In Argentina the average monthly price per megawatt-hour in the wholesale electricity market fell from about $45 (with peaks of more than $70) in 1992 to about $15 in 2001. Similarly, in Chile the node price (including energy and capacity charges) of power delivered to Santiago fell from $30 per megawatt-hour in October 1982 to $23 per megawatt-hour in October 2002 (in October 2002 dollars; Pollitt 2003). Between 1986 and 1996 wholesale prices dropped 37 percent and final prices fell 17 percent.

Post-reform pricing in several developing and transition economies has provided considerable benefits to rail users. Among 17 privatised railroads (mostly in Latin America), 15 had lower freight tariffs in 1999 than when the concessions started (mostly in the mid-1990s). Rates dropped 8–54 percent in Latin America and 14 percent in Côte d'Ivoire. For the six countries involved these tariff reductions saved about $1 billion a year in transport costs (Thompson, Budin and Estache 2001). Moreover, these estimates understate the total savings because they do not reflect the competitive pressures that lower rail tariffs exerted on trucking and other competing transport modes.

Effects on distributional equity

To mitigate the public discontent associated with restructuring and privatisation, more comprehensive assessments are needed of their welfare effects – moving beyond standard analyses of their impacts on firm profitability and industry performance to include their effects on workers and households at different income levels. Moreover, distinctions between low- and middle-income countries need to be made more carefully. In low-income countries nearly all rural and many poor urban residents lack access to basic infrastructure services. Thus the policy reforms that normally accompany restructuring and privatisation – such as eliminating cross-subsidies and moving toward cost-reflective prices – mainly affect higher-income groups. But in middle-income countries – such as those in Latin America and especially transition economies – such reforms can hurt poor people because many of them (mainly in urban areas) have access to basic services. The solution is not to halt the needed reforms but to put in place safety nets and tariff rebalancing schemes that do not involve radical, across-the-board price increases.

Recent empirical work offers insights on the distributional effects of infrastructure reforms. Studies in Argentina, for example, have found that all income classes benefited from the efficiency, quality and access improvements resulting from the utility privatisation that began in 1990. More efficient infrastructure services also affect most other economic activities and promote general economic growth – enhancing economic opportunities for poor people. When these general effects are taken into account, the poorest groups seem to benefit the most from the increased productivity and access brought about by privatisation and related reforms (Benitez, Chisari and Estache 2003).

Recent research analysing the welfare effects of utility privatisation in four Latin American countries (Argentina, Bolivia, Mexico and Nicaragua) found no clear pattern in price changes – in about half the cases, prices fell. But there were adverse distributional effects on the bottom half of the income distribution due to job cuts in the privatised utilities. Against these negative distributional effects of layoffs have to be offset the improvements in service quality, increased access for poor people and the changed structure of public finances, which benefited poor people more than other income groups (McKenzie and Mookherjee 2003).

Agenda for further policy analysis

There is compelling evidence that restructuring and privatisation, when designed and implemented well, can significantly improve infrastructure performance. Still, critics of reform are right to point out the many cases where privatisation has been undertaken without institutional safeguards and conducted in ways widely viewed as illegitimate. Under those circumstances transferring state assets to private control may have been a dubious achievement (Stiglitz 1999). Moreover, concerns are growing about the distributional effects of privatisation and market liberalisation – especially their effects on basic services for poor households and other disadvantaged groups.

Thus there is an urgent need to analyse the successes and failures associated with past reforms and to identify the instruments and policies that should guide ongoing and future efforts. Such an agenda should focus on the efficiency and distributional effects of restructuring and privatisation programs and on several second generation regulatory reforms – of pricing, access to bottleneck facilities, and subsidies – that will be needed if such programs are to achieve their public interest goals.

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