

# **Promoting Competition and Regulatory Policy:** With Examples from Network Industries

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Beijing, China  
July 25, 1999

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<sup>\*</sup> I am indebted to Antonio Estache of the World Bank Institute and to Xinzhu Zhang of the Research Center for Regulation and Competition, Chinese Academy of Sciences for their assistance on this paper. Responsibility for errors remains with the author.

## INTRODUCTION

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 Research Center for Regulation and Competition. We are helping to establish centers around the world to promote an understanding of competition and regulatory policy, and this is the first center in Asia (the other centers are in Argentina and Cote d'Ivoire). We are very pleased to jointly sponsor the center with the Institute of Quantitative and Technical Economics of the Chinese Academy of Social Sciences.

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 moved 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 inadequate regulation presents equal, and in some cases, even greater dangers. One of the lessons emerging for instance, from the East Asia crisis is that badly designed financial sector liberalization can have an enormous cost. But the problems involve more than just 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 to mobilize capital, distribute risk, allocate scarce capital to its most efficient uses and ensure that those entrusted with capital 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 its promises--and in some cases, telecommunications 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 sufficient conditions for the

efficiency of a market economy, assume that both private property and competitive markets exist within the economy. Many countries—especially developing and transition economies—lack both. Until recently however, emphasis was placed almost exclusively on creating private property and on privatizing public assets. A well-designed privatization, where a good regulatory framework already exists, can raise enormous revenue as it increases services and lowers 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 demonstrate how poorly 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? In my remarks today, I am going to argue that *competition* should be the single most important principle for telecommunications reform and that it can play a critical (and until recently, unappreciated) role in sectors previously thought of as natural monopolies. Competition provides the incentive for greater investment while it expands service, enhances efficiency and lowers prices. Technological advances have extended the potential for competition. In too many countries however, exclusive contracts and other, less obvious barriers to entry continue to support a single private or public monopolist. But even once these barriers are swept away, regulation will still be necessary to ensure competition.

## **1. THE IMPORTANCE OF COMPETITION: SOME GENERAL PERSPECTIVES**

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

As I have said, standard economic theory postulates that private property and competition will lead to efficiency in a market economy. This does not mean that efficiency and other goals cannot be fostered by other means, and it does not mean that these reforms will always lead to efficiency. What do recent experiences suggest are the consequences of alternative patterns of reform sequencing?

### **1.1. The Experiences of China and Russia**

The importance of competition rather than private ownership has been most vividly demonstrated by the comparison between the experience of China and that of 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 need to 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 of the two economies could not be greater, with Russia's output more than 50 percent below the level attained almost a decade ago, while China sustained 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 to be 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.<sup>1</sup> 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

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<sup>1</sup> 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

of outright privatization, they did not 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.

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 viable regulation or competition in the future.

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 simultaneously with privatization, no one

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it the institutional constraints reflecting how production and distribution is organized).

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.

## **1.2. 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. (In the discussion below, I shall talk about privatization, but most of what I say is equally applicable to other forms of socioeconomic reorganization and moving away from state-owned enterprises.) 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.

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 capital markets can provide the necessary discipline to managers and allocate scarce capital efficiently without the appropriate legal and institutional structures.

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 the two. Corporatization, for instance, maintains government ownership but moves firms towards hard budget constraints and self-financing; performance-based government organizations use output-oriented performance measures as a basis for incentives. Some evidence suggests that many of the gains from privatization occur before privatization as a result of the process of implementing 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 these sectors were public 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 in which the private sector does not exist and is not likely to enter in the future. It makes no sense for example, for the government to be running steel mills.

But in other cases, matters are not so clear. 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? How do we design the appropriate *regulatory* framework, giving sufficient scope for market forces to do their work while still protecting the essential public interest ?

### **1.3. Two Examples from American Experience**

Let me be clear: these are hard issues to 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 had left the air traffic control system in a state which compromised its ability to meet the soaring demands of coming years. In some cases, antiquated computers--requiring vacuum tubes no longer even made in the United States--were 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--which would be left in government hands--and of the “production” responsibilities--which would be privatized--reduced potential conflicts of interest and would 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 under private control, 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, as 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 the more modest corporatization proposal.

More questionable case was one where privatization has since gone forth. One of the few areas where the government assumes a production activity 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 can also be used to make highly enriched uranium. Given the security concerns however, it is perhaps neither surprising that this has remained an industry largely outside the private sector nor that it is not a highly competitive industry. Today, there are four dominant producers of uranium (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., where it owns about 80% of the market, and a dominant position in the world, where it represents 40% of the market. USEC was entrusted 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 did remain in their position as well as reduce (hopefully) any incentives to sell the material to others with less noble objectives.

We at the Council of Economic Advisors 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 a privatized USEC would have 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, who had offered to increase their deliveries by 50%, that provided for 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 by USEC, or currently being contemplated, threatened to undermine the entire nuclear disarmament effort.

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. But ironically, regulation of such sectors is required to make markets work.

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 structures 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 network industries (e.g., telecommunications and electrical power), but I shall also speak briefly about other regulatory objectives, such as ensuring diversity and universal service.

#### **1.4. Telecommunications and Economic Performance**

I would like to motivate my discussion of the ingredients of policy reform in the telecommunications sector by briefly noting its importance. 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.

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 broadly provide service 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 may 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 \$4000 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, with 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 it looked as though 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 over 171 thousand cellular telephone lines between 1993 and 1998– one-third of the additional lines and one-quarter of the total lines.

While my remarks here focus on telecommunications, it should be clear that most of what I have to say applies with equal force to other elements of infrastructure, like electricity, which used to be thought of as natural monopolies. Without, for instance, a steady, reliable, and low cost source of electricity, competitive manufacturing cannot develop. While in large segments of the industry, competition is viable (e.g. generation, and

possibly even distribution), in others it is not (long line transmission).

There remain other areas, like water and sewage, where competition is not presently viable, and is not likely to be in the foreseeable future. There can however, be viable competition for the market, even if there is not viable competition in the market. But the problems encountered in several countries, such as private concessions in Argentina, serve to remind of the dangers and emphasize the importance of both being aware of problems and of designing the appropriate legal and regulatory structures to respond to them.

## **2. OBJECTIVES OF CHANGING OWNERSHIP STRUCTURES, DESIGNING TRANSITION PATHS, AND IMPLEMENTING EFFECTIVE REGULATORY STRUCTURES**

While much of the earlier impetus for privatization was based on the ideological predisposition that private firms were more efficient than government—and there were enough examples of inefficient government enterprises to provide empirical support to that proposition—the desire to change ownership structures today goes beyond these ideological predispositions. We recognize today, for instance, that government can introduce effective managerial incentives and impose hard budget constraints (though few governments have succeeded in doing so). But in the case of natural monopolies, the choice is not between unfettered market competition and a government monopoly, but perhaps between potentially flawed government ownership and private ownership potentially operating underneath a flawed regulatory structure.

In this section, I want both to set out the case for changed ownership structures, putting greater reliance on private participation, and to lay out the principles of an effective regulatory structure.

### **2.1 OBJECTIVES**

There are three categories of reasons for changing ownership structure.

- *Increasing efficiency.* Particularly if changing ownership structures *with the appropriate regulatory structure* can result in *enhanced competition*, then there is some presumption that efficiency can be enhanced.

In China, the impact of this competition has already been evidenced in the case of telecommunications. In 1994, the Chinese government abolished the Ministry of Post and the telecommunications monopoly by licensing a new provider, China United Telecommunications to operate a nationwide network, including both long distance and local connections. Since then, installation fees for a phone line have fallen about 100 percent in most areas.

- *Relieving public budget constraints.* Budget constraints plague governments around the world, but they are particularly important in China, where government revenues have plummeted, from around 30 percent to 13 percent of GDP. Moreover, government budgets (unlike those of businesses) typically do not distinguish between capital and current expenditures, and for some reason, suppliers of finance to governments do not focus on this distinction either. The consequence is that when budget constraints are tight, governments typically cut back on investments. The result, in turn, is underinvestment in infrastructure, or in other areas that rely on government. Changing ownership structures, including enlisting more private and local participation, is one way of generating a much greater supply of such investment and releasing scarce funds in the governments' central budget for uses that have no other sources of funding.
- *Improved pursuit of public objectives.* This is, perhaps, the most surprising argument and one which turns traditional analyses on their head. It used to be argued that government ownership was necessary in order that public objectives (like universal

service or safety) could more effectively be pursued. But in fact, throughout the world, we have seen that government enterprises tend to pursue a fairly narrow set of objectives. They are often “captured” by their workers and managers. I remember conversations with my friend and fellow economist, Andreas Papandreou, the late former prime minister of Greece, who in the early 1980s set out as one of his objectives “the socialization of the nationalized industries,” that is, making the nationalized industries take on as their mission national objectives, not narrow objectives of the enterprises managers and workers. But he, like so many others, failed. While good environmental policies remained the explicit objective of most governments, government enterprises have been among the worst polluters, especially in Eastern Europe and the former Soviet Union.

The point is that organizations often function better when they have a certain clarity of purpose. Mixing objectives not only causes confusion, but in the process of delegation, those responsible for implementation typically have enough discretion to impose their own preferences. For instance, I referred earlier to the example of air traffic control. When safety oversight and production are combined, there is an inherent conflict of interest: the government-cum-regulator will overlook its mistakes as government-cum-producer. Separation of functions often promotes transparency, ensuring that the same standards are applied everywhere, which in turn is necessary for economic efficiency.

## **2.2 STRUCTURING CHANGES IN THE OWNERSHIP STRUCTURE: ENGAGING PRIVATE PARTICIPATION THE RIGHT WAY**

For changing ownership structures to be beneficial, it must be done the right manner, according to some guiding principles.

- *Regulation and competition first.* I have already argued that 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 could eventually 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. On 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 is that rents are transferred from the public sector to the private sector, with little gain in efficiency, prices, or service.

Some countries have actually gone in the wrong direction: to attract private interest, they have given away temporary monopoly rights. This is a fundamental mistake. In some cases, this policy was the result of a confusion of the objectives of restructuring ownership (privatization), which is not to raise revenues—that should be an incidental benefit, but to enhance efficiency. Granting or perpetuating monopolies undermines overall efficiency and innovation in the economy. To be sure, selling monopoly rights in telecommunications can raise revenues, just as selling the monopoly rights in any other industry could. But no one would advocate selling a monopoly right to the import of cars or the selling of wheat simply to raise revenues. And no one should make that argument in telecommunications or other former natural monopolies. Indeed, one could argue to the contrary that given the legacy of a lack of competition, and the inefficiencies to which that gave rise, it is even more imperative to introduce quickly competition to these sectors.

China, with its huge market, has no need to grant such monopoly licenses to attract foreign interest. Indeed, the enormous amount of money Brazil raised in its privatization of its telecommunications industry shows how valuable a competitive telecom sector can be.

Competition will not happen overnight, and in many cases, it may not happen at all.

Thus, where competition is limited, and is likely to remain so, privatization or other changes in ownership structure should normally be preceded by the establishment of an effective regulatory structure, along the lines to be discussed in the next section, to ensure that competition can be attained or maintained, and that, so long as competition is limited, there is not monopoly pricing.

- *Second, wherever possible, changes on ownership structure 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 (or other national monopoly) How this is done requires thought and care. In some countries, the national monopoly has been split up in ways that have retained monopoly power; the separate companies have simply become regional monopolies. Thus, economies of scale have been sacrificed, with little return in terms of increased effectiveness of competition.*
- *Third, it may be easier to introduce competition by privatizing only a 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 restructuring process itself to proceed more 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, thus adversely affect the investment climate. The political economy consideration I discussed above, that it is politically easier to introduce competition in advance of restructuring, strengthens these arguments.

### **2.3 ALTERNATIVE FORMS OF RESTRUCTURING**

China over the last two decades has experimented with a large number of new organizational forms. Some, like the TVE's, have been highly successful, despite the misgivings of traditional economic ideologues who have wondered how organizations in the public sector, without the profit motive, can be so dynamic. But these past successes should not induce complacency, as this success may have been based in part on the social structures inherited from the past, social capital which limited opportunistic behavior. Continual evolution of Chinese society will require greater reliance on the rule of law, a theme to which I will turn in the next section.

As I pointed out in my speech on Friday, a major objective should be to enhance organizational and individual incentives. Soft budget constraints—whether from government subsidies or soft loans—leads to soft management. In much of the world, the principle way to hardening budget constraints has been through the reduction of the government role in production (e.g. through privatization), but in some places corporatization has also been successful. Indeed, much of the gain in efficiency in many of the European privatizations occurred during the prior stage of corporatization, though critics of corporatization (as other than a transitional phase) argue that the success at that stage occurred only because of the privatization that was down the road. While corporatization can succeed in hardening budget constraints, it does not address the issue of organizational incentives more generally—the profit motive.

Some critics go further: they claim even corporatizations which entail sale of shares will not work, so long as government retains majority control. Though such sales may raise capital (and thus relieve the budget constraints discussed earlier), with majority control, the

government can continue to operate as before. In my mind, such criticisms overstate the case. The fact is that the hard budget constraints do focus attention on economic efficiency, and that given attention, government corporations can provide managers and workers with incentives quite akin to those of the private sector. Moreover, the view that the majority shareholder dictates the actions of the firm takes a too narrow view of the corporation, as I have argued elsewhere. The firm is a political organization, with the outcomes determined by the interaction (bargaining) among a large number of stakeholders, including workers and local governments. Having a large minority shareholder with an active interest in the outcome, and an ability to use voice to express views, may not dictate outcomes, but surely can affect them.

Matters become more complicated when the large minority shareholder (or majority shareholder) is a governmental entity, such as a locality. On the one hand, localities themselves face hard budget constraints (that seems at least to be the case in China; elsewhere, problems arise from national bail-outs of state and local governments). They directly face the costs of any subsidies directed for example, at maintaining employment—as well as the costs of unemployment resulting from factories shutting down. At the same time, they often have a multiplicity of objectives, which may result in the firm not directing its full energies into enhancing productive efficiency. Moreover, in some cases, they can exert influence on local branches of banks, indirect forms of soft budget constraints which can be almost as insidious as direct subsidies.

My own views on these controversies are rather mixed. In many areas, I see little reason for there to be a significant governmental role, except as part of a transition process. The record of government-run enterprises is not stellar; yet there are enough exceptions (in this region, for instance, in Singapore) to suggest that state corporations which pay attention to individual incentives and which face hard budget constraints (including through banks) can be efficient. In my mind, more important than the ideological position is the pragmatic: if corporatization is undertaken, there needs to be due attention to individual incentives and budget constraints, and there needs to be constant monitoring, especially in the case of

regulated industries. Are the corporations exercising political influence over the regulatory authorities, in ways which adversely affect the public interest? To be sure, precisely the same issue arises in the context of regulation of private corporations: regulatory capture (or purchase) is a real danger, and it is absolutely essential to have a system of oversight. Part of that system of oversight is provided by think tanks and universities, institutions like this regulatory center. (In the case of areas where competition is not viable, like in water provision, there are a number of alternatives, such as concessions. I shall discuss those later, in section 2. 6.)

#### **2.4 OTHER PRE-REQUISITES FOR SUCCESSFUL RESTRUCTURING**

In section 2.2. I argued that prior to restructuring ownership, one should ensure that the appropriate regulatory system is in place. But more than that is required. The essential theme is that several arenas, which we previously thought of as natural monopolies, can now feasibly support competition. But we have slowly learned that making markets work is far more difficult than was once thought to be the case. There needs to be an institutional infrastructure. That institutional infrastructure includes a legal system, which can fairly and efficiently enforce contracts, competition laws (to be discussed in section 3), and bankruptcy laws. There needs to be financial institutions that can fairly and efficiently evaluate alternative investment opportunities, and that in turn requires a financial regulatory structure.

#### **2.5 PRINCIPLES OF REGULATION**

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

- We should recognize that in some segments of each industry, e.g. in the “last mile,” in telecom, the final interconnection to the user, or in long line transmission in electricity,, it may be some time before competition arises on its own. 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, 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. In Argentina, 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.
- There is a need for regulatory stability. 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 credibly commit 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.

- But not only must the regulatory structure be stable, the regulations may be enforced fairly and efficiently. Typically, there needs to be judicial oversight. But what happens in countries where the judiciary is not viewed as impartial, where the rule of law has not been firmly established.? Such countries will either find it difficult to attract capital, or will have to pay a “risk premium” to compensate. This is just another reason why it is so important for governments to work to create the rule of law. In the meanwhile, countries can rely on “private” arbitration.
- Finally, international service providers and investors are essential sources of services and financing for the telecommunications sector. As part of joint ventures, they can bring advanced technology and managerial and organizational skills. Competition for international services and investment is just as essential as it is in the domestic market—and is especially important for the development and expansion of export industries.

## **2.6 COMPETITION FOR THE MARKET VERSUS COMPETITION IN THE MARKET: REGULATION AND RESTRUCTURING IN NATURAL MONOPOLIES**

The recognition that competition is viable in large parts of what were formerly viewed as natural monopolies represents a major shift in perspectives. Yet even in these industries, there remain parts where competition will be limited—or non-existent, and hence the need for the regulatory structures described in the previous subsection. There are other industries—like local sewage and water—where competition is not likely to be viable for the foreseeable future.

In these arenas, we can still have competition—competition for the market, rather than competition in the market. We can structure “auctions” for who should be the monopoly producer. But such auctions are complicated, and the failures throughout the world provide important lessons on how this can be done well—and how it can be done badly.

To see what goes wrong, let us first picture the ideal model: there is a single good produced; there are no issues of quality. Thus, the auction can be conducted around a single variable: the price at which the producer is willing to supply the good. The lower the price, the better off consumers. Hence, the firm that bids the lowest wins the right to be the monopoly producer. And clearly, the firm that can bid the lowest will be the most efficient firm. (Some attention has to be paid to how the auction is conducted, especially when there is a chance of government corruption. Open cry Vickrey auctions, where the lowest bidder wins at the price bid by the second lowest bidder, are both transparent and efficient.)

But the world is more complicated than this picture suggests. First, there are issues of quality and changing technology. Efficiency requires trade-offs between price and quality. With changing technology, these trade-offs change over time. Even if technology did not change, there would have to be regulatory oversight. Is the monopoly supplier providing the quality that he promised?

Second, there are hold-up problems. Having signed the contract and having become the monopoly provider, what happens if he says profits are too low—will he leave? And in some cases, the threat is credible. Indeed, the monopolist can structure his behavior in such a way as to render the claim valid: he can take out assets, increasing marginal costs to the point where it is not credible that he would stay in unless the price were increased. Inevitably, given such credible threats, governments renegotiate. But the knowledge that a concessional contract is renegotiable affects bids. The bid becomes a bid for an option, not a commitment. Different bidders may view themselves as facing different costs of renegotiation or have different degrees of credibility. Thus, if

a company with strong connections to its own government believes that it can exercise political leverage to achieve a desirable renegotiation, it may then be willing to bid more—and may win the bid even if it is not the efficient producer. Some companies may be worried more about reputation than others, and the aspect of reputation that they worry about may differ. A firm that has already won a large number of such concessions may be more focused on maximizing profits out of its existing concessions, and may thus wish to attain a reputation as a hard bargainer. Such a firm may be more willing to cease production than a firm which is striving to win new concessions elsewhere in the world.

Hold up problems can be reduced by bonding, but such bonds may serve as entry barriers and may lower bids significantly if the bidders worry about the opposite hold-up problem: namely the government holding the concessionaire up. If the concessionaire cannot easily leave, then the government can argue that some term of the contract (e.g. a hard-to-measure aspect of quality) has not been fulfilled. Thus, for concessions to work, there needs to be a “rule of law,” and confidence that the regulations and terms of the contract will be fairly enforced.

There are contractual arrangements that mitigate these problems. For instance, the problems are exacerbated by market uncertainties. A firm bidding on a road concession must not only make judgments concerning his own cost of construction, but also on the demand for the highway (if for example, the toll is the variable which is being bid upon). The winning bidder may not be the low cost provider, but the individual with the most optimistic estimate of demand. When demand falls short of his expectations, he goes bankrupt, or threatens to renege on the contract. The contractual arrangements between the government and the concessionaire may have the government, in effect, absorbing some of these risks, at least those risks which it believes are out of the control of the provider. (It can do this, for instance, by making the term of the contract—the length of time over which the builder can collect tolls—depend on the demand.)

Short of that, managerial contracts which leave the government bearing more of the residual risk and having more residual control rights, yet still retain adequate incentives, e.g. through contract renewal, may be designed. Such contractual arrangements are now, for instance, being explored in the United States in the context of the provision of such basic governmental functions as education.

## **2.7 BROADER ISSUES OF PUBLIC INTEREST**

While the main objective of policy in areas like telecommunication and electricity is the efficient provision of high quality services, there are further objectives, especially in telecommunications—universal service and diversity. I believe that the proposed reforms can actually facilitate these other objectives.

- *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 approximately 1 for every 100 in 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. 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 was estimated that with the completion of the bids, more than 97% of Chileans had 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, restructuring ownership, 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 fear competition in the market place of ideas just as they fear competition in the market place of products, and there are some who clothe the old fashioned product protectionism under the new 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 restructuring ownership that I have heard in some less developed countries, and that is that it 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, and in numerous cases many, 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 introduction of competition to the state monopoly. There will be further gains to employment as the lower telecommunications costs help provide one of the essential ingredients required for broader expansion of the private sector.

Similar arguments hold for government revenues. Clearly, where well done, restructuring ownership (e.g. through privatization) 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 enhance 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.

## **2.8 TRANSITION ISSUES**

The basic principles – competition before privatization, and regulation to prevent 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; 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. In many countries, there are also problems of stranded costs—investments that appeared profitable under one regime which look unprofitable under the new one (but this may not be as important an issue in China as elsewhere).

While one should not underestimate the importance of transitional issues, neither should one let them be a barrier to change. At the very least, one needs a transition strategy. An essential ingredient of such a strategy is to immediately allow the entry of “value added” services, such as cellular telephones – services not now often provided by the parasitic 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 now 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 restructuring ownership 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. These reforms promise greater efficiency, more employment, improved technology, and greater access. 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.

### 3. COMPETITION POLICY

It is the intent of the Center to focus both on regulatory issues and competition. As I have emphasized in the previous section, a major objective of regulatory policy is to promote competition, and so the two are closely linked. But competition issues arise through the economy, not just in natural monopolies (or in industries that were once thought to be natural monopolies).

More broadly, I believe that competition is central to the success of any economy, and it has played a large role in China's success over the past two decades. But we should also recognize that firms in general do not like competition, and that notions of competition are far from the mind set of planning, which all too often saw competition as resulting in wasteful duplication. Why should there be two firms producing the same product? This is all the more reason for China's competition policy should be given such attention. Competition in any economy does not have any natural organized constituency—its benefits accrue largely to consumers, whose voice is often not heard clearly in the halls of power. I hope that this Center will serve as a champion for competition in particular, and the consumer more generally.

We have seen throughout the world reforms being undermined by the lack of competition—trade liberalization, where the benefits of lower tariffs do more to increase profits of the monopoly wholesaler/importer than to lower prices for the ultimate consumer, or privatizations in which the new private monopoly has shown greater efficiency in exploiting the consumer than in reducing costs of production.

Implementing competition policy in most developing countries, as important as it is, is not easy. For one thing, the scale of the market is sufficiently small that there may not be a large number of potential competitors. For another, the legal systems which have most effectively implemented competition policy, e.g. in the United States, have costs and require levels of expertise that make them inappropriate for most developing countries. Thus, greater reliance may have to be placed on per se rules. Devising such rules for developing countries may not be an easy matter. But one of the lessons that has emerged clearly

throughout the world in the last two decades is that potential competition in general does not suffice: there must be a high level of actual competition to provide effective discipline to the market.

China is lucky—with its vast market, a large number of enterprises is viable in most industries. And the size of the market attracts a large number of competing firms attempting to enter the Chinese market, both for trade and investment. (The high level of competition means that China should be able to appropriate much, if not most, of the rents associated with foreign investment—a far cry from the situation in the colonial period, in which foreign firms exercised monopoly power to exploit the developing world.)

But while competition is viable, government-imposed and historical barriers have resulted in competition not being as strong as it might be. For instance, while competition in the retail sector is quite strong, it has remained limited at the wholesale level. Local and provincial authorities sometimes take actions which impede competition and factor mobility across provinces, making it more difficult to establish nation-wide enterprises.

#### **4. CONCLUDING REMARKS**

China is well on the way to creating a market economy, consistent with its values and historical experiences. Over the past two decades, China has done much to establish the foundations of the market economy. New enterprises have been created, and there have been enormous changes in the structure of the economy. These reforms have already borne abundant fruit: incomes have risen and the benefits have been widely shared, with poverty reduced tremendously. But enormous challenges remain ahead, if there is to be long term sustainable and equitable growth which provides the basis of rising living standards. Among the issues that must be attacked are the creation of effective regulatory structures and the development and enforcement of strong competition policies. These policies require active public involvement and debate, and will have to address issues of great technical and political complexity. This Center has an important role to play in this mission, and I wish

you the best of luck in the years ahead. We at the World Bank stand behind you, offering help in any way we can.

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