

The Globalism of Public Telecommunications Operators-- Toward a New Framework of Telecommunications Policy

Yoshiko Kurisaki

1. Introduction

1.1. Scope of this chapter

The objective of this chapter is to identify new activities -- and the international expansion of -- public telecommunications operators (PTOs)¹ and analyze the national and international policy implications. Particular focus will be placed on the following three forms of globalization: 1) new service options in the provision of existing international telecommunications service; 2) foreign direct investment (FDI); and 3) off-shore services provided by alliances between PTOs (e.g. so-called "one-stop-shopping" and "outsourcing").

Discussion will be based on empirical evidence observed in the OECD member countries, including all the European countries (both EC and EFTA member states). Increasing interdependency among national economies on a global scale, especially the "Triad" (Asia-Pacific, Europe and North America), insures that policy assessment in the OECD countries will give useful insights applicable in the European context.

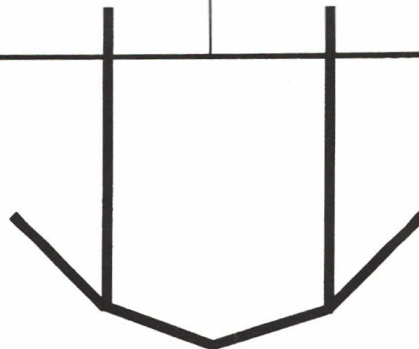
1.2. A paradigm change

The increasing globalization of corporate activities (in both the manufacturing and service sectors) in the OECD member countries has spilled over into the telecommunications sector since the end of the 1980s. This is creating fundamental changes in the paradigm of international telecommunications service provision. An increasing number of PTOs are extending their business activities, either explicitly or implicitly, *internationally*. Although this is a fairly new phenomenon, the speedy expansion of these activities has been dramatic. The absolute value of such investment may be relatively small compared to the total investment of a PTO, but the strategic importance of this small investment should not be overlooked.

In telecommunications there is a growing level of discrepancy between whom policy and services are addressed to (Figure 1). In the past, both policy and services were addressed to domestic users. While policy has basically remained the same, services are extending their reach by including both domestic and foreign users in domestic and foreign markets. A number of policy issues arise from this discrepancy. Existence of asymmetry in the level of liberalization between countries increases the economic impact of PTO globalization, giving birth to a set of policy issues relevant to all countries. National telecommunications policy now has broader cross-border implications than it had previously.

Figure 1 Mismatch Between Recipients of National Telecommunications Policy and Services

	Policy		Services	
	Area	Customers	Area	Customers
Past	Domestic	Domestic	Domestic	Domestic
Present			Domestic	Domestic



Increasing Discrepancy

2. New forms of internationalization

2.1. New service options

PTOs are developing a variety of service options that increase their geographical coverage. Discounts in voice telephony services using the simple resale of an international leased circuit is the simplest example of a service option.²

PTOs are offering various billing and call setup options that facilitate the customer's use of international voice telephony. Examples of these include international toll free service ("International Green Numbers" by PTT Netherlands), and an automated reverse charge service ("Country Direct Services," such as "OTC Country Direct" by AOTC (Australia), "Japan Direct" by KDD, and "USDirect Service" by AT&T).

Calling card services have opened more variation in options to users. An automated credit call service (such as "OTC CallCard" by AOTC) enables users to charge calls originating in foreign countries to their domestic account. Some US PTOs offer a technologically advanced version of calling card service, with "World Connect Service" by AT&T and "MCI Card" by MCI being examples. In this service, a holder of a calling card from a company in Country A may call from Country B to Country C *via* Country A (Figure 2-1). The card holder first calls Country A, then has the PTO in Country A call Country C. The calling procedure is the same as the automated credit call terminated in Country A, but the call is simply forwarded to a destination outside, not inside, Country A.

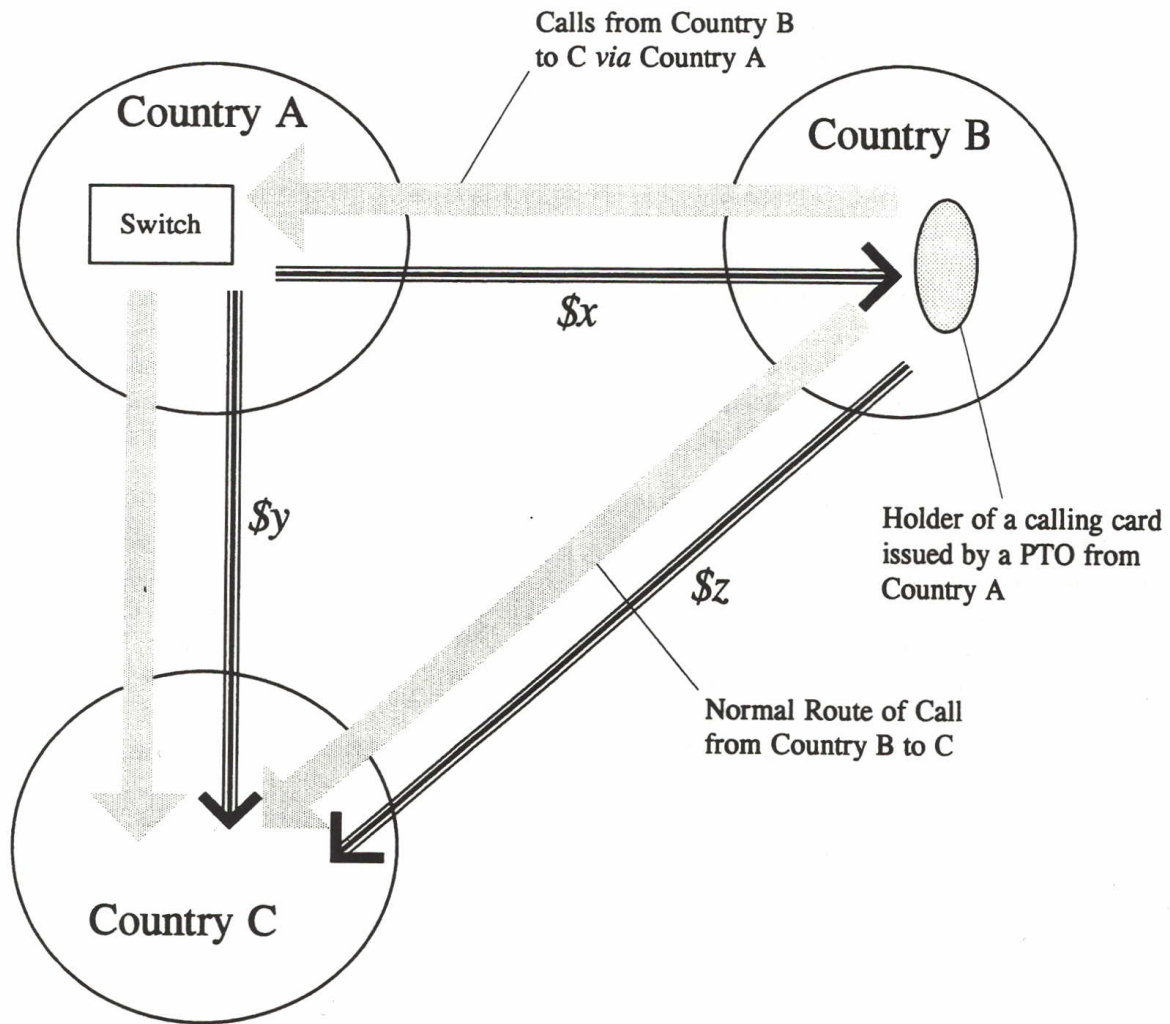
In this service, flow of the payment between PTOs in Countries A and B follows the direction of the call. A PTO in Country A pays the accounting rate to a PTO in B for those calls originated by calling card holders in B and addressed to the third country via A. This is because of the existing International Telecommunications Regulations. The regulations determine that credit calls originated in a foreign country are treated as outgoing calls from the subscriber of the service's home country, in the example above, Country A. The regulations also state that the accounting rate must be paid by the country which originates traffic over a route not previously agreed upon, for example, a call from B to C routed via A. Benefits of existing PTOs are safeguarded in this way.

The market size of third-party calling service is, in fact, estimated to be negligibly small in relation to the whole volume of international traffic between any pair of the two "by-passed" countries (such as Countries B and C in Figure 2-3). But the customers base *is* large enough to result in a significant loss of revenue for the "by-passed" PTOs.

Third-party calling service has some potential elements of competition:

- It enables a PTO in Country A to participate in telephony markets between B and C, from which in the past the PTO in A was excluded. The PTO may obtain revenue from collection charges for calls made from B to C via A. If the accounting rate from B to C (\$z in Figure 2-1) is higher than the one from A to C (\$y in Figure 2-1), the PTO in C might lose some income opportunities;
- Impacts of third-party calling service on the corporate image of a PTO may be substantial. The idea of "third-party" calling would look "smart" to customers who would rather use their credit card to pay for the call then to struggle with coins or a number of prepaid telephone cards when making an international call from foreign countries. It enables a PTO to have a "brand image" that customers can access internationally; and

Figure 2.1 Third-party Calling Service



Settlement Payments

← Flow of Calls

← Flow of Settlement Payments

- Card holders outside of the PTO's home country are, in theory, possible. Alternatively, the PTO may link this service with existing commercial credit cards issued by financial service firms (e.g. VISA, Master, American Express, etc).³ If the calling cards are made widely available to customers, regardless of their nationalities, telephone users may wish to hold cards that enables them to use the PTO that offers the lowest price, thus eliminating almost all monopolies on at least international calls.

All these effects stated above may create some feeling of *competitive pressure* in the "bypassed" countries (Countries B and C in Figure 2-1). Despite the fact that the third-party calling service is operated in the realm of credit call service based on bilateral agreements set by the International Telecommunications Regulations. PTOs will follow different paths, some trying to maintain their own monopolies, others using new services and technologies to shatter old monopolies, which could create friction among PTOs.

An increase in the number of countries that allow simple resale of international leased circuits will give birth to a carrier that does not own facilities, but leases them and provides the same service as PTOs.⁴ PTOs are no longer the only players in international telecommunications. A situation described below is possible with international simple resale.

Let us imagine the original conditions exhibited in part one of Figure 2-2. A PTO in Country A has a cable for transoceanic traffic between Countries A and B. The PTO obtains profit by providing toll call transmission service to international calls from Countries C, D and E to B through the cable, and charges PTOs in C, D and E. The PTO in Country A thus obtains markets for international traffic both from its domestic market and from foreign countries. In a new situation illustrated in part two of Figure 2-2, a telecommunications operator (TO) Z enters the transoceanic telecommunications market. Z leases a large capacity of the cable built by the PTO from Country P to B. It uses an international reverse charge service to attract users in Countries C, D and E, and provides international telecommunications services between these three Countries and Country B. In this case, Z is competing with the PTOs in P and A, since users in P may also take advantage of the same service. If sufficiently aggressive, the operator Z may try to attract more users in C, D, and E by using international toll free services for customers to access its switches located in P.

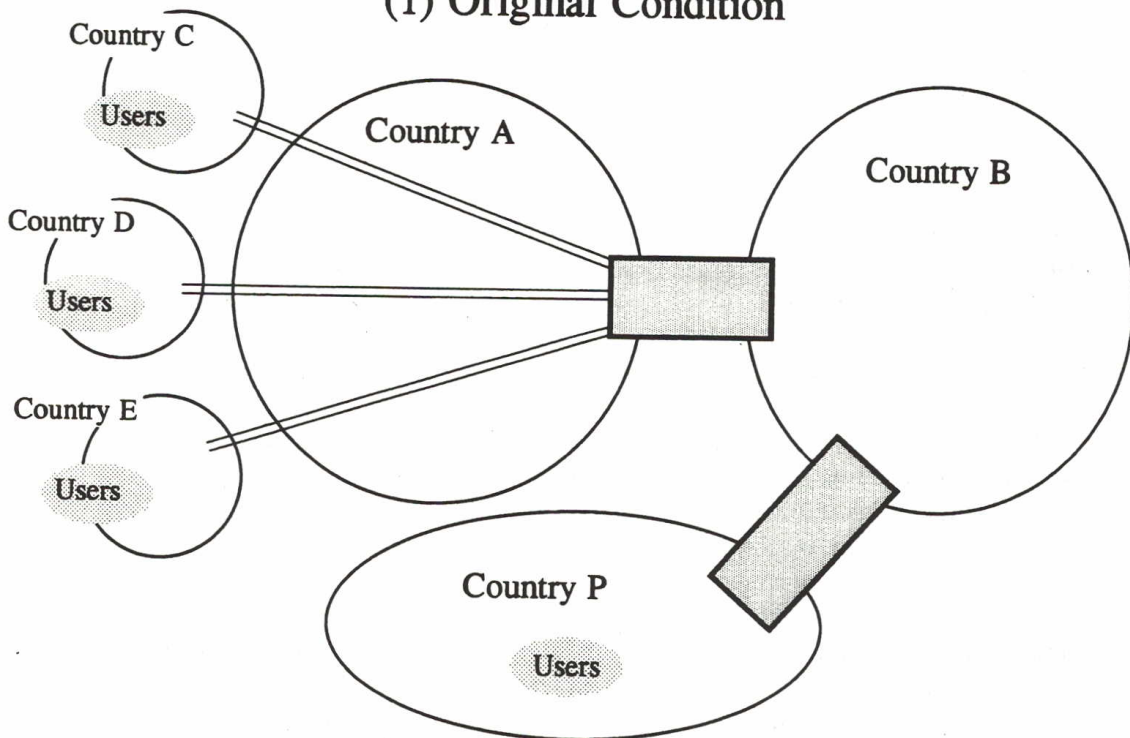
Simple resale will place *downward pressure* on the charges of existing international telephone services. In the example above, Country A may have to reduce the toll call transmission charges to maintain traffic from C, D and E to B.

2.2. Foreign direct investment

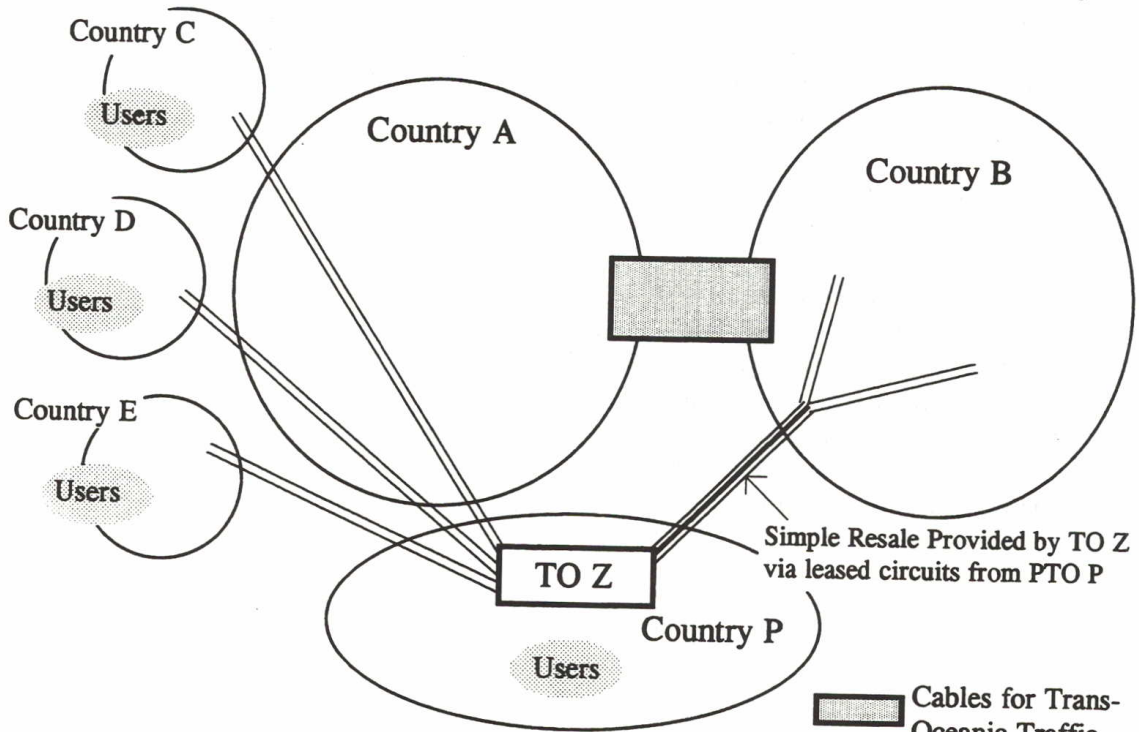
Foreign direct investment (FDI) by PTOs is increasing in both number and amount. FDI takes various forms; purchase of shares of TOs (both PTOs and other service providers), establishment of joint ventures (JVs), obtainment of franchises for the operation of telecommunications service and mergers and acquisitions (M&A) of providers of enhanced communications services. Direct investment has an advantage for PTOs in that they become globally known (i.e. global presence) in a relatively short time, and they rapidly enter the target market. Examples of recent large scale direct investments include:

Figure 2.2 Simple Resale

(1) Original Condition



(2) Potential Competition between PTO A and a TO in Country P



* TO = Telecommunications Operator

- The purchase of shares of the PTO in New Zealand (Telecom Corporation of New Zealand Limited, or TCNZ) in 1990 by a consortium of Ameritech and Bell Atlantic (both from the US).
- The purchase of 49 per cent of the shares (with voting rights) of Mexican PTO, Telefonos de Mexico (Telmex) by a consortium including South Western Bell (a Regional Holding Company in the US) and France Telecom (FT, France) in 1991.

Foreign direct investment gives birth to several policy issues. They result from clashes between the existing rules for trade and international capital movement (external factor), and telecommunications regulation that controls the liberalisation of domestic markets (internal factor). This is because of the existing asymmetry between country rules for foreign ownership of PTOs and the liberalisation of telecommunications markets.

2.2.1. Competition issues

Where do monopoly (or near-monopoly) PTOs obtain financial resources to invest abroad? Is there a possibility of *subsidized competition* when these PTOs compete with non-monopoly PTOs in the telecommunications markets in third countries (i.e. those countries that *receive* investment)? What rules do we need to avoid subsidized competition?

2.2.2. Trade issues

Is the same level of *accessibility of the market* in the country concerned assured for both domestic and foreign PTOs (i.e. non-discrimination in market access)? Are current regulatory systems open to foreign-owned PTOs in terms of the availability of the information needed to access national markets, such as network information and minimum customer data?

Acceptance of FDI has implications to trade in *telecommunications equipment*. If new entrants are limited in their options in equipment, such conditions may work as a de facto entry barrier to the service market. Although it has been a fact that PTOs often had certain manufacturers who provided equipment almost exclusively to them, such practices will have to end. Liberalization in telecommunications equipment interconnection needs to be undertaken.

2.2.3. Beneficiaries of FDI

Who are the *beneficiaries* of FDI by PTOs?

Viewed from the *investing* countries, can PTOs use profits from the home country to invest abroad? Instead of using the profits to meet or exceed universal service obligations, such as improvement of services, network facilities and reduction of tariffs to domestic users?

Viewed from the countries *receiving* investment, what mechanism is needed for the public to take the best advantage of profits from the telecommunications market in its own country? Is there a need for a mechanism to prohibit the profits (some or all) from going abroad?

2.3. Alliances and outsourcing

Co-operation between PTOs is a major means to serve international customers, supplementing the geographical coverage of individual PTOs. The co-operation started in a form of joint account management (JAM) agreements in the late 1980s between major PTOs in member countries and evolved to forms of closer co-operation.

Under JAM, two PTOs in different countries take care of their partner's corporate customers that have branches in their country. In this system the customers may construct and maintain international corporate network systems only with the support of their home country's PTO.

The development of JAM soon grew to include more organized forms of PTOs' alliances, i.e. so-called "one-stop-shopping" (OSS). In OSS, a PTO that becomes a one-stop-shop (coordinating carrier) takes all the actions needed for corporate network systems on behalf of the customer firm. While JAM is a bilateral agreement merely for the customers of the countries concerned, OSS providers are less concerned about the customers' nationalities.

"Outsourcing" services have become more strategic to PTOs when the inefficiency of OSS in network management became evident. A concept of outsourcing includes various levels of involvement in the users' networks, from a simple management of data communications networks to the entire handling of information network systems, including planning, construction and operation. A variety of services are included in outsourcing, such as so called "managed data network service" (MDN), global virtual private network (GVPN), international frame relay service, and "bandwidth-on-demand."

Outsourcing may or may not imply ownership of communications nodes and switches. Some PTOs install this equipment, owned by themselves, in major sites of global corporate networks and thus build a single network. Others do not, but provide the service through networks provided by other PTOs. For example, Unisource Business Network, a branch of Unisource (The Netherlands, Sweden and Switzerland, and as explained below) has installed nodes in Paris and Brussels. BT has nodes all over the world for the provision of its MDN, Global Network Service (GNS). For AOTC (Australia), in contrast, MDN is a consultation service that does not involve the construction of its own facilities abroad.

Regardless of the ownership of nodes and switches, many PTOs seem to feel their alliances with other PTOs ensure the geographical coverage needed by the targeted users. In fact, they have developed partnerships with each other based on this belief. Examples of such partnerships are Eunetcom (FT and DBP Telekom, who each own a 50 per cent stake, started in 1992), Syncordia (BT, started in 1991⁵) and Unisource (PTT Telecom in the Netherlands and Swedish Telecom, started in 1992 and joined by Swiss PTT in 1993). The alliance between MCI (US) and Stentor (Canada) to serve corporate network systems of Chrysler Corp. (an MNE in an automobile manufacturing based on the US) is also aimed at outsourcing services.⁶

PTOs are increasing their involvement in international value added network services (IVANs) through acting as integrators of various voice and data communications systems. Large-scale corporate networks usually are multi-purpose and transmit both voice and data. A processing system for a large volume of data, such as a Computer Aided Design (CAD) system, is sometimes interconnected with, and transmitted over, international private networks. Provision of outsourcing for these customers means that PTOs are continually enhancing their functions as IVAN providers.

There are, however, a number of IVAN providers that originated from a variety of sectors other than telecommunications. PTOs are merely one of these providers. Major examples of other providers include: specialized firms (e.g. Electronics Data Systems Corp.), computer system vendors (e.g. IBM and DEC), VAN providers (e.g. Philips⁷ and GEIS) and subsidiaries of accounting firms (e.g. Andersen Consulting).

Distinctions between large users and PTOs is becoming unclear in IVANs. This is a result of on-going liberalisation in the usage of leased circuits. Some large users are partly, but increasingly, in competition with PTOs in both data and voice telephony services. Emergence of inter-sectional competition is recognised by users of large corporate networks. The Societe Internationale se Telecommunications Aeronautiques (SITA), an association of the airline sector is set up to meet the telecommunications needs of the industry, is an example of this. SITA has been a large user of international leased circuits in many countries. The organisation is increasingly in competition with those PTOs who desire to obtain customers in the airline sector. The same relationship between PTO and large users applies to voice services in those countries where simple resale of leased circuits for service is allowed. Some large users are starting to provide voice telephony services to users outside of their companies on a commercial basis by using their own corporate networks, such as many of the Type II carriers in Japan.⁸ Large users may not be mere users for PTOs anymore, but competitors.

Policies that ensure a fair playing field for *inter-sectional competition* will have to be developed. There is a possibility that PTOs from monopoly (or near monopoly) markets may abuse competition by cross-subsidizing their business to undercut IVAN providers.

Relationships between PTOs themselves are also changing in IVANs in the context of outsourcing. A PTO needs to lease circuits from other PTOs to provide MDN to a number of countries. The former is a large customer of leased circuits in the later's home countries. PTOs are thus increasingly in a two-folded situation with each other, i.e. both competitors and customers.

A type of outsourcing services in which a PTO owns facilities, as described above, may have implications for a *telecommunications infrastructure policy*. PTOs providing outsourcing services have their own switches and/or nodes in other countries, even those that are not a member of the alliance. MDN is a penetration of a foreign PTO's infrastructure into the host country. The ownership of infrastructure, however, is not an important issue when viewed by users. Users' priority for the selection of a service provider is the best quality at a low price, not the nationality of the provider. Thus traditional reasoning that justifies government ownership of telecommunications infrastructure, "the government should own telecommunications infrastructure to guarantee the services quality," may have to be reconsidered, including a possibility of its relaxation.

If a large number of PTOs form an alliance, such a movement may have the same effect as a cartel. *Anti-competitive concerns* may arise in international markets.

2.4. Implications to the existing regime

An additional observation arises from the above-referenced analysis: the reconsideration of *representation systems of user interests*. Organisations, such as the International Telecommunications Union (ITU), which provide for technological standards and rules setting will have to be rethought. Global corporate network users increasingly have the perception that a system based on the ITU, which holds that a PTO represents all the interests from its country of origin, has a decreasing value in a more global market.

PTOs, however, still need the existing regime of international telecommunications. The newly provided international services are based on a number of existing bi- and multi-lateral agreements. Examples of the former are rules for the landing and transmission rights of transoceanic cables, and rules established at the ITU, which include a variety of agreements on

both private and public circuits, credit call services, and other types of services. These agreements, in fact, are still the basis of current developments in various international services by PTOs. It should not be overlooked, that ex-monopoly PTOs have benefitted from these rules. Mutual familiarity and credibility developed through long-term relationships between PTOs are useful assets that are needed to further develop international activities. In short, PTOs are leaving the ITU regime in international markets, while trying to keep the existing benefits in their domestic market.

3. Two dimensions in types of globalisation

Global activities by PTOs discussed above have two conceptual dimensions: one, in which PTOs are potentially in competition with each other, is the "incoming" dimension. The "outgoing" dimension is a PTO's visible globalisation activities. Investment in the telecommunications sector abroad, provision of service abroad and corporate alliances are examples of this dimension.

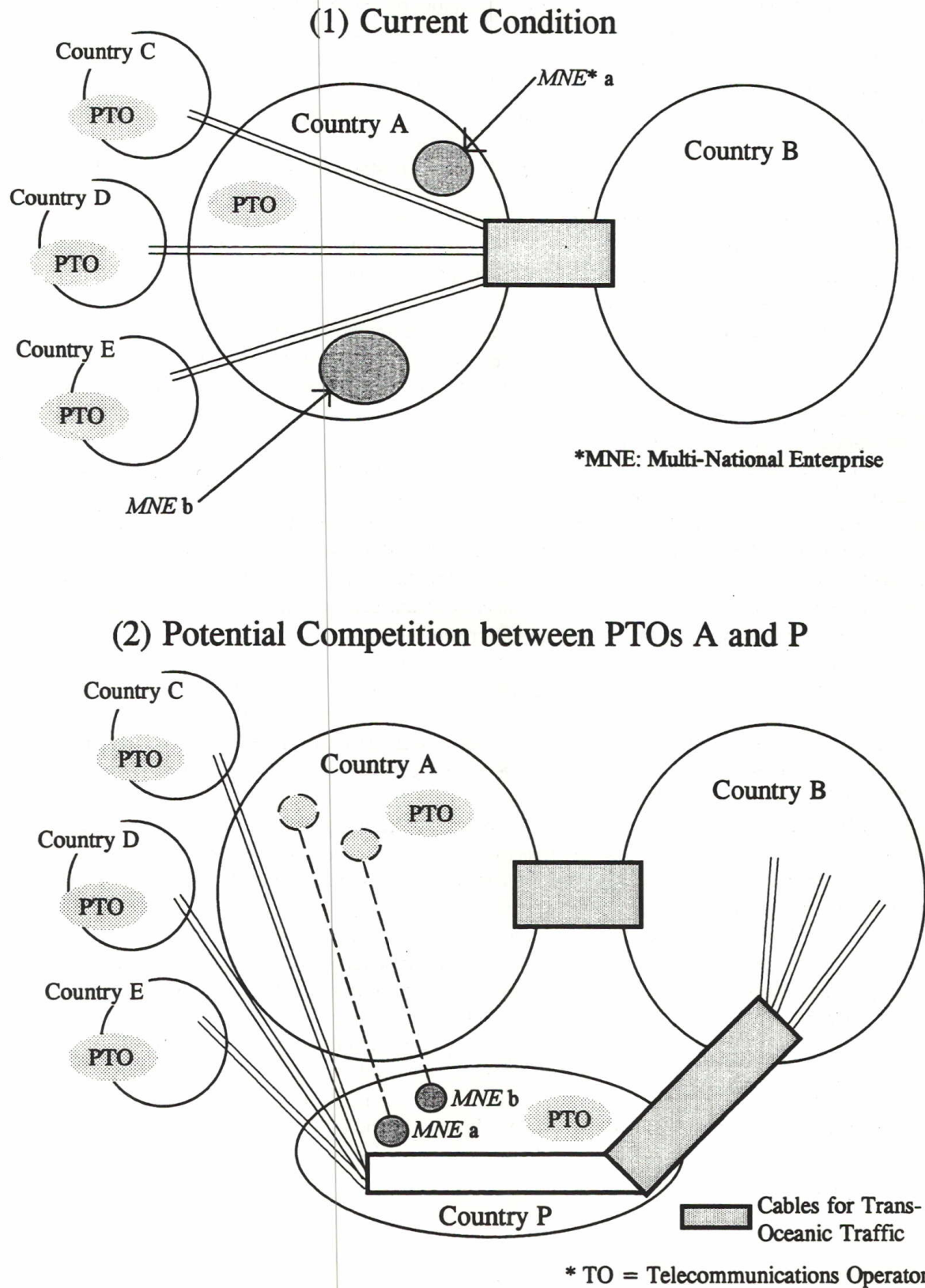
The "incoming" dimension, although not always visible, is created by the penetration effects of other PTO's globalisation into domestic markets. This, in other words, means a situation in which a PTO is eventually placed in competition with another PTO. One PTO's gain, in this case, is generated by another PTO's loss.

Efforts currently being made by many PTOs to invite international corporate network users to locate their hubs in the PTO's home country are an example of this "incoming" dimension. The PTO expects to obtain high profits from the lease of circuits with large capacity and from increased international traffic. Economic gains from associated activities with installation of the hubs is also expected, since hubs are often located in the regional centre of corporate activities. Several PTOs are, in fact, competing with each other by stressing their advantages to customers, which include the level of liberalisation, low price, quality of service and geographical locations.⁹

Another example is the offer of competitive rates for transmission. In part one of Figure 2-3, the original condition is the same as illustrated in part one of Figure 2-2. For MNEs, the location of the trans-oceanic cables gives incentives for them to locate their communications hubs in country A. What happens if another country P constructs its own cable to connect with country B, and offers a transmission rate that is less expensive than the rate in country A (part two, Figure 2-3)? PTOs in countries C, D and E may wish to route their international outgoing traffic via country P, rather than A. MNEs may locate their communications hubs in country P, not A. The PTOs in countries P and A are in competition with each other. The major points to be seen in this transmission charge example are: 1) even if both countries A and P prohibit simple resale of leased circuits, competition between the two may still take place, and 2) PTOs in A and P compete for other PTOs in neighboring countries (C, D and E), not individual users.

All the above examples indicate that PTOs are increasingly in competition with other PTOs, *regardless* of their interest in expanding their activities abroad. At the very least, all these phenomena put pressure on PTOs to secure their current customers. In the hub example above, if a PTO wishes to obtain benefits from hubs, policy makers and the PTO will have to further liberalise usage of leased circuits, improve service quality and reduce rates. In other examples, downward pressure will influence collection and transmission charges of international telecommunications. If PTOs and policy makers do not respond to the "incoming" effects of PTO globalisation in other countries, the cost of outdated regulation will be paid through the loss of both existing and potential incomes.

Figure 2.3 Incoming Dimension of PTO Globalisation



4. Conclusion

The globalisation of economic activities, expansion of PTO activities and the on-going liberalisation of telecommunications policy will interact with each other even more in the future. The implication of international competition between PTOs for national telecommunications policies is substantial. All PTOs are increasingly in a situation in which they have to enhance the attractiveness of their domestic telecommunications market for both domestic and international customers. Telecommunications tariffs have to become competitive when compared to other PTOs. Both the regulations on the usage of leased circuits and the time needed to prepare circuits for customers, needs to be reduced. Type approval systems have to become simpler, more rapid, and liberalised. Interconnection with public switches has to be non-discriminatory, between domestic and international users, simple and less time-consuming. If PTOs continue to make such efforts, they will eventually lead to the liberalisation of telecommunications in all countries.

A task for policy-makers is to formulate the framework that can accommodate the development of new policies in response to globalisation. Policy vacuum in telecommunications is seen in handling questions such as those listed above. Existing rules in telecommunications are only partly able to handle the issues that have increasing international importance.

International cooperation is needed to handle the newly emerging policy issues related to PTO globalisation. No one country alone can provide effective solutions. These issues are at the cross-roads between different policy areas, i.e. telecommunications, trade, competition and international capital movement. Common rules for the telecommunications sector at an international level should be formulated based on cross analysis between telecommunications and the three other areas of policy. Such analysis might necessitate adjustments in existing national telecommunications policy and newly created rules.

Endnotes

1. PTO in this paper means an operator and provider of public switched voice telephony services on local, long-distance and international levels. These service providers for other services, such as sole providers of value-added and/or mobile services, are excluded.

2. For example, it is reported that Televerket (Swedish PTO) applied an international simple resale licence to the UK authority to provide voice telephony services from the UK and Sweden, and that Televerket planned to do the same with the US. (*Source*: "Tariffs Undermined," *Communications Week International*, p. 1, December 14, 1992, UK). The same application is under consideration between the UK and the US. (This information is as of April 1993.)

3. This point was discussed in Staple, G.C. (1992), "Winning The Global Telecoms Market: The Old Service Paradigm And The Next One" in "TeleGeography 1992," pp.:132, International Institute of Communications, London.

4. Such a carrier is called a "Light Carrier," as opposed to "Heavy Carriers," which own facilities and provides services, in Staple, G.C. (1992).

5. Its partnering PTOs are yet to be named as of April 1993.

6. Source: "Chrysler Maps Out Traffic Route," Communications Week International, p25., December 14, 1992.
7. Philips Communications & Processing Services International, a Philips's VAN unit.
8. Many Type II carriers (these TOs provide services by leasing circuits from Type I carriers) are formulated from a telecommunications service branch of large users of corporate network systems.
9. Such type of competition is currently increasing between major PTOs in Asia-Pacific and Europe.