

Chapter 11
Liberalisation of utilities markets and children's right to basic services:
Some evidence from Latin America *

Cecilia Ugaz

Summary: Lack of access to telephones, electricity, and water and sanitation services contributes to the cycle of disease, powerlessness and poverty. Children, making up for a large part of the world's poor population, enjoy less access to them. Inadequate access to infrastructure services also hinders several dimensions of human development. Over the last decade, the number of people who gained access to water supply and sanitation, to telephones and electricity increased, but the achievement appears modest in comparison to the increase of the global population during the period. Ensuring access to basic infrastructure services by the poor has two main dimensions: possibility of connection and affordability. Both dimensions can be influenced by policy. The wake of privatisation of state's assets and the liberalisation of utilities that took place in Latin America in the late '80s have brought a steady increase in the production and consumption of basic services. However, despite the liberalisation potential to improve consumer's welfare, doubts have emerged: tariffs charged to consumers seem to have increased substantively, risking to exclude the most disadvantaged from the access to services. The role of governments in regulation and in assuring universal access to basic services is found to be essential.

JEL: D63, F23, H41, H54

*** This study presents the views of its author and not the official UNICEF position in this field.**

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1. Background

Privatisation of state assets is one of the defining characteristics of economic change in the 1980s and 1990s (Haggarty and Shirley, 1997, 491). Starting in the late 1980s, a wave of privatisation took place throughout Latin America, affecting the utilities: telecomm, electricity, transport, water, etc. Privatisation brought about important changes in the role of the state and the private sectors, and in the governance structure in these societies. Furthermore, privatisation has had important consequences for the welfare of the population. Utilities represent some of the most essential inputs into a decent standard of living. Undeniably, private participation in utilities has a great potential to improve children's welfare through the supply of new capital needed to extend existing networks and to improve service quality. However, despite privatisation's potential to improve children's welfare doubts have emerged. First, tariffs have increased substantively since privatisation. Second, price rebalancing associated with the privatisation of utilities may be regressive. These price increases have welfare reducing effects, and may lead to the exclusion of the poor and vulnerable groups from the market.

But, is there a need to design particular interventions to enforce children's right to access basic services? We know that children are over-represented among the poor population in the world. Poor households have more children than the non-poor. Poverty is higher among families with many children because, among other things, these families present a higher dependency ratio. On the other hand, children are among the most vulnerable when it comes to suffer from lack of services. Millions of children in the developing world are prevented to develop fully their physical, and mental capacity because of the lack of infrastructure. Access to water and sanitation is particularly important. There is a strong and inverse correlation between access to water and sanitation and child morbidity and mortality (A. Shi, 2000).

The objective of this paper is, first to try to review the mechanisms by which privatisation of public services can affect children's welfare; second, to assess what are the main constraints that developing countries face while trying to improve children access to basic services in the aftermath of privatisation. We will refer to the experience of three Latin American countries: Argentina, Bolivia and Peru. In spite of being middle income countries both Bolivia and Peru entered privatisation with very immature networks (coverage had not yet reach most of the population) which characterises countries at lower levels of income per-capita. Argentina is the richest country of the three, and provides an interesting example of the effects of privatisation on a more mature network system. Thus, the experience of these three countries can be relevant to other developing countries currently in the process of liberalising their infrastructure markets. We will stress the challenge that currently represents the creation of an adequate domestic regulatory framework. Absence of competent and effective regulation is one of the major threats to a "child friendly" privatisation process throughout the region and throughout the world.

Assessing the reforms is not easy at this stage. Some preliminary remarks are thus in order. First, the processes across countries are not homogeneous and transformation of the utilities sectors is currently under way or took place relatively recently. Second, each sector has its own characteristics, which may ultimately determine the success or failure of the reform in reaching children. Such is the case of the telecomm sector, which is at the forefront of radical transformation in all countries, and is commonly seen as a successful experience. Certain aspects, such as fast and steady technical progress and the presence of a close substitute (mobile telephone), are unique to this sector and may be completely absent in other basic infrastructure sectors. Generalisations across sectors can be misleading. Third, privatisation and regulation of utilities have been assessed mainly with respect to their impact on the supply side of the market - investment behaviour, incentives, competition and efficiency gains - but not on the direct effect on the consumer side. In this respect, this paper is an attempt to fill this gap by referring to some calculations of consumer surplus changes¹ pre and post privatisation using data from the Living Standard Measures Surveys for the above mentioned countries. The analysis relates to telecomm, electricity and water sectors.

It is difficult to assess clearly the situation of children (poorest children in particular) on the basis of the information on consumer surplus presented in this paper for two reasons. First, the unit of observation is the household. Does household access to utilities mean that children have access to them? We will assume in the first instance that the answer is yes. Once the household has access to the service, it may become a "public good" for household members. However, we will examine the validity of this assumption when discussing particular mechanisms that may be needed to enhance children access to services. Second, the evidence presented in this paper relates to urban households. Privatisation so far has affected mainly urban infrastructure. In that extent, we cannot infer much about the effects of privatisation on children living in rural areas. However, urban population is rapidly growing especially in developing countries. The majority of these people live in low income urban settlements. Urban poverty affects children severely. Children are often worse off when the family relocates to large cities precisely because of poor housing, pollution, lack of access to health care, safe water and sanitation facilities². In this extent, privatisation of urban infrastructure has an impact on the living conditions of a sizeable proportion of children population.

The paper is organised as follows. The section following this introduction reviews the trend of liberalisation of infrastructure services and the role of the "Spanish champions" in Latin America. The third section presents a framework to understand the channels through which privatisation of infrastructure can affect children's welfare. This section includes the calculation of changes in the number of connections before and after the reforms in Argentina, Bolivia and Peru. The fifth section analyses the process of regulation of utilities and highlights the political and institutional constraints. The sixth section presents some evidence on the "new" role of the State in the provision of utilities. A brief section of concluding remarks concludes the paper.

² Although the notion of consumer surplus is a narrow one, due to data availability, we will use it here as a proxy for consumer welfare.

² In recognition of this fact, UNICEF has been active in urban areas since 1971 with the development of the community based Urban Basic Services programs.

2. Liberalisation of Services and the role of “Spanish Champions” in Latin America

Over recent years, infrastructure services have experienced a dramatic increase in international transactions. Trade in the service sector is the fastest growing sector in the world economy. The inward stock of FDI to sectors like electricity, gas and water in developing countries increased from 0.3 percent in 1988 to 2.7 percent in 1999. The increase is sharper in Latin American countries. The share of the FDI going to those sectors increased from zero percent in 1988 to 11.2 percent in 1999 (UNCTAD, 2001). Latin America led in the growth of private infrastructure activity during the 1990s (see Graph 1). On average, Latin America accounted for almost half of the investment commitments in infrastructure projects with private participation during the last decade. After the USA, Spain has been the largest source of FDI in Latin America.

One of the main motivations underlying infrastructure liberalisation in Latin America was to attract private finance to alleviate the burden of public services on the budget. A desire to raise the efficiency of service delivery is allegedly another important motivation for privatisation. Public sector delivery of services through state owned enterprises (SOEs) was increasingly inefficient. Despite the commitment of governments to universal access, large sectors of the population remained excluded from them. This was due in part to the fact that tariffs charged by SOEs were kept artificially low with disastrous consequences for the financial viability of the enterprises. As Devlin (1993, 162) points out, the state as a “principal” had several objectives in trying to “cover the entire spectrum of interests that can be voiced by society”. The presence of this multiplicity of objectives deepened the agency problem and prevented the efficient management of state owned enterprises.

Ideology also played an important role. The UK was an early and influential example of privatisation. Markow and Waddams Price note that, "One of Britain's biggest export business in the last decade has been its own privatisation experience" (1997, 1). Following the example of the economic policy of Britain's conservative government, Latin American governments tried to promote a subsidiary state: the state would remove itself from activities that the private sector could undertake efficiently. Finally, privatisation was seen as a way for newly elected governments (such as those in Argentina and in Peru) to signal their commitment to reform. In sum, the telecomm, power, and water sectors attracted substantive inflows of foreign direct investment strengthening the foreign exchange position of the recipient countries. Thus, privatisation was essential to achieve the aims of the structural adjustment and stabilisation programmes: closing the fiscal gap and reducing its destabilising effect on the rest of the economy.

Judging from the effect on the fiscal side, privatisation of infrastructure in Latin America can be considered successful. The selling-off loss making SOEs alleviate the government budget but also represented a substantive inflow of resources that help closing the fiscal gap. Efficiency gains, and improvements in the quality of the services have also been observed. However, efficiency gains have been slow to reach consumers for a reason: competition in the utilities markets was flawed at the onset. On the one hand, in the case of electricity and water, networks used to supply services to final users are natural monopolies. On the other, in the case of the telecomm sector,

as part of the privatisation agreements, governments granted monopoly rights to private operators. Defenders of privatisation could then argue that in order to protect consumers' welfare it is of utmost importance to assess the scope of competition in the incumbent markets, and to establish regulatory mechanisms in markets where monopoly power after privatisation remains substantial.

But, the threat to competition does not come exclusively from the domestic front. The process of liberalisation referred to above is marking the supremacy of big players in these markets. For instance, the water concessions in Buenos Aires and La Paz/El Alto that we will be considering in this paper are held by consortiums formed by French water companies. In fact, two thirds of water supply contracts around the world are held by French operators: Suez-Lyonnais des Eaux, Vivendi Water and SAUR (Schwartz et al., 2001). Both Suez and Vivendi are gigantic multi-utility operators³. Also, the Spanish telecommunication company, Telefónica, and the energy firms, Repsol and Endesa, are leading investors in Latin American countries. Telefónica is the largest non-financial corporate investor in the region. Telefónica and Endesa already handle more customers in Latin America than in Spain. The leading company in the water and sanitation sector in Spain, Aguas de Barcelona (AGBAR), has been operating in the region for few years. In July 1999, AGBAR entered the Chilean market through a consortium "Inversiones Aguas Metropolitanas" formed with Lyonnaise des Eaux. The consortium won the bid and took control of EMOS, the water company supplying Chile's capital Santiago (European Report, July 7th 1999).

How can we explain the overwhelming presence of the Spanish utility operators in Latin America? According to the Spanish government, in the era of globalization, companies have to be large in order to effectively compete in the world market. Thus, since the early 1990s, a growing number of former state-owned Spanish companies, with the support of their government, developed a strategy of internationalisation focused on Latin America. The Latin American region was chosen by Spanish companies because of cultural affinities, common language, pre-existing business relations, and the presence of less indigenous competition. In addition, Spanish firms seized the investment opportunities created in these countries by liberalisation and privatisation of many utilities companies. The establishment of Spanish banks in the region also provided a supporting network. In 1996, Latin America was the largest recipient of Spanish FDI. More than half of the total Spanish investment went to the region. In 1995, the Spanish Ministry of Industry issued guidelines to promote Spanish capital into the utilities. As a result, the privatisation of Repsol, Telefónica and Endesa created a complex network of cross-participation between financial and industrial groups. All these companies have the same shareholders: Banco Bilbao Vizcaya (BBV), Banco Santander Central Hispano (BSCH), Argentaria, and La Caixa (OADB August 1999). These banks have an important presence in the financial systems in Latin American countries. The extensive cross-ownership, resulting in an enormous concentration of power in the hands of few, has generated a web of common interests and thus, introduced questions about their capacity to distort entry and competition in the Spanish market (See Arocena, 2001). On the other hand, the characteristics of the expansion of the Spanish corporations may have consequences

³ Vivendi and Suez each employ over 200,000 staff world wide and conduct business in energy, communications, waste, water, etc.

on the structure of the markets for utilities in Latin America; and may well constitute a real challenge to competition and regulation within those countries.

3. Infrastructure Privatisation and Child Welfare

Privatization of infrastructure has effects on access, quality and affordability of the services. All these dimensions are important for child wellbeing. Access to affordable infrastructure is vital to allow children to transform their resources into productive assets. For instance, modern information and communication technologies offer children, even in poor and remote locations, the possibility of access to improved education and health facilities. By facilitating distance learning, Information and Communications Technology helps to compensate for teacher shortages. According to *The Economist* (2001) in Botswana, where many teachers have died of AIDS, internet based courses are helping students to improve performance. Nevertheless, the fulfillment of the ICT promise depends crucially on availability of basic infrastructure services such as electricity and telephones.

Child weight, height, nutrition and overall health condition are positively affected by availability of local infrastructure, particularly by the availability of sewerage, piped water and electricity (Thomas and Strauss, 1991); and community piped water connections and garbage disposal facilities (Gragnolati, 1999). Access to safe water and sanitation is indeed key to UNICEF efforts to promote children's survival and development along the lines of the Convention on the Rights of the Child adopted by the U.N. General Assembly in 1989, and with the World Summit for Children in 1990. In absence of access to network connections, women and girls are the main water, fuel and fodder carriers. The energy spent in these activities has consequences on their nutritional status as is shown in an UNICEF sponsored study carried out in Nepal. The extra energy spent consumes up to a third of daily calorie intake of already malnourished women and girls aggravating their poor health. Women's health has important effects on child wellbeing. Unhealthy women have less energy to perform essential tasks including child care, breast-feeding, hygiene, food preparation, and income generation. (Jansen, 1998).

The link between school attendance and infrastructure availability is also well established. Some evidence from Madagascar shows that school-aged girls who do not attend school spend 83 percent of their time collecting water while boys spend 37 percent (Bredie and Beehary, 1998). Another aspect highlighted by UNICEF work is the importance of availability of water and sanitation at schools. Lack of clean water and adequate sanitation facilities at school may damage the health and nutritional status of children, as it increases their exposure to infectious diseases carried by the water supply (UNICEF Strategy on Water and Environmental Sanitation, 1995). Access to adequate facilities is important to reinforce the message of hygiene education. Also, separate facilities for girls, particularly adolescent girls, is proven to be an important contributing factor to reducing school girls dropouts. However, in most developing countries ensuring that all schools have access to clean water and sanitation remains an elusive goal. In the case of Peru (see Box 1) up to 50 percent of children are enrolled at schools which lack sanitation facilities.

Households, irrespective of their income level, seem to enjoy access to electricity more than to any other utility (Komives, Whittington and Xu, 2001). But, electricity is mainly used for lighting, not as cooking fuel. Households, both in rural and urban areas, still use wood, thatch or dung for cooking. This fact is also likely to affect child wellbeing. Mainly children (and women) are the ones in charge of collecting fuel for cooking. The availability of electricity in the dwelling does not guarantee that a child will devote less time helping the household.

Chile pioneered the movement towards privatisation of utilities in the 1970s in Latin America. The Chilean example was followed by Argentina in the early 1990s, which launched a wide ranging privatisation programme covering the main utilities. In 1994, Peru also initiated a process to privatise telecomm and electricity, however, private participation in the water sector is still under discussion. The transformation of the telecomm, electricity and water sectors in Argentina, Bolivia and Peru is described in Table A in the appendix.

Calculations on the basis of household surveys⁴ for Bolivia and Peru show that access, measured by the number of households connected to the network, has increased after privatisation for the three utilities under study. In Bolivia, the most noticeable increase has been in telephones as shown in Table 1. But most importantly, these calculations show that the increase in access has not by passed poor households. In the case of electricity, information disaggregated by income quintile shows convergence in the rate of household access across income quintiles. The same is observed for water. In the case of telephones, the rate of increase in connections for poor households is higher than for the richer ones (see Barja and Urquiola, 2001).

Table 1: Bolivia departmental capitals and El Alto: percentage of households connected to basic services. 1994-99

Service	Percentage of households with access		
	1994 (a)	1999 (b)	% change
Electricity	95.8	98.4	2.7
Telephone (fixed and mobile)	20.0	44.6	123.0
Water	80.7	92.8	15.0
Sewerage	62.6	70.9	13.3

Source: Barja and Urquiola (2001). Calculation on the basis of information from the LSMS

Measuring changes in access for Argentina was more complicated because the only available household survey corresponds to 1997⁵. However, statistics from the annual reports of the companies operating in the sectors indicate an increase in the total number of service users (table 2).

⁴ For an extensive discussion on the statistical information and the methodology followed see Delfino and Casarin, 2001; Barja and Urquiola, 2001, and Torero and Pasco-Font, 2001.

⁵ The previous survey was performed in 1987, but the information contained is not comparable. According to the 1997 survey, electricity access in the great Buenos Aires was almost universal (94 percent). Sixty seven percent of households had access to telephones, and 76 percent and 58 percent of households have access to water and sewerage, respectively

Table 2: Argentina Greater Buenos Aires area: new users connected to basic services

Service	Thousands		
	T1	1999	% change
Electricity	3516	3997	14
Telephone	1274	2920	29
Water	5758	7669	33
Sewerage	4663	5744	23

T1: Electricity 1992; Telecomm 1989; Water and Sewerage 1993.

Source: Delfino and Casarin (2001) Calculation from Annual Statistics and published reports by the companies.

Privatisation brought about new pricing schemes for the utilities. It is recognised that, prior privatisation, basic services were not free for poor people neither in terms of money nor in terms of time and effort. For children in particular, the opportunity cost in terms of forgone education is enormous. Free or subsidised, albeit rationed, water services were available for richer/middle class households. Poor households have had to pay higher fees than richer ones to access services of lesser quality. This has been taken as an evidence of poor people's ability/willingness to pay for the services. (See Whittington et al. 1988 and 1990). In order to understand the effects of utilities' pricing on children wellbeing we need to distinguish between poor households having access to the service through the main utility provider prior to privatisation and those who were not connected to the main network.

When households were supplied by the state owned company, privatisation could bring a price shock. Private operators inherited a distorted tariff structure and a complex scheme of subsidies that was abolished after privatisation. Prices increased dramatically after the new regime of provision took place. Tariff increases have been observed virtually in all sectors after privatisation. However, it is difficult to know how much of the price increases are actually due to the need to correct distortions or they reveal the existence of monopoly power. As we will see below, certain tariffs for utilities in some countries are beginning to stabilise or even decline.

In the case of Argentina, graphic 2 summarises the change in real tariffs for all the privatised utilities telecomm, electricity, gas and water and sanitation. The values shown are deflated with the CPI. In the case of telecomm, the price of the unit charge decreased while there is a substantial increase in the value of the rental (fixed charged). In the case of electricity, the increase in the fixed charge was accompanied by a significant increase in the unit charge, particularly hitting low-demand households. Water and sanitation shows the smallest tariff adjustment in real terms.

In Bolivia, with liberalisation of entry and competition in the mobile telephone market, prices started to fall. In addition, new entrants offered free connection and other special plans to attract consumers. Price reductions, combined with the availability of low-cost cellular phones dramatically lowered access prices. This is particularly evident in comparison to the past pricing policies of local telephone co-operatives when a fixed connection cost about 1,000 dollars. In the case of electricity, as the table 3 shows, residential tariffs have increased in real terms. Nevertheless, this trend seems to be reversing. With regard to the water and sanitation sector, the concession operating in La Paz did result in higher tariffs per m³. Nevertheless, price increases are smaller in La Paz/El Alto than in Santa Cruz, where no reform took

place.

Table 3: Bolivia evolution of electric tariffs (residential) – (Index numbers - from average real values)

	Electropaz La Paz/El Alto	ELFEC Cochabamba	CRE Santa Cruz
1992	100.00	100.00	100.00
1993	108.59	98.22	100.45
1994	116.16	100.71	102.47
1995	123.48	107.47	109.21
1996	127.27	111.21	122.47
1997	134.85	112.28	128.31
1998	144.95	118.33	128.31
1999	153.54	114.77	124.04

Source: Barja and Urquiola (2001)

In Peru, the telecomm privatisation agreement allowed a re-balancing period in order to gradually reduce the existing tariff distortions. The pattern is similar to that observed in Argentina. The re-balancing considerably increased monthly service charges, while reducing the cost of local calls and national and international long-distance calls (see Table 4). Residential tariffs for electricity increased from US\$ 0.07 per kWh at the beginning of 1994 to US\$ 0.12 by the end of 1995. Tariffs remain stable until 1997 when they started to decrease slowly due to the decrease in tariffs charged for generation. At the beginning of 1998, residential tariffs were about US\$ 0.10 per kWh. Altogether, the level of residential tariffs in Peru seems to be above those charged in Bolivia and Colombia, but below of the level prevailing in Chile, Brazil and Argentina (Campodónico Sánchez, 1999).

Table 4: Peru evolution of telecomm rates. (Index numbers in 1995 prices)

	Rent	Local	Long Distance Domestic	Long Distance International
1993	100.00	100.00	100.00	100.00
1994	207.84	91.79	112.54	68.84
1995	232.27	89.37	106.61	65.30
1996	353.63	85.99	89.83	55.31
1997	484.31	83.09	82.37	47.25
1998	538.47	85.99	57.12	43.05

Source: Torero (2001). Author's calculations. 1995 averages. Otherwise end of period

Consumer surplus changes can be calculated on the basis of the information presented above for households being provided by the main utility operator before and after privatisation. However, this leaves aside households gaining access after the reforms. For Bolivia and Peru where new connections seem to be a very important part of the story, this approach clearly under-estimates welfare changes.

In Peru, substantive surplus losses were associated with the increase in the rental charges for telephones. The increase in rental charges clearly offsets the positive effect of the reduction in tariffs for local and long distance calls. The effects are negative for all income quintiles, although surplus losses are larger for the poorest households. In Argentina, the effect of rebalancing in telecomm rates is regressive. Consumer surplus is negative for households in the first income quintile (the poorest one). The other segments of the population experience surplus gains. In the case of electricity, the negative effect of tariff increases is mainly concentrated in the poorest

households in Buenos Aires. In Peru, substantive surplus losses are observed across quintiles. This time, the impact on the poor does not appear to be as severe as for the richest households. In Bolivia, the same pattern as in Peru is observed, surplus losses are more noticeable in the richer quintiles except for the city of Cochabamba where surplus gains are observed. Finally, in the case of water, surplus losses are observed affecting rich and poor households in Buenos Aires. In Bolivia, the results for the area of concession the city of La Paz show again consumer's surplus losses but these are smaller than in other departmental capitals where the system of water and sanitation has not been subject to reforms.

How can these results affect children welfare in those countries? Privatisation of infrastructure has emerged in a context of protracted economic crisis that in Latin America has progressively eroded the livelihoods of poor people. This may exacerbate existing asymmetries in rights and obligations within the household, although the burden of making up for the lack of infrastructure is likely to fall disproportionately on women and children. They are likely to suffer more from any increase in infrastructure prices (with respect to the pre-privatisation level) to access the services through formal networks. Understanding how much of the burden is carried by children within the household will require a detailed study on particular characteristics of each household. For instance, new prices and new payments schemes introduced in the aftermath of privatisation may induce substitution effects away from food, health and education expenditures. These effects may be particularly important in the case of poorest households facing severe cash constraints. Curtailment of those expenses has a negative impact on children and girls whose bargaining power within the household is weaker. Nevertheless, the net effect on a child wellbeing is not clear. Both effects: the positive one of having access to a time saving/better quality service may be offset by the negative substitution effect of increased prices.

One aspect that is often neglected in the discussion about transfer of ownership of utility operators is that by selling off to foreign companies the governments can distance themselves from unpopular measures like abolishing cross-subsidies that prior to privatisation mainly benefit the urban elite and the better off segments of society. But on the other hand, the government also loses the ability of doing some "indirect lobbying" in favour of some progressive redistribution through utilities tariffs. Domestic utility operators are likely to be more responsive to government influences than foreign ones as has been documented in the case of UK (See Ugaz and Waddams Price, 2001). The current tariffs structures in the three countries we are studying tend to penalise small usage which characterises the poorest households. This may hamper children wellbeing.

5. Towards Pluralistic Regulation ?

"The weakness of the development of the telecommunication sector is the weakness of the regulatory institutions [...] This hinders tariff negotiations and prevents productivity gains and monopolistic rents to spread to consumers. In addition, in some countries, the weakness of the regulation process is shown when competition is not enforced in segments of the market where it is feasible. In the case of Chile, mergers among the largest enterprises

have occurred threatening future competition.” (Moguillansky and Bielchowsky, page 139, 1999)⁶.

The assessment made above in the case of Chile applies to the experience of the three countries we are studying. In Argentina, Bolivia and Peru, tariffs increases observed in these countries may well be attributed to the weakness of the existing regulatory framework. Beyond the technical complexity involved in the design and implementation of regulatory tools, there is a need to focus on the conditions for achieving a fair process of regulation in these countries. But what is a fair process of regulation? The political economy approach to regulation highlights the negative effects of government's opportunistic behavior on private firms. When the government fails to commit to a credible regulatory process, it increases uncertainty, discouraging productive investment. According to this approach, there is need to provide safeguards to investors if the objective is to maintain or increase the flow of investment to the sectors. However, opportunistic behavior on the part of private firms is possible as well. Private firms are able to design strategic interventions that may well counterbalance the action of governments. Moreover, governments can become *captured* in the process, which means that governments will back up the interests of firms with negative consequences on consumers' welfare and children's in particular. Thus, a fair regulatory process takes into consideration the interest of consumers as well as those of the investors and the government.

Following the UK example, Latin American countries adopted a model of regulation through an independent agency. The word independence in this context means independence from partisan politics. However, independence in the Latin American context characterised by strong presidentialist regimes can be difficult to obtain. Regulators in some countries are appointed by the executive power from proposals submitted to the parliament. The weakness of democratic institutions in Latin America casts doubts about the consumer's ability to influence the process of regulation this way (e.g. through the parliament). Thus, regulation in Latin American countries needs additional mechanisms to give voice to consumers throughout the process.

The difficulties associated with regulation are in part due to the complex nature of actors involved in providing the services. In many Latin American countries, the responsibility for service provision has been transferred to lower levels of government. This is particularly true in the case of the water and sanitation sectors where water providers are municipal companies. Second, the private sector can be for-profit and non-profit. The presence of communal management of water resources, and of co-operatives operating in the electricity sector, is increasingly verified, while regulatory tools are designed to deal mainly with the "for-profit" motive. Third, due to globalisation and technological change, domestic utility markets look increasingly small. Thus, there is a natural tendency among utility providers to look for opportunities for vertical and horizontal integration. In this respect, regulatory agencies and competition policy agencies have to act to prevent non-competitive practices. In the case of Latin America, these competition failures may be exacerbated by the complex network of cross-ownership among the Spanish utility operators and Spanish private banks existing in the countries.

⁶ Own translation from the original in Spanish.

One of the issues that appear of utmost importance is to assess realistically the capacity of domestic regulation in the presence of big transnational companies operating in those sectors, and under the new rules established by the General Agreement on Trade in Services (GATS, 1995). GATS covers all internationally traded services with two exceptions: traffic rights in the air transport sector, and services provided in the exercise of governmental authority. The latter meaning any service which is supplied neither on a commercial basis, nor in competition with one or more service supplier. This way, basic services and infrastructure are fully placed under the jurisdiction of GATS. Virtually all infrastructure services (and social services) are provided in competition with one or more suppliers. Even in presence of natural monopolistic characteristics, as it is the case of network distribution, the right to operate the networks can be auctioned simulating competition. Moreover, privatisation entails that these services are delivered on commercial basis. There is nowadays a heated debate concerning the effects of GATS enforcement and the right to domestic regulation (World Development Movement, 2001). It is important to assert that the GATS guarantees the right to domestic regulation provided that the qualification requirements and procedures, technical standards and licensing requirements don't constitute unnecessary barriers to trade in services (GATS Article VI 4). However, in the event of disagreement, the burden of proof lays on the regulating government not on the service provider (Hilary, 2001).

Under the current circumstances, it looks as if the outcome of GATS enforcement would depend on LDCs governments capacity to set up their own agenda and priorities. However, governments in developing countries have historically had a weak bargaining position, especially when it comes to negotiating with transnational corporations or when abiding by the rules is a condition to access loans from Bretton Woods Institutions. GATS is based on the assumption that service liberalisation brings about efficiency and enhanced economic performance for all trading partners, as well as the development of developing countries. In that sense, GATS subscribes fully to the neo-liberal paradigm. However, little attention has been paid so far to the distributive impact of liberalisation and to how they may affect vulnerable segments of the population in developing countries, especially children. Indeed, enhanced efficiency in service provision in Latin America have not always translated into affordable services for poor households, as it has been documented in this paper. Given these considerations, the challenge is to devise regulatory mechanisms to strike a balance among the conflicting interests of all the actors involved: governments, utility operators and consumers.

Regulation is an institution that sets the rules of the game in the utilities market. But, as in many developing countries, there is no tradition of regulatory institutions in Latin America. Some of the difficulties also arise because regulation had to be built from scratch. The build up of these institutions needs time, technical expertise, administrative capacity, mechanisms for conflict resolution and dispute settlement, etc ⁷. Moreover, we will argue that independent regulation needs to be in place whether privatisation takes place or not. Indeed, one of the key elements to explain the failure of utilities provision by state owned enterprises is precisely the absence of adequate

⁷ For other institutional aspects and constraints characterising the processes of regulation in Latin America see Ugaz (2001).

"independent" regulation. Regulation under public ownership was internal to the system. It was performed most of the time by a line ministry. Service provision (production and financing) and regulation were not separated. This contributed to the lack of transparency and accountability in the process. One of the most important lessons from the UK and Chile, which pioneered the reforms of the utilities market, is the observation that regulation needs to be in place before privatisation. Governments in Argentina, Bolivia and Peru acting under political and economic pressures did not follow this sequence, especially hindering the effectiveness of regulation of the telecom sector (the first one privatised). This explains the weaknesses of the regulatory regime and the welfare losses observed over the past few years. However, some improvements in the regulatory mechanisms have been observed lately, as in the case of regulation of electricity in Argentina (see Delfino and Casarin, 2001).

It is a concern that the design of regulation has not always taken into consideration the needs of the poor and children in particular. For instance, some clauses concerning exclusivity rights provided to a concessionaire may imply service cuts to households who are not yet connected to the main utility network. The latter households get services through alternative providers: in the case of water, wells, which can be closed down or water vendors who can be made illegal⁸. Technical standards associated with network provision are designed in and for industrial countries, and may be inappropriate for the urban slums in developing countries. These technical considerations make it impossible or highly unprofitable for private enterprises to undertake network expansion and to make the services accessible in poorer areas.

Regulation needs to be flexible to encompass a wider array of providers but also to incorporate technical progress, so important and fast-paced in the utilities sectors. The future performance of these sectors and of children's wellbeing thus depend on the strengthening of regulation making it more transparent and participatory, on the creation of incentives for private investment, and on state action in areas where private intervention is not profitable. We will refer to the latter on the last section of the paper.

6. Is There a Role for the State in the Utility's Market after Privatisation ?

Privatisation of utilities has so far affected mainly the urban areas. In that extent, great disparities in access to services between urban and rural areas are likely to have increased after privatisation. If the goal is to make services more accessible for children there is a number of government interventions that may be needed. Policies followed by the Chilean government are a good example. In the case of water, the Chilean government has put in place a system of direct subsidies to poor households that is funded from the central government budget. The subsidy aims at easing the payment of a minimum amount of water consumed⁹. These subsidies are administered at the municipal level to minimise errors of targeting. The government

⁸ See K. Komives and P. Brook Cowen (1998) and P. Brook Cowen and N. Tyman (1999). These authors also express some concern about the emphasis placed on regulating inputs instead of the output.

⁹ Subject to the availability of meters to monitor consumption.

has also created the Rural Electrification Programme (REP) to promote electrification in the rural areas. Central government allocates subsidies to regional governments to finance self-generation projects, network extensions, etc¹⁰. Inhabitants of a locality get organised and request support from the municipality who acts as an intermediary between them and the regional government. On the other hand, the municipality also organises a call for bids to attribute provision of electricity to a private company. Finally, the government is also active in the field of telecomm through the creation of a Telecommunication Development Fund. Again subsidies, provided to consumers, are demand driven. As in the case of electricity, potential beneficiaries --individuals or community organisations-- submit their own requests to the local authorities (see Serra, 1999).

Demand subsidies such as those applied in Chile are financed from general tax revenues. There are other options for funding, for instance cross-subsidies from richer to poorer households which may become more sustainable in the event governments cannot commit further resources to subsidies. However, in a framework of private provision, the application of cross-subsidies may induce cream-skimming, as the companies would prefer to provide higher paying households rather than poorer ones. (For an extensive discussion about the options available for subsidy design see Estache et al. 2000).

Subsidising the demand side has three advantages. First, it facilitates competition by eliminating additional distortions and entry barriers prevailing during the previous regime of SOE management of public services. Second, it helps to deal with environmental externalities associated with the consumption and production of utilities. It allows utility prices to reflect the scarcity of resources. Third, and importantly, it can be used to enhance children's access to services by adding the presence of children to the conditions a household has to satisfy to be eligible for government support. The Chilean experience shows that it is possible to design direct subsidies at a small cost while minimising efficiency losses. However, the feasibility of replicating this experience in other countries of Latin America remains subject to discussion and to a realistic assessment of the local capacity to implement such programmes.

7. Concluding Remarks

Four points can be emphasised from the preliminary evidence presented in this paper. First, privatisation of telephones and electricity seems to have increased access to these services, and this increase seems to have benefited the poor. This is particularly evident in the case of telecomm. The extent to which this increase in access reveals the superiority of one form of ownership (private) vs. another (public) is subject to further scrutiny. There is no counterfactual evidence to assess such a question. What is undeniable is the positive effect of technological progress -- availability of cell phones-- to enhance competition in the market and to make services available to poorer consumers.

¹⁰ There is a certain amount of cost-sharing among the government, the beneficiaries of the programme and the distribution companies.

Second, the weakest point of the overall experience in the three countries seems to be the weakness of regulation. In the absence of competition, a regulatory framework, to prevent the private monopoly from charging idiosyncratic prices, is needed to protect consumers, especially children. This is particularly important in the case of poorest households where increasing expenditures on basic infrastructure services may be forcing intrahousehold relocation of resources, crowding-out spending on food, health or education. Curtailment of those expenses has a negative impact on children and girls with weaker bargaining position within the household. However, based on the evidence presented in this paper it is very difficult to assess what type of shock privatisation has been in terms of affordability for poor people as we lack information on the real costs that households paid to access services from alternative sources prior to privatisation.

Third, the model of provision of utilities through regulated private firms has greater democratic potential than the previous regime of SOEs management. It is worthwhile to explore avenues to strengthen regulatory institutions in these countries.

Fourth, there is indeed a role for the state in the provision of infrastructure as it has been understood in Chile. Increased private participation does not exempt governments from their primary responsibility: ensuring children's access to basic services.

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APPENDIX

BOX 1: Peruvian Children Access to Utilities Pre-privatization

According to the 1994 Living Standard Measures Survey, Peruvian population of less than 18 years old is about 10 million. Two out of three children in Peru live in urban areas. Some indicators on the standard of living of children in Peru are worrisome. In 1994, 59 percent of children (5.7 million people) are poor. 27 percent of the population below the 18 years of age was in extreme poverty. The incidence of poverty is the same among boys and girls. Inequality in the living conditions affects children: 50 percent of children living in urban areas are poor, while, in rural areas the percentage is 75. The incidence of extreme poverty in rural areas is higher than in urban areas as well. The majority of poor children in Peru (43 percent) live in the rural Sierra. 42 percent live in coastal areas (of which 18 percent live in Lima). 15 percent of poor children live in the Amazonas basin.

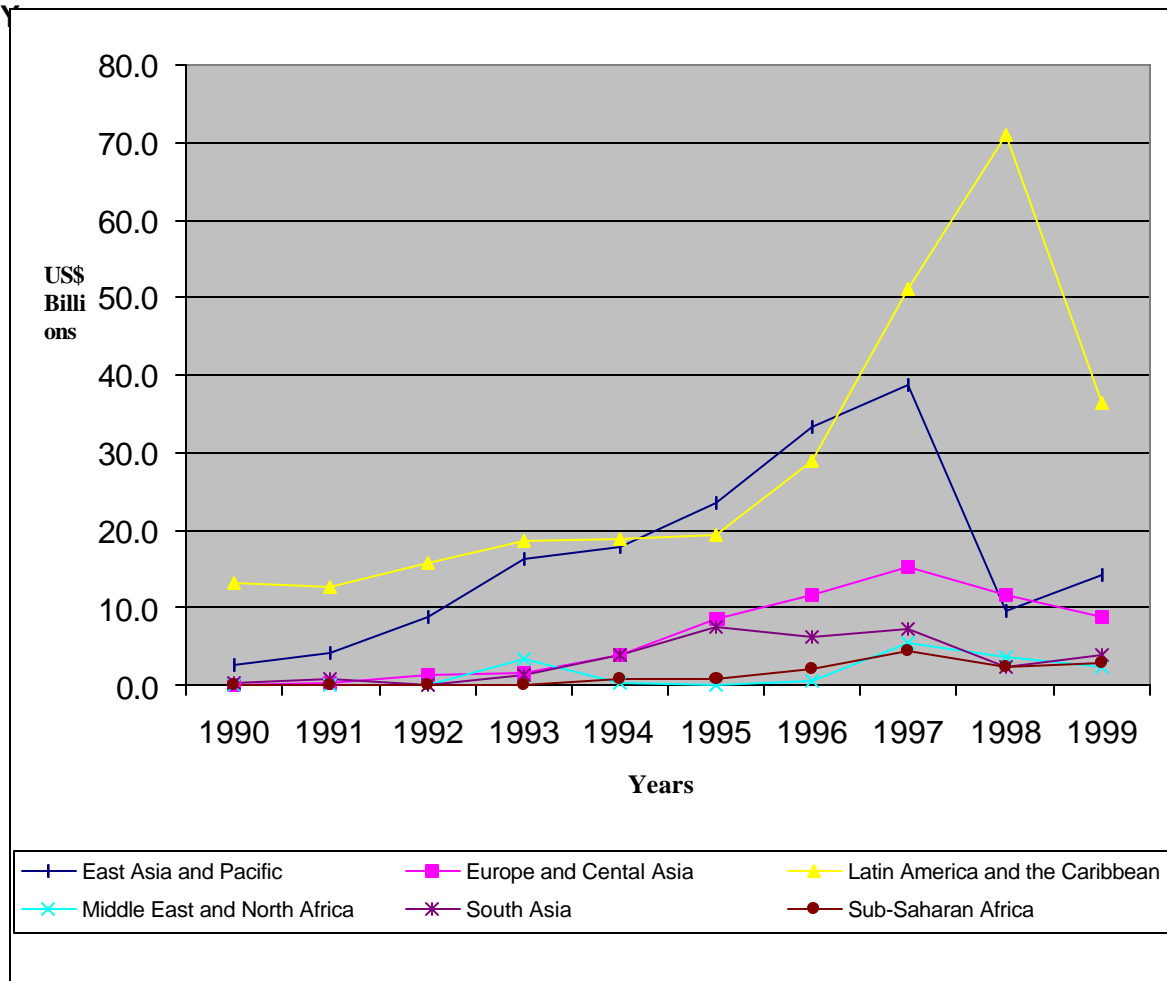
Access to basic services at school and at home: The conditions under which children study affect their performance. According to ENNIV, in 1994, 12 percent of children attended schools without water and sewerage services. Once again, averages can be very misleading. In the case of children in extreme poverty, mainly in the coastal areas and in the Amazonas basin, more than 50 percent attend schools without those services.

Housing conditions are very important for child's education and health. Illnesses limit the potential development of children. The majority of diarrhoea cases registered among children (67 percent) correspond to poor children living without water and sewerage services. The lack of sanitation services is very acute especially in rural areas and in urban slumps. Nearly 30 percent of the total population of children do not enjoy potable water and, 50 percent of children in extreme poverty drink non-treated water. In the case of sewerage, 50 percent of children in extreme poverty lack access to it.

On average, electricity only reaches 73 percent of Peruvian households. The percentage is substantively lower among poor households (57 percent). Electricity only reaches 30 percent of households in the rural coast and sierra, while, in the Amazonas basin, electric lighting is practically unknown. In absence of electricity, these households use kerosene for lighting. 44 percent of poor families throughout the country use wood for cooking. Wood is also used more frequently in rural areas in the sierra (79 percent) and the Amazonas basin (96 percent).

Other equipment: The equipment more often encountered in an extremely poor household is a radio (85 percent) and a black and white TV (29 percent). 8 percent of the total number of children throughout the country does not have neither radio nor TV at home. The proportion rises to 11 percent considering only poor children. The proportion is 18 percent in the case of the extreme poor in the rural sierra. Other equipment like a gas stove is only found in 5 percent of these households. The proportion of households equipped with a PC is very low throughout the country. Only about 3 percent of non-poor households have a PC. Zero percent of poor households in the sample have a PC.

Graphic 1: Private investment in infrastructure by region



Graphic 2: Argentina. Changes in the utilities' real tariffs from the date of privatisation to Dec. 1999

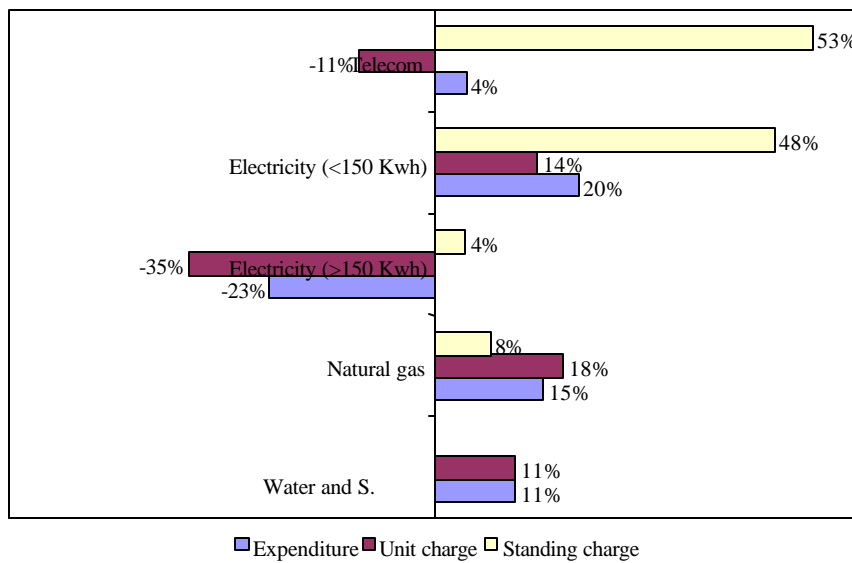


Table A: Transformation of the utilities sectors in Argentina, Bolivia and Peru

TELECOMS	PRIOR TO PRIVATISATION	AFTER PRIVATISATION	REGULATOR
ARGENTINA	<ul style="list-style-type: none"> • Entel 90% market share • Compania Argentina, De Telefonos & Co-operatives 10% 	<ul style="list-style-type: none"> • Telefonica SA monopolist in the south • Telecom SA monopolist in the north • Exclusive right of operation in the respective area for 7 years 	<ul style="list-style-type: none"> • Comision Naciona De Telecomunicaciones created in 1997 • Secretaria De Comunicaciones was previously in charge • Overlapping functions hinder regulation
BOLIVIA	<ul style="list-style-type: none"> • Entel providing path and International long distance • 15 co-operatives with local monopoly rights 	<ul style="list-style-type: none"> • Entry in the fixed Telecom market will be liberalised at the end of 2001 • In the mobile market Entel, Movil & Telecel 	<ul style="list-style-type: none"> • Superintendency of telecommunications created in 1995
PERU	<ul style="list-style-type: none"> • Compania Peruana De Telefonos (CPI) • Entel Long distance path and international 	<ul style="list-style-type: none"> • Telefonica monopolist in local and long distance • Five years monopoly 	<ul style="list-style-type: none"> • OSIPTEL created in 1994

ELECTRICITY	PRIOR TO PRIVATISATION	AFTER PRIVATISATION	REGULATOR
ARGENTINA	<ul style="list-style-type: none"> • Servicios Electricos Del Gran Buenos Aires (SEGBA) was the generation & distribution company in the capital. • Hidronori managed large hydro-electric stations in the Comahue region & transported energy to Buenos Aires • Auay Energia Electrica (AyE) operated generation, transmission & distribution in the provinces 	<ul style="list-style-type: none"> • In Generation there are currently more than 40 companies operating across the country. 80% are privately owned in transmission. • In transmission there are a number of regional companies. • In distribution there are about 30 companies enjoying monopoly rights in the area of concession. 40% are provincially owned. • Competition is limited to large consumers who buy directly from the bulk market wholesale. 	<ul style="list-style-type: none"> • Ente Nacional Regulator De Electricidad (ENRE)
BOLIVIA	<ul style="list-style-type: none"> • State owned enterprises, private companies and co-operatives operated in the market until 1994 	<ul style="list-style-type: none"> • In generation, 3 firms were created limiting the market share to 33% of the National Interconnected System (NIS) (1999) • In transmission, the network was transferred from ENDE (Empresa Nacional De Electricidad) to Transportadora (a private company) 	<ul style="list-style-type: none"> • Superintendency of Electricity (1994)

		<ul style="list-style-type: none"> In distribution, 6 regional monopolies were created. These are subject to tariff regulation. 	
PERU	<ul style="list-style-type: none"> Empresas Electricas Asociadas vertically integrated state owned company 	<ul style="list-style-type: none"> Vertical separation was initiated in 1994. In generation, the govt privatised 5 companies. The largest generator: Central Hidroelectrica del Mantaro has not been privatised. In distribution, there are 5 privatised compnaies. Two operate in Lima Edelnor and Luz Del Sur. 	<ul style="list-style-type: none"> Two Regulators: Supervisory Agency for Private Investment in Energy (OSINERG) and Comision De Tarifas Electricas (CTE)

WATER & SANITATION	PRIOR TO PRIVATISATION	AFTER PRIVATISATION	REGULATOR
ARGENTINA	<ul style="list-style-type: none"> Obras Sanitarias De la Nacion (OSN) state owned enterprise provide services to the Great Buenos Aires area 	<ul style="list-style-type: none"> In 1993 Govt signed a 30 year concession contract with the consortium 'Aguas Argentinas'. Formed by local & foreign firms led by Lyonnais Des Eaux-Dumez 	<ul style="list-style-type: none"> ETOSS (Ente Tripartito de Obras y Servicios Sanitarios)
BOLIVIA	<ul style="list-style-type: none"> Samapa Municipal Company provides services to La Pax/El Alto 	<ul style="list-style-type: none"> In 1997, Samapa has tranferred in concession to the consortium 'Aguas Del Illimani' led by Lyonnais Des Eaux. 	<ul style="list-style-type: none"> Superintendency of water & sanitation under the Sirese law
PERU	<ul style="list-style-type: none"> No privatisation has taken place. Water & sanitation services throughout the country were devolved in 1990 with the creation of 45 Empresas. Prestadoras De Servicios De Saneamiento (EPS). The service provider in Lima is the only state owned. The other are jointly owned by municipalities. 	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> SUNASS (Superintendencia Nacional De Servicios De Saneamiento) created in 1992