

**A Comparative Study of Asian Telecommunications Policy Reforms:
Japan, Malaysia, and the Philippines**

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Abstract: (Return to Index)

In the mid-1980s, telecommunications reforms emerged as important issues in Asian countries. Privatization of telecommunications swept into Asian countries, and thereafter, competition reforms. Asian countries--especially Japan, Malaysia, and the Philippines--underwent

telecommunications policy reforms that took these three countries from monopoly to privatization and competition.

The driving forces for these policy reforms are the following: (1) poor performance of public/private monopolistic telecom entities in producing efficiency; (2) the private sector's active participation; (3) infrastructure development to promote foreign investments; (4) international pressure; (5) domestic response to technological advances brought by globalization; and (6) absence of competition.

This paper uses the descriptive explanatory approach from a comparative perspective in analyzing driving forces behind telecommunications policy reforms in the three Asian cases. Furthermore, it examines the present policy constraints/challenges faced by the privatized telecom sector in Japan, Malaysia, and the Philippines. This paper concludes then that only privatization and competition policies combined (neither one alone) can improve efficiency, meet consumers' demands for better services, and make technological advances possible.

.01. INTRODUCTION (Return to Index)

Historically speaking, Asian countries followed a statist model of telecommunications, which was adopted in Europe. Virtually all countries in Asia, with the exception of the Philippines, adopted a public monopoly model, whereby the telecommunications sector was placed under state ownership and control.

In Asia in the mid-1980s, telecommunications reforms of privatization and competition have been introduced in the telecommunications market. One Economist article states that Asia is the “most dramatically changing telecoms market on the planet.”[1]

Privatization of state-owned enterprises has become a global phenomenon. Previous studies mostly dealt with telecommunications reforms in selected developed and developing Western countries. However, there is a dearth of literature when it comes to Asian telecommunications reforms. Privatization and competition policy reforms for the telecommunications industry in Asian developed and developing countries are much less comprehensive. This peculiar gap exists largely because telecommunications policies in Asia have reformed just recently (mid-1980s-1990s). This implies that only now have more data become available to start cross-country comparative policy analysis.

Broadly defined, privatization “embraces denationalization or selling-off state owned assets, deregulation (liberalization), competitive tendering, together with the introduction of private ownership and market arrangements” (Hartley and Parker in Ott and Hartley (1991, p.11)). Competition here refers to what Klein (1998) called “open access.” This is a “liberal policy toward access to a monopoly segments and interconnections requirements” of the

telecommunications industry (Klein (1998, p. 42)). Competition eradicates established statutory monopolies over existing networks, both local and long-distance. As such, the analytical framework that is used here is privatization with competition (See Pisciotta in Melody (1997)). After privatizing a monopoly telecommunications service provider, competition is introduced and injected into the telecommunications industry in either a gradual or a full-swing process.

In Japan, the main service provider has been privatized gradually, with the introduction of competition for both domestic and international service providers. Malaysia is also privatized, with increasing competition in mobile/cellular and paging services. The Philippines is long considered to have a privatized telecommunications network, but only recently has it adopted a full competition policy.

This paper is divided into two parts. The first part explains the driving forces behind telecommunications policy changes in Japan, Malaysia, and the Philippines in order to analyze the trend of these policy changes. The second part of the study examines the present constraints faced by the privatized telecom sector in the three Asian cases.

.02. DRIVING FORCES BEHIND MAJOR POLICY CHANGES (Return to Index)

Telecommunications policy changes in Japan, Malaysia, and the Philippines are driven by various factors. This section examines driving forces behind major policy changes from monopoly to privatization and competition.

Japan: From Public Monopoly to Regulated Competition (Return to Index)

The telecommunications sector in Japan has been characterized as a public monopoly. The subsection below examines its transition from government monopoly to privatization and competition. Privatization is a major policy change that was introduced in the Japanese telecom sector in 1985. Japan's regulatory framework favors the incumbent NTT. Competition in Japan is said to be regulated, meaning competition is limited to three major players in the telecom market: NTT, KDDI, and Japan Telecom. These three players are protected by the Japanese government, which thus makes it difficult for foreign players to establish a substantial presence in the market. In addition, the industry regulator, the Ministry of Posts and Telecommunications (MPT), is a major shareholder in NTT and KDDI. This may suggest obstacles to the entry of other foreign players in the telecom market because the incumbent operator's revenues will be affected.

A Brief Historical Perspective of NTT

Historically, telecommunications--together with posts and telegraph—was under the centralized bureaucratic control of Japan's Ministry of Communication. Currently, it is named the Ministry of Posts and Telecommunications (MPT) (Hills (1986, p.103)). On August 1, 1952, the Nippon

Telegraph and Telephone Public Corporation (NTT) was established as a semi-independent public organization, charged with the task of reconstructing domestic telecommunications (Maamria and Kobayashi (1999)). In other words, NTT was corporatized; it was given company-like status and legal autonomy from the state ministry (See do Rosario (1992)). NTT has remained a government-controlled monopolistic entity for the last 33 years. Likewise, Kokusai Denshin Denwa (KDD), a government regulated company, was formed in 1953 to provide international telecommunications services (Hills (1986, p.104)).

At its inception, NTT had a statutory monopoly over domestic telephone and telegraph transmission and over the supply of telephones, as stipulated in the Public Telecommunications Law of 1953.[2] Telecommunications equipment was originally for rental rather than sale, and NTT lacked power to manufacture (Hills (1986, p.103)). The equipment market, however, was then liberalized. As a result, in 1983 NTT began to sell telephones on an experimental basis (Hills (1986, p. 103)).

In 1964, the first break in the NTT monopoly came about. This happened in a period that was characterized by a high rate of economic growth; NTT faced trouble in meeting the rapid increase in demand for telephones (Ryan (1997, p.22)). Because few telephones were installed in the network, the major challenge for Japan's telecommunications was to achieve a system of universal service (Hills (1986, p.103)).

State ownership of telecommunications and the absence of competition were significant policy issues in the late 1970s and early 1980s (Sato and Stevenson (1989, p.31)). By the early 1980s, other firms wanted to enter the telecommunications market. Furthermore, NTT's high rates and lack of innovation showed inefficient performance as a public monopoly (Ryan (1997, p.22)). As a result, questions about state ownership of NTT and lack of competition in the telecommunications market became significant precursors for the telecommunications privatization reform of 1985.

Privatization Policy Change of 1985

Changing Japan's telecommunications policy was not as simple as it seemed to be. In 1985, Japan carried out a major telecommunications policy change. NTT was transformed into a private corporation under the Telecommunications Business Law of 1985, which replaced the Public Telecommunications Law of 1953. This new statute stipulated basic principles and structure of telecommunications business in Japan (Ito in Snow (1986, p. 201)). The NTT Public Corporation was renamed NTT Corporation and referred to as a "company." The Japanese legislation states:

The NTT Corporation shall be a company limited (Kabushiki Kaisha) whose purpose is to own all the shares issued by East Nippon Telegraph and Telephone Corporation and West Nippon Telegraph and Telephone Corporation, to ensure proper and stable delivery of

telecommunication services supplied by the latter two companies as well as to engage in research and study of telecommunication technologies... that would constitute the basis of telecommunications (Legislation of Telecommunications @ <http://www.mpt.go.jp>).

The Telecommunications Business Law designates two categories of telecommunications businesses. A Type I telecommunications business provides telecommunications services by establishing telecommunication circuit facilities, which are transmission line facilities connecting transmitting points with receiving points, switching facilities installed as inseparable units therefrom, and other facilities ancillary to such facilities. A Type II telecommunications business is any other telecommunications business. Type I businesses are facility owners. Following are examples of these businesses: local networks services; long-distance, international, and satellite communications; cellular services; and paging services (Ryan (1997, p.23)). Due to their large investments and infrastructure, these businesses must be 70 percent Japanese-owned and are regulated by the MPT. Type II businesses are facility lessors such as national or international leased line service suppliers and smaller, dedicated networks. (Ryan (1997, p.23)).

Originally, a Type I carrier had to secure the permission of MPT to operate; and it had to “obtain authorization for its tariffs, their content, user rights, and user restrictions” (Dowling et al. (1994, p.73)). However, under the revised Telecom Business Law,[3] Type I carriers need not get approval from MPT for rate changes but only notify MPT of their rates (NTT Annual Report (1998, p.17)). Type II carriers require approval only when providing intermediate communication services because they are not involved in transmission services (Dowling et al. (1994, p. 73)).

The new privatization policy ended NTT’s statutory monopoly over Japan's domestic telecommunications market. NTT’s high rates and lack of innovation as a protected monopoly were driving forces for the 1985 privatization (Ryan (1997, p. 22)). Generally, the aims of this measure were to promote competition in the market by transforming NTT firstly into a private corporation and then opening the telecommunications market to new competitors (Tsuji in Kagami and Tsuji (1999, p.25)). Ryan (1997, p.22) argues:

There was virtually no opposition to the privatization of NTT. NTT itself wanted to become more independent of government control; other telecom firms wanted the opportunity to enter the industry; makers of telecommunications equipment felt that liberalization would strengthen the market and increase sales; and consumers of telephone services (both households and businesses) hoped to benefit from lower prices as a result of improved efficiency.

The privatization of NTT in 1985 resulted in (1) entry of new carriers, (2) rate reduction, and (3) diversification of services (See Tsuji in Kagami and Tsuji (1999, p. 25)). Privatization of NTT introduced competition in the telecommunications market, but not unlimited competition. Japan's telecommunications market is still heavily dominated by NTT. After privatizing the monopoly service provider, there were increasing domestic demands for fair and effective competition. In response, a new policy change took place in the 1990s to promote improved competition by restructuring NTT.

Competition

NTT Restructuring

Japan's telecommunications industry made the transition from government monopoly to rapidly changing competition. As discussed previously, NTT had a bottleneck monopoly over the telecommunications market. As such, in order to eliminate the bottleneck monopoly and to inject fair and effective competition, NTT divestiture would be necessary (See Bohlin (1997); Curtis (1997); Tanaka (1997); Tsuji in Kagami and Tsuji (1999)). On February 26, 1996, the Telecommunications Council, an advisory body of the MPT, proposed divestiture. On December 6, 1996, MPT publicly announced the "Policy on the Restructuring of NTT." Subsequently, on June 20, 1997, the NTT Law was revised to reorganize the company. This new policy was geared toward (a) promoting fair and effective competition in Japan's telecommunications market, especially in the domestic market; (b) making the scope of NTT's business strategy as flexible as possible; and (c) creating dynamics in telecommunications by promoting consumer benefits such as lowered rates and diversified services (Tsuji in Kagami and Tsuji (1999, p. 31)).

Basic viewpoints that were significant to the restructuring of NTT are the following:

Aiming at a liberalized organization that enables display by NTT of all its potential;

Promoting fair and effective competition among multiple players;

Creating indirect and direct competition through cross entry between restructured NTTs;

Making scope of business lines for restructured NTT as flexible as possible;

Strengthening Japan's international competitiveness;

Improving Japan's R and D capabilities; and

Creating dynamics in the info-communications industries furthering user benefits such as lowered rates and diversified services (Tanaka (1997, pp. 94-95)).

The new restructuring scheme provided for the division of NTT into four companies: NTT Holding Company; NTT Communications—a long-distance company; and two regional companies—Nippon Telegraph and Telephone East Corporation (NTT East); and Nippon Telegraph and Telephone West Corporation (NTT West).

Competition Policy

In the post-privatization period, regulated competition was introduced to the Japanese domestic and international telecommunications market (See Lannon (1988); Maamria and Kobayashi (1999)). The Telecommunications Business Law mandated the development of competitive telecommunications markets. The revised law was part of the Japanese government's overall policy of deregulation aimed at promoting further competition in the telecommunications market.

The two fundamental goals of Japanese competition policy are maximization of user benefits and sound development of the telecommunications industry. Omura (1997) argues that Japan pursued a stumbling competition policy in its telecommunications market, meaning NTT had a virtually protective monopoly over the telecommunications market for many years. In this case, it is arguable that the monopolistic power of NTT constrained the attainment of the two fundamental goals of competition policy.

Japan at first was reluctant in implementing a necessary competition policy due to the following reasons (See Tsuji in Kagami and Tsuji (1999, pp. 39-41)): First, inconsistency among policies. Due to the monopolistic power of NTT, lack of competition in Japanese telecommunications was obvious. In this case, the policy implemented by MPT was directed more toward reducing the

power of NTT than promoting competition. In terms of size and rate strategy, New Common Carriers (NCCs) could not compete with NTT. Furthermore, a policy on market segmentation, wherein no cross entry was allowed, prevented any NCC from becoming a strong competitor to the giant NTT. Second, MPT had no mandatory power over the interconnection rule. Interconnection was not obligatory but depended on negotiation between carriers. In the event of deadlock on an agreement between carriers, MPT could authorize either to connect or arbitrate. Third, MPT did not possess substantial information to fully regulate NTT. Data collection for regulation was obtained through carriers themselves. There was no independent regulatory body equivalent to the U.S. Federal Communications Commission (FCC) or the Office of Telecommunications (OFTEL) in the UK, which might specialize in telecommunications regulation, monitoring, and information gathering.

MPT closely managed regulated competition, although the 1985 legislation opened the telecom market to a few NCCs (Maamria and Kobayashi (1999)). Since then, NCCs such as DDI, Japan Telecom (JT), and Teleway Japan have entered the Type I long distance business and compete for better and diversified services at cheaper rates[4] (See Dowling et al. (1994, p, 73); Sato and Stevenson (1989, p. 35); Shibata (1995)). MPT promoted the establishment of these new competitors to NTT and KDD, but it was inefficient in promoting competition among these competitors (See Sato and Stevenson (1989)).

A critical analysis of the NTT's divestiture suggests that the restructuring did not necessarily lead to increased competition (Fransman (1997); Nambu (1997)). This argument is in contrast to a widely accepted idea that divestiture of NTT was a significant condition for competition in the local market. Recommendations of the Telecommunications Council, in March 1996, suggested that NTT was a bottleneck monopoly that might constrain competition.[5] The rationale for this assumption was that divestiture of NTT was a means for promoting increased competition in the local market. Divestiture, however, was just one policy alternative for promoting competition.

Other policy options for promoting competition in the telecom market are the implementation of a fair interconnection rule, technological convergence, and liberalization of markets due to pressure from the United States, World Trade Organization (WTO), and APEC. Nambu (1997) has argued that the introduction of an interconnection charge between NTT and NCC is the key to bringing about true competition in the local market. As a result, the new policy measure for interconnection could help NCCs to provide various and better services at lower rates, leading toward creating dynamism and growth in the competitive telecom market. NTT announced in September 1995 the interconnection of local switch and subscriber lines to promote the opening of access networks (NTT Annual Report (1996, p. 7)). In practice, however, NTT still controls about 95 percent of the local access market (Maamria and Kobayashi (1999, p.155)). The implication for NCCs is not good; NCCs are currently experiencing financial weaknesses[6] and desperately looking for domestic mergers for their survival purposes (Maamria and Kobayashi (1999, p.155)).

In a rapidly changing international telecommunications environment, technological convergence is a full-fledged reality that has transformed the worldwide telecommunications market. In particular, Japan has adopted technological convergence as another policy option for sustaining a competitive Japanese telecom market. NTT, the dominant carrier, has sought aggressively to recast its corporate strategy and culture toward becoming a multimedia company (Hayashi (1997)). The company's vision was expanded to cover data communications services (DCS) such as the Integrated Services Digital Network (ISDN), including visual and wireless applications, and computer technologies.[7] NTT explains its corporate strategy as follows:

In this rapidly changing environment, we are committed to providing, by the beginning of the 21st century, the world's most up-to-date telecommunications services at the lowest prices as well as global-scale multimedia services. NTT will strive to reinvent itself to meet the new requirements that are emerging as a result of the dramatic changes taking place around the world (NTT Annual Report (1996, p. 5)).

As such, NTT has devised its strategy in order to reach the company's goal by using the strength of its research and development (R and D) capabilities, opening the market to more competition, and developing multimedia services[8] at reduced prices (Hayashi (1997, p. 108)).

Another driving force for competition in the Japanese telecom market is international pressure. In February 1997, MPT announced some deregulatory measures for liberalizing the Japanese market for basic telecom services under the World Trade Organization (WTO), as part of the country's commitment to it (JETRO (1999, p. 14)). Subsequently, in February 1998, Japan enforced the WTO agreement.[9] This action resulted in opening the telecom market for real competition and thus culminated in the break-up of NTT (Maamria and Kobayashi (1999, p.154)). WTO has to date continued to exert pressure on Japan to promote effective competition and a greater foreign presence in the country. NTT's dominance, however, is expected to loom for some years. Furthermore, the Asia Pacific Economic Cooperation (APEC), wherein Japan[10] is one of the current 21 members, has worked intensively toward harmonization of telecommunications policy and liberalization of markets in the Asia-Pacific region. The APEC Working Group on Telecommunications was established for the development of telecommunications infrastructure in the region. Specifically, the Asia-Pacific Information Infrastructure (APII) is geared towards promoting a competition-driven environment as well as the free and efficient flow of information among member-economies.[11]

Malaysia: From Corporatization to Increasing Competition (Return to Index)

In Malaysia, as in Japan, the telecommunications sector used to be under government ownership and control. Generally, driving forces for Malaysian telecom reforms were financial, commercial, and technological innovation. The major reform initiated was the corporatization of STM in 1987, and thereafter, the introduction of competition in 1994. Afterward, there is increasing competition in mobile/cellular services, although, Telekom Malaysia is still dominant in the fixed-wire telephony market.

The Malaysian Government Initiatives

Malaysia believes--philosophically and economically speaking--in less government (Euromoney (1993, p. 46)). Privatization was formally initiated in 1983. Because of the poor performance of state-owned enterprises, it was made explicit that government interference in the economy should be reduced. (Salleh in Ramanadham (1995, p. 119)). Privatization efforts resulted from the need to redefine the public sector's role in economic development, increase the efficiency and quality of goods and services produced in the economy, and contribute towards meeting the distributional objectives of the New Economic Policy (NEP) (Salleh in Ramanadham (1995, p. 118)).

In 1985, the Malaysian government issued the so-called Guidelines on Privatization. Objectives were as follows:

To relieve the financial and administrative burden of the government in undertaking and maintaining a vast and constantly expanding network of services and investments in infrastructure;

To promote competition, improve efficiency, and increase the productivity of services;

To stimulate private entrepreneurship and investment in order to accelerate the rate of growth of the economy;

To assist in reducing the size and presence of the public sector, with its monopolistic tendencies and bureaucratic support in the economy;

To assist the national goal of redistributing wealth in the economy (Salleh in Ramanadham (1995, p. 119)).

To speed up the privatization process, Malaysia's government issued the Privatization Masterplan in 1987. This plan defined explicitly its privatization policy and outlined a systematic approach to implementation (See Salleh in Ramanadham (1995, pp. 135-136)).

The Telecommunications Industry's Viewpoints

Financial

Telecommunications is a capital-intensive industry and thus requires substantial investment. The first driving force of privatization was financial. Between 1985 and 1986, the Malaysian economy underwent an economic decline that impeded the government's efforts to sustain existing levels of investments and borrowing (Mansor in Bodi et al. (1992, p. 62); Mohamed in Wellenius and Stern (1994, p. 267)). The Malaysian government realized the critical nature of this problem and admitted its inability to finance needed development of the country's telecom industry. Before the privatization of Jabatan Telekom Malaysia (JTM), the government's telecommunications department in 1987, the Malaysian economy was in a high debt position. JTM's long-term debt swelled to M\$4.6 billion in 1986; its total capital expenditure was M\$5.5 billion, which exceeded the total revenue of M\$5.0 billion (Mansor in Bodi et al. (1992, p. 61)). The company's annual telecommunications investments of M\$0.4 billion in 1976-80 increased to M\$1.1 billion in 1981-85, which exceeded total operating revenues (Mohamed in Wellenius and Stern (1994, p. 267)). Between 1986 and 1990, capital expenditures amounted to M\$6.2 billion (Asiamoney (1994, p. 20)). Privatization was seen as a timely, positive step to combat high debt and to mobilize new sources of financing to meet the need for growing capital investments in the industry.

Commercial

Another driving force for privatization was the commercial consideration (Mansor in Bodi et al. (1992, p. 62)). Further development of Malaysia's telecom industry was driven by its need to increase profits and to expand commercially by offering customized and better services. To meet this need, it was essential that telecom services should be provided within a viable and competitive environment (Mansor in Bodi et al. (1992, p. 62)).

Technological Innovation

Technological innovation was also a driving force for privatization in Malaysia. Advanced services and new facilities were necessary to keep abreast of the rapid global technological changes. Telecommunications could no longer be restricted within the nation's boundaries; users should be able to transmit messages and establish connections worldwide. The Malaysian government's drive to achieve the planned objectives of Vision 2020 and make Malaysia a fully industrialized economy gave a high priority to development of the country's telecommunications infrastructure (See Asiamoney (1994)). This effort was consistent with Prime Minister Mahathir's views that the private sector should be the engine for development of the country's economy, and that efforts should be made quickly to follow Singapore (Bruce and Cunard in Wellenius and Stern (1994, p. 208)).

The Corporatization Phase

In Malaysia, privatization initiatives driven by ideals, but were guided by pragmatic efforts to attract private capital for further development of the telecommunications infrastructure (Bruce and Cunard in Wellenius and Stern (1994, p. 211)). From the Malaysian experience, the corporatization process served as a "platform for the telecoms department to be placed on a corporate, legal and commercial framework in which the Malaysian government remains the sole shareholder, but did not play a direct role in management" (Mansor in Bodi et al. (1992, p. 63)). Corporatization was the first step towards privatization, which was manifested in setting up a company that is wholly owned by the government (Onn (1989, p. 97)). This process was initiated by the incorporation of Syarikat Telekom Malaysia (STM), a fully state-owned corporation established under private company law on October 12, 1984 and registered under the Malaysian Company Act of 1965. As such, the process of privatization in Malaysia started with separation of the regulatory and operational functions of the Ministry of Energy, Posts and Telecommunications (Bruce and Cunard in Wellenius and Stern (1994, p. 208)).

STM was the successor public company of JTM, with a starting capital of M\$500 million in 1987 (Woon in Pelkmans and Wagner (1990, p.72)). While financial requirements were the sole responsibility of the new corporation, regulatory functions were administered by the restructured agency--JTM. This privatization model closely resembled that adopted by the UK in 1984 (Onn (1989, p. 97)).

Under corporatization, all operating activities and functions formally vested in JTM were transferred to the newly incorporated STM. This initiative was provided by the Telecommunications Services (Successor Company) Act of 1985. Mansor (1992, p. 64) cites three key elements for the transfer of these functions whereby STM assumed total management responsibility, inherited both the assets and liabilities of JTM, and absorbed all JTM employees who opted for employment with the company. STM was granted a twenty-year license beginning in 1987, and it was charged with responsibility for telecommunications matters (Woon in Pelkmans and Wagner (1990, p. 72)).

The corporatization of STM, moreover, involved internal management restructuring. A corporate culture was inculcated in the organization. Both management and staff efforts were recast toward customer service, marketing, more effective network management, and training programs designed to improve staff morale (Mohamed in Wellenius and Stern (1994, p. 268)). Furthermore, staff employees were given greater decision-making power, which replaced the collective process of the past and reduced decision time (Mohamed in Wellenius and Stern (1994, p. 268)).

In spite of government efforts to improve efficiency in telecommunications through corporatization of STM, results were far from satisfactory. Onn (1989, pp. 97-98) cites three reasons for the inadequacy of this kind of privatization model. First, restructuring involved only transfer of the government's monopoly power to another monopoly owned by the government. STM was virtually a public corporation by identity and purpose, without infusion of private capital. Second, there was an absence of competition in network services. STM held a monopoly over PSTN, specifically over domestic and international telephone and telex services. Last, STM faced a dilemma between its commercial intent to produce high profits and its social responsibility for providing telephone and telegraph services throughout the country. Operationally speaking, STM neglected the rural areas of Malaysia. Due to the above-stated challenges encountered by STM during its corporatization phase, Malaysia advanced its telecom reform to the next stage.

The Post-Corporatization Phase: Introduction of Competition

Not until January 1, 1987 did STM officially commence operating, after having been granted a license on December 1, 1986. The second phase of the privatization process began with the flotation and listing of STM's shares^[12] on the Kuala Lumpur Stock Exchange (KLSE) on November 7, 1990. Through the flotation method, the company raised almost M\$2.35 billion on the domestic market (Mansor in Bodi et al. (1992, p. 65)). Mansor (1992, p. 65) further observes: "Overnight, the company emerged as the largest public listed company, with a market capitalization equal to about 10 per cent of the total market capitalization of the Kuala Lumpur Stock Exchange." With its debut at the KLSE, STM became the largest company listed. Capitalized with over US\$5 billion, it had more than twice the total value of the next listed company (Mohamed in Wellenius and Stern (1994, p. 267)).

STM, which is commonly called Telekom Malaysia (TM), had a virtual monopoly on fixed-phone services. Nevertheless, as the demand for more efficient telecommunications mounted rapidly, the Malaysian government issued a national telecommunications policy in May 1994 to "prepare the industry for a continuing change through 2020" (Asiamoney (1994, p.20)). The government's original intent was to liberalize the industry by introducing competition with Telekom Malaysia and to reach targets specified by the National Development Policy, namely: to

attain the teledensity of 25 telephone lines per 100 population by the year 2000 and 50 by the year 2020 (Cashmore (1996, p. 42)).

After the corporatization of STM in 1987, important policy changes in terms of the provision of telecom services occurred. These policy changes were as follows:

liberalization of supply and provision of equipment, both terminal and network equipment, wherein, restrictions were removed in 1989;

ensuring open access conditions to networks and interworking and mandatory interconnection;

promotion of competition in the mobile services (e.g. ATUR 450, ART 900, AMPS 800, and GSM);

promotion of value added services;

liberalization of public voice services and operation of basic network by the end of 1993; and

ensuring harmonization and orderly development in parallel and complementary to the liberalization program (APEC (1994, p. 66)).

The telecom policy of 1994 broke down the state monopoly and opened the industry to more competition (Astbury (1994)). The government introduced and promoted competition in the market to establish a more efficient telecom infrastructure (Asiamoney (1994, p. 20)). This policy change for the monopolistic telecom industry, principally TM, was designed to ensure that the country would have the telecom infrastructure necessary for making Malaysia a regional hub for international businesses (Weiss (1995)). Although TM was no longer a monopoly, it received

state support in the form of lucrative contracts that included PSTN, public switched data network (PSDN), packet switched network, telex network and circuit switched network MAYCIS, and IGFs (Weiss (1995)).

The thrust of the privatization process was to give the “operator more operational autonomy and independence to finance its operations” (Bruce and Cunard in Wellenius and Stern (1994, p. 209)). The government’s policy on liberalizing the telecom industry was clearly to attract private capital and expertise to promote further development through investments in new network capacity and new services (Harrington in Ure (1995, p. 100)). Reduction of foreign debt was not an important objective of the liberalization policy. The government was more concerned with the deeper “liquidity of the Malaysian market through the flotation of Telekom Malaysia’s shares” (Bruce and Cunard in Wellenius and Stern (1994, p.209)).

The Philippines: From Private Monopoly to Full Competition (Return to Index)

The Philippines has a peculiar state of telecommunications infrastructure as compared to its other Asian neighbors. Unlike Japan and Malaysia, which followed a European statist model of telecommunications, the Philippines derived much from the American model of private monopoly of the telecommunications industry. Generally, telecommunications reforms happened out of the government’s policy initiatives. Reforms were initially introduced in 1989 by the Aquino administration but took off in 1992 during the Ramos administration. Since the Ramos administration, the Philippine telecoms market has been characterized by full competition in both fixed-wire network and mobile/cellular services.

The Private Monopoly of PLDT

The Philippines is an exception to the statist model of Asian telecommunications. Ownership and control of nationwide telecommunications have been in the private sector from the era of American colonialism[13] to the present. The major telecommunications entity in the country is a privately owned monopoly, the Philippine Long Distance Telephone Company (PLDT). According to data provided by the International Telecommunication Union (ITU), PLDT was the largest fully privately owned telecommunications company in South East Asia in 1996 (East Asia Analytical Unit (1998, p. 210)). In 1928, it was formed as a company under American control and was vested with a 50-year franchise (Wolf and Sussmann in Mody et al. (1995, p.209)). Even after the end of American rule, PLDT has remained as the dominant provider of fixed wire telephony. The Philippine government extended its franchise until 2028 (Hudson (1997, p.313)). PLDT has exercised monopoly power over local, national, and international telephone services. Prior to the introduction of competition, PLDT “owned at least 85% of local exchange capacity and the only extensive nationwide backbone transmission network” (Seráfica (1998, p.60)).

As a private monopoly, PLDT long enjoyed special treatment and government protection from competition (East Asia Analytical Unit (1998, p. 210)). Competition was totally absent in the telecom market prior to the introduction of market reforms in the late 1980s. Although the Philippine telecommunications industry was a private monopoly for more than half a century, there is no doubt that the industry was an epitome of inefficiency, underinvestment, and unsatisfactory performance. (See Serafica (1998); Wolf and Sussman (1995); Aquino in Noam et al. (1994)). PLDT had a poor record that featured a low number of new connections, high charges, and long waits for connection (East Asia Analytical Unit (1998, p. 210)). A World Bank study reports: "To the extent that we accept that any company's economic behavior is defined by the industry structure and regulatory environment, PLDT's failure to provide service adequate to meet demand is consistent with its position as an ineffectively regulated monopoly" (Cited in Serafica (1998, p.363)). Telecommunications in the Philippines was among the least developed when compared to other Asian countries two decades ago.[14] In the early 1990s, former Singapore Prime Minister Lee Kuan Yew commented, "98 percent of Filipinos are waiting for a phone line, and the other two percent are waiting for a dial tone." [15] This observation fitted the poor state of the Philippine telecommunications sector in the past. In fact, there were more names on the waiting list than in the phone book, and the waiting period for telephone service was more than ten years.

Serafica's study (1998) concludes that under a regime of private monopoly, the Philippines telecommunications industry floundered. This was empirically true during the Marcos era. Private companies, among which PLDT was a dominant carrier, held government-protected monopolies over all major aspects of telecommunications. Existing literature has focused mainly on the failure of the telecom industry under the protectionist regime of President Marcos. There were many reports that Marcos and his cronies appropriated PLDT revenues, which resulted in a telephone shortage and higher rates (Hudson (1997, p. 313)). On the other hand, there is a dearth of literature on telecommunications reforms under the succeeding administrations of Presidents Aquino and Ramos. These reforms have turned the moribund industry into a dynamic and competitive market. In the following sections, the current dynamism of the industry will be critically examined by looking into policy reforms undertaken in the late 1980s and throughout the 1990s.

Telecommunications Policy Reforms

The Philippines telecommunications industry languished for many years in the absence of competition (APEC (1998, p.7)). Due to the unsatisfactory state of the industry, reforms were undertaken to increase line growth, provide better service, and promote use of advanced technology (APEC (1998a, p. 178)). The Aquino initiated the first telecom reform administration (1987-1992) under an agenda of deregulation and liberalization of the telecommunications industry through the introduction of competition in the telecom market. The Aquino administration passed the Municipal Telephone Act of 1989 to expand the country's telephone system. This measure required installation of public calling stations in all municipalities, thereby

extending telephone services to rural areas (See Municipal Telephone Act in Payumo (1996)). Furthermore, new foreign licences were granted for international gateway facilities (IGF), cellular mobile telephone systems (CMTS), paging, cable television, very small aperture terminals (VSAT), and trunked mobile radio (APEC (1998a, p. 183)). In short, the previously monopolized telecommunications market was initially opened to competition when several operators came into the market.

Despite this liberalization of the industry, which thus removed PLDT's monopoly by allowing new players in the market, the industry is still dominated by the PLDT. As such, the new competition policy introduced by the Aquino administration was inadequate in responding to the demand for high line growth because of the lack of clearer regulatory policies on interconnection and universal service.

The process of competition reforms was further accelerated under the Ramos administration (1993-1998). It launched a massive campaign for further deregulation/liberalization of markets. Opening the telecom industry to full competition, the Ramos government undertook reforms to promote investment and growth (See Harrington in Ure (1995, p.102)). In 1993 Ramos announced, "The Philippines needs modern methods of communication to further expand its growing economy, and I believe this can only be achieved by free competition between private companies"[16] (See Weiss (1994)). He was highly critical of PLDT's inefficiency in providing more telephone lines in the country. As a result, during the company's annual meeting in April 1993, President Ramos took the drastic measure of giving to the government a majority of seats on the board of directors (See Harrington in Ure (1995, p. 102)). With this leverage of the government's sequestered share of the company, Ramos appointed six of the PLDT's 11 board members (East Asian Executive Reports (1994, p. 16)).

Under the Ramos administration, three salient administrative policies were initiated to create a better competitive climate for the telecom industry. First, Executive Order (EO) 59, issued on February 24, 1993, prescribes the policy guidelines for compulsory interconnection[17] of authorized public telecommunications carriers. The objective of the order is to create a universally accessible and fully integrated nationwide telecommunications network, thereby encouraging greater private sector investment in telecommunications. This policy directive aims to enhance effective competition in the telecom industry by ensuring that all users of the public telecom service have access to all other users of the service anywhere in the country at an acceptable standard of service and at reasonable cost. Interconnection, as such, is compulsory. Under this EO, PLDT is obliged to interconnect competitors' telephone lines in its own Public Switching Telephone Networks (PSTN), which reduced PLDT's dominance in the entire industry on a national scale (APEC (1998a, p.183)).

Second, EO 109 issued on July 12, 1993, outlines a policy designed to improve local exchange carrier service. The objectives are to ensure the orderly development of the telecommunications

sector through the provision of service to all areas of the country, to satisfy the demand for telephones, and to provide healthy competition among authorized service providers. This policy directive is fundamental for reaching the goal of universal access to basic and other telecom services throughout the country.

Under this EO, CMTS operators are compelled to install 400,00 telephone lines in three years and 300,000 lines for IGF operators within five years. Furthermore, EO 109 served as a vehicle in implementing the Service Area Scheme and the three-year Basic Telephone Program (BTP),[18] which ended in June 1998 (APEC (1998, p. 8); East Asian Executive Reports (1998)). The Philippines was divided into 11 geographic areas, where CMTS operators are required to operate both in served and underserved[19] areas. Eight carriers were authorized to operate in these areas; they were required to install local exchange lines for fixed-wire or wireless technology or both (APEC (1998, p.5); (1988a, p.183)). IGF operators were also mandated to put up at least one rural exchange line for every ten urban local exchange lines.

Third, the Public Telecommunications Policy Act of the Philippines (RA 7925) was passed on March 1, 1995. The Act aimed to promote and govern the development of Philippine telecommunications and the delivery of public telecommunications services. This was considered to be the “main reason behind the rapid growth of the industry.” At the same time, it was hailed as a “milestone in the history of telecommunications in the economy and one of the greatest accomplishments of the Ramos Administration” (APEC (1998a, p.183)). The Act affirmed that the role of the private sector was to be the engine of rapid and efficient growth in the telecom industry. It also specified that a healthy, competitive environment is to be fostered, in which telecom carriers are free to make business decisions and to interact with one another in providing telecom services. Under these conditions, it was expected that their financial viability would be enhanced while maintaining affordable rates for the benefit of consumers.

The Act mandated a wide public ownership of telecommunications entities through public offerings to be listed on the Philippine Stock Exchange (PSE). Each telecom entity was required to make a public offering of at least 30 percent of its aggregate common stocks through stock exchanges in the PSE (See RA 7925, Sec.21). Moreover, the National Telecommunications Commission (NTC) was authorized to be the principal administrator of the Act—to adopt an administrative process that would facilitate the entry of qualified service providers and to adopt a pricing policy that would generate sufficient returns (See RA 7925, Sec. 4). NTC was mandated to establish rates and tariffs that provide for the economic viability of telecom entities and a fair return on their investment, considering the prevailing cost of capital in the domestic and international markets (See RA 7925, Sec.17).

Competition policy reforms initially boosted increasing growth in the industry by raising the level of telecommunications services in the Philippines. There is no doubt that the state of the telecom industry in the Philippines has improved greatly in the last few years as a result of

government policies. In spite of its recent success and expansion brought by policy reforms undertaken by the government, the Philippines telecom industry still remains in a precarious stage of development (See APEC (1998, p.19)). The next section critically examines the current problems faced by the industry, which may constrain its continuous positive growth.

.03. PRESENT CONSTRAINTS OF THE PRIVATIZED TELECOM SECTOR IN THREE ASIAN CASES (Return to Index)

After privatization and introduction of competition in the telecom market in the three Asian cases, each telecommunications sectors is not without with constraints and challenges. The second part of this paper tries to examine these problems in each of the three countries and raises future issues.

Japan (Return to Index)

After the privatization policy change, Japan's telecommunications sector has faced important challenges regarding universal service and interconnection issues.

Universal Service

The Japanese telecommunications market still faces some significant issues after privatization and restructuring of NTT. Two significant issues are identified in the study: universal service and interconnection. Universal service refers to “services that are indispensable to people and given fair access to everyone and everywhere at affordable rates” (Tsuji in Kagami and Tsuji (1999, p.46)). These services are non-economic in nature, such as public telephones, directory assistance, and conventional telephone service in remote areas (See Sugaya (1997)).

Regarding the status of NTT, it is apparent that NTT is the only major entity that has a potential to provide universal service throughout Japan. Before NTT’s restructuring, universal service was financed mainly through cross-subsidization from monopolistic profits of NTT, which were derived from its long-distance call market (Tsuji (1999, p. 35)). After restructuring, cross-subsidization is still applied as stipulated in the new NTT Law, which mandated NTT to provide telephone services throughout the country (Sugaya (1997, p. 181)). In the era of competition, a subsidy method cannot maintain the cost of universal service. In this case, NTT has to face the new financial scheme for universal service costs. NTT should share the financial burden of universal service with other new carriers that have entered the telecom market. The problem remains regarding what should be a workable financial scheme in the competitive Japanese telecom market.

The financial framework of universal service must meet the conditions of competitive neutrality, transparency, efficiency of providers of universal services, and low operating costs (Tsuji in Kagami and Tsuji (1999, p. 46)). The financial scheme should be transparent in management,

distribution of funds, and share of burden; it should not constrain the efficiency of carriers (Tsuji (1999, p. 46)). There are three kinds of funding schemes for universal service: cross-subsidization, access charge method, and fund method (Ibid). As mentioned previously, cross-subsidization is used under the NTT monopoly, but it may no longer be applicable after the introduction of competition. Also, the access charge for long-distance carriers may not be workable because of bypass (Sugaya (1997, p.181)). Due to competition, the fund method is more suitable because of a low degree of unfairness is possible because only carriers with access to universal service providers are obliged to pay for charges and incentives to avoid access charges are more likely and sufficient funds may not be collected (Tsuji in Kagami and Tsuji (1999, p. 46-47)). Furthermore, the universal service fund is the best option because of support services that it can provide to remote areas and for handicapped people[20] (Sugaya (1997, pp.181-183)). Thus, different carriers, including mobile and cellular service providers, should be required to contribute to the universal service fund.

Interconnection

Interconnection is not obligatory in Japan. In principle, the framework for interconnection depends only on negotiations between service carriers (Telecommunications Council, Basic Rules for Interconnection @ <http://www.mpt.go.jp>). The current framework is a weak basis for ensuring equal access to other carriers in the market.[21] Generally, negotiations under this framework do not function effectively and do not proceed smoothly due to the following reasons (See Telecommunications Council, Basic Rules for Interconnection @ <http://www.mpt.go.jp>): (1) A prolonged interconnection negotiation period, (2) Issues concerning the scope of cost for calculating interconnecting charges, (3) Issues concerning period and cost of network modification for interconnection, and (4) Issues concerning interconnection between Type II Telecommunications Carriers and NTT, etc. When interconnection negotiations between carriers reach an impasse, the MPT can issue an order to connect or arbitrate for the sake of public interest.

In sum, the current interconnection rule concerning negotiations between carriers must be revised and other measures should be adopted to improve benefits for users and to promote fair and effective competition. In a time of rapid technological innovation brought by globalization, new services are emerging. As such, rules should be revised to meet technological changes and constructed to harmonize with those of other countries (Tsuji in Kagami and Tsuji (1999, p. 35)).

Malaysia (Return to Index)

Although the industry is now growing rapidly and expanding, there are still pressing policy issues that need to be addressed. First, the method of regulation is unclear, particularly in the area of tariff. There is no fixed tariff method. Instead, tariff is set by STM, after getting an approval from the minister in charge of telecommunications (See Woon in Pelkmans and Wagner (1990, p. 75)). Second, the licensing process is only discretionary, with no transparent

criteria, and the license period is not fixed (Hudson (1997, p. 311)). Third, the regulatory body has not set standards for network quality and compatibility, revenue sharing, and a clear interconnection policy. Fourth, the government still favors the dominant carrier TM as a so-called “carrier of last resort” (See Hudson (1997, p. 311)). The government has reserved for TM a monopoly over rural telephone services, which means leaving out incentives for other companies to operate in rural areas.

The extent of competition policy to attract more capital investments depends essentially on the market environment in which companies operate. Much uncertainty remains in the case of Malaysia.

The Philippines (Return to Index)

After the introduction of competition reforms in the 1990s, The Philippines telecommunications industry faces significant challenges, such as ambiguity of competition policy, interconnection problem, present policy on foreign ownership, and the absence of convergence policy.

Ambiguity of Competition Policy

The current competition policy is shortsighted. Under the EO 109, the said policy’s objective is to improve the provision of local exchange service in unserved and underserved areas (as defined by the NTC) to promote universal access to basic telecommunications. When telecom operators supposedly have met their required obligations in installing lines in their respective areas as delineated by the Service Area Scheme, the problem lies afterward when competing operators have come to settle down. The weakness of the present competition policy lies in its ambiguity in defining a clear and more workable way to ensure continuous efficiency of the industry (APEC (1998, p. 19)). The industry is still highly fragmented because operators have exclusive regional franchises (APEC (1998a, p.15)). As such, a clear competition policy to ensure healthy competition in a segmented industry is still to be formulated. Once these firms have finally positioned their strength in the market and sized up competition, a clearer and more authoritative governmental policy on competition is needed. This policy is highly important to ensure continuous viability of the industry in the future.

Interconnection Problem

In practice, mandatory compulsory interconnection under EO 59 has been hard to enforce. Difficulties spring from the dominant position of PLDT in the market. PLDT seems to appear reluctant to comply with the mandatory interconnection rule, possibly because of its strategy to reduce competitors’ revenue and maintain market share (East Asia Analytical Unit (1998, p. 211)). Some new competitors have complained that PLDT has refused to provide enough interconnection points or has made it difficult for other operators to obtain connections (APEC (1998, 1998a)). For example, PLDT made interim interconnection agreements with operators Bayantel and Globe-MacKay Cable & Radio Corporation (GMCR) in December 1995. The

service that most Bayantel subscribers received was poor; it was based on the busy tone or recorded voice mail instructing callers to try again (APEC 1998b).

Due to limited interconnections given by PLDT, some new carriers have failed to meet the required connection commitments to install fixed lines in their assigned service areas. In fact, new carriers have installed only 20 percent of required fixed lines and are behind schedule (Cited by East Asia Analytical Unit (1998, p.211)). Furthermore, the failure to interconnect with PLDT's network system has frustrated the efforts of new competitors to capitalize on their investments, thus crippling their financial viability. Another good example was the case of the new cellular operator Express Telecommunication Company (Extelcom). Its application for interconnection was delayed for three years. When the Supreme Court ruled for a mandated interconnection, the PLDT-owned cellular operator Pilipino Telephone Corporation (Piltel) was firmly established in the cellular market (East Asian Executive Reports 1994, p. 16). Some critics of PLDT have claimed that "PLDT's near-monopoly position allowed it to fend off competitors and invest little in either maintenance or expansion" (East Asian Executive Reports (1994, p.6)).

Another loophole of EO 59 is failure to specify the exact interconnection price. Many new operators claim that PLDT is charging prohibitively high rates for gaining access to its network. The current revenue sharing scheme is 70-30 in favor of PLDT for the interconnection with PSTN (APEC (1998b, p.186)). PLDT also charges high toll rates (30-35 cents per minute) on international calls (APEC (1998b, p.186)). As such, the high rate on access charge and the revenue sharing scheme between parties have put small players in a disadvantaged position, thereby weakening their market leverage.

In disputes involving interconnection negotiation, NTC is not directly involved in the process under the provision of RA 7925. Access charges and revenue sharing arrangements between interconnecting carriers are negotiated between parties only, without direct regulatory intervention by NTC (See Sec. 18). The implication is that without a regulator that can supervise the negotiation process, PLDT has no economic incentive to facilitate interconnection and thus delays taking action (APEC (1998b, p.186)). This inaction may put new small operators at a very serious disadvantage. To solve the problem of interconnection, the DOTC (a policy-making body) attempted to obtain enactment of a bill in 1997 to impose criminal sanctions on PLDT or other operators for non-compliance with the mandatory interconnection (East Asia Analytical Unit (1998, p. 211)). The Philippine Congress did not pass this bill.

Present Policy on Foreign Ownership

The 1987 Philippine Constitution restricts foreign ownership in any public utility, including telecommunications, to a maximum of 40 percent. The remaining 60 percent is reserved for Filipino investors. This provision is also mandated in the Foreign Investment Act of 1991 and the Omnibus Investment Code of 1987, which prescribes the extent of foreign equity participation,

land ownership, and fiscal and non-fiscal incentives. The following telecommunications services are eligible for registration with the Board of Investment (BOI):

international gateway facilities;

establishment and operation of local exchanges;

public calling offices;

multimedia training systems; and

inter-exchange carrier network operations (satellite or terrestrial-based) (APEC (1998b, p.185)).

From the investors' point of view, the current 40 percent foreign ownership restriction needs to be relaxed in order to facilitate inflow of more foreign capital, technology, and skills (APEC (1998, p.19)). Although foreign ownership is restricted in the Philippines, it is still the highest level of foreign ownership allowed in East Asia's telecommunications sector. For example, the limits are 30 percent in Malaysia, 35 percent in Indonesia, and 20 percent in Thailand (Cited in East Asia Analytical Unit (1998, p. 211)). However, any change regarding the extent of foreign ownership will require long political and bureaucratic processes, because a constitutional change would be needed. This issue will possibly be open for more debates involving different sectors of Philippine society.

Absence of Convergence Policy

Another pressing problem in the Philippines telecommunications industry is the absence of a convergence policy; that is, the meeting of information technology (IT) and telecommunications (APEC (1998b, p.187)). Currently, industries such as telecommunications, cable television, broadcasting, and IT are still operating independently from each other and have separate regulatory schemes (APEC (1998b, p. 188)). Lack of a convergence policy makes it impossible

for multimedia applications to include requirements that benefits and products be accessible to the public (APEC (1998, p.19)). Hence, the Philippines is still a laggard in the multimedia revolution.

.04. CONCLUSION (Return to Index)

It is clear that the three Asian cases underwent telecommunications policy changes from monopoly to privatization and competition. In Japan, telecom reform progressed from gradual privatization of NTT in 1985 to recent restructuring of the company and then toward promoting competition in the nation's telecom market. In Malaysia, telecom privatization was a lengthy and cautious process involving the corporatization of STM in 1987 and introduction of market competition. In the Philippines, telecommunications reforms have embraced a market-oriented approach by injecting full competition into a private monopolistic telecom industry.

Several factors contributed to the need for changes in policy. First, there was inefficient performance of telecom entities under the status of public or private monopoly as shown in cases of NTT, STM, and PLDT. Second, the private sector has provided capital investments and served as the engine of growth and development for the telecommunications industry. Third, infrastructure development has attracted private capital and promoted foreign investments in the highly capital-intensive industry. Fourth, in response to international pressure such as that of the WTO and APEC, there has been further liberalization and deregulation of the telecom industry. Fifth, there have been responses to the rapidly growing technological advances worldwide and to domestic demands for better and diversified services. Last and most important, the absence of competition in the telecommunications industry has triggered essential reforms. Experiences of the three Asian economies show that privatization by itself does not guarantee improved efficiency of telecommunications services unless competition takes place alongside it. In the case of the Philippines, there is a history of private monopoly in telecommunications, but efficiency and performance were very disappointing due to the absence of competition. Both Japan and Malaysia have had state-controlled telecommunications, but efforts toward privatization were undertaken to improve efficiency and performance of utility entities. The results in these countries were marginal. Mere transfer of ownership from public to private hands has not made much difference without accompanying competition reforms. It simply turned the public monopoly into a private monopoly.

It is rational to say that only privatization and competition combined (but neither one alone) can improve efficiency, meet consumers' demands for better services, and make technological advances possible.

The remaining issues to be resolved for the telecom industry are regulation and the extent of competition. How much regulation and how much competition are needed? These important questions must be addressed in the future.

.05. NOTES (Return to Index)

[1] See The Economist (October 1998).

[2] For the detailed outline of Laws Governing Japanese Telecommunications System, see Sato and Stevenson (1989, p. 32).

[3]The Telecom Business Law was revised in May 1998.

[4] These new carriers are backed by companies like Sony, Toyota, Mitsubishi, Kyocera, Japan Highway Public Corporation, and Japanese National Railways.

[5] Those in favor of divestiture based their arguments on NTT's dominant position in the local market in terms of size and financial and R and D capabilities.

[6] For example, DDI and Japan Telecom (JT) faced revenues decline; their rates fell by more than 75 percent during the last 10 years.

[7] The new concept called Visual, Intelligent and Personal communications (VI&P) was launched in 1990 and to be completed in 2015 for its nationwide optical fiber network.

[8] Multimedia services offered by NTT include the following: local area networks (LANs), wide area network (WANs), ISDN, INS-Net (integrated services digital network), Open Computer Network (OCN). OCN was launched in December 1996 to realize connectionless multimedia services. OCN is a flat-rate but inexpensive network service, that is, suitable for Internet access and other computer communications that need not require real-time response (See NTT Annual Report (1997, pp. 4-5)).

[9] For recent analysis of the WTO agreement on basic telecommunications, see Fredebeul-Krein and Freytag (1997).

[10] The APII Technology Center was established in Japan, tasked with experimentation on advanced broadband communications.

[11] For a more detailed explanation on objectives and guiding principles of APII, see Saga (1999).

[12] There were 470.5 million Telekom Malaysia's shares that offered to the public at M\$5.00 per share in 1990.

[13] In 1905, Americans started to organize the Philippine Islands Telephone and Telegraph Company.

[14] In the early 1980s, the Philippines' teledensity was less than 2 per 100 people compared with Thailand (13), Singapore (38), South Korea (33), Malaysia (7), and Indonesia (3) (See Wolf and Sussmann (1995)).

[15] Cited in East Asian Executive Reports (1994, p. 6).

[16] Italics mine.

[17] Section 2 of EO 59 defines interconnection as the "linkage, by wire, radio, satellite or other means, of two or more existing telecommunications carriers or operators with one another for the purpose of allowing or enabling the subscribers of one carrier or operator to access or reach the subscribers of the other carriers or operators."

[18] At the end of BTP, the Philippines had 6.66 million operational mobile and fixed lines nationwide. The teledensity increases to 10 for every 100 nationwide—a telephone density index standard for developing countries, compared to 1.4 in 1993 (See East Asian Executive Reports (1998)).

[19] This refers to the local exchange telephone service areas within the Philippines where local exchange service is available but the number of existing telephone connections and available lines are less than the established telephone density.

[20] In Japan, there are laws that promote telecommunications services and equipment for handicapped people since 1993. For example, NTT has made available a special-tariff service called Anshin (safety) and other types of equipment for handicapped and elderly.

[21] For a detailed explanation of the rules for interconnection, see Telecommunications Council, "Basic Rules for Interconnection" @ <http://www.mpt.go.jp>.

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