

Promoting Competition in Telecommunications
Joseph Stiglitz
Working Paper N° 2
(March 1999)

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CEER Working Paper Series
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JEL N°: D4, L9

Abstract: There is a growing recognition of the importance of competition for the success of market economies, and of the need for government action both to maintain competition and to regulate industries where competition remains limited. In the area of telecommunications, upon which I shall focus today, we have seen examples where privatization has not delivered on its promises: in some cases access in certain vital areas has actually been reduced. Competition and regulatory policy are vital for a market economy. The fundamental theorems of welfare economics, assume that both private property and competitive markets exist in the economy. Until recently, however, emphasis was placed almost exclusively on creating private property, and privatization of public assets. A well designed privatization, where there is a good regulatory framework in place, can raise enormous revenues and at the same time increase services and lower prices.

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The World Bank

Conference Held at the Universidad Argentina de la Empresa, August 25, 1998. Buenos Aires, Argentina

It is a special pleasure for me to be here to address you today and to participate in the series of lectures organized by the Economic Regulation Research Center. This is the first of several centers we are helping to establish around the world to promote an understanding of competition and regulatory policy. We are quite happy to see that Argentina regulators have teamed up with academics from the Universidad Argentina de la Empresa (UADE) and the Bank to ensure the success of these efforts. Other centers are in the process of currently being established in Cote d'Ivoire and China.

The establishment of these centers, and the welcoming reception they have received, itself represents a major advance: There is a growing recognition of the importance of competition for the success of market economies, and of the need for government action both to maintain competition and to regulate industries where competition remains limited. We have gone beyond the deregulation ideology of the 1980s. To be sure, there were extensive abuses of government's regulatory powers. There were, and there remain, many instances where government regulation rather than enhancing the market performance contributed to economic inefficiency. But we have also learned that there are equal, and in some cases, even greater dangers in inadequate regulation. One of the lessons emerging, for instance, from the East Asia crisis is that inadequate financial sector liberalization can have an enormous cost. But the problems go beyond just that of financial crises. In some of the countries of Eastern Europe and the former Soviet Union, we have learned that without adequate capital market regulation, capital markets do not serve their functions of mobilizing capital, distributing risk, allocating scarce capital to its most efficient uses, and ensuring that those to whom capital has been entrusted use it well. Rather, capital markets have become a forum for private rent seeking, with adverse effects as great as any seen in the arena of public rent seeking. In the area of telecommunications, upon which I shall focus today, we have seen examples where privatization has not delivered on its promises--in some cases access in certain vital areas has actually been reduced.

Competition and regulatory policy are vital for a market economy. The fundamental theorems of welfare economics, the results that establish the efficiency of a market economy, assume that both private property and competitive markets exist in the economy. Many countries—especially developing and transition economies—lack both. Until recently, however, emphasis was placed almost exclusively on creating private property, and privatization of public assets. There has been enormous success in this endeavor. One indication of the scale of telecommunications privatization in developing countries is the fact that the sector raised \$31 billion from privatization between 1990 and 1996 – more than any other sector of the economy

and one-fifth of all privatization revenues. A well designed privatization, where there is a good regulatory framework in place, can raise enormous revenues and at the same time increase services and lower prices. Brazil recently obtained \$19 billion after a careful preparation of its privatization and significant progress in the definition of its regulatory regime. The low revenues obtained from the partial privatization in Russia show that ill designed privatizations can turn over valuable national assets to the private sector for a fraction of their potential value. In some countries privatization has been followed by increases in the scope of telephone coverage and reductions in price. In other countries, the experience of privatization has been more disappointing.

What explains the differential effects of privatization? And what can countries do to ensure that they reap the largest possible benefits from privatization? In my remarks today, I am going to argue that *competition* should be the single most important principle for telecommunications reform and just as importantly should continue to be the main concern of regulators once privatization has been implemented. Competition provides the incentives for greater investment and thus expanded service, greater efficiency, and lower prices. Technological advances have extended the potential for competition in the telecommunications sector. In too many countries, however, exclusive contracts and other less obvious barriers to entry continue to support a single private or public monopolist. Even when these barriers are swept away, regulation will still be necessary to ensure competition in the telecommunications industry.

I The Importance of Competition: Some General Perspectives

Before turning to the more detailed discussion of competition in the telecommunications sector, I want to spend a few minutes discussing some of the reasons that I put such emphasis on competition. Both economic theory and recent experiences motivate these concerns about competition.

As I have said, the theory of the market economy says that both private property and competition are required. And surely, where we can have both, we should. But often, reforms have to be accomplished in stages. What do recent experiences suggest are the consequences of alternative patterns of sequencing?

The Experiences of China and Russia

The importance of competition rather than ownership has been most vividly demonstrated by the experience of China and the Russian Federation. China extended the scope of competition without privatizing state-owned enterprises. To be sure, a number of problems remain in the state-owned sector, which may be addressed in the next stage of reform. In contrast, Russia has privatized a large fraction of its economy without doing much to promote competition. The contrast in performance could not be greater, with Russia's output below the level attained almost a decade ago, while China has managed to sustain double-digit growth for almost two decades. Though the differences in performance may be only partially explained by differences in the policies they have pursued, both the Chinese and Russian experiences pose quandaries for traditional economic theories.

In particular, the magnitude and duration of Russia's downturn is itself somewhat of a puzzle: the Soviet economy was widely considered rife with inefficiencies, and a substantial fraction of its output was devoted to military expenditures. The elimination of these inefficiencies should have raised GDP, and the reduction in military expenditures should have increased personal consumption still farther.¹ Yet neither seems to have occurred.

The magnitude and success of China's economy over the past two decades also represents a puzzle for standard theory. Chinese policymakers not only eschewed a strategy of outright privatization, they also failed to incorporate numerous other elements of the Washington consensus. Yet China's recent experience is one of the greatest economic success stories in history. If China's 30 provinces were treated as separate economies—and many of them have populations exceeding those of most other low-income countries—the 20 fastest-growing economies between 1978 and 1995 would all have been Chinese provinces (World Bank 1997a). Although China's GDP in 1978 represented only about one-quarter of the aggregate GDP of low-income countries and its population represented only 40 percent of the total, almost two-thirds of aggregate growth in low-income countries between 1978 and 1995 was accounted for by the increase in China's GDP.

¹ This can be thought of either as a movement toward the production possibilities curve or as an outward shift of the production possibilities curve (a "technological improvement," where the curve has embedded in it the institutional constraints reflecting how production and distribution is organized).

While measurement problems make it difficult to make comparisons between Russia and China with any precision, the broad picture remains persuasive: real incomes and consumption have fallen in the former Soviet Union, and real incomes and consumption have risen rapidly in China.

One of the important lessons of the contrast between China and Russia is for the political economy of privatization and competition. It has proved difficult to prevent corruption and other problems in privatizing monopolies. The huge rents created by privatization will encourage entrepreneurs to try to secure privatized enterprises rather than invest in creating their own firms. In contrast, competition policy often undermines rents and creates incentives for wealth creation. The sequencing of privatization and regulation is also very important. Privatizing a monopoly can create a powerful entrenched interest that undermines the possibility of regulation or competition in the future. In a sense, it was natural for the early reforms in Russia and elsewhere to focus more on privatization than on competition. Not only were state enterprises inefficient, their losses contributed to the government's budget deficit, adding to macroeconomic instability. Privatization would kill two birds with one stone, simultaneously improving economic efficiency and reducing fiscal deficits.² The idea was that if property rights could be created, the profit-maximizing behavior of the owners would eliminate waste and inefficiency. At the same time the sale of the enterprises would raise much needed revenue.

Although in retrospect the process of privatization in the transition economies was, in several instances at least, badly flawed, at the time it seemed reasonable to many. Although most people would have preferred a more orderly restructuring and the establishment of an effective legal structure (covering contracts, bankruptcy, corporate governance, and competition) prior to or at least simultaneous to privatization, no one knew how long the reform window would stay open. At the time privatizing quickly and comprehensively—and then fixing the problems later on—seemed a reasonable gamble. From today's vantage point, the advocates of privatization may have overestimated the benefits of privatization and underestimated the costs, particularly the political costs of the process itself and the impediments it has posed to further reform. Taking that same gamble today, with the benefit of so many more years of experience, would be much less justified.

Limitations on Privatization

Even at the time many of us warned against hastily privatizing without creating the needed institutional infrastructure, including competitive markets and regulatory bodies. David Sappington and I showed in the fundamental theorem on privatization that the conditions under which privatization can achieve the public objectives of efficiency and equity are very limited and are very similar to the conditions under which competitive markets attain Pareto-efficient outcomes (Sappington and Stiglitz 1987). If, for instance, competition is lacking, creating a private, unregulated monopoly will likely result in even higher prices for consumers. And there is some evidence that, insulated from competition, private monopolies may suffer from several forms of inefficiency and may not be highly innovative.

² Short-term impacts on deficits were, however, often markedly different from the long-term impacts. In those cases where the state enterprises were reasonably well run, the latter could be negligible or even negative while the former could be substantial. In response, some governments disallowed the inclusion of capital transactions in the annual budget—an accounting practice consistent with views that such public sector financial reorganization may have little impact on macro-behavior, or at least far different effects.

Indeed, both large-scale public and private enterprises share many similarities and face many of the same organizational challenges (Stiglitz 1989). Both involve substantial delegation of responsibility—neither legislatures nor shareholders in large companies directly control the daily activities of an enterprise. In both cases the hierarchy of authority terminates in managers who typically have a great deal of autonomy and discretion. Rent seeking occurs in private enterprises, just as it does in public enterprises. Shleifer and Vishny (1989) and Edlin and Stiglitz (1995) have shown that there are strong incentives not only for private rent seeking on the part of management but for taking actions that increase the scope for such rent seeking. In the Czech Republic the bold experiment with voucher privatization seems to have foundered on these issues, as well as the broader issues of whether, without the appropriate legal and institutional structures, capital markets can provide the necessary discipline to managers as well as allocate scarce capital efficiently.

(Public organizations typically do not provide effective incentives and often impose a variety of additional constraints. When these problems are effectively addressed, when state enterprises are embedded in a competitive performance-based environment, performance differences may narrow (Caves and Christenson, 1980). The differences between public and private enterprises are blurry, and there is in fact a continuum of arrangements in between. Corporatization, for instance, maintains government ownership but moves firms toward hard budget constraints and self-financing; performance-based government organizations use output-oriented performance measures as a basis for incentives. Some evidence suggests that much of the gains from privatization occur before privatization as a result of the process of putting in place effective individual and organizational incentives (Pannier 1996).)

Thus, the failure of many of the privatizations around the world, at least to achieve all of the goals that were set out for them, should not have come as a surprise. In the enthusiasm for privatization, many failed to ask, why were these sectors in the public sector in the first place. In some cases, there may have been a good historical explanation, but no justification could be provided under current circumstances. . The government needs to devote its scarce resources to areas the private sector does not and is not likely to enter. It makes no sense for the government to be running steel mills.

But there are critical issues about both the sequencing and the scope of privatization. Even when privatization increases productive efficiency, it may be difficult to ensure that broader public objectives are attained, even with regulation. Should prisons, social services, or the making of atomic bombs (or the central ingredient of atomic bombs, highly enriched uranium) be privatized, as some in the United States have advocated? Where are the boundaries? More private sector activity can be introduced into public activities (through contracting, for example, and incentive-based mechanisms, such as auctions). How effective are such mechanisms as substitutes for outright privatization? Ethiopia, by encouraging international competition in the provision of “commodities”—the placing into service of lines—has achieved far lower costs than many other African countries who have privatized their entire system. And where privatization turns out to be the best way of providing these services, what are the best institutional arrangements for ensuring that broader national interests are protected?

Two Examples

Let me be clear: these are hard issues, on which there are no easy answers. I had to grapple with two such issues while I was chair of the Council of Economic Advisers. One had to do with the privatization of the air traffic control system (ATC). Lack of budgetary resources within the Federal government has left the air traffic control system in a state which compromises its ability to meet the soaring demands of the coming years. In some cases, antiquated computers--requiring vacuum tubes no longer even made in the United States--are employed. The key issue was whether safety concerns would be adequately addressed by a privatized ATC. Many of us argued that the clean separation of the safety regulatory function--leaving that in government hands--and of the "production" responsibilities--placing those in private hands, reduced potential conflicts of interest and would accordingly best serve the national interest. The government agency, attempting to preserve its role, argued that without the detailed knowledge that comes from running the air traffic control system, one could not effectively ensure safety, and that the appropriate action was corporatization rather than privatization, that is putting the air traffic control system into a state corporation, based on overall commercial principles. Within the Administration, perhaps not surprisingly, this view prevailed; though shortly after the decision was made, the Department's handling of the ValuJet crash in Florida made apparent the potential for a conflict of interest. In the end, even the Administration's proposal failed; it continues to languish in Congress. The owners of corporate jets, worried that a conversion to commercial principles would eventually strip them of the enormous subsidies they receive by not being charged appropriately for air traffic control services, vehemently opposed in the more modest corporatization proposal.

More questionable was the one case where privatization has gone forth. One of the few areas where the government undertakes a production activities in the United States is enrichment of uranium. The reason the U.S. government is in this business is clear: the original use of highly enriched uranium was to make atomic and hydrogen bombs. But subsequently, low enriched uranium has become used for nuclear power plants. The same processes that make low enriched uranium make highly enriched uranium. Given the security concerns, it is perhaps not surprisingly that this has remained an industry largely outside the private sector; and it also not surprising that it is not a highly competitive industry. Today, there are four dominant producers (in the four nuclear powers), in the United States, U.K. France, and Russia. The U.S. producer, called USEC, has a close to monopoly position in the U.S., with about 80% of the market, and a dominant position in the world, with about 40% of the market. USEC was entrusted furthermore with the implementation of the "swords to ploughshares" deal between the United States and Russia, whereby the U.S. would buy the de-enriched material from nuclear warheads. Doing so would not only reduce the amount of this dangerous material available for nuclear proliferation--one of the real international security threats over coming decades--but also provide the Russians with needed money to ensure the safekeeping of the material that remained in their position, and hopefully reduce any incentives to sell the material to others with less noble objectives. We at the Council questioned the privatization of USEC, not only because of the absence of the competitive framework in the industry, but also because we thought there was a clear potential conflict between the broader public security interests, and the profit making interests of a private entity, conflicts which might be difficult to address through regulatory channels. Given our analysis of the economics, we argued, for instance, that they had an incentive to limit the flow of Russian HEU into the United States. Unfortunately, our predictions turned out to be true. Even in the months preceding the completion the privatization, it signed a secret agreement with the

Russians in response to their offer to increase their deliveries by 50%, which provided a large cash payment to the Russian enterprise in charge of the enriched uranium in return for their agreement not to increase their sales and to keep secret both their offer and the deal. While the public exposure of this secret deal forced USEC to renege, the fact that it was kept secret even from policymakers in the White House illustrates the difficulty of effective enforcement of the public interest facing regulators. In spite of this, the privatization has gone forward; but within a week of its completion in the middle of last month, the New York Times reported that Russia had announced that actions being taken, or being contemplated being taken, by USEC threatened the entire nuclear disarmament efforts. The point of this story is simply to illustrate that there are, or should be, limits to privatization, at least privatization without regulations. Most of the regulations that I shall be concerned with in this talk are focused on competition.. Competition is an essential ingredient in a successful market economy. But competition is not viable in some sectors—the so-called natural monopolies. Even there, however, the extent and form of actual and potential competition are constantly changing. New technologies have expanded the scope for competition in many sectors that have historically been highly regulated, such as telecommunications and electric power.

Traditional regulatory perspectives, with their rigid categories of regulation versus deregulation and competition versus monopoly have not been helpful guides to policy in these areas. These new technologies do not call for wholesale deregulation, because not all parts of these industries are adequately competitive. Instead, they call for appropriate changes in regulatory structure to meet the new challenges. Such changes must recognize the existence of hybrid areas of the economy, parts of which are well suited to competition, while other parts are more vulnerable to domination by a few producers. Allowing a firm with market power in one part of a regulated industry to gain a stranglehold over other parts of the industry will severely compromise economic efficiency.

In the discussion below, I shall expand on this theme in the context of telecommunications, but I shall also speak briefly about other regulatory objectives, such as ensuring diversity and universal service.

II Telecommunications and Economic Performance

I would like to motivate my discussion of the ingredients of policy reform in the telecommunications sector by briefly explaining why I think telecommunications is so important. In most countries, telecommunications represents only 1 to 2 percent of gross domestic product. But it is central to the rest of the economy, both in developed and developing countries. In banking and international finance, tourism and travel, commodity exchange, and in all export-oriented manufacturing, economic viability is increasingly dependent on global information and efficient electronic exchange. In a global information economy characterized by intense competition for new markets, telecommunications reform is a vital component of national economic policy.

Information has become a means for firms to identify new opportunities, seize new markets, and to satisfy new needs. Information is vital to corporate survival and it is critical to an economy's viability. In recognition of this fact, in the last two decades, telecommunications policy in many countries has been formulated in the context of far-reaching global strategies. In Great Britain, for example, a liberalized telecommunications regime was intended to support and augment London's role as an international financial center. In the Netherlands national telecommunications policy was formulated to stimulate the development of electronic publishing and to promote Amsterdam as a point of access to Europe for international networks, in direct competition with London. A key objective of Australia's telecommunications policy has been to attract commercial traffic for Southeast Asia and to encourage financial services to locate to Australia.

Unfortunately, the means for being able to be productive in the new global information economy are very unequally distributed. Both South Asia and Sub-Saharan Africa have roughly 15 telephone lines per 1,000 people, compared to 640 per 1,000 people in the United States. As one would expect, per capita income is the most important determinant of telephone coverage. What is remarkable is that fully 80 percent of the variation in cross-country phone coverage can be explained by per capita income alone. The binding constraint in most low-income countries is not demand but supply, as evidenced by the 28 million people worldwide, almost all of them in developing countries, on waiting lists for telephone lines. The average person has to wait roughly 1 year for the installation of a phone line.

Policy, however, can make a difference in terms of coverage as you well know in Argentina from your leading experience. In the last six years countries as diverse as Mexico, Malaysia, Vietnam, Jamaica, Hungary, and Sri Lanka have all seen telephone lines expand rapidly – and even more rapidly than one would expect from their income growth. Perhaps even more striking evidence for the huge differences in efficiency and policy is the fact that the huge variation in the cost of local phone calls is unrelated to per capita incomes.

The potential impact of the new telecommunications technologies on even the least developed countries is not apparent. In the past, isolation has been a curse. Those in isolated communities lacked access not only to the newest advances in knowledge; they often lived totally alienated from the body of knowledge that has been accumulated over centuries--including that generated in their own country. Students did not have access to libraries, and the ill did not have access to the knowledge of modern medicine. Today, through the internet, students all over the world can have access to more knowledge than was available to even the richest child a hundred

years ago. Direct satellite connections have made internet connections possible even in regions where long lines might not have gone for decades. Telemedicine has become a reality. In remote areas like the South Pacific, the World Health Organization has been using satellite communication to summon medical assistance after typhoons and earthquakes and to deal with outbreaks of cholera and dengue fever.

Information conveys economic power, and the poor peasant was often at the mercy of the middleman who know more about the true market value of his produce. Imperfections of information breed imperfections of competition. Farmers in Sri Lanka have been using the marketing information that modern communication provides to enhance their bargaining power; the prices they have received have gone up by 50 percent or more.

Lack of communications has been a barrier to the flow of investment; modern firms need to be in constant touch with their markets. Today, textile plants in less developed countries can adjust the dyes they use rapidly in response to the latest changes in fashions in Europe and America. Computer programmers in India can write programs for Silicon valley firms, and data entry can be located anywhere in the world.

These are but a few of the examples of how the telecommunications revolution is already affecting lives in less developed countries. But if the potential for this revolution is to be realized, the private sector will have to play the central role. But that is not enough: The right regulatory structures have to be put into place.

Before discussing what policy can do to ensure that the full potential of the telecommunications revolution is achieved, I would like to briefly discuss the implications of the changing technology of telecommunications.

The Changing Technology of Telecommunications

In the past, telecommunications was viewed as a natural monopoly. Most countries took the position that the only, or at least the best, way to prevent abuse of monopoly power was for government to operate the telephone system. The government prevented the entry of competitors, allegedly on the grounds that they would just wastefully duplicate existing facilities or engage in cream skimming, thus inhibiting the government's ability to provide service broadly at reasonable prices – often called universal service.

There was, however, a marked discrepancy between the theory and reality. When companies have no incentive for efficiency, they are likely to dissipate the economies of scale in inefficiencies. Although governments claimed that only a monopoly could capture the economies of scale and scope, many developing countries were paying a capital cost of \$4,000 per line – three or four times higher than the achievable cost. Inefficiency and underinvestment meant that in all too many instances, universal service meant universally lousy service, and little or no service to the poor or rural areas.

Low prices ensured low revenues and, given the government's budget constraints, limited expansion. The low prices generated rents for those who had access. Access was given by a political process, usually to the powerful, rich, and influential. The ability to allocate scarce lines bred corruption. Thus, a system allegedly designed to help the poor and protect consumers did

neither. The lack of service inhibited economic growth, since effective telecommunications is an essential aspect of infrastructure, and an important complement to private investment.

In retrospect, the most important underlying cause of these problems was not government ownership, but the lack of competition combined with ineffective government regulation. In the Philippines, for instance, the private monopoly phone company maintained low levels of investment and rationed lines in the face of excess demand – a situation that did not change until the it looked as if competition was imminent.

In the past, there may have been a *technological* basis for a single telecommunications company – telecommunications was a classic example of a natural monopoly. But today, changes in technology have provided the opportunity for – and I would say even necessitated – a change in the way telecommunications services are provided. Satellites have long provided a relatively low fixed cost option for long distance service. But today, cellular phones, wireless local loops, and even television cables all provide alternatives even for local service. These alternatives are even more important in developing countries, many of which do not have extensive landlines. Sri Lanka, for instance, has four cellular operators and some of the lowest cellular telephone prices in the world. As a result, it added 56,000 cellular telephone lines between 1993 and 1996 – one-third of the additional lines and one-fifth of the total lines.

Regulation and Competition

There is also a growing recognition that the extent of competition is influenced not just by “natural” factors like technology, but also, and perhaps more importantly, by government policy. Technological changes may have undermined the natural monopoly in telecommunications, but an effective regulatory structure is also required for vibrant competition in this sector. Even the United States, which has the most competitive telecommunications sector in the world, is not yet at the point where there is sufficient competition that regulation can be put aside.

But the point of regulation should be to promote and ensure competition wherever it is feasible and desirable and of course to make sure that there are not abuses of monopoly power when competition is limited. Indeed, not only is competition *feasible* and desirable in many, if not most, segments of the telecommunications market, but with new technologies such as satellite telephones, governments will be able to maintain their monopolies only with repressive measures.

A competitive telecommunications sector opens up a whole new range of economic possibilities. It permits an enormous flow of private capital. The expansion of telecommunications does not have to be limited by the current revenues of the telecommunications monopoly, or the government’s ability to borrow. Private capital can fuel rapid expansion. Competition is also likely to drive down prices – increasing access for the poor. In many developing countries, entrepreneurs have already demonstrated their ability to bring telephone services to poor villages. A single phone can serve large numbers of poor people. In Peru, for instance, Community Telephone Centers serve an average of 640 low-income customers, who use the telephone not only for emergencies, such as fire and health, but also to search for jobs.

Not only do telecommunications companies in the more advanced countries stand ready and able to provide these services, competition among these companies makes it all the more likely that the developing countries will enjoy more of the fruits of these innovations. But to realize these benefits, the developing countries must ensure that there is effective competition among these international companies. Each company has an incentive to try to persuade countries to give them an inside track. There are a variety of ways in which they have tried to reduce the scope of effective competition.

Principles of Reform

I believe that we can promote and sustain for the long run all of the basic objectives – lower prices, increased efficiency, rapid expansion of services, more universal access, more diversity – by establishing the appropriate reforms. Such reforms have several key ingredients:

- First, except under unusual circumstances there should no *grants* of monopoly powers; but we should recognize that in some segments of the industry, especially in the “last mile,” the final interconnection to the user, it may be some time before competition will arise on its own; When initial conditions are very risky; some initial degree of protection may be unavoidable; this is at least the standard interpretation of what happened in Argentina. but even then such protection should be of limited duration with a firm commitment to open markets)
- Second, given that there are likely to be important segments in which there is little if any competition, it is important to have a regulatory structure which both protects consumers – by making sure that firms with monopoly power do not exercise that power to raise prices excessively – and that ensures that the monopoly power in one segment (in the “last mile”) is not leveraged to achieve power over other segments. Because abusive practices are hard to monitor, regulation may entail structural separation (e.g. between the provider of “last mile” services and other services). Also, an important, I would even say essential, goal of regulation should be to ensure access and interconnections. While the level of the appropriate access charges has remained a subject of some debate (which I do not have time to enter here but many of you head Professor Laffont discuss it at some length during the inaugural speech for the Economic Regulation Research Center), recent research has made significant progress in enhancing our understanding of the issues, and recent experiments have shown ways in which governments may effectively address these issues. For instance, El Salvador has tried to create a regulatory structure encouraging the parties themselves to reach a solution. It requires the regulator to choose among the parties’ final offers for connectivity charges. If one of the parties maintains an unreasonable position, the regulator is likely to choose the other’s price. Of course, you are familiar with this kind of arrangement in Argentina since the regulation allows the parties involved in a dispute to try to agree independently and the regulator is only expected to intervene when no agreement is reached.
- Third, there is a need for a substantial increase in the levels of investment in telecommunications infrastructure in many developing countries. These countries should look to the private sector to provide that investment, and should seek to create an environment which attracts that investment. An indispensable precondition for sustained large-scale investment is the institutional capacity of

those countries to restrain arbitrary administrative discretion and to commit in a credible manner to a stable regulatory process. Without government commitment to regulatory stability, frequent changes in the regulatory regime can have the same effect as (partial) expropriation of sunk investments. Private telecommunications operators that are vulnerable to administrative intervention can be expected to invest less than the optimal amount, and especially to make disproportionately low investments in activities characterized by large sunk costs.

- Fourth, international service providers and investors are an essential source of services and financing for the telecommunications sector in developing countries. Competition for international services and investment, however, is just as essential as it is in the domestic market.

Privatization, The Right Way

Finally, there is still enormous scope for privatization. In Sub-Saharan Africa, for instance, only 25 percent of the telephone lines outside of South Africa are “private.” But for privatization to be beneficial, it must be done the right way.

Private property and competition are the two essential ingredients of a market economy. The order in which they are introduced, however, is very important. Allowing private companies to compete with a monopoly state-owned enterprise can put pressure on it to become more efficient and eventually could lead to its privatization. Both Ghana and Uganda, for instance, have recently licensed a second national operator in all major market segments prior to privatizing the government telecommunications company.

But while competition may well lead to privatization, the opposite is not true. To the contrary, a privatized monopoly will often attempt to use its money and political influence to stifle reforms, especially ones that threaten to introduce greater competition. The result will be that rents are transferred from the public sector to the private sector, with little gain in efficiency, lower prices, or broader service.

This consideration suggests several important principles for privatization:

- First, It should be preceded by the establishment of an effective regulatory structure, along the lines I have just described, to ensure that competition is maintained and that, so long as competition is limited, there is not monopoly pricing.
- Second, wherever possible it should be preceded by the introduction of greater competition, possibly through the extension of licenses to new private companies or by splitting up the telecommunications company.
- Third, it may be easier to introduce competition by privatizing only part of the system. Especially promising are moves in some Sub-Saharan African countries to try to enhance competition by contracting for the purchase of commodity-like aspects of the system, e.g. lines.
- Finally, regulations need to ensure that privatization and monopoly power, whether exercised by the state or privately, do not restrict diversity. (Regulations may entail ownership restrictions, again because practices are hard to monitor.)

These measures should precede privatization not just to ensure a more efficient telecommunications sector, but also in order for the privatization process itself to proceed smoothly. In the absence of regulatory certainty, the government will not be able to attain a fair market value for the assets; potential purchasers will insist on a risk premium to compensate them for bearing this regulatory risk. Also, a change in regulatory structure may be viewed as a partial expropriation, and thus adversely affect the investment climate. The political economy consideration I discussed above, that it is politically easier to introduce competition in advance of privatization, strengthens these arguments.

Implementing Telecommunications Reform

The basic principles – competition prior to privatization, and using regulation to prevent the exercise of monopoly power in one part of a sector from being translated into a stranglehold over another part of the sector – are very simple and very robust. Many developing countries, however, have found telecommunications reform extremely difficult. To be fair, we need to recognize the difficulties of the transition problems. There are rents associated with the existing monopoly, and these rents often go to the politically powerful, and some of the rents may even go to finance government activities. The price structures also involve cross-subsidies, although often the politically connected and urban dwellers benefit, not the poor and rural inhabitants that are supposed to. There is a strong argument that the government revenues should be raised in a more transparent manner, e.g. taxes, and that underserved groups would benefit from direct subsidies, which are also more transparent as well as being better targeted. Putting these taxes and subsidies “on budget” also reduces the likelihood of funds being diverted for nefarious purposes.

I do not want to underestimate the importance of transitional issues, but neither should they be a barrier to change. At the very least, one needs a transition strategy. An essential ingredient of such a strategy is to allow immediately the entry of “value added” services, such as cellular telephones – services not now often provided by the parastatal monopoly. These new value added services can rapidly extend telecommunications to previously underserved groups. Moreover, the evidence is that these new services are complements of old line services; they enhance their profitability. Indeed this is what happened in Argentina where fixed cable operators are allowed to participate in cellular markets.

There are, in addition, interactions between the various parts of a successful transition program: the revenues generated in the process of privatization and by spectrum auctions may provide revenues to finance the transition and, specifically, to address other transitional problems, such as those associated with stranded costs.

But for most developing countries, the transition costs are small compared to the gains from pursuing an aggressive telecommunications policy. Given the low levels of investment, with the vast majority of citizens currently unserved or underserved and with few enhanced services available, the developing countries will experience relatively little disruption and other transition costs from adopting aggressively pro-competitive national policy frameworks. There is

every reason to believe that such policies will lead to more investment, more and better service, and lower prices. And because of the strong complementarity between telecommunications and other investment, it will stimulate the overall growth of the economy.

Universal Service In many parts of the world, concern about universal service--the provision of service to poor people and remote areas--under privatization has been used as an excuse for resisting privatization. Access is important, and while it is widening, it is still limited in many countries. For instance, Sub-Saharan Africa has just one pay phone for every 5,300 people, compared with one for every 100 in, say, Singapore.

All too often, however--and frequently in the countries resisting developing a private, competitive telecommunications sector--universal service has meant universally poor service or even worse, no service to the poor. And indeed, in many cases, the limited provision of services has been slanted to the privileged and to those who can bribe the appropriate officials, not only subverting the tenets of universal and equitable service, but undermining the credibility of government itself.

Given the importance of telecommunications, and given the opportunities for enrichment of the lives of the poor that telecommunications today brings, it would be a disaster if there developed two groups, the haves and the have nots, those with and those without access to modern telecommunications. The intention of universal service is to ensure that this does not occur. But let me make four observations.

First, the lower prices associated with a competitive telecommunications sector has probably done more to achieve the objectives of universal service over the past few years than government policies over previous decades, and the likely strides forward in coming decades hold even greater promise.

Second, the market has been taking advantage of these lower rates to devise low cost ways of providing much greater access, as illustrated by the Community Telephone Centers in Peru to which I referred earlier. By 1995, Senegal had more than 2000 privately owned telecenters, each with a pay phone and a fax machine.

Third, in many situations governments may wish to go further. For instance, South Africa's Universal Service Agency has been leveraging poor people's willingness to pay for telecommunications services by providing some of the start-up costs for community information centers. In providing this support, governments should be mindful that there are more--and less-efficient ways of doing so. Chile's experiment with competitive bidding for rural pay telephone subsidies is particularly instructive. In 1994 a special fund began awarding subsidies competitively to projects providing telephone service to small and remote locales. By 1996 it had achieved 90% of its objectives at a modest cost of about \$2 million, half of what had originally been allocated; part of the savings came from the fact that in half the locales (embracing 59% of the targeted population) it received bids to provide service with no subsidy at all. It is anticipated with the completion of the bids, more than 97 percent of Chileans will have access to basic telecommunications by the end of 1998.

Finally, while access is important, and it is imperative that access be expanded in a cost efficient way, telecommunications needs are only one of the many needs facing those in less developed countries. In deciding on the level of service to be provided, these other needs need to be borne in mind.

Diversity. Before leaving the subject of regulation, privatization, and the new technologies, I need to say a word about a red herring that has frequently been raised: Will the new technologies lead to a loss of diversity, and must countries undertake regulations--such as banning material produced in other countries--to maintain diversity. We should be clear: the new technologies are like a wider pipe: they allow a greater flow of ideas, more diversity. The 500 channels of TV offered in DBS provide scope for TV channels in a multitude of languages. In Los Angeles, it is said that there are today radio stations in more than 30 languages. The new technologies thus provide the scope for greater, not less, diversity. To be sure, there are some who are afraid of competition in the market place of ideas, just as they are afraid of competition in the market place of products; and there are some who cloth old fashioned product protectionism under the guise of "diversity."

But while I have little sympathy for these worries, there is another concern that does merit our attention: We must be sure that there is not a concentration of ownership of media, and not just because such a concentration will have an adverse effect on competition in this sector. Such concentrations can, and often do, inhibit the expression of a diversity of viewpoints, undermining the foundations of democracy. There are legitimate concerns that the manner in which privatization of the television was conducted in at least one of the economies in transition has, in fact, had precisely such adverse effects.

Government revenues and employment. There is one more objection to privatization that I have heard in some less developed countries, and that is that privatization will reduce government revenues and employment in the sector. In poor countries, with governments starving for revenues and seeing few alternative sources, and in economies with already high levels of employment, both of these are understandable concerns. But like the previous objection, they are largely red herrings. The second concern is the easiest to dispense with. Privatization has typically led to firing workers from the old telephone monopoly; some, in many cases much, of the monopoly rents were shared with the workers, rather than with the country more broadly. But more than offsetting this effect are the gains in employment from the rapid expansion of the sector which has followed privatization and the allowing of competition to the state monopoly; and there will be further gains to employment as the lower telecommunications costs helps provide one of the essential ingredients required for broader expansion of the private sector.

Similar arguments hold for government revenues. Clearly, where well done, privatizations can be a source of vast government revenues, as Brazil has just demonstrated. Countries that have retained monopoly over the core services, but allowed private provision of value added services and cellular lines have found that typically, such services are complements to those provided by the government, and thus enhanced government revenues. But more generally, it is far preferable to have an open and transparent tax on telecommunications services--provided efficiently by a competitive, regulated private sector--than to have the hidden and often discriminatory taxes associated with government monopolies.

The technological and economic revolution. In short, by providing the appropriate regulatory structure, we can promote competition, lowering prices, expand services, promote diversity, and even expand access to the very poor, while increasing employment and sustaining and even augmenting government revenues. In doing so, both the developed and less developed countries

can avail themselves of the opportunities afforded by the sweeping revolution in telecommunications, a revolution brought on by new technologies which have expanded the scope for services, but at the same time, have expanded the scope for competition. What began as a technological revolution is now expanding into an economic one, changing both what is provided and how it is provided.

Concluding Remarks

In Latin America and elsewhere, countries have embarked on what is coming to be called the second generation of reforms, reforms which go beyond the so-called Washington consensus. Countries have learned the lessons of the 1970s and 1980s. They know that macro-stability is important, that behind high protectionist walls there develops an inefficient private sector, that bloated governments can stifle the private sector, and that government enterprises are often inefficient, and ineffective even in pursuing public objectives like access to the poor and good environmental policies. But they have also learned that pursuing the dictates of the Washington consensus is not enough. There is more to development than just macro-stability, privatization, and trade liberalization. Too often, there has been a confusion of ends with means. For instance, one of the objectives of trade liberalization should have been creating a more competitive economy; but reducing tariffs, but leaving in place a monopoly importer, may bring few of the promised benefits; prices may remain high, and all that happens may be a transfer of public revenues into private monopoly rents. And too often, there has been a pursuit of too narrow a set of objectives: it is not only a growth in GDP that we seek, but increases in living standards, including improved health and education. We seek not just an increase in growth statistics, but democratic, egalitarian, sustainable development, where the fruits of growth are widely shared, with policies which preserve and enhance the environment, and which give citizens more say in the decisions which affect their lives and livelihoods. To accomplish these broader objectives, the government has a vital role. Defining that role, and enhancing its capacity to perform that role, is one of the challenges that countries throughout the world face today. A key part of that challenge is defining the government's regulatory role, and enhancing its capacity in that role. It is my hope that this regulatory center will play a central part in this regions pursuit of that objective.

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