

**Towards the Millennium Round**  
**East Asia and International Trade in Telecommunications Services**

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## **1 Introduction**

Until the mid-1980s telecommunications services and international trade and investment were viewed as quite separate realms of policy activity. Domestic policy and regulations were developed by governments within the parameters of national telecommunications carriers, monopolistically providing a technologically narrow range of services. International concerns were confined to matters of interconnection, standards and tariffication and were handled cooperatively through the international consultative committees of the International Telecommunications Union or through bilateral agreements among providers of international services (Ergas and Paterson 1991).

However, as telecommunications services have become increasingly internationalised, a host of regulatory impediments to international trade and investment in telecommunications services have come to light. Many of the barriers affecting telecommunications services are similar to those affecting other services, in that laws and regulations impede the ability of producers and consumers to interact across borders through cross-border trade or foreign direct investment (Hill 1977; Sampson and Snape 1985). Other barriers, specific to telecommunications, involve the effective regulation of the dominant carrier (Hoekman et al. 1996; Noll 1995; Scanlan 1994).

The General Agreement on Trade in Services (GATS) has begun the process of applying international trade disciplines to these impediments. A process that has been facilitated by domestic deregulation in many telecommunications markets around the world. In East Asia the deregulation and liberalisation of the telecommunications industry has been extensive in recent years, with most economies now accepting that increased competition is an essential prerequisite for industry development and growth. While initial reforms have certainly borne fruit, the process is far from complete such that future reforms are indispensable to sustain growth in these economies.

This paper reviews the extent to which East Asian developing economies have committed to reforming their respective telecommunication sectors as part of the GATS process and assesses the present policy environment in these economies. The aim is to determine the extent that policy impedes international trade and investment in telecommunications; the costs to these economies of such impediments; and consequently the scope for further progress in the next round of services negotiations. Specifically, the next section of the paper details the commitments on basic telecommunications made to date by a selection of East Asian economies as part of the GATS process. This is followed by a section that details the available region-wide data on impediments to trade and investment in basic telecommunications and then focuses on key policy issues in a sample of developing economies. A review of the progress of reforms in these economies highlights the current weaknesses in regulatory governance throughout the region. The paper concludes with a note that the regulatory disciplines that the WTO aim to secure from its Members can only be effective if the institutional weaknesses in these countries are addressed.

## 2 East Asian Commitments in Basic Telecommunications

### 2.1 Assessing GATS Commitments

The core of the GATS is the specific commitments made by each member country. To a very large extent the impact of the GATS for producers and consumers alike depends upon the commitments that have been made. Unfortunately, the GATS schedules remain largely opaque documents, with many countries failing to follow the drafting guidelines issued by the GATT secretariat. There is, however, a burgeoning literature that seeks to quantify the extent to which various economies have sought to bind themselves to GATS disciplines. Various weighting techniques have been adopted to bring some clarity to GATS schedules and allow for comparison across countries.

Quantification of the GATS schedules commenced with the pioneering work of Hoekman (1995) who developed a relatively simple three-category weighting method. All GATS schedules were examined and for quantification purposes a number was allocated to each possible schedule entry (ie each possible market access or national treatment commitment in each mode in each industry sub-sector). Specifically:

- Where a member has agreed to be bound without any caveats, a weight of 1 is allocated. A weight of 1 is also allocated in circumstances where a member declares that a particular mode of supply is “unbound due to lack of technical feasibility”, if other modes of supply are unrestricted. A common example of this situation is the cross-border supply of construction and related engineering services;
- Where a member has agreed to be bound but specific restrictions remain, a 0.5 weight is allocated. If a mode of supply is bound but specific reference is made to the horizontal commitments, a 0.5 is also allocated. This is commonly the case for commitments on the movement of natural persons, where immigration constraints continue to apply; and
- Where a member has explicitly exempted that particular entry from the operation of the GATS by recording an entry of ‘Unbound’ or by simply failing to make any commitments at all, a weight 0 is allocated.

There are many limitations with this methodology, most of which are detailed by Hoekman and in the other studies such as that by PECC (1995), which have adopted this approach. Importantly, the Hoekman methodology does not distinguish between barriers in terms of their impact on the economy, with minor impediments receiving the same weighting as an almost complete refusal of access.<sup>1</sup> However, the method does provide a useful snapshot of cross-national differences in commitments made in industries such as basic telecommunications.

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<sup>1</sup>Recently, several studies have attempted to develop, at a sectoral and modal level, a more nuanced weighting system that seeks to quantify differences in the effect of different partial commitments. See, for example, the contributions to Findlay and Warren (forthcoming).

## 2.2 Commitments in Basic Telecommunications

Table 1 details the pattern of full commitments made by selected East Asian developing economies under the auspices of the Agreement on Basic Telecommunications concluded in February 1997. The APEC and global averages are also listed. Under that agreement, 69 economies representing 91% of total global telecommunications revenues agreed to extend the GATS principles of market access and national treatment to basic telecommunications services. The maximum value in each cell in the table is eight, with the higher the number, the greater the commitments, without caveats, made by the member country.

**Table 1: Full GATS Commitments on Basic Telecommunications for Selected East Asian Developing Economies**

<i>Telecommunications services</i>											
<i>Country</i>	<i>(1)</i>	<i>(2)</i>	<i>(3)</i>	<i>(4)</i>	<i>(5)</i>	<i>(6)</i>	<i>(7)</i>	<i>(8)</i>	<i>(9)</i>	<i>(10)</i>	<i>(11)</i>
Brunei	0	0	0	0	0	0	0	0	0	0	0
Indonesia	1	2	1	1	1	0	0	3	0	3	3
Malaysia	5	5	5	0	0	5	5	5	0	5	0
PNG	3	3	3	3	3	3	3	3	3	3	3
Philippines	2	2	2	2	2	2	0	2	0	0	0
Thailand	2	2	2	2	0	0	0	0	0	0	0
APEC Average	4	5	5	4	4	4	4	4	3	4	2
World Average	4	4	4	4	3	4	4	4	3	3	3

Notes: 1.= Voice Telephony; 2. = Packet Switched Data Transmission; 3.= Circuit Switched Data Transmission; 4. = Telex; 5. = Telegraph; 6. = Facsimile; 7. = Private Leased Circuit; 8. = Cellular; 9. = Mobile Data; 10. = Paging; and 11. = Personal Communication Services.  
The maximum number in any cell is 8.

Source: M. Marko, 'An Evaluation of the Basic Telecommunications Services Agreement', (A Paper Presented at the Workshop on Measuring Impediments to Trade and Investment in Services, Canberra, Productivity Commission, 30 April – 1 May 1998).

During the negotiations many developing countries — particularly those in East Asia — came under significant pressure to liberalise their core telecommunications industry. While there were some commitments to future liberalisation and some above average economies such as Malaysia, the data in Table 1 indicate that liberalisation of basic telecommunications in developing economies in East Asia still has some way to progress. Interestingly, several East Asian economies have noted dates for future liberalisation in their schedules. This kind of grandfathering of existing prohibitions is a welcome development, as it helps to strengthen the commitment to future reform. However, until these reforms are undertaken, market access and national treatment disciplines are not in force for many developing economy telecommunications sectors.

It is also important to note that of the 69 governments that signed the Agreement on Basic Telecommunications in February 1997, 57 incorporated a reference paper on regulatory principles developed by the GATS negotiators. These include Hongkong, Indonesia, and Singapore. The

Philippines, Malaysia and Thailand have elected not to be fully bound by the Reference Paper although they have included some of the regulatory principles in their commitments.

The regulatory paper is an attempt by negotiators to bind Members to a series of regulatory principles considered necessary for effective market access in an industry characterised by incumbents with significant market power. It outlines a set of six broad principles designed to ensure that service providers can compete on equal terms once they have been allowed to enter a particular market. These include:

- competitive safeguards to be maintained that prevent incumbent suppliers from engaging in anti-competitive conduct towards entrants, such as anti-competitive cross-subsidisation, use of network information, or failure to supply necessary technical or commercial information;
- an interconnection regime to ensure that entrants can connect with the incumbent on non-discriminatory and cost-oriented rates<sup>2</sup> that are transparent, reasonable, having regard to economic feasibility, and sufficiently unbundled so that the supplier need not pay for network components or facilities that it does not require for the service to be provided;
- universal service obligations that are administered in a transparent, non-discriminatory and competitively neutral manner;
- licensing criteria that are transparent, with reasons for denial made known to the applicant;
- a regulator that is independent of any supplier of basic telecommunications; and
- procedures for the allocation of scarce resources (eg spectrum) that is objective, timely, transparent and non-discriminatory.

Those East Asian economies that have attached the Reference Paper to their schedule of specific commitments agreed to adhere to these regulatory principles. In principle, this should help ensure a neutral regulatory playing field for competitors entering a market dominated by a large incumbent carrier.<sup>3</sup> In practice, many regulatory failures remain – as the following discussion demonstrates.

### **2.3 Remaining barriers to trade and investment**

The mixed picture in terms of telecommunications liberalisation in East Asia that emerges from the GATS schedules is reinforced when the policies of East Asian economies are examined directly. While some progress has been made towards the development of competitive telecommunications

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<sup>2</sup>Importantly, the reference paper does not define cost.

<sup>3</sup> The objective is to ensure that regulations do not favour any industry participant. There should be no regulatory bias in favour of the incumbent nor should there be any attempt to artificially stimulate entry through favourable regulation of potential entrants.

markets, in many countries large segments of the industry remained closed to competition, indicating that there is significant scope for improved commitments from the region in any future multilateral negotiations.

In 1998 the International Telecommunications Union undertook a detailed study of the regulatory environment affecting the telecommunications industry in most countries around the world. Table 2 details some of the key findings of this survey for selected East Asian economies. Specifically:

- The percentage of the incumbent operator that is privately owned. Privatisation is important in a competitive market where private ownership of the incumbent will result in some additional efficiency gains arising from capital market disciplines;<sup>4</sup>
- For six key market segments – local, long-distance, international, data, leased lines and cellular mobile services – information is provided on whether the market is characterised as a monopoly; partially competitive or competitive market. Partial competition refers to situations where countries retain certain ‘non-technical’ restrictions that can lead to limits on the number of operators or on geographical coverage. Competition refers to the introduction of legislation that allows for unrestricted entry. Unfortunately, the ITU has, in the case of mobile cellular services, listed all countries that allow more than one competitor as competitive on the grounds that spectrum availability limits the number of licenses that can be issued; and
- Finally, information is provided in Table 2 on whether or not callback services are allowed.

**Table 2. Telecommunications Policy Environment in Selected Economies, 1997**

	<i>Incumbent privatised (%)</i>	<i>Local<sup>a</sup></i>	<i>Long-distance<sup>a</sup></i>	<i>Intl<sup>a</sup></i>	<i>Data<sup>a</sup></i>	<i>Leased lines<sup>a</sup></i>	<i>Mobile<sup>a</sup></i>	<i>Callback allowed</i>
Australia	33.3%	C	C	C	C	C	C	Yes
Brunei	0%	M	M	PC	M	M	PC	No
Cambodia	0%	PC	M	M	PC	M	C	No
China	0%	PC	PC	M	PC	PC	C	No
Hong Kong	100%	PC	M	M	C	PC	C	Yes
Indonesia	23.15%	PC	M	PC	C	C	C	No
Japan	34.6%	C	C	C	C	C	C	Yes
Korea	28%	PC	PC	PC	PC	PC	C	No
Malaysia	33%	C	C	C	C	C	C	No
NZ	100%	C	C	C	C	C	C	Yes

<sup>4</sup> In a market that retains monopoly characteristics, privatisation is generally equivalent to a transfer of monopoly rents from the public to the private sector and hence is unlikely to result in significant allocative or dynamic efficiencies gains, although there may technical efficiencies.

PNG	0%	M	M	M	C	C	M	No
Philippines	100%	C	C	C	C	C	C	No
Singapore	17%	M	M	M	PC	PC	C	Yes
Thailand	0%	M	M	M	PC	M	C	No
Vietnam	0%	PC	PC	M	PC	M	C	No

Notes: a.= Competition (C) equates with unrestricted access; Partial competition (PC) refers to 'non-technical' restrictions which can lead to limits on the number of operators or on geographical coverage; and Monopoly (M) refers to restricted market situations

Source: International Telecommunications Union, 1999, *Telecommunication Reform, 1998 Volumes IV*, ITU, Geneva

From the data in Table 2 the variety in regulatory regimes around the region is immediately apparent. Developed economies such as Australia, Japan and particularly New Zealand have very liberal policy environments in which all key segments of the telecommunications industry are exposed to competition. However, both Australia and Japan continue to resist the full privatisation of their incumbent operators (Telstra and NTT respectively). Among the newly industrialised economies of Hong Kong, Korea and Singapore competition is being introduced but many barriers remain. Indeed, some of the less industrialised economies such as Malaysia and the Philippines appear to have more liberal policy regimes than their more developed counterparts. Finally, there are a group of economies within the region where the core telecommunications industry remains isolated from competitive forces.

The extent to which the reforms engendered by the Asian financial crisis have changed this picture is impossible to assess from this 1998 data. Furthermore, the data in Table 2, only provides a sketchy picture of the policy environment in these economies. Specifically, key features of the regimes such as rules of entry (and the resulting market structure), interconnection, universal service obligations, and institutional design are ignored. In what follows, these specifics are reviewed and assessed for selected East Asian developing economies, namely: the Philippines, Thailand, Malaysia, Hong Kong and Indonesia.

### **3. The regulatory environment in selected East Asian developing economies**

It is almost a universal phenomenon that the liberalization of the telecommunications industry leads to a dramatic expansion of network, emergence of new services, sharp fall in prices and significant improvement in service quality. The metastasis is most evident in developing economies where governments, saddled by budgetary deficits, succumb to the burgeoning demand for basic service by opening access to the market. The huge unmet demand serves as the commercial passport of new entrants, yet incumbents can also be expected to increase their supply to defend their market positions. An expected outcome is an investment surge that provides these governments with budget reprieve and relief from potential public fallout arising from frustration at unmet demand.

In the Philippines, the process of market liberalization commenced in 1993 and resulted in an almost eight-fold growth in teledensity, from 1.21 percent to 9.38 percent as of the end of 1998. Although the target of almost 10 percent telephone penetration was missed, the consumer gains attributable to market reforms are remarkable in terms of extensive digitalization of network, reduced waiting time for service connection and fewer faults per lines. In Thailand, teledensity jumped from 2.43 in 1990 to 7.96 in 1997. Malaysia's teledensity grew more than two-fold, from 8.93 in 1990 to 19.49 in

1997. A target of 50 percent teledensity is currently driving the Malaysian government to introduce further reforms.

To be sure, the milestones attained by these economies are irreversible. Yet a real concern is whether the current trend of network growth can be sustained or will soon level off and reach a plateau. It is easier to register growth when starting from a low base, but the challenge becomes tougher after growth has been initiated. The issue here is whether the industrial structure and regulatory regime that have taken shape can hold up after the stimuli for market reforms have expired. Are new carriers able to make sufficient inroads to continuously exert competitive pressure on incumbents? Is the regulatory landscape accommodating to the technological changes that are creating greater possibilities for nurturing competition in the sector? Can commitments to market reforms be upheld in view of the economic and political interests that presently hold sway in policy-making?

The crux is regulatory governance, which in turn depends on the economic and political milieu of decision makers. The maturity of regulatory governance varies for each economy in the region. However, its efficacy is invariably tested in each country on the following crucial dimensions: (i) whether economic efficiency follows market restructuring; (ii) whether opening market access creates effective competition; and (iii) whether social objectives are not compromised as the traditional instruments of market control are relinquished.

A review of the experience of selected East Asian developing economies on regulation is instructive. Particular focus is given to the Philippines, often touted as having one of the most liberal regimes in the region. The strengths and pitfalls of regulation are noted; lessons for future reforms are relevant in preparing the grounds for the next round of negotiations.

### **3.1 Introducing Competition**

There is a consensus that technological change and growth in market demand have eliminated the natural monopoly features of many segments of telecommunications. This view is subscribed even by governments that tenaciously treat telecommunications as a national security asset, thus ownership of infrastructure by foreigners (in the case of China and Vietnam) or the private sector (in Thailand) is shunned. A confounding issue to policy designers is *how* and *to what extent* should one allow market access in service provision in order to transform the sector from a monopolistically to competitively supplied sector. The key is to balance economic efficiency and competition as scale and scope economies remain significant but are no longer sufficient to warrant single supplier provision. As there is no template that policymakers can turn to for guidance, various experimentations on policy design have been made.

The Philippine design has attracted significant interest. For almost half a century, the local telephone service was a monopoly of a private carrier Philippine Long Distance Telephone Co. (PLDT) which controlled about 94% of the total main stations; the remaining stations were owned by either the government or small private carriers. PLDT also dominated the national long-distance service as it owns the most extensive backbone transmission network in the country. In the international long-distance service, PLDT faced limited competition from two international record carriers. Its dominance extended even to the market for cellular mobile telephone, as its subsidiary, Pilipino

Telephone Corp. (Piltel) managed to keep the subscription base of its sole competitor Express Telecommunications Co., Inc. (Extelcom) to the margin.

In July 1993, the basic telephone service was opened to new carriers but service obligations were attached to their licenses. A scheme dubbed as the Service Area Scheme (SAS) divides the country into 11 service or franchise areas and assigned them to 9 new carriers who are also cellular phone operators or international carriers, or both. Under the scheme, in exchange for entry into the lucrative markets of mobile communications and long distance services, cellular operators are obliged to install at least 400,000 telephone lines within 3 years of the award of (provisional) license, while international carriers were given 5 years to put up 300,000 lines. The intention is to hasten the provision of telecommunication services in areas that were previously exclusive franchise of the incumbent carrier PLDT and other small carriers, while averting cherry-picking, *i.e.*, overconcentration of investment in profitable market segments, as entry barriers are lowered.

Opinion differs on the success of the SAS policy. On one side, SAS compelled the incumbent PLDT to double the size of its network within a short period of four years. In addition, over 5 million line commitments were generated from new carriers and that translated into a giant stride in teledensity. On the other side, the scheme, being a political solution to accommodate competing interests of big local capitalists, imposed geographical divisions without regard to scale economies that are of such importance in a network industry. The subsequent failure of 5 out of 9 new carriers to deliver on their service commitments is a possible signal that the imposed geographical restrictions (non-overlapping franchise areas) are uneconomical, assuming that the entrants utilised best practice technology. Apart from the wasteful duplication of networks, the scheme precludes effective competition since the new carriers are limited to their assigned franchise areas, hence none of them wields sufficient leverage to compete against the incumbent.

The apprehension that “too many” licenses have been issued so that new carriers are unable to put sufficient pressure on the incumbent is also persistent in Malaysia. Between 1993 and 1994, the Malaysian government issued five fixed wire and international gateway licenses and six cellular licenses. The new carriers (Time Telekom, Binariang, TRI and Mutiara) have thus far been unable to make significant inroads into the local loop and have only managed to carve out 5% of domestic long-distance and 20% of international traffic from the state-owned incumbent Malaysia Telekom. Effective competition in the market is expected to remain weak unless the cash-strapped new carriers are able to attract more foreign equity.<sup>5</sup> Succor may come from a recent change in regulation; the limit on foreign equity holdings in basic telecommunications was raised from 49% to 61% in April 1998.

Other East Asian countries, however, have been more circumspect in introducing competition. Indonesia has hitherto resisted opening up its telecommunications sector. This is partly due to the fact that the state-owned enterprises PT Telkom (sole local and long distance service carrier), PT Indosat and PT Satelindo (exclusive providers of international services) are among the few firms that remain financially viable amidst the floundering political and economic environment. Thus, Indonesia's commitment to WTO is limited to reviewing the duopoly in international call services in year 2005, and PT Telkom's exclusivity in long distance and local services in years 2006 and 2011,

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<sup>5</sup> This is assuming that market share is an accurate indicator of competition.

respectively. However, in 1998, a partial turnaround in the closed market policy was seen. In a bid to attract foreign investments in telecommunications infrastructure and raise the country's teledensity (which stood at 2.47 in 1997), the market was divided into seven zones. Exclusive rights to develop and operate the network in five of these zones were awarded to foreign consortia under a build-operate-transfer arrangement whereby ownership of the network will revert to PT Telekom after a prescribed period (Henderson 1998).

Existing legal structures can deter market liberalisation; in which case, the challenge to policymaker is to get around the restrictions. In the case of Thailand, the stumbling blocks to reforms are the two aged laws: the Telephone and Telegraph Act of 1934 and the Telephone Organization of Thailand (TOT) Act of 1954 that reserve the right to install and operate telephone networks to state-owned enterprises. But because TOT is unable to cope with increasing demand, the Thai government awarded 25-year concession contracts of expanding the existing network to private firms TelecomAsia, and Thai Telephone and Telecommunications (TT&T) under a Build-Transfer-Operate (BTO) scheme. The two concessionaires were assigned separate areas -- Metropolitan Telecommunications Areas to TelecomAsia and provincial areas to TT&T. The exclusivity is intended to relieve the two concessionaires of competitive pressure that may hamper the fulfillment of their universal service obligations. Recent studies however question the wisdom of such strategy as the scale of the market in the assigned areas can evidently support more than one service provider (Soonthonsiripong 1998).<sup>6</sup>

In its 1996 APEC Individual Action Plan, Thailand committed to amend its telecommunications laws with the view of introducing competition and privatizing TOT between 1997 and 2000.<sup>7</sup> The implications of fulfilling these commitments on the concession agreements are not clear, but it is likely that the private contractors will seek compensation.

It is interesting to note how the Hongkong government recently compelled Hongkong Telecom International (HKTI), Hongkong Telecom's subsidiary, to relinquish its exclusive right of operating an international gateway facility. The Office of the Telecommunications Authority (OFTA) permitted callback of international voice telephone which enabled the three new fixed network service licensees to undercut the price of HKTI. The sharp decline in its international revenue (since the market entry of the new operators in 1995) motivated HKTI to cut a deal with the government in January 1998. The compromise provides among others, that for an early termination of the 25-year exclusive license (expiring in year 2006), the government will permit international simple resale (ISR) whereby outbound international calls can by-pass the accounting settlement rate as these are to be transmitted over leased capacity (international private leased circuits, or IPLC) with HKTI solely controlling the IPLCs until year 2000 (Ure 1998). By 1 January 2000, the international facilities of Hongkong will be open to competition. The agreement therefore allowed the Hongkong government to fast track the liberalization of its international telecommunications service. Here is a case where even as one monopoly privilege is traded for another, at least in the transition, the net social welfare

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<sup>6</sup> Soonthonsiripong, N., "Regulatory Reform of Telecommunications in Developing Countries: A Case Study of the Fixed Line Telephone Network in Thailand," Ph.D. dissertation, University of Adelaide, December 1998.

<sup>7</sup> Notwithstanding these pronouncements, Ure (1998) observes that the Thai government has been dilly-dallying on its reforms – a fact that he attributes to political instability.

effect of the change is likely to be positive since the simple resale can still be expected to push down the prices of international services.<sup>8</sup>

Advancing the timetable for market liberalization is not unique to Hongkong. In fact, OFTA's efforts of renegotiating with HKTI may have been precipitated by an earlier announcement of the Singapore government that it will prematurely terminate SingTel's exclusivity over international telecommunications by 2001. Hongkong's recent convergence policy that extends the coverage of its liberalization moves to broadcasting is said to have been spurred by the relocation of some big broadcasting facilities to Singapore (Reede and Coady 1999). The bigger context of this race to liberalize is however the rivalry between the two economies in attracting regional headquarters and hubbing centers.<sup>9</sup>

While external pressure is reshaping Hongkong's telecommunications policies, it is cautious in phasing its reforms to ensure that new entrants can become viable competitors of the incumbent. In 1993, licenses to offer domestic fixed wireline service in Hongkong were issued to three new carriers: Hutchison Communications, New T&T, and New World Telecom, ending the monopoly franchise of Hongkong Telecommunications Co. Ltd. (HKTC). The new carriers pledged HK\$50 million bond to guarantee their network build-up targets within three years. New licenses for fixed wireline service were scheduled to be issued in 1998, but the government decided to defer this until 1 January 2003.<sup>10</sup> This was meant to allow time for the new carriers to meet their roll-out commitments; after this period the government will assess the need for new licenses. In addition, the Office of Telecommunications Authority (OFTA) has committed to asymmetrical regulation, *i.e.*, entrants receiving favorable treatment over the incumbent, until HKTC's market dominance is neutralized. In particular, OFTA requires HKTC to obtain approval for revisions on tariffs of existing service and for tariffs on new services. Such requirements are designed to check against potential predatory pricing by the incumbent (OFTA 1998), although there is some evidence from the United States that such regulation simply facilitates tacit collusion (MacAvoy ???).

### 3.2 Facilitating Competition

For network industries such as telecommunications, effective competition requires interconnection. This is difficult to achieve through market mechanisms at the point of initial liberalization, given the inherent asymmetry in terms of bargaining strength between the incumbent carrier and the potential entrant. For natural monopoly or bottleneck facilities, the regulator may also need to intervene to limit the ability of the facility owner to extract monopoly rents.

Countries have adopted different measures to ensure interconnectivity of networks, among them: transparency and standardization of interconnection charges; placing the onus of proof on the

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<sup>8</sup> HKTI's compensation package includes cash amount and an opportunity to rebalance its rates on local exchange lines.

<sup>9</sup> Although Taiwan is not a WTO signatory, it has been infected by the liberal mood in the region. In January 1996, its legislative body acceded to the the partial privatization of Chungwa Telecom. Foreign equity ceiling in telecommunications was raised from 20 to 50 percent, and cellular mobile services was open to competition. The motivation for reforms is the same as that of Hongkong and Singapore. Taiwan is also working to become the Asia-Pacific Regional Operating Centre. Thus, it can not afford to have its telecommunications infrastructure lagged behind its rivals.

<sup>10</sup> In granting the petition for an extension of moratorium on new licensees, OFTA insisted on exacting investment commitments from the new carriers. The regulator must have also considered the economic downturn caused by the Asian financial crisis, new licensees are unlikely to offer more attractive investments that those committed by existing players.

incumbent to show fair allocation of costs; use of an “efficient operator” yardstick; and separation of infrastructure ownership from supply provision. The interconnection issue, however, remains a regulator’s conundrum. The problem is exacerbated when the regulator seeks to manipulate industry outcomes through varying interconnection terms and conditions.

In Malaysia, for example, liberalization moves are combined with regulatory palliatives to soften the impact on the incumbent operator. On 7 January 1999, the Malaysian government began implementing a seemingly pro-competitive policy called Equal Access whereby fixed line subscribers could have a choice of international and long distance service provider. As this scheme can be expected to trigger price competition, other policies have been put in place to compensate the incumbent Malaysia Telekom for potential losses in long distance revenues, namely: the establishment of a Local Access Fund where rival operators are obliged to pay Telekom a fee (in addition to the interconnection fee) for every Equal Access call; limiting the discounts that other carriers can offer to 20% of Telekom’s rates; and setting cost, rather than tariff, as the basis for determining the interconnection fee.<sup>11</sup> These policies inflate the costs of potential entrants, limit their ability to compete with the incumbent and reduce the potential benefits of the scheme to consumers.

The rationale for the Malaysian approach highlights the difficulties that arise when multiple policy objectives are being pursued. The Malaysian government is seeking to secure Telekom’s financial viability for several reasons. First, it maintains a 70% stake in the company and hence has a direct interest in its financial health. As the designated universal service provider, Telekom is also strategic in achieving the 50% penetration rate target and in developing the vaunted Multimedia Super Corridor. In addition, the government has been using Telekom to rescue other financially distressed service providers. This case clearly illustrates that autonomy in regulation is difficult to achieve under partial privatization.

The issue however is no less muddled when an impartial regulator allows the market to work out a solution on interconnection rows. That has been the case in the Philippines where interconnection agreements are outcomes of bilateral negotiations; the National Telecommunication Commission (NTC) intercedes only when sought. Mounting cases of interconnection disputes have recently compelled the regulator to define a set of technical guidelines to serve as basis of interconnection. In Hongkong, the regulator OFTA has proposed to intervene more actively in the light of complaints by the new carriers regarding the incumbent HKTC’s diffidence on providing Type II interconnection. Specifically, OFTA is seeking unequivocal powers to insist interconnection at any technically feasible point, and to pass judgement on the fairness of the terms of access.<sup>12</sup>

The experience that developing and developed countries share is the difficulty of curbing the market power of the incumbent at the early stage of competition. When the rules of market competition are evolving, the regulator can not sit on the sidelines. Its job is to exercise prudence in ensuring that incumbent firms do not use their power to frustrate competition, yet at the same time, regulation

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<sup>11</sup> Previous policy prescribes a revenue-sharing scheme where 30% of the revenue from the call is apportioned to access charge. In a cost-based scheme, the access charge is based on the cost of completing the call. It is estimated that the income of Malaysia Telekom from interconnection will increase by 27% under the new set-up. (CIMB Securities, 10 May 1999)

<sup>12</sup> Information Technology and Broadcasting Bureau, “Legislative Council Brief: 1998 Review of Fixed Telecommunications, Principles of Legislative Amendments relating to Competition Safeguards and Improvements to Interconnection and Access Arrangements,” 8 February 1999.

should not be a drag to the healthy dynamics of the sector. This makes the regulator's task complex, as it demands technical competence and erudite judgement in safeguarding market competition and consumer interests.

### **3.3 Ensuring Universal Service**

Historically, universal service has been commonly pursued through heavy regulation of the monopolist and a system of cross-subsidies. The regulatory paradigm of a natural monopoly permits the imposition of obligation on the service provider to connect low-income groups and high-cost areas to the national network, while telephone rates are pegged at levels affordable to a wider segment of society. At least four intra-industry transfer of funds are maintained to ensure ubiquity, accessibility and affordability of local exchange infrastructure: (a) from long distance to local exchange network; (b) from business to residential subscribers due to value-of-service pricing of local telephone service; (c) from light users of service to heavy users as a result of bundling access and local usage under a single flat rate; and (d) from urban to rural telephone customers due to geographical rate averaging. Often, the biggest subsidy flow and also the most distortive is from long distance to local calls.

Technological changes and market deregulation over the last two decades have undermined the system of USO cross-subsidies. Advances in transmission and switching technologies now allow users to bypass the incumbent network in order to avoid paying the subsidies. Internet telephony is a case in point. Moreover, as market access is opened, new providers are engaging in telephonic arbitrage that is made possible by the huge gap in prices and cost of service that sustains the cross-subsidy. Recently, the US Federal Communications Commission drastically lowered the rates US carriers are allowed to pay foreign carriers for terminating international calls. This has the effect of reducing the subsidy that can be obtained from international revenue.

However, the wide divergence in teledensity that separates low-income and high-income countries, as well as the lopsided distribution of services between urban and rural areas in developing countries, means that the issue of universal service can not be ignored. Developing countries in East Asia have adopted various strategies to respond to the issue.

One approach is to affix service obligations to new licenses, like the Service Area Scheme in the Philippines. Under the SAS, the new licensee subsidizes local network development with revenues from long distance, international and/or mobile cellular services. However, as noted above, the sustainability of such cross-subsidies is debatable.

Another approach is to establish a universal service fund (USF). In Malaysia, all carriers were recently made to contribute to a fund that will amount to RM300m a year, to be used by the incumbent Malaysia Telekom, the designated universal service carrier, for installing new lines in rural areas. Two-thirds of the fund is to be put up by Telekom, the remainder by new carriers. Since most of these carriers are in financial distress, it is estimated that with the obligation to contribute to the fund, they would need collectively to carve out 10% of Telekom's market share to break even. Given recent experience this would appear unlikely in the near future. The scheme could have been made more competitively neutral if contributions to USF are based on market shares, and not arbitrarily determined. The assignment of universal service carrier could have also been competitively tendered for, particularly in relation to new services. That is, the right to provide service to

uneconomic users group could be awarded to the carrier that proposed the lowest subsidy. Such auctions have the potential if properly structured to reveal the cost of the universal service burden and provide an opportunity to new carriers to expand their networks. As it stands, the scheme adds to the resource advantage that the incumbent already possesses, making it more difficult for a new entrant to compete.

There is growing recognition among developing economies on the need to redefine universal service targets so that they more accurately reflect the market conditions and resources available. This entails scaling down the targets to practical levels, i.e. from household access to community access. In Thailand, the Telecommunications Development plan now calls for the provision of telephone facility for every *tambon*. In the Philippines, telecommunication centers are being put up in every *barangay* under a government-initiated network expansion program.

New communications technologies should help in the attainment of these more realistic universal service targets. Wireless communications, for example, is a viable alternative to landline telephone service. The capital costs for cellular are lower than for wired telephone as there is no need to lay out cables. Such technical advantage increases as one moves away from dense urban areas where spectrum scarcity decreases and cell siting becomes less expensive.

Universal service may yet be best addressed by technological convergence. This phenomenon has given rise to a hybrid network architecture – one that allows telephone calls to be made over cable TV networks or internet, and video entertainment to be delivered using telephone networks. As there are now numerous networks to tap for communications,<sup>13</sup> the net cost of connecting the marginal income groups can be expected to fall. Moreover, the resulting capacity glut and intermodal or substitute competition will facilitate the delivery of universal service without the need for a regulator directing investments to target areas.

But the full potentials of convergence are realized only when regulatory impediments are removed. These include geographical segmentation of markets, restrictions on cross-sector service provision and cross-ownership, and asymmetry in regulation. With convergence, sector-specific regulation also becomes redundant and a structure with economy-wide oversight becomes more important.

Many of these barriers to convergence are politically sensitive, hence difficult to eliminate. The passage of the Convergence Bill in the Philippines, for example, has been impeded by the conflict between cable operators and telecommunications service providers. The issue is the difference in ownership rules and franchising requirements that applies to telecommunications and cable operation: a 40% foreign equity cap applies to telecommunications service providers, while 100% Filipino ownership rule is imposed on cable companies. Cable franchises are awarded by local governments, whereas telecommunications licenses are granted by the national government. Consequently, it is easier for a telecommunications carrier to cross over cable operations than for a cable operator to enter into telephony. The cable operators are insisting on correcting the asymmetry in regulation before cross-sector provisioning is allowed.

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<sup>13</sup> This includes telephony, cable TV, wireless communications, broadcasting, computing and even electric utilities.

Hongkong has recently passed its convergence policy that prescribes technological neutrality in regulation and a more open licensing policy. The intention is to give service providers the flexibility to cross over into any kind of content and respond to market signals. This way, the market ultimately determines the most efficient mode of communication.

#### **4 Options for the Millennium Round and Expected Choices for East Asia**

Since the WTO agreement on basic telecommunications services took effect in February 1998, the telecommunications markets in East Asia have undergone significant reform, albeit in varying degrees and pace. Significantly, some countries have liberalized faster than they initially committed as part of the WTO process. Thailand, for example, is likely to complete its telecommunications reform process before its commitment date of 2006. Indonesia has opened the development of its telecommunications infrastructure to foreign participation, without any such commitment.<sup>14</sup> Korea and Malaysia have relaxed their foreign ownership restrictions. Hongkong's extensive reform has inspired other countries such as Singapore and Taiwan to move more quickly lest they be disadvantaged by the rapid development of Hongkong's infrastructure in attracting regional headquarters.

Notwithstanding the uneven pace of liberalization, the next round of negotiations in 2000 is likely to be less acrimonious as there already appears a convergence in thinking among countries on the imperative of liberalizing the sector. One may expect that those who have been restrained in committing during the first round will make bolder offers of opening their markets. Others who have not formally accepted the agreement will seek participation in this round.

Two factors bear out this optimism. First, the technology transfer and investment requirements to build the essential telecommunications infrastructure are compelling developing economies to turn to foreign capital. To the degree that commitments made in multilateral organizations such as the WTO provide signals to investors, there is incentive for countries to be bound by the agreement. Second, no country can afford to be a nonparticipant in the global information infrastructure; failure to stimulate telecommunications infrastructure will be a drag to the development of other sectors.

What remains critical however is the timing of reforms. As before, this will be the point of contention between developed and developing economies, with the former exerting a strong pressure to accelerate the timetables of the latter. The United States, in particular, recognizes that the unless developing economies open their markets and build up their telecommunications infrastructure, the current imbalance in international traffic will continue to bear on its balance of payments.<sup>15</sup> But those who have partially opened their markets and have been badly struck by the financial crisis (*e.g.*, the Philippines and Malaysia) may seek time to allow new entrants an opportunity to pursue their roll-out plans and recoup investments before moving into a more openly competitive environment.

In addition, the United States and other countries aggrieved by the current traffic imbalance may seek an agreement regarding reforms of the international settlement system. Previous negotiations

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<sup>14</sup> Recently, PT Telkom has announced that it is considering privatization as early as year 2001. The Indonesian Parliament is also expected to pass a new telecommunications law within the year. (Business World, 25 August 1999)

<sup>15</sup> The net settlement outpayments of the U.S. in 1995 is US\$5.1 billion (Kelly 1997).

failed to resolve the issue as proponents seek to move towards a more cost-based system. This view was opposed by developing economies that still depend on artificially high termination payments to finance their infrastructure. The Philippines and others that have not shifted to alternative financing mechanisms are likely to re-run their earlier arguments, but such positions may no longer be tenable in the face of declining prices for international services. At best, these countries can negotiate for a phased-in reduction in international payments and technical assistance to explore competitively neutral measures

As in the first round of negotiations, issues on market access and national treatment are likely to occupy most of the discussions. This is to be expected, given the uneven pace of liberalization that was highlighted in Section 2. Yet the next round of negotiations may also be expected to benefit from the diverse and rich experiences of East Asia and other countries that have experimented on reforms. The preceding review of regulatory experiences in East Asia underscores the importance of improving the quality of regulation, as markets are opened. This is so because the efficiency gains from market liberalisation may be realised only when effective competition has been put in place. Those that have opened their markets but failed to create competition can be expected to reap some benefits (e.g. spurts in teledensity) but without regulatory reforms, these gains are ephemeral.

Well-intentioned policy reforms can falter if the institutional structure is weak. To some degree, the checklist of good governance outlined in the Reference Paper addresses this concern. The separation of the regulator and utility owner is necessary but may not be sufficient to ensure independence. Licenses may be bid out competitively but this does not preclude regulatory capture. Privatization should liberate the operation and management of the sector from political intervention (e.g., pressures to maintain cross-subsidies and to invest in unprofitable services) and thus allow it to focus on long-term economic efficiency. But where a government retains some equity interest, this may be difficult to achieve. Moreover, the seemingly innocuous goal of universal service may be used as an excuse to prolong monopoly privileges as when service providers lobby for limiting the market opening so they may pursue their rollout plans. Thus, what counts the most is the quality of regulation, as one may adhere to the Reference Paper only in form but not in substance.

However, this does not mean that there is inevitably a role for the WTO in identifying an optimal regulatory framework – if such a framework were even to exist. Given the diversity in market environment, it would be difficult for a multilateral organization, such as the WTO, to even set concrete parameters by which to evaluate the regulatory regime. In the final analysis, the ultimate test of good governance is the amount of global capital that a country is able to attract. For it is fair to assume that business investors in general will seriously assess the sensibility of the regulatory environment before responding to market opening.

With deeper understanding on the importance of regulatory governance, however, more countries can be expected to accept and implement the principles suggested by the Reference paper. There should not, however, be any push for uniformity in regulation. The emerging regulatory structures are likely to be as diverse as the region. Regulatory design has to take account of the institutional constraints, such as the existing balance of market power, regulator's information access, skills and ethical standards. But East Asian economies can learn from the experiences of other countries similarly pursuing reforms without transplanting other regulatory structures into their own. Some form

of economic and technical cooperation among countries may be directed towards this end. And this is an area where a multilateral organization such as the WTO can effectively catalyze.

## REFERENCES

- Abrenica, M. J. (1998), 'Reforming the Telecommunications Industry: Prospects and Challenges', Foundation for Economic Freedom, Manila.
- Abrenica, M. J. (1999), 'Technological Convergence and Competition: The Telecommunications Industry', in D. Canlas and S. Fujisaki (eds), *Studies in Regulation and Governance*, Institute of Developing Economics, Manila (forthcoming).
- CIMB Securities (1999), 'Telekom Malaysia Bhd', 10 May.
- Ergas, H. and P. Paterson (1991), 'International Telecommunications Settlement Arrangements: An Unstable Inheritance?' *Telecommunications Policy*, 15(1): 29-48.
- Hill, T. (1977), 'On Goods and Services', *Review of Income and Wealth*, 24(3): 315-38.
- Hoekman, B. (1995), 'Tentative First Steps: An Assessment of the Uruguay Round Agreement on Services', paper presented for the World Bank Conference, The Uruguay Round and the Developing Economies, 26-27 January.
- Hoekman, B., P. Low and P. Mavroidis (1996), 'Antitrust Disciplines and Market Access Negotiations: Lessons from the Telecommunications Sector', paper presented at the Oslo Competition Conference, Oslo, 13-14 June.
- Information Technology and Broadcasting Bureau, 'Legislative Council Brief: 1998 Review of Fixed Telecommunications, Principles of Legislative Amendments Relating to Competition Safeguards and Improvements to Interconnection and Access Arrangements', 8 February.
- International Telecommunications Union (1998), *Telecommunications Reform, Volume IV*, ITU, Geneva.
- Kelly, T. (1997), 'Ten Propositions for Accounting Rate Reform', paper prepared for ITU Asia Telecom 1997, Tariff Workshop, Geneva, 13 June.
- Marko, M., 'An Evaluation of the Basic Telecommunications Services Agreement', paper presented at the Workshop on Measuring Impediments to Trade and Investment in Services, Canberra, Productivity Commission, 30 April - 1 May 1998.
- Noll, R. (1994), 'The Role of Antitrust in Telecommunications', *Antitrust Bulletin*, 40(3): 501-28.
- Office of Telecommunications Authority (1998), 'Enforcement of the FTNS Tariffing Rules in a Developing Competitive Environment: Assessment of Compliance with "Competitive Checklist" and Further Consultation on Streamlining of Tariff Approval Process', 23 May.

- Pacific Economic Cooperation Council (1995), *Survey of Impediments to Trade and Investment in the APEC Region*, APEC Secretariat, Singapore.
- Sampson, G. and R. Snape (1985), 'Identifying Issues in trade in Services', *The World Economy*, 8(2): 171-82.
- Scanlan, M. (1994), 'Introducing Competition into the Telecommunications Network: Is Competition Law rather than Regulation the Answer?' *Telecommunication Policy*, 18(6): 432-34.
- Soonthonsiripong, N. (1998), 'Regulatory Reform of Telecommunications in Developing Countries: A Case Study of the Fixed Line Telephone Network in Thailand', Ph.D. dissertation, University of Adelaide.
- Ure, J. (1997), 'China Telecoms: Regulations and Market Forces', paper presented at the China Telecoms: Finance, Investment and Regulation, IIR Conferences, 5-6 May.
- Ure, J. (1998), 'Hong Kong's Telecommunication Policy', in Wong Siu-lun and T. Maruya (eds), *Hong Kong Economy and Society Challenges in the New Era*, Centre of Asian Studies, University of Hong Kong and the Institute of Developing Economics, Tokyo.
- Warren, T. (1999), 'The Application of the Frequency Approach to Trade in Telecommunications Services', in C. Findlay and T. Warren (eds), *Impediments to Trade in Services: Measurement and Policy Implications*, Routledge, Sydney (forthcoming).