

**Competition Policy in Infrastructure Services
Second Generation Issues in the Reform of Public Services**

Infrastructure and Financial Markets Division and the Multilateral Investment Fund
Inter- American Development Bank
Washington,DC.

April 23-24, 2001

Merger Control in Infrastructure Industries

Paulo Correa

Deputy Secretary
Secretariat for Economic Monitoring
Ministry of Finance, Brazil

Phone.: + 55 61 412 2360
Fax: + 55 61
Email: correap@fazenda.gov.br

The general problem of the antitrust authorities in merger control in infrastructure does not seem to be very different from that in ordinary industries. The authority is concerned with how to maximize economic surplus (consumer plus producer surplus) subject to: a) technologies that involve economies of scale, scope and economies of vertical integration; b) demand that is relatively low compared to minimum efficient scale and c) the existence of regulatory measures. In this sense, economic analysis should not differ much either, as the international experience illustrates. For that purpose, the usual antitrust framework, including the traditional merger guidelines seems to be sufficient.¹

Although merger in infrastructure does not seem to require a different framework for analysis or a special policy, the transition environment in which infrastructure mergers occur legitimate special concern from public authorities. First, different paces of demand growth and technological progress may generate distinct efficient market configuration in closely related industries, which implies that different legal requirements are imposed to these closely related industries. Second, most infrastructure market are in a transition from state-owned monopolies to competition, an environment characterized by change and where history matters. When the starting point is market dominance and not competition, the probability that merger activity enhances dominance may be higher than in sectors in which effective competition is relatively in place.

Institutional asymmetries and the pre-existence of market power may alter the way certain mergers affect economic welfare. Mergers that are often cleared by most of antitrust authorities when they occur in ordinary industries may receive a less lenient treatment as they take place in infrastructure. In the next section, I will try to illustrate how vertical integration, joint-ventures and conglomeration, may be relatively more harmful to competition in infrastructure than in ordinary industries and could therefore jeopardize the welfare benefits from the reforms. Complementary, I will also try to point out some characteristics of the developing markets that may introduce additional difficulties to merger control in infrastructure.

¹ For example, USFERC uses the USDOJ-FTC merger guidelines for analyzing mergers in power industry. Australian ACCC is itself in charge of merger control in infrastructure industry. Brazilian antitrust authorities and the regulatory body for electricity are discussing the adoption of a common framework for merger analysis. Some specificity, however, is worth mentioning. In defining relevant markets, a time-dimension could be more a important feature of the product-market in the electricity industry than in ordinary sectors, as prices may differ under different load conditions during the day or during the year. Legal barriers to entry may be also more important in infrastructure than in other sectors and network effects introduce additional problems when examining the likeliness of entry. Antitrust authorities in some countries may be less able to rely on entry to mitigate market power when, for instance, a hydroelectricity power generation plant can not be built in less than four years and there are not other alternative technologies. Finally, behavior remedies may be more frequent as regulatory oversight is often in place.

Horizontal mergers

I shall start my comments, however, with the traditional case of horizontal mergers. Most of the concerns here are related to particular characteristics of these markets and do not involve any conceptual novelty regarding the way we examine these mergers.

The British experience, for instance, is a good illustration of how two power generation firms were able to set market prices even though there were approximately eight other firms in the power generation segment of the electricity industry. Market power came from a variety of sources. Some portions of the grid were capacity- constrained during some load conditions, which created then local monopoly conditions. Some of their plants were located strategically on the grid and from time to time were required to run “for liability”, which also gave some “leverage” to the firms. None of these sources, however, are similar to those present in horizontal mergers in ordinary industries.²

Horizontal mergers between potential competitors

Concerns about the effects of an horizontal merger between potential competitors have been limited in most antitrust jurisdictions. The “perceived potential competition” hypothesis, in particular, has been criticized on the grounds of its theoretical and empirical weakness. According to this hypothesis, a merger should not be approved if one merging party is perceived as a prospective competitor and is therefore reducing the ability of the other merging party to increase its prices. Difficulty arises when the authority has to identify empirically the effectiveness of the threat imposed and whether the threat is credible given all the possible strategic reactions by the acquiring firm (incumbent). When analyzing more traditional antitrust mergers, antitrust authorities have preferred to rely on the evaluation of entry conditions.³

² As a result subsequent orders for divestiture of generation capacity were issued by the British authorities. Na example of a more “old style” horizontal merger is the take-over by BP Amoco of Atlantic Richfield. The acquisition would have created dominant positions on the market for the transport of unprocessed natural gas to the UK through off-shore pipelines from fields in the Southern North Sea sector of the UK Continental Shelf and also on the market for processing natural gas in processing facilities on the UK mainland servicing the Southern North Sea area. In order to eliminate the competitive concerns, EU antitrust authorities required BP Amoco had to divest certain pipeline and processing interests.

³ In the US, despite the strength of the antitrust policy during the 60’s and the important initiative of subsequent decades, very few mergers in the manufacturing industry were blocked base on this doctrine. In fact, I have learned of only two cases between 1974 and 1997 (the Warner-Lambert and the Yamaha-Brunswick cases) from the 34 cases initiated.

In some infrastructure sectors, however, horizontal mergers among potential competitors have already motivated a more active behavior by antitrust authorities. In the US, for instance, the FTC challenged Questar Corporation's attempt to purchase a 50% interest in the Kern River Gas Transmission Company. Questar owned the only pipeline serving large industrial customers in Salt Lake City. Kern operated another interstate pipeline running through the area and was planning to build a connecting pipeline to serve industrial consumers, in competition with Questar. As a response to that decision, even before construction started, Questar was lowering its prices to certain customers. Upon FTC's filing of the injunction action, the parties abandoned the transaction.

Horizontal merger among potential competitors in infrastructure might impose more risks to competition than in manufacturing sectors perhaps because entry is more difficult in infrastructure and because there are few potential entrants. In developing countries and during the transition period, this concern may be aggravated by the fact that privatization is occurring through transnational acquisitions. According to the World Investment Report (2000), among the world's 30 largest privatization deals involving foreign firms between 1987 and 1999, 12 of them involved the acquisition of infrastructure firms in Latin America (mainly Brazil and Argentina) by transnational companies, corresponding to approximately US\$30 billion.

Vertical Mergers

Since the mid 70's, antitrust authorities have adopted a more lenient approach to vertical mergers.⁴ Academic research had successfully demonstrated vertical integration for the purposes of foreclosure to be highly unlikely. In many grounds, vertical integration was considered to be efficient otherwise it could not be profitable. Vertical merges, however, may hurt competition when they increase entry barriers or raise rival's costs, enhancing dominant position. As dominant position is a feature of the transition period in infrastructure industry, antitrust authorities might want to adopt a less lenient approach to vertical integration in these sectors.

In order to make entry in the market of the acquiring firm more difficult, a vertical integration must become necessary entering the market at two levels instead of one. A two-levels entry might be

⁴ Vertical mergers may be defined as merges between companies at different levels in the chain of production that have actual or potential buy-seller relationships.

necessary when alternative supply is not available in a reasonable period of time and the acquiring firm has incentives to deter entry. Vertically integrated incumbents in the infrastructure industry may wish to deter entry for at least two other reasons: the delay may increase even further the costs for entrants, as when switching costs are relevant for consumers, for instance; and it may slow the establishment of a competitive market, for example, by avoiding investments that are needed to overcome bottlenecks in transportation services.

The concern with the welfare impacts of vertical mergers may be aggravated in developing countries, where incumbent's market-share tend to be higher and more generalized factors – such as poorly operating markets and country-risk – often make entry more difficult. In fact, according to the Mining Journal (July 2nd, 2000), BHP, an Australian competitor in the global iron ore industry, reported to have decided against acquiring Samitri, a Brazilian iron ore firm, because “with Companhia Vale do Rio Doce (CVRD) [the Brazilian incumbent] owning all railway and port facilities, it would make more strategic sense to work on a joint-venture basis” .

In the US, the FTC challenged a merger between a dominant provider of electric power in Virginia, Dominion Resources Inc. with the primary distributor of natural gas in Southern Virginia, which involved the acquisition of Virginia Natural Gas Company. FTC alleged that entry into the electric power generation market in Southeastern Virginia by companies unaffiliated with Dominion may be deterred because of its control over Virginia Natural Gas. FTC specifically alleged that the market for the delivery of natural gas in the region was characterized by high entry barriers and that extending the other natural gas companies' existing pipelines would be costly, time-consuming and extremely difficult, as the entrant would need to obtain new rights of way. Additionally, FTC argued that nearby pipelines lacked sufficient excess capacity for serving prospective entrants into the generation segment of the industry. FTC concluded therefore that Dominion's acquisition of Virginia Natural Gas would inhibit new entry into electricity generation and required Dominion to divest this business.

Convergence mergers

Another important concern with vertical mergers are the incentives to raise rival's costs by increasing input prices or restricting its supply. One particular type of vertical mergers that may have this kind of effect is the so called convergence merger, in which electric generation companies seek to acquire fuel suppliers of its rivals or potential competitors. Convergence mergers affect

competition in two ways: consumers will probably pay higher prices and more productive generation plants will probably be driven out of the market as the merged firm favors its own facilities – to the detriment of the others.

In 1998, the USDOJ challenged the U\$ 6 billion combination of Enova Corporation and Pacific Enterprises, a merger between electric and gas pipeline utilities. Enova is the parent company of the third largest electricity provider in California and Pacific is virtually the sole provider of natural gas transportation services to Southern California and the sole provider of natural gas storage services in California. Because the price per unit of electricity for any given half hour is determined by the most expensive unit sold that half hour, a combined Enova-Pacific would have the incentive and the ability to limit gas supplies to competing gas-fired generators if it acquired Enova's low-cost generating assets (which would profit substantially from increases in the price of electricity during periods of high demand). USDOJ allowed the merger to proceed once Enova had sold its two largest low-cost electricity plants.

The PacifiCorp-Peabody case, another convergence merger, illustrates how the access to rival's proprietary information by means of acquisition of a input supplier may have anticompetitive effects. PacifiCorp proposed to acquire Peabody Coal Company, a company that produced 15% of the coal mined in United States and provided coal to approximately 150 power plants in Western states, many of them competitors of PacifiCorp. The concern was that through Peabody's coal supply relationships, PacifiCorp could learn sensitive data about competitor's costs and operating conditions, enabling it to raise its bids instead of keeping it close to its own costs. FTC required PacifiCorp to establish a firewall that would have forbidden Peabody from disclosing certain non-public information to PacifiCorp.⁵

Extending monopoly power

A similar concern with vertical mergers in infrastructure occurs when a regulated monopolist of an input acquires a firm with large market-share in an unregulated market. Vertical mergers may reduce welfare when they create conditions to the monopolist to extend its market power over the

⁵ PacifiCorp also acquired two coal mines (Kayenta and Black Mesa) which are the sole source of supply for two electricity plants (Navajo and Mohave) that compete with *PacifiCorp*. For Navajo and Mohave have substantial off-peak excess capacity, these two plants supply other utility companies in the Southern states. Therefore, raising fuel prices for Navajo and Mohave would put upward price pressure on electricity over a wide regional area. FTC required PacifiCorp to divest both mines.

unregulated market, by raising its rival's costs.⁶ Governments have two basic options: by means of regulation or by means of antitrust. The regulatory option – prohibiting regulated firms to participate in unregulated markets -- eliminates the anticompetitive problem but risks losing potential economies derived from the integration. The antitrust option would permit the approval of efficiency enhancing mergers but would not eliminate the incentives to discriminate against competitors, increasing the necessity of regulatory oversight and antitrust supervision of business behavior (or a combination of both).

In the telecommunication industry, a good example of this trade-off in terms of public policy has been the acquisition of independent internet providers by local carriers, combined with providing access at zero price.

Benefiting from the volume of calls generated by internet providers, local carriers may share the generated economies of scale by means of financial transfers to their integrated internet providers. Monetary transfers from local carriers to their integrated internet providers (but not to rivals under identical volume of calls) combined with zero access price may express an intent to raise non integrated rival's costs in the market for internet provision.

Solutions to this problem have been different around the world. In the UK, legal provisions require extending the monetary transfers to competitors in the market for internet access. In Brazil, when Telefonica (a local carrier for the state of São Paulo) acquired Terra (ex-Nutec), one of the top five providers of internet access in Brasil, SEAE recommended Cade (the Brazilian Competition Tribunal) to impose, as a condition for the approval of the deal, that Telefonica extend its monetary rewards policy towards Terra to other competitors in the market for internet access until 2004, when legal and market conditions would make competition between local carriers possible.

Discrimination of non integrated internet providers by integrated local carriers are of minor concern in Australia, since competition at local level makes unlikely anticompetitive price discriminations.

Compania Vale do Rio Doce (CVRD) is the world largest firm in the iron ore industry and accounts for more than 65% of the Brazilian iron ore market. Brazil is a net exporter of steel products, mainly due to its comparative advantages in the iron ore. After privatization in the mid 1990's, CVRD started diversifying its investments to the railway industry, acquiring most of the privatized Brazilian railroads. These acquisitions could not be considered anticompetitive in traditional

⁶ From the regulator's perspective it is worth mentioning that vertical integration could enable the monopolist to evade rate regulation.

grounds since all sections of the Brazilian railway network were complementary to each other and intramodal competition from truck transportation for most of the products was an effective alternative. Since 1998, the Brazilian antitrust authorities received a series of complaints from CVRD competitors in the iron ore industry related to boycotts, refusal to deal and other discriminatory policies.⁷ After strong financial distress, one of the complaining firms (Samitri) was acquired by CVRD in May 2000, while the second one was just acquired in April 2001. CVRD's dominant position in the Brazilian iron ore industry jeopardizes the export performance of the Brazilian steel industry.

In a similar Australian case in 1999, the National Competition Council denied Robe River the right to access Hamersley's railroad network in the Pilbara region. Based on the concept of essential facility, Rob River argued that without access to its rival's railroad network the development of a new iron ore mine in the region was unlikely to be profitable which, in turn, would harm its competitive position in the Australian iron ore industry. After initiating the project (including the duplication of the railroad), Robe River started suffering financial losses and ended up being acquired by Rio Tinto, owners of Hamersley.

Conglomerate mergers

Antitrust authorities often ignore pure conglomerate mergers.⁸ A usual exception to this vision is the concern that conglomerate mergers enhance the likelihood of "mutual forbearance". If conglomerate firms compete with each other in more than one market, each firm may decide independently to compete less vigorously with its conglomerate rival in a market in which it is strong in order to avoid retaliation in a market where the firm is relatively weak. This concern may be increased when the dominant firm faces very few rivals that are situated in adjacent markets as it seems to be the case in most of infrastructure industries. In these industries -- specially in emerging markets where demand tends to be low -- three or even two firms are likely to be the equilibrium number of firms in the industry. Duopoly coexistence -- as is often common in railroads, for

⁷ At least in one case, a contract between CVRD and a iron ore rival would condition the access to its railroad infrastructure to the agreement of not supplying certain foreign markets, such as France and Italy. According to the sector law, price and other conditions of the railway service should be negotiated by the supplier and the customer and there was not any clear-cut open-access provision either in the sector law or in the antitrust legislation.

⁸ Conglomerate mergers are mergers without any horizontal or vertical effect and therefore involve firms operating in unrelated markets.

instance – together with the possibility of mutual threats may be a powerful incentive against aggressive policies, favoring long-run joint-maximizing behavior.⁹

Conglomeration may be particularly dangerous to competition when it involves the acquisition of firms operating in unrelated (segmented) geographic-markets of the same good. Geographic segmentation can be rather transitory, due to temporary regulatory or technological limitations. Once these limitations are removed and market is unified, former regulated local monopolists may become, automatically, national unregulated dominant firms.

In Australia, ACCC challenged the acquisition of Allgas Energy Limited by Boral based on similar considerations. Allgas had a combined gas retail and distribution business. Boral is a gas retailer and also operates Envestra's gas distribution network. Boral and Allgas were assigned retail/distribution franchise areas (Boral on the northern side of the Brisbane River and Allgas on the southern side, supplied the Brisbane domestic, commercial and industrial gas loads) and therefore are not actual competitors. Retail and distribution franchises, however, were phased out in the transition to free-markets. As a result, Allgas and Boral were already competing in the supply of gas to industrial customers. Contracts had already been written with customers in anticipation of deregulation at rates lower than those offered under previous contracts. The deal did not go through.¹⁰

Joint-Ventures

Although major concerns are the same as in horizontal mergers, joint-ventures are often more complicated mainly because of the variety of forms it may assume. One feature of these joint-ventures is cross-participation. Cross-participation in the telecommunications and electricity industries proliferate. In developed countries alliances in the telecommunication industries are a key element of business behavior, due to the increasing costs of innovation. In developing markets,

⁹ Let me suggest a slightly different but more concrete situation. Suppose firms A and B are local distributors of electricity in cities A and B, respectively. To simplify, assume A is prohibited of marketing energy to customers A, B is under the same prohibition regarding consumers B but A is allowed to compete in A marketing segment and B can in B marketing segment. In this environment distributor A might have an incentive to discriminate against B's rivals in A marketing segment in the expectation that B would discriminate against A's rivals in A marketing segment.

¹⁰ From 1992 to 1999, Spanish Endesa, for example, became the largest operator in electricity industry in South America, with investments of over US\$ 8 billion and up to 25 million customers in Brazil, Chile, Colombia, Peru and Venezuela. Does it involve any risks for the eventual establishment of a unified market for electricity in the South America region?

R&D is not a strong activity but alliances between potential competitors are still frequent means to reduce firm exposure to country-risk. Local investors – specially pension funds – have been also inclined to reduce business-risks by taking stakes in more than one firm.

This web of mutual obligations and interests, however, might dilute the independent competitive incentives that would exist for strong competition in each market. As a result, local utilities might be able to manage competition for their mutual benefit against potential entrants and consumers. That may take the form of traditional overt agreements or more subtle forms, as tacit collusion and the lobbying for regulatory measures that inhibits competition (as the permission for incumbents to establish medium and long term contract with customers before free-choice is allowed).

In the Brazilian privatization of electricity distributors, cross participation is often the case. These joint-ventures could not be considered anticompetitive, since the privatized entities have monopoly rights over the distribution of electricity in different geographic markets. But we can not be sure how this partnership affect private incentive to compete in the marketing segment once Brazilian final consumers are free to choose their electricity provider. Even if we agree that the merger has anticompetitive effect, the overall impact is not clear: once capital markets are imperfect and country risk can not be disregarded, these joint-ventures might be, from the private investors' point of view, the only way to enter a new market.

One illustration of the anticompetitive risks of cross participation is the recent agreement between Petrobras and Repsol. Petrobras is the state-owned Brazilian oil incumbent with a market share larger than 90% of the refining industry and the legal monopoly over oil imports. Repsol acquired Argentine YPF in 1999 and, even though it has been required to divest several assets, it still became the largest operator in Argentina's oil industry. As a result of the joint-venture, Repsol received a 30% stake in Refap (and it is known to increase), a Petrobras' refinery in the southeast state of Brazil – Rio Grande do Sul. Brazilian and Argentine refining markets are still separate mainly due to Brazilian regulatory measures and therefore the operation could not cause any harm to competition. The Brazilian oil industry, however, is under deregulation and Brazil and Argentina are Mercosur's members, both meaning that in the short run we could expect some degree of unification between the refining markets. Once markets are unified, Refap and the Repsol's refineries in the north of Argentina are likely to be competitors (horizontal "joint-venture" among

potential competitors). To what extent Repsol's stake in Refap is likely to reduce its incentives to compete with Petrobras in the future is an open question.¹¹

Brazilian telecommunication privatization granted rights to exploit certain telephony services to a limited number of companies. For example, in São Paulo, the local carrier is Telefonica of Spain; Portugal Telecom, the owner of Telesp Celular, is legally entitled to explore cellular services in the same area and both have recently established a joint-venture for the cellular and fixed phone industries. Regulation defining franchising areas and performance standards seemed to be sufficient to avoid strong welfare losses, but as regulation evades (in 2002, for instance, it is expected to have free-entry in the local markets for fixed phones services), this joint-venture may impose more severe concerns.

Coming back to the social planner's objective, the above examples illustrate how the basic problem of the antitrust authority may be slightly different in the context of infrastructure services. In this context, antitrust authorities may want to avoid that franchised monopolies be replaced by stable market dominance. For that purpose, additional effort from antitrust authorities in building technical capability in this field will be necessary. Not only to deal with traditional problems associated to government failures but, prior to that, in order to obtain the necessary conditions to make the appropriate normative recommendations.

¹¹ [Nevertheless, Petrobras argues that, as a result of partnership, Repsol will make the necessary investments to increase Refap productivity – investments that would not have been done otherwise – enhancing competition in Brasil. The case is still to be decided].