

# Opening Brazil's Telecom Markets to Competition

Ralph Sapoznik

If two people can trade their goods making both better off, the allocation is inefficient. In an efficient allocation of goods, no one can be made better off without making someone else worse off.

Pindyck and Rubinfeld, *Microeconomics*<sup>1</sup>

**T**he history of state intervention in the Brazilian economy dates back to the colonial period. Portugal imposed a trade monopoly on Brazil, which was then a colony with a purely extractivist economy based on imports paid for with mineral and vegetal primary goods. Such imports could come only from Portugal, which generated tremendous profits for the Portuguese Crown and its protégés. With the relocation of the Royal Family to Brazil in 1808 (due to the Napoleonic Wars), the Brazilian commercial horizon began to expand to other countries and merchandise. By the end of the century, the country had developed some basic industries, mostly to supply the incipient domestic market. To establish productive and more up-to-date economic activities, many monopolies and subsidies were granted to entrepreneurs, and most industries were the private property of individuals or economic groups. State intervention was limited to issuing regulations and managing privileges among the private entrepreneurs. The government did not intervene directly or attempt to manage the process. This fact provides valuable insight into the events that followed.

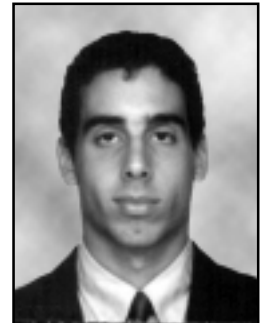
At the beginning of this century, the Brazilian domestic market for new technologies (e.g., railways) was, much like today,

unexplored. Thus, foreign groups wishing to provide such goods and services—and finance the costs of establishing the necessary infrastructure—could obtain, also much like today, rates of return far greater than those in their domestic markets. This was because the market for that technology would, more often than not, be saturated in Europe and North America by the time it was brought to Brazil. It was the possible huge return on investment that made the risk worthwhile. Additionally, competition was limited, and there was no need to develop new products. It was enough to adapt existing products to Brazilian needs.

## The Government Guarantee

The state started to intervene in the economy in a very incidental and unwilling manner when it started guaranteeing profitable rates of return to foreign investors. If the market could not provide a sufficient return on their investment, the government would pay the investor. This arrangement turned a potentially risky investment into a “riskless” venture and offered both sides a good solution to the problem. The investor was sure to get his money back, Brazil was flooded with foreign capital and technology, and consumers were happy to buy what was being offered.

By the 1930s, however, it was more expensive to pay the promised rates of return than it was to borrow money at international interest rates and buy out—nationalize—the foreign companies and provide the services through a state-owned structure. The 1940s brought World War II and the policies of import substitution. In the 1950s, the BNDE (Banco Nacional de



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Desenvolvimento Economico or National Bank for Economic Development) was created to promote industrial and economic growth at reduced interest rates. Private entrepreneurs were unable to generate enough funds to pay their debts; therefore, they paid with equity stakes in their companies. This is how, in the 1960s, Brazil became the unwilling owner of many companies, which would come to be known as the *Estatais* (“state-owned”).

As the market grew, so did the *Estatais*. During the late 1960s and 1970s, massive investments were made by the government in an effort to break even as inflation rates exploded. Most of the Brazilian economy was based on tariffs, which were regarded as key to controlling inflation. Low tariffs for local services, such as electricity, telecommunications, and transportation, meant lower inflation and higher economic growth. However, this also lowered the rates of return, which reduced investment levels from the private sector. With global interest rates relatively low and more developed countries focusing on their own growth, state ownership was the only way to maintain and upgrade the Brazilian infrastructure.

Starting in the late 1980s, however, foreign companies that could provide similar services to the *Estatais* began to experience slower growth in their own markets. The 1980s also brought higher interest rates. As a result, foreign companies began looking to expand into territories not yet crowded with local or international competitors. Furthermore, they needed places where technology breakthroughs had not yet been implemented, thus enabling incredible potential for growth. Once again, they needed places where risk was compensated by the probable rates of return arising from two “inefficiencies”: the technology gap and pent-up demand. These inefficiencies could be (and are) found in Latin America, especially Brazil. The reasons for these “inefficiencies” were threefold:

- The burden brought by the success of the *Estatais*.

- The maintenance of relatively low tariffs for local services sustained through cross-subsidies, which were regularly and sharply increased over several decades of inflation.
- The lack of competition.

### The Latin American Model for Privatization

In general, the Latin American model for privatization is composed of three stages:

- The issuance of regulatory and legal rules setting targets for opening the sector.
- The assembly and enactment of a regulatory body to fiscalize and regulate the privatization process.
- The actual sale of state companies to private initiatives, usually composed of foreign investors in association with nationals.

The consequences of this model are that, for a relatively long time, there is a private monopoly established and theoretically “supervised” by a state agency, while the crucial introduction of competition is delayed. Yet, only competition can force the players to transfer any benefits originating from economies of scale and new technologies to the consumer. There is also fierce criticism of the transfer of domestic assets to multinationals.

### Brazil’s Model for Privatization

The Brazilian model adds an interim step to the Latin American model. In addition to the regulatory body, ANATEL (Agência Nacional de Telecomunicações, the Brazilian equivalent of the FCC), the transition stage between public monopoly and open competition is *private duopoly*. There are four steps in the Brazil privatization model.

- (1) Form the legal framework by eliminating the monopoly through a constitutional amendment, by approving the new telecommunications bill, and by creating ANATEL.

- (2) Restructure and privatize the Telebrás system, which is comprised of three local fixed-phone companies, eight cellular phone companies, and one long-distance and international carrier, collectively called “old (privatized) companies” or *cessionnaires*.
- (3) Implement competition using the duopoly model. Sell authorizations to new entrants who will establish “mirror” companies to the already existing concessionaires. (The auction for these authorizations was scheduled for November 3, 1998.)
- (4) Establish open competition in the telecommunications industry.

Steps 1 and 2 have already been taken. Step 3 began after the sale of the government’s majority share of the Telebrás system and the publication of the Auction Rules for Authorizations on September 3, 1998.

The recent approval of several auction rules (e.g., “mirror” companies and rights for the commercial development of telecommunications satellite transmission) is a strong indication that the government has every intention of fully implementing this new duopoly model.

### **Brazil Privatizes Telecom Services**

On July 29, 1998, in one of the largest privatization auctions in the world, the Brazilian State assumed a new economic role in the provision of telecommunications services. It stepped back from direct intervention into a regulatory role (as prescribed by the Telecommunications Bill, Law No. 9,472/97). But the future of the telecom industry in Brazil will depend more on the market and its players than on regulation. For services to be kept at satisfactory levels of quality and access, there must be a long-term commitment by the entering “mirror” companies to make the huge investments required. These investments will signal their commitment to long-term rates of return (notwithstanding short- and medium-term fluctuations) and justify their presence in Brazil before their boards of directors.

Regulations should encourage a competitive atmosphere and consequently promote investments in quality improvement and price reductions (to gain market share). The state would then be fulfilling its new role: To ensure compliance with rules of conduct, thus allowing the market efficiencies to work with minimal constraint.

### **Building a Case for Privatizing Telecom Services**

The public telecom monopoly was an economic model adopted throughout the military administrations until 1996 when Constitutional Amendment No. 8/96 was approved. The monopoly policy resulted from the perception that the telecommunications industry was a natural monopoly and that society would be better off if it was handled by the state. Although this argument has been the focal point of many speeches, emerging technology lessens its strength. Technologies such as wireless local loop (WLL) enable the implementation of telecommunications networks at reduced cost in a short period of time. Even wire-based technologies have been perfected to such a degree that economies of scale are no longer a barrier to entry for new competitors, again breaking down the natural monopoly argument. For example, in São Paulo, the build-up of cable TV networks has been rapid. Two cable television networks, offering different and competitive transmissions, have been installed and made available to more than 15 million inhabitants in a period of less than one year. This can now be done with telephone lines as well.

Another very common attribute attached to telecommunications services is that they are *public goods*. However, as we are taught by microeconomics manuals, public goods must be *nonrival* and *nonexclusive*, which means they must be provided to an extra customer without the incidence of extra cost (nonrival). Additionally, the inclusion of this extra customer does not imply the exclusion of any customers already using it (nonexclusive). The typical example of this kind of service is national defense or lighthouses.

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This is not the case for telecommunications services.

The supply of such services by the state can only be explained with the help of another microeconomic approach to intervention in the market. Wherever telecommunications infrastructure is available, it produces positive externalities. To state it differently, the supply of telecommunications services benefits the development, manufacture, and consumption of other goods and services, which leads to a more efficient economy. This is the primary reason that ANATEL is concerned with the commitment of the buyers of the privatized companies to make the so-called public regime services (e.g., the fixed telephone service) available to everyone. ANATEL wants to ensure that the new owners of the “concessionaires” provide services not only to profitable cities, but also to the less developed, harder-to-reach areas of Brazil.

To achieve universal service, the telecommunications bill created a fund to which every telecom service provider must contribute. The money would be allocated to finance the installation of networks in poor and remote regions. The economic reason for this was to help offset the almost negative rates of return in those areas in the first years. The government will intervene in those cases—within the boundaries of its new role, of course—as it works to minimize natural disparities that could not be resolved by the private companies themselves. This is the equivalent of government assistance to victims of catastrophes or wars, where the power of individual interests would not be enough to overcome the resultant market failures. The universal service duties are governed by Articles 79 through 82 of the telecommunications bill. Article 81 determines the funding of such duties (when they cannot be achieved exclusively by the efficient commercial exploration of the service by the supplier) through federal, state, and municipal budgets (Item I) and by the universal services fund (Item II).

The argument that domestic entrepreneurs are unable to compete for the huge volume of international capital is also a

fallacy. Although only one-fifth of the Telebrás system ended up in Brazilian hands, we have watched national groups react to the flood of international investment with aplomb and finesse. And they are showing results.

The need for financial health and the willingness to face competitors is obvious. Artificial barriers created in a monopoly environment may benefit some people, companies, or special groups at the expense of all others which, in turn, can lead to market inefficiencies. Eliminating such artificial barriers through competition will benefit the economy as a whole. Other market failures that may arise will most likely be from asymmetric information owned by the provider such as its willingness to implement new technologies in Brazil.

On the other hand, it could be argued that restrictions should be imposed on capital from foreign companies wishing to participate in the privatization of Telebrás. This would give national enterprises more time and experience before having to compete with international giants. One solution would be to give national groups the advantage of buying a ready-to-operate system with all its inherent advantages (see below). If this was the case, no harm would be caused other than selling Telebrás for less. One could not say that the more efficient companies were being left out. They would have every chance to enter the market afterward as “mirror” companies bidding for authorizations, or even later when the market is opened to full competition.

Table 1 shows the results of the sale of Telebrás.

### The Duopoly Model

A good explanation of the government’s rationale is provided by the Ministry of Communications of Brazil in *The General Guidelines for the Opening of the Telecommunications Industry*:

[T]he duopoly structure presents some advantages. First of all, it

Table 1  
Results of the Telebrás Auction

Company	Price Paid (in R\$ 000s)	Composition of the Winning Bidders	% of Total Paid	Premium Paid (%)
Telesp Participações (Fixa)	5,783	Telefónica de España/Portugal Telecom, Iberdrola, Banco Bilbao y Viscaya	26%	64.28
Tele Centro Sul Participações (Fixa)	2,070	Telecom Itália	9%	6.15
Tele Norte Leste Participações (Fixa)	3,434	Andrade Gutierrez/Inepar, Sul América Seguros, Funcef, Antonio Dias Leite and Aliança da Bahia	16%	1.00
Embratel Participações (Fixa)	2,650	MCI	12%	47.22
Telesp Celular Participações	3,588	Portugal Telecom	16%	226.18
Telemig Celular Participações	756	Telesystem, Pension Funds and Opportunity	3%	228.70
Tele Sudeste Celular Participações	1,360	Telefónica de España, Iberdrola, Itochu e NTT	6%	138.60
Tele Celular Sul Participações	700	Globo, Bradesco e Telecom Itália	3%	204.84
Tele Centro-Oeste Celular Participações	440	Grupo Beldi (Splice)	2%	91.30
Tele Nordeste Celular Participações	660	Globo, Bradesco e Telecom Itália	3%	193.83
Tele Norte Celular Participações	188	Fundos, Opportunity and Telesystem	1%	108.88
Tele Leste Celular Participações	429	Telefónica de España, Iberdrola	2%	242.40
Total Amount Paid	22,057		100%	63.76

Only one-fifth of  
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tem ended up in  
Brazilian hands.

Note: US\$1.00 = R\$1.17 (as per July 29, 1998 exchange rate)

Source: Brazilian Ministry of Communications

allows adequate planning for granting new concessions based on the level of investment and coverage proposed by each bidder. In addition, competition will be limited at first and price wars will be avoided, ensuring a safer return on investment. There are risks involved. Investments in parallel infrastructures and possible price reductions

would decrease the value of the business for each of the duopolists and, for that reason, the probable behavior of both will be cooperation toward an architecture which would avoid or minimize those inconveniences. The result would then be monopolies in very defined regions with some competition on their borders and the conquest of

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more profitable consumers. Thus, if the regulatory body imposes similar obligations for the new (“mirror”) companies as it did for the old (privatized) ones—both would have to supply the service to consumers, independent of where the consumers are—the result would not change, since those obligations could be bypassed by agreements between the companies to sell their services. These complications demonstrate that the effort of the regulatory body would be harder than at first thought in order to assure the development of effective competition in the industry.

The existence of a non-rigid duopolist situation makes it more difficult for the players to negotiate agreements in order to geographically divide the market, as there may always be a new company interested in investing in a share of the market which would represent a demand not met. *(It must be remembered that after the duopoly stage, the entire market will be open to unrestricted competition and regulated only for antitrust behaviors.)* The non-restricted interconnection and the possibility of new entrants to acquire access to their networks from the old (privatized) dominant companies where they find the need shall reduce the investment on duplicating infrastructure. These two aspects shall benefit the growth of competition and, associated with the gradual flexibility of the obligations first imposed upon the old (privatized) dominant companies, may allow, in the medium term, the creation of a competitive atmosphere, thus requiring much less intervention by the state regulatory bodies (mainly ANATEL). That is the reason why duopoly is a temporary stage of transition, with the final model

being open competition with no limit on the number of companies operating the networks.

The most important characteristic of oligopolistic competition, and especially duopolist competition, is different from open competition—“when competitors will be doing their best given a certain price they cannot alter”—and the attitudes of one duopolist directly impact the decisions of the other. Because they also possess a degree of monopoly power, they may change the conditions of prices and quantities offered. Many models were developed to explain their conduct. French economist Augustin Cournot proved that a duopoly will achieve equilibrium when each competitor is producing an amount that maximizes its profit given what its competition is producing, so neither has any incentive to change.

In our study, though, another variable must be considered: one of the competitors (i.e., a privatized company) is given the chance to move first and establish a short-lived but crucial *de facto* monopoly before the entrance of the “mirror.” Therefore, going first gives the advantage of creating a *fait accompli*. This determines the level of output the first mover will be providing, forcing the second entrant to accept it as a given. However, repressed demand, if any, may absorb this level of output and set high levels of output for the “mirror” as well. Competition would then be forced onto pricing and quality levels rather than output/availability.

In summary, if equivalent obligations and restrictions are imposed on the old (privatized) dominant companies and to the new entrants, the concessionaires could create such immense barriers to entry for the “mirrors” (because of the already existing “assets” and the first move advantage) that it would not be viable for them to invest. The equalization, although reflected in the price paid for the concessions (privatized) and authorizations (new entrants), will make it easier to turn a stable constitutional monopoly into a dynamic competitive equilibrium.

### Anti-Competitive Behavior

Some consideration must be given to the patterns of noncompetitive behavior in this model. An inevitable market power is going to be reached by the duopolists. First of all, they will be monopsonists. The end of state intervention in the management of these companies will allow them to choose the suppliers of their inputs at will. International providers will probably become more active in the country, either through direct investment, associations, or the export of goods to Brazil. However, obtaining import certificates for telecommunications goods was made more difficult by ANATEL on September 25 in order to revert the international trade deficit and the outflow of dollars arising from the import of such goods.

Although free competition already reined in the supply of equipment to the telecom companies, from now on, they may choose the supplier without any kind of bidding procedure. They may purchase from local or foreign manufacturers, and the choice may be based either on a price/quality ratio or on any other kind of relationship. Small local producers are the ones most likely to suffer as the new owners of the companies and traditional worldwide suppliers form new partnerships. A relevant point to be introduced is that the vertical integration of these companies (i.e., the presence of equipment manufacturers in the consortia controlling the service providers) greatly expands the bargaining power of not only the specific competitor, but of the industry as a whole during its negotiations with its suppliers.

As for the consumers, the duopolists could behave as a unique trading bloc, bending the balance of the “consumer × supplier” relationship. The unique trading bloc techniques are characterized by a parallel and *intentional* determination of prices and quantities, through:

- “Price signalling”—probably performed by the first mover, i.e., the concessionaire (privatized, dominant company).
- A “collusion/cooperation” situation (one firm must “trust” the other not to break

the unstable equilibrium), in which a long-term relationship and coexistence must develop (or has already been developed).

As most of the new players in Brazil are companies which have been building commercial agreements among themselves, including but not limited to cross ownership of shares, this is *not* an issue that can be ignored. The antitrust agency (CADE—*Conselho Administrativo de Defesa Econômica*, the Brazilian equivalent of the Federal Trade Commission) and the telecommunications agency (ANATEL) must be aware of this eventual anti-competition problem. The prerequisite for collusion or parallel behavior is a system of information which allows one player to perfectly understand the intentions of the others—hurting the above described competition model. Evidence of that includes fast reactions to competitor price changes that arise not from alterations of cost structures, but rather from an exchange of information among the firms.

It is the duty of antitrust agencies to identify such quick changes in prices and differentiate them from competitive reactions to newly published prices. A simple, not absolute criterion is the verification of how fast the reaction takes place and how regular this behavior occurs. Another is an increase in price that is not based on the alteration of the cost of the input factors common to both of them. Verifying whether the same player always changes the price first and drawing a pattern may also indicate a noncompetitive situation. Of course, to prove any anti-competitive behavior, all evidence must be put together and lead to a conclusion beyond reasonable doubt.

The model tried to escape the anti-competition problem by not creating large nationwide companies. These would probably be complementary to each other. Consequently, they would have strong incentive to collude and avoid competition, making it more difficult for the regulatory bodies to intervene (also due to the probable political strength of such companies).

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Competition is more likely to prevail in smaller regional companies.

Furthermore, entry deterrence in the market is not due to the law, but to a *credible* commitment to price and output levels by the first mover (the owner of the privatized company), which may lead to a change in the pattern of the new entrant (duopolist competitor, owner of the “mirror” company). The government tried to eliminate such deterrence through the placement of universal service obligations on the privatized company and *not* on the “mirror” company. The difference of values paid for the authorization (mirror) and concession (privatized) are likely to reflect the success of the strategy.

One must not forget that not only will there be competition among the providers of fixed telephone services and cellular services but, because these are interdependent markets, a general equilibrium shall be reached. If parallel behavior also arises in this case, it proves even more consistently that these products and services belong to the very same market. The mentioned equilibrium shall be in terms of price and quantities of service provided in all of the telecommunications subsectors. Cellular phones will compete with fixed ones and with trunking and radio systems. Personal communications systems (PCS), which are forbidden to be installed in Brazil until 2001 (a restriction imposed by Cellular Band B Auction Rules), shall impact the former equilibrium and so on, dynamically stimulating the continuous need for investment in the country.

Cartelization is, thus, hard to achieve, as new technologies would be constantly forcing the equilibrium toward new positions. So is collusion, with the exception of the cross-ownership situation, as a small decrease in price would grant a large market share to the competitor. (This market share would be constantly increasing as long as repressed demand exists.) Both would also be repressed by national antitrust and telecommunications agencies.

Finally, there is a clear vote of trust in market forces by Brazilian policy makers.

From duopoly, the telecommunications model will evolve to open competition within the next few years. Any firm will be able to enter the industry with no legal limitations but those imposed by technical and technological constraints and compete with any other firm in any service provided. At this point, and even before, during the implementation of the duopoly system, it is the market that will determine where to establish competition and where there actually is a natural monopoly allowing only one company to act. The rules do impose upon the privatized companies the duty of providing universal service, but do not impose it on the “mirror” companies or the companies arriving during the open competition stage. In that case, if it is uneconomical to have more than one provider in a certain area, only the privatized company will be selling its services there, under monopoly conditions.

With a population of 158 million inhabitants in 1997, there were only 6 million mobile phones (up from 2.8 million in 1996), and 19.5 million fixed phones (up from 16.5 million in 1996). Brazilian consumers are more eager for service than ever before. nto

*Editor's Note:* Questions or comments can be forwarded directly to Mr. Sapoznik at [sapoznik@netpoint.com.br](mailto:sapoznik@netpoint.com.br).

### Bibliography

- Baer, W. “A Economia Brasileira,” Brazilian Edition, Editora Nobel.  
 Brazilian Federal Constitution (1988).  
 Brazilian Telecommunications Bill and other legal texts.  
 Pindyck, R. S. and D. L. Rubinfeld. *Microeconomics*, Second Edition (New York: Macmillan, 1992).  
 Salomão Filho, Calixto. “Direito Concorrencial: as estruturas,” 1998, Malheiros editores.

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<sup>1</sup> R. S. Pindyck and D. L. Rubinfeld, *Microeconomics*, 2nd Edition (New York: Macmillan, 1992).