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Telecommunications Law and Technology in the Developing World

Edward R. Leahy * & *Michael O'Brien* **

INTRODUCTION

The world is currently divided into information-technology haves and have-nots. Developing countries have approximately 75% of the world's population but only 12% of the world's telephone lines;¹ approximately 4 billion of the world's 5 billion people do not have a telephone.² The 24 developed member countries of the Organization for Economic Cooperation and Development ("OECD") average 49 telephone lines per 100 inhabitants, while the rest of the world averages 3.5 lines per 100 inhabitants.³ Indeed, some of the poorest countries average less than 1 line per 1,000 inhabitants.⁴ The advent of Internet computing and its corresponding increase in equipment costs threaten to exacerbate this disparity.⁵

Modern telecommunications affects much more than a nation's communications industry *per se*. Telecommunications is connected inherently to advances in other critical areas.⁶ For example, education which utilizes multimedia systems in place of plain textbooks can increase student retention rates significantly and provide children with greater educational opportunities.⁷ Similarly, health-care systems can

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¹ See ROBERT J. SAUNDERS, ET AL., TELECOMMUNICATIONS AND ECONOMIC DEVELOPMENT 4 (2d ed. 1994).

² BELLA MODY, ET AL., TELECOMMUNICATIONS POLITICS: OWNERSHIP AND CONTROL OF THE INFORMATION HIGHWAY IN DEVELOPING COUNTRIES xvi (1995).

³ *Id.*

⁴ *Id.*

⁵ While technological advances and increased competition in telecommunications equipment have lowered the cost of basic equipment for voice transmission, the need to possess equipment that can send and receive images, video, text and voice (*i.e.*, a personal computer-type device) in order to take advantage of current technology has resulted in a net increase in equipment costs.

⁶ See *infra* notes 7, 8 and 9 and accompanying text.

⁷ See Information Infrastructure Task Force, *The Global Information Infrastructure: Agenda for Cooperation*, section I(C) (1995) (version 1.0), (March 15, 1999) <<http://www.iitf.doc.gov>> (under documents). The Information Infrastructure Task Force is a cross-agency endeavor among

be improved through telemedicine facilities that link rural physicians to major medical centers for assistance on difficult diagnoses,⁸ and financial markets thrive on the free flow of information.⁹

It is a principle of mainstream economics that information is as fundamental for production as are labor and capital.¹⁰ As one economist stated, "You can grow produce without fertilizer, just as you can run an economy without telecommunications, but each is considerably less efficient without these basic inputs."¹¹ Since telecommunications is now commonly seen as the nervous system of the modern nation (in the way that transportation channels once were), it is widely acknowledged that improving developing countries' telecom systems must be a top priority.¹²

Political leaders have acknowledged the priority of telecommunications development by calling for greater private investment in telecommunications. Unfortunately, the relationship between telecommunications investment and the developing world presents a rather vicious circle: political and economic instability inhibits foreign investment in telecommunications, while the lack of investment in telecommunications fosters political and economic instability. One of the primary purposes of telecommunications law in the international arena must be to end this detrimental cycle and its harmful effects on the peoples of developing countries.

Once the nexus between telecommunications development and overall standards of living is recognized, it can be understood why an individual may consider telecommunications development to be analogous to a moral or human rights issue.¹³ For example, Vice President

the Department of Commerce, the National Telecommunications and Information Administration ("NTIA"), the National Institute of Standards and Technology ("NIST") and the Office of Information and Regulatory Affairs.

⁸ See *id.* The government of Mozambique recently inaugurated one of the first telemedicine facilities in Africa. The system will be used to facilitate medical consultation, pathology diagnosis, education and emergency services to rural areas.

⁹ Indeed, over-the-counter ("OTC") quotation systems such as the Nasdaq Stock Market *are* telecommunications systems.

¹⁰ See Gwen Urey, *Infrastructure for Global Financial Integration: The Role of the World Bank in* MODY, ET AL., *supra* note 2, at 124.

¹¹ W. Richter, Economic Justification for Telecommunications Investment in Developing Countries, Address before the 10th ICC Executive Forum *Global Imperatives for the '90s* (May 18, 1990), quoted in Urey, *supra* note 10, at 124.

¹² See Information Infrastructure Task Force, *The Global Information Infrastructure: Agenda for Cooperation*, *supra* note 7, at preface. The *Agenda* states, "We view technology not as an end in itself but as the means . . . to improve the well-being of all people on this planet." *Id.*

¹³ See *infra* note 14 and accompanying text.

Al Gore has manifested his belief that developed nations have an obligation to advance information-technology in developing countries in order to promote the general welfare of the "Third World."¹⁴ In fact, non-profit multilateral organizations such as the World Bank have played a primary role in the history of telecommunications development.¹⁵ But the monies needed for telecom infrastructure development surpass that which is actually available in the public sector, which is why governments have encouraged the for-profit community to invest in the "emerging markets."¹⁶

Fortunately, most telecommunications investments historically have provided significant returns on equity, with financial rates of return generally running 15% and sometimes considerably higher.¹⁷ However, the governments of developing nations often are slow to guarantee equal treatment of foreign investors in the telecom sector, as evidenced by the strong resistance of both state and private actors to the effort to privatize basic telecommunications services.¹⁸ Hence, the problem of enticing foreign investment is primarily a problem of politics, not economics. Telecommunications laws, if designed and implemented properly, have the capacity to diminish the fear and uncertainty that accompany lackluster investment in telecommunications and, consequently, hinder human development.

¹⁴ See Vice President Al Gore, *Bringing Information to the World: The Global Information Infrastructure*, 9 HARV. J.L. & TECH. 1, 5 (1995). Vice President Gore asks, "How can we expect the final [telecommunications] system or organism, if you will, to express these values [of social well-being] if we do not inculcate these values into its DNA at its beginning?" *Id.*

¹⁵ See Christopher J. Sozzi, *Project Finance and Facilitating Telecommunications Infrastructure Development in Newly-Industrializing Countries*, 12 SANTA CLARA COMPUTER & HIGH TECH. L.J. 435, 436-39 (1996). Sozzi analyzes the benefits of a "build-operate-transfer" financing mechanism, which will be discussed in Part III(B)(2)(b), *infra*.

¹⁶ FCC Chairman William E. Kennard, Remarks at the Second World Telecommunication Development Conference (Mar. 23, 1998) (<<http://www.fcc.gov>> (under speeches)). Vice President Gore introduced the U.S. vision for the Global Information Infrastructure ("GII") at the First World Telecommunication Development Conference five years ago in March, 1994.

¹⁷ See MODY, ET AL., *supra* note 2, at xv.

¹⁸ See BEN A. PETRAZZINI, *THE POLITICAL ECONOMY OF TELECOMMUNICATIONS REFORM IN DEVELOPING COUNTRIES: PRIVATIZATION AND LIBERALIZATION IN COMPARATIVE PERSPECTIVE* 28 (1995). There are several factors that stunt a government's ability to implement telecommunications reform. Telephone workers may fear job-cuts that will likely occur when a state-owned entity is privatized; the government may fear the loss of control which is accompanied by the influx of foreign management; and the citizens of a state may prefer philosophically the notion of public as opposed to private planning. See *id.*; see also WALTER T. MOLANO, *THE LOGIC OF PRIVATIZATION: THE CASE OF TELECOMMUNICATIONS IN THE SOUTHERN CONE OF LATIN AMERICA* 1-20 (1997) (analyzing the political dynamic between government and interest groups when considering a telecommunications privatization).

The purpose of this article is to venture beyond the mantras of "privatization" and "liberalization" in order to unearth the concrete issues that make or break telecom system development. This article is, therefore, a guide for policy makers and the corporations that will negotiate with them when a telecommunications transaction is on the table. Because there are numerous variables in any potential deal, whether it be the form of the system (*e.g.*, wireline, wireless or satellite) or the type of financing (*e.g.*, project finance, public offerings or debt-swaps), the goal of this article is not to produce a single plan for any and every developing country. Rather, it is to explain the varying needs of the public and private players and to demonstrate how modern telecommunications law can be used to produce an effective agreement between willing governments and able foreign investors. Part I identifies and analyzes the goals and needs of the potential telecom investor. Part II analyzes the current position of developing countries' governments in relation to their history of monopolistic telecom systems. Part III then integrates these two macro positions with the diverse tools of modern telecommunications law, showing how problems involving universal service, national security and lackluster competition can be resolved rather painlessly *via* contract law and domestic regulation without the need to resort, in the first instance, to international agreements.¹⁹

I. THE NATURE OF FOREIGN INVESTMENT IN TELECOMMUNICATIONS

The governments of developing countries may look to several types of foreign investors, including multilateral agencies, commercial banks and corporations in the telecommunications industry.²⁰ The investments may take the form of non-equity credits and loans, equity capital or a combination of the two.²¹

¹⁹ This by no means suggests that all international agreements that undergird telecommunications investments are undesirable. However, as explained in Part III, *infra*, the current multilateral framework addressing telecommunications has been primarily designed to manage the major issues facing developed nations.

There is no bright-line between developed and developing nations, but the twenty-four member nations of the OECD comprise the nucleus of the developed world. It is important to note, however, that many of the countries not represented in the OECD (*e.g.*, China, Russia and many of the countries of southeast Asia) comprise powerful economic forces by themselves or in regional groups.

²⁰ See Andrés B. Bande, *Forward: Balancing Foreign Investment and National Development in* MODY, ET AL., *supra* note 2, at ix.

²¹ See Part I(A) and Part I(B), *infra*.

A. *Non-equity Investments*

In the past, multilateral agencies such as the World Bank, Inter-American Development Bank and Asian Development Bank have provided billions in loans and credits for telecom projects in developing countries.²² For example, from 1962 to 1989, the World Bank and International Development Association invested nearly \$17 billion in loans and credits for telecommunications projects.²³ But the funds for telecom development are limited and fall well short of the amount necessary for adequate investment.²⁴ The World Bank lends less than 2% of its total funds for telecom projects.²⁵ Rather than focusing on increasing the amount of funds allocated for telecommunications investment by multilateral agencies, governmental organizations now tend to see private financing as a necessary complement to public financing.²⁶

In addition to the lack of public sector financing available to developing countries, many governments may not seek public sector assistance to avoid a requirement of modifying macro economic policy in order to secure loans from multilateral agencies.²⁷ A country receiving loans from the World Bank is required to conform its economic policies to standards that promote efficient economic development.²⁸ With regard to a country's telecom industry, the World Bank will most likely require that the government adopt a more pro-competitive stance with regard to its regulation.²⁹ As one commentator stated, the World Bank's rule is "no intention to change—no investment financing."³⁰ Although the World Bank's official policy is one of non-interference in member states' political affairs,³¹ there is no question that it attaches to its loans

²² See Sozzi, *supra* note 15, at 438–40.

²³ SAUNDERS, ET AL., *supra* note 1, at 417–42.

²⁴ See *infra* notes 25 and 26, and accompanying text.

²⁵ Bande, *supra* note 20, at ix.

²⁶ See, e.g., Information Infrastructure Task Force, *The Global Information Infrastructure: Agenda for Cooperation*, *supra* note 7, at § II(A).

²⁷ See *infra* notes 28 and 29, and accompanying text.

²⁸ See Sozzi, *supra* note 15, at 439.

²⁹ See Urey, *supra* note 10, at 120.

³⁰ Bjorn Wellenius, Financing Telecommunications Infrastructure—Who Wants to Invest? In What, at What Price?, Address before the Financial Times Conferences, *Asia-Pacific Telecommunications—A Magnet for Foreign Investment* (Feb. 28 - Mar. 1, 1994), *quoted in* Urey, *supra* note 10, at 120.

³¹ Articles of Agreement Between the United States of America and Other Powers Respecting the International Bank for Reconstruction and Development, Dec. 27, 1945, art. I, § 10 states that "The Bank and its officers shall not interfere in the political affairs of any member."

conditions that are properly labeled “political.”³² The corresponding loss of control by the government in these transactions is simply one more reason to look for investment from the private sector.³³

Multilateral agencies will continue to loan billions of dollars to developing nations, and it would be misleading to imply that these loans and credits are not very significant. An infusion of \$10 million to \$100 million (which is not an uncommon loan amount from the World Bank for a telecom project) may have a tremendous effect on a developing nation.³⁴ However, it is equally true that public-sector financing is but a small piece of the total amount invested in telecommunications annually.³⁵

Commercial banks also have played a large role in facilitating infrastructure development in less developed countries, and they will continue to play a large, albeit somewhat different role. Whereas, in the past, commercial banks lent money directly to foreign governments to finance telecom infrastructure development (since there were few, if any, private telecommunications companies in developing nations), in the future they will loan more money to companies that make equity investments in developing countries in addition to financing governments directly. Before the latest Latin American debt crisis of the 1980s through the early 1990s,³⁶ commercial banks were eager to loan money to developing nations with annual surpluses. By 1979, shortly before the beginning of the debt crisis, the public sector was responsible for a very large portion of the foreign debt in Latin American countries.³⁷ For example, the public debt amounted to 41% in Argentina, 53% in Chile, 68% in Mexico and 40% in Venezuela.³⁸ Much of this debt was incurred for the operation of State Owned Enterprises (“SOEs”) like publicly-owned telecommunications companies.³⁹ After the onset of the debt crisis, when the developing nations of Latin America could

³² See Sozzi, *supra* note 15, at 439.

³³ See *id.* This is not to imply that there is not a corresponding loss of control in private lending or equity investments.

³⁴ See Saunders, *supra* note 1, at 417–21.

³⁵ For example, the estimated worldwide investment in telecommunications infrastructure in 2004 is expected to exceed \$200 billion annually. See Information Infrastructure Task Force, *The Global Information Infrastructure: Agenda for Cooperation*, *supra* note 7, at § II(A).

³⁶ The latest Latin American debt crisis was actually the fourth in the history of Latin America. The three previous crises came in the 1820s, 1870s and 1930s.

³⁷ See Eduardo Barrera, *The Role of Domestic Capital in Latin America*, in MODY, ET AL., *supra* note 2, at 137.

³⁸ *Id.*

³⁹ *Id.*

not secure new loans, they took steps to privatize their SOEs for the purpose of cancelling debt and avoiding the need to borrow more in the future to sustain the SOEs' often inefficient operations.⁴⁰ It was during this time that the debt-for-equity swap became Latin America's principal concessionary program.⁴¹ Commercial banks and bondholders received equity interests in the SOEs in consideration for cancelling their (bad) debt.⁴² However, commercial banks are in the business of lending money, not receiving equity interests in former Latin American SOEs; therefore, such a debt-swap model, by design, is only an interim arrangement.⁴³ Since lending is commercial banks' primary business, it follows that they will lend money to those interested in investing in telecommunications infrastructure, provided that such potential investors have stable balance sheets. As debt-laden governmental entities struggle to obtain financing, their former lenders will seek new lending opportunities with private corporations. Essentially, the Latin American debt crisis acted as a catalyst in reforming the telecommunications industry in that region.⁴⁴

More recently, the debt problems in Asia are producing the same result.⁴⁵ As developing countries in Asia struggle to service their debt, they will likely encounter greater pressure to divest themselves of ownership of their SOEs, including their telecommunications systems. Countries incapable of achieving investment-grade debt ratings may simply be precluded from issuing debt at interest rates low enough to service, and/or high enough to attract sufficient interest in the investment community.⁴⁶ Furthermore, commercial banks would prefer to

⁴⁰ See *id.* at 137–38. Argentina, Chile, Mexico and Venezuela completed privatizations of their telecom companies by 1990, although all of them met resistance. In 1988, Argentina failed in its first attempt to privatize its telecom SOE “ENTel.” In 1991, political factions opposed to privatization foiled attempts to privatize the telecom companies in Colombia, Brazil and Uruguay.

⁴¹ See Anthony M. Vernava, *Latin American Finance: A Financial, Economic and Legal Synopsis of Debt Swaps, Privatizations, Foreign Direct Investment Law Revisions and International Securities Issues*, 15 *Wis. INT'L. L.J.* 89, 104–05 (1997).

⁴² See *id.* at 105.

⁴³ Changing positions from that of lender to investor creates a host of issues for commercial banks, including, rather significantly, the effect on a bank's net capital requirements as regulated by the Office of the Comptroller of the Currency (“OCC”), the Federal Deposit Insurance Corporation (“FDIC”), the Federal Reserve Board (“FRB”) or the Office of Thrift Supervision (“OTS”), depending on which of these federal regulators is a given bank's primary regulatory agency.

⁴⁴ See Anthony M. Vernava, *supra* note 41, at 114.

⁴⁵ See, e.g., *Write-Offs by Japan's Top International Banks Hit Record*, *WALL ST. J.*, Apr. 1, 1998, at A15 (reporting that Japan's top nineteen international banks wrote off a record \$76.7 billion in problem loans in fiscal 1997).

⁴⁶ See Vernava, *supra* note 41, at 108.

loan money to profitable corporations desiring to invest in that region, rather than to the high-risk debtor governments themselves. Hence, the trend is toward commercial lending that will aid equity investment, not substitute for it.⁴⁷

B. *The Nature of Equity Investment*

Since equity investment has emerged as a dominant investment form for foreign telecom investors, it should not be surprising that corporations in the telecommunications industry are becoming the principal players in the field.⁴⁸ After all, the managerial and technological know-how of existing telecom companies allows any investment to be used more efficiently. It is these telecom corporations, in conjunction with their lenders,⁴⁹ that comprise the most important group of potential telecom investors for developing countries.⁵⁰ In order to understand the motivation of mature telecom corporations, it is necessary to grasp the current regulatory situation in developed countries. As opposed to the majority of the 185 member countries of the United Nations ("UN"), most of the twenty-four developed member countries of the OECD have implemented telecommunications laws that either mandate or encourage competition in telephony and cable television services.⁵¹ In the United States, for example, the Telecommunications Act of 1996⁵² was enacted amidst much fanfare because it removed most of the legal barriers preventing long-distance, local telephony and cable television companies from entering each other's markets.⁵³ While

⁴⁷ See Information Infrastructure Task Force, *The Global Information Infrastructure: Agenda for Cooperation*, *supra* note 7, at Part II(A).

⁴⁸ See generally Sharmishta Bagchi-Sen & Parthavi Das, *Foreign Direct Investment by the U.S. Bells*, in MODY, ET AL., *supra* note 2, at 85.

⁴⁹ Depending on the size and type of investment by a telecom company, the company may finance its investment in a number of ways, e.g., by borrowing money from commercial banks, by issuing bonds to individual or institutional investors, or by selling preferred or common stock in the new foreign entity.

⁵⁰ See generally Bagchi-Sen & Das, *supra* note 48, at 85.

⁵¹ See *infra* notes 86—92, and accompanying text.

⁵² Telecommunications Act of 1996, Pub. L. No. 104-104, 110 Stat. 56 (codified at scattered sections of 47 U.S.C.).

⁵³ See generally Thomas G. Krattenmaker, *The Telecommunications Act of 1996*, 49 FED. COM. L.J. 1 (1996). The Telecommunications Act of 1996 was the latest installment of U.S. competition law in the telecommunications industry. The Act is the logical outgrowth of the breakup of AT&T in the early 1980s. For an overview of the arguments against the old AT&T system, see *United States v. American Tel. & Tel. Co.* and *United States v. Western Elec. Co.*, 552 F. Supp. 131, 226 (D.D.C. 1982).

the pro-competitive effects of the legislation have been very slow to appear, the impending threat of competition from well-financed competitors has *every* telecommunications firm analyzing its ability to gain access to new markets. Hence, the prospect of gaining market presence in a developing country where little or no competition exists (as opposed to fighting an incumbent provider in a developed nation) is very inviting.

Foreign investment by a mature telecom company produces several benefits. First, the monetary investment will likely vastly improve what is probably an antiquated and wholly unsatisfactory telecom system. Second, transfer of wireline and wireless technologies will enhance the efficient use of the monetary investment. Third, experienced management will provide the human capital necessary to place the new telecom system in a position to compete in the emerging international marketplace.⁵⁴ Furthermore, a well-developed system may increase the tax base, increase the total number of employees in the telecommunications and related industries, and provide advanced training to indigenous personnel.

In consideration of these benefits, telecom firms have a variety of wishes and expectations that relate to the general health of the country's economy, as well as the particular business opportunity.⁵⁵ With regard to the macroeconomic situation, a telecom firm will look to at least eight factors: 1) the health of macroeconomic superstructure such as banking, transportation, utilities, etc.; 2) the pattern of economic growth; 3) the investments of the World Bank and other multilateral institutions; 4) the level of private investment; 5) the current and projected inflation rate; 6) the laws governing repatriation of earnings; 7) the stability and convertibility of local currency; and 8) the level of political risk and availability of risk insurance to offset it.⁵⁶

In addition, in considering the particular business opportunity, telecom firms will consider at least eight more factors: 1) the length of the startup/construction phase; 2) whether non-recourse financing is available for the investment; 3) whether the government is providing tax relief incentives; 4) whether the firm will have the ability to maintain market share by migrating to the next technology or service; 5) whether the government has the ability to license sufficient wireless

⁵⁴ See Bande, *supra* note 20, at ix-x.

⁵⁵ See *infra* notes 57—58, and accompanying text.

⁵⁶ *Id.*; Bande, *supra* note 20, at xi.

frequency spectrum to the firm; 6) whether the firm's management will be able to participate in future telecom policy planning; 7) whether the local labor force is capable of satisfying staffing needs; and 8) the length of time needed to realize a return on investment.⁵⁷

Of course, the government of a particular country will have varying degrees of control over these factors. For example, the decision to provide tax relief incentives is within a government's sole discretion, while a country's current and projected inflation rate is the product of myriad factors. Hence, disadvantages of factors beyond a government's exclusive control must be offset by advantages within a government's control.

The logical result of this conceptual framework leads to a somewhat disturbing conclusion, *i.e.*, the least developed countries will have to sacrifice the most (*e.g.*, in tax relief and repatriation of earnings incentives) in order to gain the investment needed to improve their telecom systems. This is an example of a concrete issue that manifests the conflict between theory and reality. In altruistic theory, the most disadvantaged countries are expected to sacrifice the least, while the least disadvantaged countries are expected to sacrifice the most (which presumes a goal of redistributing wealth on an international scale). But the theory confuses the moral inspiration aspect of the GII with its strict economic application.

In fact, the governments of developing countries are very conscious of this and other difficult issues.⁵⁸ This consciousness, however, does not imply that all of the difficult issues in international telecommunications work to corporations' economic advantage. Most of the nations that are classified as "developing" possess very profitable, albeit anti-

⁵⁷ *Id.*

⁵⁸ In spite of the rhetoric of altruism when discussing the needs of developing countries, there are many areas of international telecommunications law which, *prima facie*, appear to be objectively fair to all countries when the system is actually inequitable. For an example, one can look to the procedure for acquiring geostationary satellite spots through the International Telecommunications Union ("ITU") (which is a UN agency). Geostationary (also called "orbital slot") spots are those satellite spots that remain static in relation to an area of the earth. The current procedure for requesting the use of geostationary spots is a procedure of "first come, first served," which may appear fair until one realizes that many developing countries lack the funds or technology to use the spots. The country of Tonga created controversy when it acquired six spots in 1991 and then proceeded to rent an allotment to Unicom, a United States company, and auction off the rest at a price of \$2 million per year for each spot. See Jannat C. Thompson, *Space for Rent: The International Telecommunications Union, Space Law, and Orbit/Spectrum Leasing*, 62 J. AIR L. & COM. 279, 280-83 (1996); Don Riddick, *Why Does Tonga Own Outer Space?*, 19 AIR & SPACE L. 15, 20-22 (1994).

quoted, telecom systems.⁵⁹ Mature telecom firms are under increasing pressure to expand their operations through foreign activity, and the developing nations with profitable systems will likely have more than one corporate suitor.⁶⁰ Profit-driven corporations will, therefore, likely compete with each other when negotiating with a foreign government.⁶¹

II. THE STATE OF TELECOMMUNICATIONS IN DEVELOPING COUNTRIES

In order to picture the state of telecommunications in developing countries, it is helpful to imagine a combination of the U.S. postal service with AT&T before its divestiture of the Bell operating companies that operates under the management of the Federal Communications Commission ("FCC") and prohibits competition in post or telephone services. Similar entities exist in many developing countries and fall commonly under the name of Ministry of Posts, Telegraphs and Telephones ("PTT"). As one might imagine, this is not the most effective or efficient enterprise. Throughout the developing world, the demand for telecommunications equipment and services far exceeds the supply, and the number of unmet applications for basic telephone connections often exceeds the number of existing lines.⁶² In Latin America and Asia, this demand has been fueled by the growth of urban middle and working classes desiring residential phone service.⁶³ Chile provides an excellent example of the effects of pent-up demand combined with a transformation from a monopolistic to a competitive

⁵⁹ See BEN A. PETRAZZINI, *GLOBAL TELECOM TALKS: A TRILLION DOLLAR DEAL* 57-58 (1996).

⁶⁰ This is a primary reason why the overwhelming majority of 185 UN members are not included in the sixty-nine signatories participating fully in the lauded World Trade Organization ("WTO") Agreement on Basic Telecommunications, which is the fourth protocol to the General Agreement on Trade in Services ("GATS"). While the fourth protocol is structured so that different countries make somewhat differing commitments, the signatories agreed in principle on February 15, 1997, to open their telecom markets to all other members of the WTO. Many of the developing countries abstained on the grounds that they would be better off negotiating with individual corporations rather than being obligated to treat all newcomers equally. See *infra* notes 86-92, and accompanying text.

⁶¹ The recent bidding contest for MCI presents a very good example of this in the context of developed nations. British Telecom was poised to acquire MCI in a \$25 billion deal until WorldCom and GTE engaged in a bidding war which drove the price up to \$42 billion. Although all the players involved were telecom firms in developed countries, the same principle applies. Those companies with strategic value will likely be the object of many suitors' affection.

⁶² SAUNDERS, ET AL., *supra* note 1, at 9.

⁶³ See Joseph D. Straubhaar, *From PTT to Private: Liberalization and Privatization in Eastern Europe and the Third World*, in MODY, ET AL., *supra* note 2, at 11.

system.⁶⁴ During the first eight years of the privatized system (1988–96) in that country, the number of phone lines increased more than four-fold from 500,000 to 2.2 million, and the growth rate accelerated from about a five percent trend to nearly twenty percent.⁶⁵

In contrast to developed nations that average over thirty phone lines per one hundred persons,⁶⁶ developing countries average only about one and one-half lines per one hundred persons;⁶⁷ many of the least developed telecom systems average fewer than one-half of one line per one hundred persons.⁶⁸ Moreover, new applicants for phone service often wait between two and five years to obtain service.⁶⁹ Overall, approximately 80% of the world's population does not have a telephone.⁷⁰ This predicament is, to a significant extent, the result of national laws that insulate their monopoly PTTs from both domestic and foreign competition.

A. *The Future of Telecom Infrastructure in Developing Countries*

It is wrong to view the past telecom policies (and resulting laws) of developing countries' governments as tantamount to negligence. A primitive telecom system can serve many purposes. For example, while primitive telecom systems inhibit market economies, many governments of the past had little interest creating market economies. Likewise, while primitive telecom systems inhibit the free flow of ideas, many governments have no interest in facilitating the free flow of ideas.⁷¹

Ironically, one of the primary goals of PTTs is that which is the most difficult to achieve within an inefficient PTT bureaucracy: the goal of universal service. Many PTTs were formed because of the belief that

⁶⁴ See Bjorn Wellenius, *Social and Business Objectives of Telecommunications Policy*, 21 *FORDHAM INT'L L.J.* 434, 436 (1997).

⁶⁵ See *id.*

⁶⁶ For comparison, the United States averages more than fifty phone lines per one hundred persons. See SAUNDERS ET AL., *supra* note 1, at 5.

⁶⁷ See *id.*

⁶⁸ *Id.* at 6–7. For example, India has a ratio of 0.4; Rwanda has a ratio of 0.1; Sudan has a ratio of 0.2; Haiti has a ratio of 0.5 and Nigeria has a ratio of 0.2.

⁶⁹ *Id.* at 9.

⁷⁰ MODY, ET AL., *supra* note 2, at xvi.

⁷¹ Currently, one of the great balancing acts of modern politics involves the Chinese government trying to enhance telecommunications development (including Internet access) while maintaining a totalitarian regime. See generally Joseph Kahn, et al., *Chinese Firewall: Beijing Seeks to Build Version of the Internet that Can be Censored, Crackdown of Outside Views Also Includes Satellite TV and Financial News Wires*, *WALL ST. J.*, Jan. 31, 1996, at A1.

the extension of basic telephone service beyond areas most likely to be profitable for a private telecom company, *i.e.*, rural and poorer communities, could best be conducted by a monopoly provider that would cross-subsidize unprofitable operations in the poorer communities with profitable operations derived from urban and business customers.⁷² Indeed, the rationale for granting AT&T a private monopoly in the United States followed the same line of reasoning.⁷³

However, in the current technological environment, universal service should mean much more than basic voice telephony, which is why plans to attain universal service in developing nations should not be encumbered by yesterday's concept of telecommunications. In the past, many people equated telecommunications with wireline phone service. Currently, in addition to the advent of wireless service (using both radio and satellite technology), telecommunications encompasses a number of new information "appliances," most notably the personal computer and the services it provides—access to the World Wide Web and electronic mail, for example.

The "convergence" of telecommunications and computing is the impetus driving the GII.⁷⁴ A primary question facing the governments of developing nations is, therefore, how their countries can advance both to yesterday's (telephony-based) definition of universal service and to tomorrow's (computing-based) concept of the GII. If a government focuses exclusively (or even primarily) on the old, telephony-based model, then the result of any agreement/contract with a private telecom firm will most likely be inadequate because such shortsightedness would fail to consider the needs of a modern society.

⁷² See Straubhaar, *supra* note 63, at 4.

⁷³ See *id.* It is incorrect to dismiss completely the notion that cross-subsidization by monopoly providers has no positive effects, and in Part III it will be seen that cross-subsidization is a concept that may still have good use. Many countries including the United States, France, Germany and the United Kingdom used the monopoly system to provide universal service. However, in time it became clear that universal service did not equal universally good service, and it is now accepted generally that the inefficiency associated with monopoly systems outweighs their positive effects. Whether or not a successful monopoly system is a necessary precondition to effective competitive telecom markets is precisely the question at issue in the developing world today. Based upon the number of developing nations who have changed or plan to change their PTT system, the answer to that question is a negative. For a detailed analysis of the benefits of the non-monopoly system, see BEN A. PETRAZZINI, GLOBAL TELECOM TALKS: A TRILLION DOLLAR DEAL 32-55 (1996).

⁷⁴ See Information Infrastructure Task Force, *The Global Information Infrastructure: Agenda for Cooperation*, *supra* note 7, at § I(A).

B. *The Psychological Underpinnings of Public Ownership of Telecom Infrastructure*

Regardless of the benefits of a profit-driven telecommunications industry, many governments and peoples in developing countries are skeptical of private ownership of an historically public sector.⁷⁵ From one perspective, such skepticism is simply a product of an inherent distrust of the capitalist motive.⁷⁶ But from another perspective, distrust of private ownership of telecom infrastructure stems from the axiom that control of information is tantamount to control of the political and economic processes.⁷⁷

Private ownership of telecom systems may result in at least two different scenarios that give pause to the governmental leadership of a developing country. In the first scenario, a single company or group of companies may form an information/economic oligarchy which usurps the power of the government.⁷⁸ In the second scenario, a robust telecom system would result in a massive decentralization of power by creating a radical democracy and/or a mild form of anarchy where the government is not overthrown, but rather, left behind.⁷⁹ These two scenarios represent threats to both the power of an existing govern-

⁷⁵ See Straubhaar, *supra* note 63, at 4–5.

⁷⁶ See *id.*; see also Maxwell O. Chibundu, *Law and the Political Economy of Privatization in Sub-Saharan Africa*, 21 MD. J. INT'L L. & TRADE 1, 9–17 (1997) (arguing that privatization was an instrument of “conservatism” against Marxist-Leninism).

⁷⁷ Indeed, the current debate over “key-escrow” cryptographic systems in the United States manifests a similar principle. Although the U.S. government, and the Clinton administration specifically, are arguably the prime movers of international telecommunications reform, its “liberal” and “open” agenda is tempered by its desire to secure law enforcement’s ability to wiretap messages sent via computer. Although few doubt that information is the currency of democracy, the limitations on the flow of information are the subject of much debate in democratic and non-democratic nations, as well as developed and developing nations. For a comprehensive discussion of the proposed regulatory framework relating to key-escrow cryptography *vis-à-vis* U.S. constitutional law, see Michael A. Froomkin, *The Metaphor is the Key: Cryptography, the Clipper Chip, and the Constitution*, 143 U. PA. L. REV. 709 (1995).

⁷⁸ Again, one may look to the United States for an example of similar concerns. The on-going battle between the U.S. Department of Justice and Microsoft presents antitrust issues which, on the surface, are couched in terms of consumer protection. However, at a deeper level, it is not difficult to identify the underlying issue of how much power a single corporation or industry should possess in a democratic society. For a comprehensive discussion of Microsoft’s relationship with the U.S. Department of Justice, see Daniel J. Gifford, *Microsoft Corporation, the Justice Department, and Antitrust Theory*, 25 SW. U. L. REV. 621 (1996).

⁷⁹ It is this second scenario which, however unlikely, creates the greatest fear for governments because while an oligarchy may be difficult to defeat, it is not hard to find. Conversely, behind every door of a wired democracy may hide a traitor, terrorist, thief, tax-evader or smuggler operating clandestinely.

ment and the security of a nation overall. Since an existing government (or political party) will likely not cite its own survival as a reason to reject telecommunications reform, fears stemming from either of these two scenarios will likely be couched in terms of national security.

The focus on national security is legitimate. Telecommunications is a strategic industry. It is the central nervous system of a country, connecting buyers and sellers, teachers and students, doctors and patients, political representatives and constituents. A society with an historical distrust of private ownership in the areas of infrastructure may need to take a collective deep breath before embracing the notion that private *and foreign* entities are most capable to build and operate telecom infrastructure. Some countries, such as China, have rejected the idea that foreign corporations must be relied upon to take a leading role in telecom development.⁸⁰ However, other countries that face the option of either relinquishing some control of their telecom systems or falling behind further in the technological and economic race are choosing to embrace the concept of foreign control, as well as assenting to foreign investment.⁸¹

C. *The Needs of the Players in Perspective*

The foregoing discussion demonstrates that the needs of developing countries are both more complicated and more fundamental than the needs of the corporations that are, and will be, negotiating with them. While the needs of the corporations are all subsets of the primary economic concern (*i.e.*, making money), the needs of developing countries are not so simple. Of course, it may be argued that developing nations' primary concern is also economic growth and that sophisticated telecom systems are merely a means to that end. However, when considering developing nations' monopolistic past in relation to their preferred future, a complicated picture presents itself. Governments of the developing countries must dismantle their antiquated telecom systems and replace them with sophisticated information systems capa-

⁸⁰ While China has contracted with a number of western technology companies (*e.g.*, Motorola, Lucent Technologies, Ericsson and Siemens) to help it build its telecom system, the government has maintained the role of contractor while using foreign corporations as subcontractors. For an overview of the Chinese model, see Joseph Kahn, *Beijing Puts a Wall Around Its Thriving Phone System: China Telecom Sidelines Foreign Firms, Tops AT&T as Mobile-Phone King*, WALL ST. J., Aug. 28, 1997, at A11.

⁸¹ See Information Infrastructure Task Force, *The Global Information Infrastructure: Agenda for Cooperation*, *supra* note 7, at Part II(A).

ble of enabling a modern society without sacrificing too much autonomy, or swallowing too much national pride. Such a project, repeated in virtually every country undergoing the transformation, must utilize all the tools of telecommunications law in order to be a success.

III. BEYOND MULTILATERALISM: TELECOMMUNICATIONS LAW IN NATIONAL POLICY AND PRIVATE CONTRACT

In order to determine how telecommunications law can work for developing countries, it is useful to analyze how telecommunications law has *not* worked for them. Recent developments within the WTO⁸² suggest that multilateral agreements will be the future of telecommunications reform. Upon closer examination, however, these multilateral advances lack strength to bring about telecom reform in developing nations. In fact, an analysis of the greatest achievement of the WTO with regard to telecommunications shows that multilateralism is but one paradigm for effecting telecom reform. It is not the end-all of telecommunications law, but only one manifestation. Because multilateralism is encumbered by a slow-moving bureaucracy and, by its nature, must aim for widespread agreement, its power as a tool of telecommunications law is restricted severely.

Although the Agreement on Basic Telecommunications under "GATS," the most heralded international agreement in the history of telecommunications, provides the main example of failure with regard to telecommunications in developing nations,⁸³ other tools of telecommunications law can help solve the existing problems of universal service and national security,⁸⁴ as well as problems created by former monopolies stifling the entrance of new telecom service providers.⁸⁵

⁸² The WTO is the formal successor to the General Agreement on Tariffs and Trade ("GATT") trading system. The United States' legislation implementing the WTO treaty (The Agreement Establishing the World Trade Organization) is 19 U.S.C. § 3511 (1997). The implementation legislation "fixed" a lingering problem surrounding the GATT. The U.S. joined the GATT in the 1940s via executive agreement. Some individuals doubted the ability to join GATT without implementing legislation.

⁸³ See Part III(A), *infra*.

⁸⁴ See Part III(B), *infra*.

⁸⁵ See Part III(C), *infra*.

A. *The Irrelevance of the WTO Agreement on Basic Telecommunications to Developing Nations*

In trade talks held under the auspices of the WTO, sixty-nine countries agreed on February 15, 1997, to open nearly all of their telecom markets to foreign investment and competition when they signed on to the Agreement on Basic Telecommunications under the GATS.⁸⁶ Although this deal has been heralded as a "landmark" agreement,⁸⁷ its legendary status may be reserved for the (currently) developed world.⁸⁸ After all, nearly one-half of the members of the WTO (primarily developing nations) refused to join the agreement, and the sixty-nine participating nations account for less than 40% of the 185 member nations of the UN. Furthermore, many of the developed nations participating in the agreement have either excluded certain sectors of their respective telecom industries from investment and competition or they have delayed the implementation date of their commitments.⁸⁹

⁸⁶The GATS is annex 1B to the Agreement Establishing the World Trade Organization. The Agreement on Basic Telecommunications is the Fourth Protocol to the GATS. (The Second Protocol concerns Financial Services. The Third Protocol concerns the Movement of Natural Persons. Other Protocols are reserved for future agreements.)

The phrase "signed on to the agreement" (as opposed to "signed the agreement") acknowledges a quirk of the world trading system. All 132 members of the WTO must accept the GATS (as an annex). Since the Agreement on Basic Telecommunications is a part of the GATS (as the Fourth Protocol), all 132 members are parties to it also. However, the structure of the Fourth Protocol is such that parties who participate fully in it submit a "schedule" of commitments, which act as (quasi) self-binding assertions. Moreover, countries may exclude themselves from offering most-favored-nation ("MFN") trading status to other WTO members with regard to almost all telecommunications services. Therefore, countries that neither submit schedules nor offer MFN status to other countries are, for all practical purposes, not signatories to the Agreement on Basic Telecommunications although they are signatories technically by reason of being signatories to the original WTO treaty.

The Agreement on Basic Telecommunications went into effect on January 1, 1998, although many participating countries are delaying their full entry into the agreement, with many delaying some concessions until well into the next millennium.

For an overview of the GATS structure, see Mary E. Footer, *The International Regulation of Trade in Services Following Completion of the Uruguay Round*, 29 INT'L LAW. 453 (1995).

⁸⁷ See Kennard, *supra* note 16.

⁸⁸ See Tani Freedman, *Suspense over Telecom's Deal Deepens as Deadline Looms*, *Agence France-Presse*, Feb. 14, 1997, available in 1997 WL 2059036. Promoters of the agreement were quick to point out that the countries participating in the agreement accounted for nearly 95% of all revenue in international telecommunications services. While impressive, that figure shows the disturbing fact that more than 60% of the world's nations (including China and Russia) account for only 5% of revenues in international telecom services.

⁸⁹ It was common for countries to limit foreign ownership of "essential" facilities to 49% or less.

Further, the Agreement on Basic Telecommunications was unattractive to many developing nations because the concepts of privatization and liberalization (as conceived by the agreement's signatories), around which the agreement was centered, are not the whole of telecommunications law. The concepts of privatization and liberalization are employed to achieve two differing purposes. Privatization (sometimes called commercialization) is supposed to bring efficiency to a previously state-owned PTT, while liberalization (permitting competition in telecom markets) is supposed to bring efficiency to the telecom industry for the benefit of both business and individual consumers.⁹⁰ Theoretically, privatization without liberalization is unattractive since a profit-driven enterprise operating as a monopoly will act selfishly to achieve "monopoly profits" at the expense of its customers,⁹¹ while liberalization in the absence of privatization is untenable for the governments of developing nations since their lumbering PTTs could not compete adequately with nimble foreign competitors.

Since their telecom firms were generally privately owned and, in many cases, already competing in their home markets, developed countries had little to fear from the WTO agreement.⁹² In other words, the developed nations had already embraced privatization and liberalization in their home markets and were looking to extend the formula internationally. But the concepts of privatization and liberalization, by themselves, do not alleviate the basic concerns of developing nations mentioned previously (*viz.*, universal service and national security). If developing nations allow foreign competitors to enter their telecom markets indiscriminately, they would only be assured that new entrants would endeavor to service wealthy individual and business consumers who could afford sophisticated telecom services (leaving the problem of universal service unresolved). Moreover, a greater percentage of the telecom infrastructure would be under the control of foreign operators (thereby endangering national security).

⁹⁰ See PETRAZZINI, *supra* note 18, at 16–18.

⁹¹ See Kennard, *supra* note 16. While this basic idea has much intuitive merit as well as factual data to support it, one must not forget that the privatized monopoly system was the AT&T system before the 1984 consent decree.

⁹² The United States has been implementing telecommunications reform on a fairly grand scale since the Telecommunications Act of 1996 (see *supra* note 52, and accompanying text), while the European Union ("EU") had an internal deadline of Jan. 1, 1998, for competition in all aspects of its telecom market. For an overview of liberalization in the EU, see Catherine Curran Butcher, *Telecommunications in the European Union*, 48 ADMIN. L. REV. 451 (1996).

B. *Beyond the Mantras of Privatization and Liberalization: Telecom Law That Addresses Developing Countries*

The ideal GII would likely take the form of a mosaic composed of privatized firms competing in liberalized markets throughout the world. But the path to that ideal must take some other form if the GII is to have nodes in the developing world. Telecom laws in the form of national policy and private contract may be used to address the concrete issues preventing telecom development.

1. Universal Service

The first concrete issue that telecom laws must address is the issue of universal service. Private firms invest in developing countries for the purpose of profit. For that reason, they are interested primarily in servicing richer urban areas populated by businesses and not poorer, rural areas. A conflict thus arises between one of the government's purposes of allowing the foreign investment (*i.e.*, universal service) and the preferable business plan of the foreign firm. A compromise between the government and the foreign firm may be reached by utilizing the concept of universal access.

Universal access is the notion that telecommunications equipment may be shared by several people so as to effect service for all.⁹³ A primitive example of this is a public telephone in a village.⁹⁴ A sophisticated example is a computer workstation in a village utilizing a cellular modem to access the Internet via satellite technology.⁹⁵

The government of a developing country may use the notion of universal access to effect a *quid pro quo* with a foreign firm. The

⁹³ See Wellenius, *supra* note 64, at 436–37.

⁹⁴ *Id.* at 436.

⁹⁵ Modern satellite technology presents an excellent opportunity to employ the concept of universal access. Companies such as Teledesic, Iridium and Globalstar are developing global satellite networks that will provide seamless telecom access throughout the world. Since every country retains sovereign rights to the radio spectrum within its own borders, the satellite firms must negotiate with the governments to secure wireless licenses. The target market for the satellite system is business users willing to pay a premium for seamless service (with early estimates of \$3.00 per minute access charges). In the early years of operation, the satellite systems will likely possess much unused capacity until the customer base has an opportunity to develop. As one condition of granting a wireless license to these satellite firms, governments of developing nations could require the firms to offer free use of their systems to rural areas for education, emergencies, etc. For an overview of the licensing of these satellite systems, see Ted Stevens, Comment, *Regulation and Licensing of Low-Earth-Orbit Satellites*, 10 SANTA CLARA COMPUTER & HIGH TECH. L. J. 401 (1994).

government may allow a foreign firm to enter a telecom market and service wealthier customers on the condition that the foreign firm spends certain monies (which may be a percentage of revenue or net income) on universal access programs. This is not a revolutionary concept: it is old-fashioned cross-subsidization. Some data suggest that universal access programs may be achieved at a cost of only 1% of telecom revenues.⁹⁶ The important point is that cross-subsidization need not be confined to a state-owned PTT system.⁹⁷ In fact, cross-subsidization may be employed in either a monopoly or a non-monopoly setting. While critics of a privatized monopoly have good reason to be concerned about potential abuse by the monopoly provider, a national policy of universal access embedded in a contract between government and a telecom corporation can and would alleviate such concerns.

Moreover, in the absence of a multilateral treaty guaranteeing "equal" access to foreign firms, a government would have the flexibility to negotiate differing universal access concessions with different telecom providers. Under international trade law, demanding greater concessions from one firm over another would be tantamount to violating most-favored-nation status if the firms were based in different countries. Conversely, under contract law, negotiating different terms with different companies may reflect only the varying attributes that different firms bring to the table. Additionally, capitalist instincts do not abhor playing bidders against one another in order to secure a premium price.⁹⁸

2. National Security

The issue of national security has two facets, one based on law enforcement and the other on economics. Concerns about law enforcement are handled best by the legal structure of regulation, while economic issues are addressed best by the legal structure of ownership.

⁹⁶ See Wellenius, *supra* note 64, at 436-37. Chile is experiencing success with a universal access program possessing an annual budget of \$4 million in a country with a \$500 million telecom industry.

⁹⁷ AT&T operated in a privately owned monopoly system using the principle of cross-subsidization.

⁹⁸ Indeed, as mentioned previously in section I(B), *supra*, telecom firms will undoubtedly buttress their own positions by engaging different governments in negotiations.

a. *Law Enforcement*

When a government gives up ownership and control of its telecom system, it relinquishes, to a certain extent, the power to monitor its citizens. This fact may make the government of any developing (or developed) country somewhat nervous. While contemporary literature focuses almost exclusively on the ability of encrypted electronic communication to hinder the efforts of law enforcement,⁹⁹ governments have historically worried about giving foreign entities control over the telecom infrastructure and the information it provides.¹⁰⁰ The existence of a foreign operator places a cumbersome barrier between the government and the end-user that may inhibit the government's ability to monitor, or (even worse) expose the type and amount of monitoring by government to non-governmental third parties.

The issue of law enforcement as a national security issue can be touchy, but it may be solved by the process of regulation. If a PTT system is to be fragmented, then an independent regulator must be created in order to manage competition among telecom firms and observe whether new firms honor their contractual agreements with the government. Within a particular contractual arrangement, a foreign firm may be required to use equipment to which law enforcement could gain access, or the firm may be required to release usage data revealing the type or number of connections that is predetermined to represent potential illegal activity. Of course, the foreign firm may balk at any requirement that forces it to breach consumer privacy. However, many of the most "liberal" societies, including the United States, grant law enforcement virtually unbridled access to telecom infrastructure.¹⁰¹

⁹⁹ See, e.g., Bernadette Barnard, Note, *Leveraging Worldwide Encryption Standards via U.S. Export Controls: The U.S. Government's Ability to "Safeguard" the Global Information Infrastructure*, 1997 COLUM. BUS. L. REV. 429 (1997); Froomkin, *supra* note 77.

¹⁰⁰ In the United States, for example, section 310(b) of the Communications Act of 1934, 47 U.S.C. §§ 151-163, places a *prima facie* foreign ownership restriction of 25% in a U.S. company possessing a radio license (*i.e.*, a wireless provider). Furthermore, section 214 of the 1934 Act limits the ability of foreign telecom firms to provide wireline service in the U.S.

The FCC has eased these restrictions recently for WTO countries in the wake of the Agreement on Basic Telecommunications. But the limitations on non-WTO members remains. For an overview of the restrictions on wireless providers, see Vincent M. Paladini, *Foreign Ownership Restrictions Under Section 310(b) of the Telecommunications Act of 1996*, 14 B.U. INT'L L.J. 341 (1996). Readers interested in an overview of the FCC's rationale relating to the easing of restrictions on WTO members should see FCC news release *Commission Liberalizes Participation in the U.S. Telecommunications Market*, (visited Mar. 15, 1999), <http://www.fcc.gov/Bureaus/International/News_Releases/1997/nrin7042.html>.

¹⁰¹ The history of wiretapping in the United States provides a fascinating legal story. The

b. *Economic Strength as a Measure of National Security*

More complicated than the issue of granting law enforcement access to telecom infrastructure is the problem of controlling the development of the infrastructure itself. The prime motivation for developing nations accepting foreign investment is the improvement of their telecom system both for the good of the system and the good of other industries and activities that depend on telecommunications. It would therefore be unacceptable, for example, for a foreign firm (based on its consolidated balance sheet) to delay or refuse to improve the system at the expense of the developing nation.

In an era when national strength is measured in dollars, not troops, many developing nations cannot afford a foreign telecom operator that places private profit above the nation's GDP. But no foreign firm will enter a new market if the government of the developing nation intends to dictate the firm's strategic direction. When the government's concerns over development surpass those that can be appeased by universal access concessions (which, by their nature, are focused only on the telecom industry), the government may solve its problems by retaining majority or ultimate ownership of the system.

A government may gain substantial investment funds and retain majority ownership of a corporatized PTT by issuing shares to the public through international stock exchanges. The Chinese government followed such a path when it sold shares in China Telecom, which

constitutionality of wiretapping is divided into an early and later stage marked by *Olmstead v. United States*, 277 U.S. 438 (1927) and *Katz v. United States*, 389 U.S. 347 (1967), respectively.

In *Olmstead*, law enforcement officials wiretapped a phone line without a warrant in order to gain evidence of crimes related to transactions in alcohol during Prohibition. 277 U.S. at 456-57. The plaintiff argued that the wiretap violated his Fourth (and Fifth) Amendment rights. *See id.* at 459. The majority, noting that no physical trespass by law enforcement occurred (since the phone line was "tapped" outside the boundary of the plaintiff's residence), concluded that no place was searched and nothing had been seized. *See id.* at 469. Hence, there was no violation of the Fourth Amendment (and subsequently, for reasons not relevant here, no violation of the Fifth Amendment).

Justice Brandeis, in one of the most elegant and prophetic dissents in history, stated "Ways may some day be developed by which the Government, without removing papers from secret drawers, can reproduce them in court, and by which it will be enabled to expose to a jury the most intimate occurrences of the home. 'That places the liberty of every man in the hands of every petty officer' was said by James Otis of much lesser intrusions than these. . . . Can it be that the Constitution affords no protection against such invasions of individual security?" *See id.* at 514.

The *Katz* court, forty years later, adopted Justice Brandeis' view and held that search warrants were necessary constitutionally to wiretap, thereby overruling *Olmstead*. Although a moral victory for privacy advocates, few would deny that approval of such warrants amounts currently to a "rubber stamp."

remains majority-owned by China's Ministry of Posts and Telecommunications.¹⁰² The Chinese government raised \$4 billion in the initial public offering held in October, 1997.¹⁰³

Majority ownership, however, does not give a government the license to ignore the company's interest for the sake of the nation. Under well-settled principles of corporate law, most states recognize that majority shareholders of a corporation have certain fiduciary duties to minority shareholders.¹⁰⁴ Under U.S. law, a majority shareholder that acts in a manner that suggests self-dealing will have the burden of proving that minority shareholders have been treated fairly.¹⁰⁵ Although different nations' laws can, and undoubtedly will, vary to a certain extent with regard to a majority shareholder's fiduciary duty to minority shareholders, it is unsound to believe that merely retaining majority ownership in a corporatized PTT will grant a government full authority to ignore or minimize the profit-seeking motive of the corporation, if for no other reason than the value of the minority shares would suffer from such an arrangement.

A better option for the government wishing to maintain greater control over telecom development is a project financing arrangement whereby the government retains ultimate ownership over all, or part, of the telecom system.¹⁰⁶ Project finance is a blanket term encompassing a variety of different activities that possess the common feature of securing loans used for infrastructure development by the projected cash flow of the completed operation.¹⁰⁷ In the context of telecommunications, the foreign firm would borrow funds to be secured by the cash flow from the telecom project.¹⁰⁸ A foreign firm will be interested in a project finance arrangement if the anticipated cash flow of the

¹⁰² Erik Guyot and Shanthi Kalathil, *China Telecom Raises \$4 Billion in Share Offer*, WALL ST. J., Oct. 17, 1997, at A18.

¹⁰³ *See id.*

¹⁰⁴ *See, e.g.*, *Pepper v. Litton*, 308 U.S. 295, 306 (1939); *Sinclair Oil Corp. v. Levien*, 280 A.2d 717, 720-22 (Del. 1971).

¹⁰⁵ *Id.*

¹⁰⁶ Project financing may involve different areas of telecom infrastructure (*e.g.*, a central wireline system or peripheral wireless systems). A government that desires to control only part of the telecom infrastructure may elect to maintain ultimate control over the central wireline system while allowing private ownership of the wireless sector, or vice-versa.

¹⁰⁷ *See* Glen S. Gerstell & Lisa Boykin, *Structuring a Telecommunications Deal*, 1014 PLI/Corp 27, 27 (1997).

¹⁰⁸ It is not unthinkable that the government itself would borrow the funds and exclude the foreign firm, but for the reasons set forth *infra*, there is little motivation to disregard the firm's management expertise when the government need not sacrifice ultimate ownership of the system.

operation will cover operating expenses, debt service, taxes, other miscellaneous expenses, and most importantly, an adequate return on investment.¹⁰⁹

Project finance can allow for an attractive ownership situation when used in conjunction with a build-operate-transfer (“BOT”) transaction.¹¹⁰ In a BOT transaction, a foreign firm will improve a telecom system, operate it during a contractual period designed to allow the firm to realize an adequate profit, and then transfer ownership back to the government.¹¹¹ As a private contract, the terms of a BOT transaction may vary depending on the needs of the parties. For example, a government interested primarily in achieving universal service may negotiate that cash flow exceeding a given rate of return will be used to fund universal access programs. On the other hand, a government wishing to regain ownership of the system as soon as possible may negotiate that excess cash flow will be kept by the foreign firm in exchange for an early transfer date.

The BOT model is not without its drawbacks. Its closed-end nature may discourage participation by telecom firms that wish to expend their energy on projects that will last into perpetuity. Furthermore, there is no guarantee that a well-run private operation will continue its efficiency when transferred back to the government. However, for those developing nations that cannot—or more likely, will not—accept permanent foreign ownership of their telecom infrastructure, the BOT model presents an admirable compromise.

C. *Where Developing Countries Can Lead in Telecommunications Policy: “Structured Competition”*

The state of telecom infrastructure in developing countries is bleak and will continue to be bleak unless the governments of those countries manifest the courage to move forward, away from the PTT system. Fortunately, many developing nations are taking strong steps in the direction of reform. For example, there are currently more than

¹⁰⁹ See Gerstell & Boykin, *supra* note 107, at 27. As mentioned, *supra*, Part I(B), non-recourse financing would enhance the attractiveness of the deal.

¹¹⁰ See generally Sozzi, *supra* note 15, at 454–86. Another form of the build-operate-transfer transaction is the build-transfer-operate (“BTO”) transaction, which is less attractive for telecom firms since their ability to run the firm according to their own discretion is inhibited by government ownership. See *id.*

¹¹¹ See *id.* at 455.

twenty-five nations in sub-Saharan Africa that are in the process of restructuring their telecom industry.¹¹²

There is one area of telecom policy, however, where developing nations can move ahead of their developed counterparts and accomplish many of their goals in the process. This system may be termed “structured competition” because it forces private firms to compete, whether or not they want to, by fostering competition through the separation of facility development and servicing end users.

The concept of structured competition is both retro and forward-looking; it is part Glass-Steagall¹¹³ and part Telecommunications Act of 1996.¹¹⁴ Structured competition would prohibit the owners of wireline or wireless infrastructure from selling telecommunications service to end-users unless given approval by the national regulator.

The concept of structured competition is likely to be attacked for a variety of reasons by different critics. Economists may attack structured competition on the same grounds that they attack Glass-Steagall—that artificial separation by the government creates inefficient and illegitimate management by a government regulator. Consumers may attack structured competition on the grounds that it will increase prices by creating two corporate mouths to feed when one would suffice. Telecom firms may attack structured competition on the grounds that it would hinder competition by disallowing the synergistic merger of companies that controlled different pieces of the telecom pie.

All of these arguments against structured competition are viable until one considers a few key facts. First, in 1999, three years after the Telecommunications Act of 1996 was passed in the United States, there is virtually no competition for local residential phone service in the United States, with the Regional Bell Operating Companies (“RBOCs”) maintaining *de facto* monopoly status.¹¹⁵ Second, the RBOCs have systematically blocked attempts by long-distance companies to “resell” their network capacity because it is more profitable for the RBOCs to keep their customers than resell capacity to other service providers.¹¹⁶

¹¹²Wellenius, *supra* note 64, at 434.

¹¹³Glass-Steagall is The Banking Act of 1933, 12 U.S.C. § 227 (1998), and was the Act that separated commercial from investment banking.

¹¹⁴Telecommunications Act of 1996, Pub. L. No. 104–104, 110 Stat. 56 (codified at scattered sections of 47 U.S.C.).

¹¹⁵See *infra* notes 116 and 117 and accompanying text.

¹¹⁶See, e.g., *Southwestern Bell Tel. Co. v. Federal Communications Comm’n*, 1998 WL 102481 (8th Cir.) (1998). The RBOCs are arguing that it is unlawful for the FCC to dictate the rates at which other service providers may “interconnect” to their infrastructure. While the particular

Third, consumers of telecom service have little incentive to change providers in the absence of markedly superior service or markedly lower prices by the new market entrant (which, *ipso facto*, places the new entrant in the bad position of having to build a superior system at the same price as an incumbent, having to build a comparable system at a lower price than the incumbent, or having to spend large amounts on a marketing blitz in order to convince consumers that a comparable system is, in fact, superior). The reason why "mere" competition will not work well in the telecom industry is that incumbent monopoly providers begin with huge advantages over new market entrants in terms of brand identification, customer information and, most importantly, subscriber base.¹¹⁷

Structured competition may be used by developing nations to help solve several of their problems. First, the separation of the industry into network owners and resellers will diffuse private ownership so as to prevent any one foreign firm from dominating the telecom industry, creating more competition and leaving the government with more control over any particular market participant. Second, network owners will have an incentive to contract with as many resellers as possible since unused capacity is not offset by savings gained from keeping competitors out of the market.¹¹⁸ Third, the government may increase universal access by allowing network owners to service poorer areas directly at low fees, when feasible, or through some form of cross-subsidization from profits gained by the network-owning wholesalers or resellers. And of course, the government may suspend structured competition and allow "full" competition when either its nascent telecom industry will not support several market participants, or competition has evolved to the point where artificial divisions are no longer necessary.¹¹⁹

legal issue is undecided, it is undisputed that the price that the FCC has determined to be fair is less than what the RBOCs earn servicing the end users. *See also* A.T. & T. Corp. v. Iowa Util. Bd., 119 S. Ct. 721 (1999).

¹¹⁷ This reality has led U.S. long-distance firms to petition the FCC to consider requiring the RBOCs to divest their infrastructure and compete on the same playing field as the new entrants in local service. For an overview of the issue, *see* Elizabeth Douglass, *Push for Sell-off of Bells' Network Operations Gains*, BOSTON GLOBE, Apr. 12, 1998, at E5.

¹¹⁸ This proposition presumes that the network owner is competing itself and has no capability to keep its wholesale rates artificially high.

¹¹⁹ Many observers have concluded that Glass-Steagall, while once necessary and beneficial, is now antiquated in light of (seemingly) thriving competition in the financial services industry.

CONCLUSION

The telecom industry in most developing nations is in a sorry state. The history of state-owned PTT monopolies has produced inefficient telecom systems that are unable to meet the needs of 20th century society, let alone the needs of an information-driven 21st century society. While multilateral and commercial lending will continue to contribute to the development of telecom infrastructure, the dominant form of investment in telecom systems in developing nations will come from private telecom firms investing and participating directly.

The governments of developing countries have the difficult job of balancing foreign firms' need for profits with telecom development that will benefit the whole of their societies. These governments must create an environment that will allow private investors to achieve adequate financial returns while securing universal telecom access for all of their citizens and limiting the negative effects of privatized telecom systems, which include potential reductions in national security both in terms of law enforcement and overall economic strength.

Multilateral effort, in the form of the GATS Agreement on Basic Telecommunications, does not present an answer to the problems of developing nations because its conception of privatization and liberalization was formed from perceptions of developed countries' markets which cannot be simply transplanted to the emerging markets of the Third World. However, telecommunications laws that combine economic realities with national policies promoting universal access, economic growth and structured competition can be used to create contracts between the public and private sectors that will serve developing nations well.