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Taiwan's Telecommunications and Broadcasting/Media Industries: The Legal and Regulatory Environment

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Introduction

Telecommunications liberalization in Taiwan began in 1990 with the opening of value-added networks to competition. Change in the telecommunications industry was truly advanced, however, by the rollout of the so-called "three telecommunications laws" in 1996 that paved the way for industry privatization, deregulation, and—equally important to maintaining a fair and competitive market—re-regulation. This package of reforms included amendments to the Telecommunications Law, enactment of the Organic Statute for the Directorate General of Telecommunications, and the enactment of the Organic Statute for Chunghwa Telecom Company, Ltd. (“Chunghwa Telecom”). The legislation brought about the privatization of the formerly state-owned Chunghwa Telecom, and the Directorate General of Telecommunications (the “DGT”), which has in the past played a conflicting dual role as both operator and regulator, saw its function narrowed, in theory, to industry regulation.

In 2000, the issuance of fixed-network licenses formally brought an end to Chunghwa Telecom's monopoly of Taiwan's telecommunications market. The government has since liberalized the international submarine-cable circuit leasing business, the international simple resale (ISR) business, and 3G mobile communications, thereby achieving all of its near-term objectives for telecommunications liberalization.

Article 11 of the ROC Telecommunications Law classifies telecommunications enterprises into Type I and Type II telecommunications enterprises, depending on whether they have telecommunications line facilities and equipment. A Type I telecommunications enterprise is defined as one that "installs telecommunications line facilities and equipment in order to provide telecommunications services." Fixed-network operators, mobile communications operators, and satellite communications operators are all Type I telecommunications enterprises. Type II telecommunications enterprises are defined as all telecommunications enterprises other than Type I telecommunications enterprises. Providers of voice, data, audio, and other value-added

services are all examples of Type II telecommunications enterprises.

Entry and exit barriers are higher in the Type I telecommunications market, which features a concession license system and restrictions on foreign ownership. The government employs a permit system for the Type II telecommunications market that imposes no restrictions on the percentage of foreign ownership. In the Type I market, the government determines and announces the scope and timetable of deregulation and the number of operators allowed. As interested parties may not apply to enter the market at any time they choose, it is more difficult to keep abreast of investment opportunities and to act upon them. Moreover, a Type I telecommunications enterprise may not, without prior approval from the Ministry of Transportation and Communications (the “MOTC”), suspend or terminate operations in whole or in part, transfer the whole (or substantial parts) of the enterprise or its assets, or engage in interlocking investments or mergers with any other Type I telecommunications enterprise. These restrictions constitute direct barriers to market exit and indirectly affect the ability to make efficient use of the electromagnetic spectrum.

As of 1 January 2003, Taiwan had 55 Type I telecommunications enterprises, including four integrated fixed-network operators and six mobile phone operators. The number of Type II telecommunications enterprises stood at 380, up from 67 in July 1996. Aggregate operating revenues in the telecommunications sector accounted for 2.1% of GDP before the market was opened to competition, but this figure has since risen to 3.3%. While the figure is on the rise, the ratio remains lower in Taiwan than the average for other countries, an indicator of further growth potential for the domestic telecommunications market. A comparison with other Asian economies is instructive—the telecommunications sector accounts for a greater proportion of total industrial output in South Korea, Hong Kong, and China than it does in Taiwan.

While the DGT exercises regulatory authority over the telecommunications sector pursuant to the provisions of the Telecommunications Law, the closely related media industry is regulated by the Government Information Office (the “GIO”) pursuant to the provisions of "the three broadcasting laws." These laws are the Cable Radio and Television Law, the Satellite Radio and Television Law, and the Radio and Television Law. Advances in integrated broadband fiber optic technologies have enabled cable TV operators to include value-added services with their programming, and to start branching out into the telecommunications market.

The boundary between the cable TV and telecommunications industries is becoming increasingly blurred. The 1999 amendments to Taiwan's Cable Radio and Television Law have removed restrictions against cross-industry participation by cable TV operators and telecommunications enterprises and restraints upon foreign ownership ratios are being gradually

loosened. In addition, special regulations have been adopted to protect the rights and interests of subscribers. These regulations specifically list the items that must be included in contracts between operators and subscribers, further protecting the interests of subscribers.

Direct broadcast satellite (DBS) service providers and operators, as well as satellite TV distributors, are required by the Satellite Radio and Television Law to establish a subsidiary or retain a commercial agent in Taiwan and apply to the regulatory authority for a permit. As to domestic satellite broadcasters, the government also allows up to 50% foreign participation.

The legislature is currently working on amendments to the Radio and Television Law that would require political parties, government agencies, and the armed forces to withdraw from the media industry. The GIO, for its part, is pushing for gradual conversion of Taiwan's broadcast television stations into either public or private corporations. Also, in cooperation with plans by the Digital Video Industry Development Program (Ministry of Economic Affairs) to reclaim the entire analog spectrum by the year 2006, the GIO is making a concerted effort to promote the development of digital television.

Fixed-Network Telecommunications.

Government Policy and the Current Regulatory Framework

As a condition to its admission to the World Trade Organization, Taiwan committed to opening its telecommunications market to competition. The government, in fact, has been gradually opening the market and adopting regulations conducive to that end since 1997. The most notable development on that score has been the March 2002 opening of integrated fixed-network communications services. By issuing licenses only to integrated operators, the government hopes to ensure that the latter will develop broadband access networks. This measure is also intended to keep operators from engaging in "cream skimming" (an unfair trade practice whereby an operator concentrates on highly profitable market segments while putting off or refusing outright to shoulder its universal service obligations).

In order to further implement Taiwan's WTO commitment to open up its telecommunications market, the MOTC, as the regulatory authority for the telecommunications industry, intends to issue a second round of fixed-network licenses.

Overall responsibility for policymaking and supervision in the telecommunications sector

belongs to the MOTC's DGT. The DGT is currently concentrating on the following key tasks:

(1) fulfillment of the WTO supervisory principle calling for encouragement of competition (this involves ongoing formulation of a series of related regulations, including measures for preventing anti-competitive practices, sharing the burden of universal service obligations, implementing Internet access rules, and ensuring the independence of supervisory authorities);
(2) streamlining of licensing procedures;
(3) gradual easing of restrictions on foreign ownership;
(4) faster building of broadband networks; and
(5) encouragement for telecommunications operators to develop markets in mainland China and various other nations.

Restrictions on foreign ownership are being eased. Under the amended Telecommunications Law, which went into force in July 2002, the old 20% ceiling on direct foreign equity ownership in Type I telecommunications enterprises has been raised to 49%. The sum of direct and indirect shareholding by foreigners in such firms is limited, as before the amendment, to a ceiling of 60%. Taiwan's regulatory authorities and domestic operators still disagree about how far the government should go in easing restrictions on foreign ownership, but hope to attract foreign investment and bring in the technical and managerial expertise of highly experienced foreign operators in order to make Taiwan's telecommunications sector more international and enhance its competitiveness. With this in mind, the government will continue to adjust regulations as conditions permit.

Under the current legal and regulatory environment, operators can apply for a fixed-network license only during the time period specified by the MOTC, and the eligibility requirements for application are quite exclusive. In order to implement a second round of fixed-network licenses, in 2002, the DGT succeeded in establishing consensus support for a preliminary plan to accept applications for more fixed-network licenses in February 2003. This plan called for the DGT to lower the minimum system-capacity requirement for new entrants to 400,000 line numbers, while minimum paid-in capital was to be dropped to NT$16.0 billion. For private operators already holding licenses, the minimum requirements were to be reduced to 700,000 line numbers and NT$16.0 billion paid-in capital. In addition, fixed-network operators were only going to be required to build sufficient infrastructure to cover 25% of their minimum system capacity (while leasing the rest). This plan, however, was rejected in December 2002 by top MOTC officials. While acknowledging the plan would indeed reduce the burden faced by fixed-network operators, MOTC officials also felt it would result in inadequate broadband infrastructure in Taiwan. The MOTC decision will now delay the issue of a second round of

fixed-network licenses, perhaps to as late as 2004. It should be noted that in the second round of fixed-network licenses, firms will be allowed to apply for licenses limited to global or long-distance network services.

Market Status

Now that fixed-network telecommunications have been opened to competition, Chunghwa Telecom is joined in the market by three privately owned competitors: Eastern Broadband Telecommunications, New Century InfoComm, and Taiwan Fixed Network. 2002 was the first full fiscal year for the three private fixed-network operators, and according to information released by the DGT, the combined 2002 operating revenues for the three firms was about NT$10 billion. Of this figure, global network services accounted for approximately NT$8 billion. The three private firms performed very well in the market, with their combined market share surging from 1% to 9%.

In late December 2002, the Fubon Group and Cathay Life teamed up in a winning bid for the purchase of 1.3 billion Chunghwa Telecom shares released by the MOTC (a 13.5% stake). This includes a 3.98% stake for Fubon subsidiary Taiwan Cellular, which means that Chunghwa Telecom now counts one of its competitors among its major shareholders. This development could very well trigger a round of mergers or alliances, thus affecting the status of competition in the Taiwan telecommunications market.

News reports in late 2002 indicated that, because privatization of Chunghwa Telecom was scheduled for completion in late 2003 and because the MOTC still held a 33% stake in the company, the MOTC would be releasing another block of Chunghwa Telecom shares (roughly 13%) in February 2003 following the Chinese New Year holidays. The news reports further stated that the MOTC intends to sell off the shares in extremely large units, with bids to be placed for blocks of 400 million shares each. The Chunghwa Telecom Workers' Union, however, objected to carrying out yet another large-block issue of shares. They stated that such measures might serve to enrich a selected few and that the privatization of Chunghwa Telecom might simply result in the company being gobbled up by a big business conglomerate.

Future trends

It has been nearly three years since Taiwan's fixed-network market was opened to competition. Although the private operators posted strong operating revenues in 2002, a number of problems remain. The private operators have installed few subscriber lines of their own and thus command a market share of less than 1% of local and long-distance telephone services.

Chunghwa Telecom still effectively enjoys a market monopoly due to the blanket coverage of its local subscriber lines. The problems of the three private operators stem primarily from the difficulty of infrastructure buildout. In particular, they have met with many "last-mile" bottlenecks—the installation of network architecture is expensive and time-consuming; rights-of-way are difficult to obtain; each county and city has different requirements regarding the digging up of streets and laying of lines; etc. Now that the three private operators have solved the problem of interconnectivity with the Chunghwa Telecom network, they must turn their attention to these important issues. These obstacles will play a role in determining the ability of private fixed-network operators (including the current three and any more that are licensed in the future) to win out in market competition.

For a number of economic and practical reasons, it would be very difficult for each of Taiwan's private fixed-network operators to achieve an island-wide network architecture buildout. At this point, all three are hoping to take a shortcut by leasing Chunghwa Telecom's existing subscriber lines. This would entail co-location at Chunghwa Telecom facilities of switching equipment belonging to the private operators. There they would tie into Chunghwa Telecom's local loops to deliver services to end-users. This approach would enable the private operators to bypass the expense of installing physical infrastructure. The problem, however, is that once Chunghwa Telecom is privatized, a question arises as to whether its existing network architecture is public property belonging to the state, or private property belonging to Chunghwa Telecom. Controversy over this issue remains unresolved at this point.

Mobile Communications.

Government Policy and the Current Regulatory Framework

Under Taiwan's Telecommunications Law, mobile communications firms are classified as Type I telecommunications enterprises, for which the scope and timetable of deregulation, and the number of operators allowed, are determined and announced by the government. Operators must obtain a concession. Direct foreign equity ownership cannot exceed 49%, and the sum of direct and indirect shareholding by foreigners is limited to a ceiling of 60%. The Regulations Governing Mobile Telecommunications Businesses classifies these businesses into the following five categories: digital low-power wireless telephone service, trunked wireless telephone service, mobile data communications, wireless paging, and mobile phone service. All of these businesses were opened up to competition by 1997, and newly licensed mobile telephone operators were launching operations as 1997 drew to a close.

In 2001 the government began accepting applications for 3G mobile telecommunications concession licenses, and has now auctioned off five licenses to Yuan-Ze Telecom, Taiwan PCS Network, Taiwan Cellular, Chunghwa Telecom, and Asia Pacific Broadband Wireless Communications. Under the provisions of the Regulations Governing Mobile Telecommunications Businesses, a firm that wins in such a bidding process must pay at least 30% of the bid price before it can receive a provisional establishment permit from the MOTC. This permit remains valid from the date of issue until 31 December 2004. (If establishment of the network has not been completed by that time, the bid winner may apply for an extension of one year. Only one extension is possible. If the final deadline passes and the network is still incomplete, the establishment permit, system build-out permit, and spectrum assignment will lapse and the bid price paid will be forfeited.) Once a bid winner completes its network, it must apply for a concession license, which is valid from the date of issuance until 31 December 2018.

Market Status

After mobile communications firms went into business in late 1997, the mobile telephone and wireless paging businesses achieved fast growth for a time, but wireless paging peaked in March 1999 and has been losing business to mobile telephone firms since that time. The number of mobile telephone subscribers overtook the number of landline subscribers in January 2000 and the digital low-power wireless telephone business now ranks as the second largest mobile communications business. The mobile telephone business, however, is far larger than all the other branches of mobile communications in Taiwan. According to the latest figures from the MOTC, there were 23.83 million mobile phone subscribers in Taiwan as of 30 October 2002. This translates to a penetration rate of 105.9%, the highest in the world.

Within four years after entering the market in 1997, new mobile telecommunications operators had cut the market share of Chunghwa Telecom from 100% to roughly 30%. Mobile telephone operators in Taiwan include Chunghwa Telecom, Taiwan Cellular, Far Eastone Telecommunications, KG Telecom (which has acquired the formerly competing Tuntex Telecommunications), MoBiTai, and TransAsia Telecom. Taiwan's mobile telephone operators use the European standards GSM 900 and GSM (DCS) 1800.

Future Trends

Tax Incentives.

Article 8 of the Statute for Upgrading Industries was amended in 1999 to provide that tax concessions may be granted to parties investing in "emerging industries of strategic importance" which can make a key contribution to the nation's economic development, but which face

considerable risk and require governmental support. It is the government, however, that determines what constitutes "emerging industries of strategic importance" in each industrial sector. A set of concessionary measures for the telecommunications sector has been drafted by the MOTC and forwarded to the Council for Economic Planning and Development (CEPD) for further consideration. 3G operators lobbied hard to be covered by the tax concessions and received the MOTC's support in January 2003. The CEPD, however, is still considering its options.

Industry.

The figures for total subscribers and penetration rate are extremely high in the mobile telephone business, but there is still strong growth potential in the low-power phone market. First International Telecom announced in December 2002 that the number of its PHS subscribers had doubled from the previous year to 480,000. Over 300,000 (65%) of these subscribers used their devices for wireless Internet access, up by a factor of three over the previous year.

The computer network industry's output value in Taiwan for 2002 was US$3.36 billion, up 10.5% from the previous year. Industry analysts attribute this growth mainly to strong sales of wireless LAN products and personal routers, and further predict that this trend will prompt 2G mobile operators (in preparation for the arrival of 3G mobile communications) to step up efforts to build wireless LANs and use GPRS and WAP technologies to provide Internet access and accelerate transmission speeds. In other words, operators are expected to adopt the so-called 2.5G mobile technology to provide customers with something approximating 3G service and to make this technology a key part of their competitive strategy.

Satellite Communications.

Government Policy and the Current Regulatory Framework

Satellite communications enterprises are classified as Type I telecommunications operations and, like other Type I enterprises, are subject to the same licensing system and limits on foreign ownership. Satellite communications are scheduled for the third stage of liberalization of the telecom industry as published in the Executive Yuan timetable for liberalization. In 1998, the MOTC announced it would accept applications for FSS (fixed satellite services) and MSS (mobile satellite services) establishment permits, and completed review of proposals later that year. In 1999 it issued 15 permits for establishment of FSS operations and three for establishment of MSS operations. The MOTC has accepted no further applications for establishment of satellite services since 1998. DGT officials, however, have said they are

considering accepting applications in March and September each year, though the relevant regulations are still under review.

Amendments to the Administrative Rules on Satellite Communication Services in 2001 created conflicts with the Administrative Rules on Satellite Program Relay Services, promulgated in 1997. In June of 2002 the MOTC began reviewing the two regulations with an eye to repealing the Administrative Rules on Satellite Program Relay Services and incorporating its relevant provisions into the Administrative Rules on Satellite Communication Services. This was accomplished in September 2002. The key points of the amendments are as follows:

1. Definitions of "fixed earth station" and "mobile earth station" were revised, allowing inclusion of satellite relay trucks in the "fixed earth station" category.
2. Paid-in capital requirements for FSS enterprises were lowered from NT$150 million to NT$100 million.
3. Transitional provisions were added allowing license conversions for businesses already licensed for satellite program relay operations.

Market Status

Although the MOTC issued FSS and MSS establishment permits in 1999, only 14 of the FSS operators and one of the MSS operators who obtained permits completed infrastructure development and obtained concession licenses before their establishment permits expired. Of those, only a few have actually begun providing satellite communications services. Under the circumstances, Chunghwa Telecom, which in recent years has been vigorously developing mobile telephony and data and satellite communications, necessarily became a standout performer. While increasing competition caused an overall decline in Chunghwa's 2002 monthly revenues relative to 2001, revenues for satellite communications in 2002 posted year-on-year increases of 74.2% and 55.0% in February and March, respectively, demonstrating just how important the satellite communications industry will be in the near term to Taiwan's ongoing telecommunications liberalization.

Future Trends

In April of 2001, the MOTC passed the draft Regulations for Encouragement of Newly Emerging Strategically Important Industries in the Communications Sector. The MOTC's assessment of Taiwan's competitive advantages led it to select three telecommunications sector industries—broadband, FSS and MSS—as strategically important emerging industries, which were originally to enjoy tax relief under the provisions of Article 8 of the Statute for Upgrading

Industries. Certain industry selections, however, came under question by the CEPD. The MOTC is currently engaged in consultations with the CEPD over the issue.

Submarine Cables.

Government Policy and the Current Regulatory Framework

At the heart of the Asia-Pacific submarine cable telecommunications network lies Taiwan, where the submarine fiber optic cables of Northeast and Southeast Asia intersect. Due to the island's strategic location, the MOTC believes that Taiwan's submarine cable system will one day rank among the Asia-Pacific region's most important submarine cable systems. To become a key Asia-Pacific telecommunications hub, however, Taiwan must establish wireless satellite communications networks and fiber optic cable networks. With that goal in mind, the MOTC began in late 2000 accepting applications from firms interested in operating international submarine cable circuit leasing services. The first foreign firm to provide submarine cable circuit leasing in Taiwan landed a fiber optic cable on the island in 2001.

Under the provisions of the current Regulations Governing Fixed Network Telecommunications Businesses, when a firm applies for a provisional permit to establish an international submarine circuit leasing business, it must post a bond of NT$80 million. The MOTC then conducts a review of the application documents and awards a provisional establishment permit, which allows the permit holder to embark on a process culminating in the receipt of a 15-year concession license. To receive a concession license, an operator must have a minimum paid-in capital of NT$800 million.

When the MOTC began accepting applications for the operation of international submarine circuit leasing services in 2000, it went to great pains to avoid two key problems. First, it did not want those who had invested in Taiwan's integrated fixed-line operators to lose confidence in the government. Second, it wanted to make sure that the landing of foreign-owned international submarine cables in Taiwan would not impact too greatly upon locally owned firms. With these concerns in mind, the MOTC initially granted licenses for international submarine circuit leasing services only to: (1) Type I telecommunications enterprises; and (2) ISPs (classified as Type II telecommunications enterprises). As a result of the MOTC's revision in early 2002 of Article 12-1 of the Regulations Governing Fixed Network Telecommunications Businesses, Type II telecommunications enterprises offering international telecommunications services are now allowed licenses for international submarine circuit leasing.

Market Status

In January 2001 the MOTC issued provisional establishment permits to four enterprises for international submarine cable leasing services. Of these four, only two (Asia Global Crossing Taiwan and Reach Global Services) have completed networks and received concession licenses. Operators, however, believe Taiwan still lacks adequate bandwidth. In particular, the increasing volume of Taiwan investment in mainland China has fueled burgeoning growth of the market for cross-strait virtual private network (VPN) communications. Potential bandwidth demand for cross strait communications appears to be unlimited.

Future Trends

Under slightly changed procedures adopted by the DGT, applications from businesses interested in operating international submarine cable circuit leasing services will now be accepted each year in March and September. In preparation for issuance of a second round of Type I telecommunications licenses, the DGT consulted with telecommunications operators last year. With regard to the issuance of international submarine cable circuit leasing licenses to non-integrated operators, submarine cable businesses recommended that license holders ought to be allowed to lease to a broader range of customers. Currently, submarine cable capacity can only be leased to Type I telecommunications enterprises (and Type II telecommunications enterprises offering international telecommunications services), but firms in the industry feel that the DGT should also allow such capacity to be leased to ordinary end users. They also argue that operators should not be subject to a minimum NT$800 million paid-in capital requirement or a minimum system capacity of 5 Gbps. According to the DGT, the opening of the ISR market in 2001 put Taiwan on the path to complete liberalization of its telecommunications market. With Taiwan striving to abide by its WTO commitments, it would be difficult to delay the issuance of licenses for any reason. The authorities, however, still need to work out a package of coordinated measures before complete liberalization can become a reality.

Type II Telecommunications Enterprises.

Government Policy and the Current Regulatory Framework

In line with the government's stated goals of encouraging diversity of services and fair competition in the telecommunications industry, the MOTC in June 2001 issued an amended version of the Rules on Type II Telecommunications Business, which comprises 36 articles in all.

The main points of the amendments are as follows:

1. The amended Rules classify the Type II telecommunications sector into general businesses and special businesses, and set forth the procedures and requirements for applying for permits.
2. In order to protect the interests of consumers, Article 13 paragraph 3 of the Rules has been amended to require that, when wholesale resellers amend their company registration, they must submit related documentation to the DGT for recordation. Chapter 3 of the Rules also sets forth a number of provisions governing operations and management.
3. The Rules now set forth what is required of operators under the Communications Safeguards and Supervision Law.
4. The Rules now include provisions setting forth what operators are required to contribute to the telecommunications universal services fund.
5. The Rules now require operators to report the condition of their facilities and to disclose information on their operations.

Type II telecommunications special businesses provide ISR services and also lease international circuits to provide international telecommunications services other than ISR. Type II telecommunications special businesses go through a standard permit application procedure entailing a review of documents and an inspection of actual facilities. Type II telecommunications general businesses go through a streamlined permit application procedure—the DGT only examines the application documents, while the applicant's virtual private network (VPN) is treated as a general business item.

Market Status

In 2001 the MOTC began allowing private firms to provide Internet telephony, ISR, and other Type II telecommunications services, a move that many feel will enable Type II business to mount a direct challenge to private fixed-network operators and Chunghwa Telecom. The annual operating revenues of Chunghwa Telecom are roughly NT$180 billion, of which the domestic long distance market accounts for some NT$70 billion (40%). The MOTC expects Internet telephony to account for 20% of Taiwan's market by 2005 (roughly NT$5 billion per year).

Firms applying for a Type II ISR license must have interconnectivity with Chunghwa Telecom, which is a difficult hurdle. ISPs have an advantage over the competition on this front as they have already established this interconnectivity. ISPs need only enhance their telecommunications-related equipment, personnel, and technology in order to start offering

Internet telephony. Huge outlays in unfamiliar territory are not needed. ISPs have also been able to branch out from their existing base of broadband subscribers, selling Internet telephony to their corporate customers. For this reason, ISPs account for a large share of all newly issued ISR licenses—34 by early 2003.

Virtual Private Networks (VPN).
Fixed-network operators and Type II telecommunications operators are very bullish on the market for telecommunications services between Taiwan, Hong Kong, and mainland China and, for this reason, are rushing to grab a piece of the VPN market. Mackay Telecommunications and Symphox Information have already joined forces with Chunghwa Telecom to establish a VPN connecting the three areas, while Taiwan Telecommunications Network Services (TTN) is in a tie-up with mainland China's China Netcom.

Future Trends

Plans to License 3G MVNO Operators.
The DGT announced in January 2003 that once it has completed currently pending amendments to the Administrative Rules on Type II Telecommunications Business (expected by the end of 2003 at the latest), it will begin accepting applications for mobile virtual network operator (MVNO) licenses. The DGT will issue these licenses to operators of both 2G and 3G networks. There will be no minimum capital requirements and no limit on the total number of licenses, thus flinging the door to the mobile telecommunications market wide open.

Can a new value-added telecommunications service like MVNO succeed in Taiwan? There are widely divergent views within the industry on this question. Those betting against it say the high price of MVNO services and the maturity of Taiwan's mobile telecommunications market are likely to prevent MVNO from achieving a high penetration rate. They feel that Taiwan's mobile communications value chain would have to expand for MVNO to take off in Taiwan. For that to happen, they see the following conditions as prerequisite: (1) Government agencies would have to adopt clear-cut policies that lower the operating costs of new market entrants; and (2) Taiwan's mobile Internet and mobile commerce markets would have to mature.

Other industry insiders, however, are more optimistic. They see the market opening as good news for firms with a 3G license but no customer base (such as Taiwan PCS Network) as well as those who have a customer base but no 3G license (such as KG Telecommunications, which hopes to lease bandwidth from 3G operators in order to improve its i-mode transmission speeds). Firms in this camp hope to take advantage of the issuance of MVNO licenses to share network resources with other operators, thereby adding new users and reaping the benefits that added

usership brings—higher revenues and greater network externalities.

The DGT has indicated that it currently intends to allow MVNO license holders to engage in simple resale of minutes and line numbers and to offer value-added network services, but licensees will not be allowed to have their own switching equipment or transmission line equipment. Taiwan's Rules Governing The Third Generation (3G) Mobile Telecommunications Service do not specifically state whether 3G operators have to provide a fixed level of telecommunications capacity to Internet content providers and Internet service providers (as is required in a number of foreign countries). Perhaps because winning bids for 3G licenses typically run to more than NT$10 billion, the DGT has elected, for the moment, not to use compulsory measures. Before a firm can apply for a MVNO license, however, it must first sign a letter of intent for cooperation with an existing 3G operator.

Cable Radio and Television.

Government Policy and the Current Regulatory Framework

The key aspects of cable television regulation include the concession system, area management, concession fees, limits on foreign ownership, rate regulation, limits on horizontal consolidation and vertical integration, and the must-carry rule.

The Concession System.
Taiwan's cable television system is managed through a concession system of local oligopolies in which prospective system operators undergo a two-stage application process. The first requirement is paid-in capital of NT$200 million and submission of a business plan to the central regulator. Upon approval, the regulator issues a provisional establishment permit. System operators must complete establishment of the cable system within three years, with a possible six-month extension, after which the operator applies to the central regulator for engineering inspections. After passing inspections, the operator applies to the regulator for a nine-year operations license and begins broadcasting. Operators wishing to continue after nine years must apply for re-licensing six months prior to expiry of their license.

Decisions on the number of cable operators within a given cable service area currently fall within the purview of the Cable Television Review Committee.

Area Management.

The Taiwan region is currently divided into 51 areas for cable system management, with the GIO basing divisions between areas on administrative regions, topographical divisions, population distribution and economic efficiency, as well as consultations with local governments.

Concession fees.

The concession system of cable television operation necessarily implies a certain obligation to the public welfare on the part of cable operators. Currently, system operators bear concession fees of 1% of their business volume, out of which the central regulators have established a special fund. Thirty percent of the fund is dedicated to upgrading cable television development, 40% is allocated to local governments, and the remaining 30% is contributed to the Public Television Service Foundation.

Foreign Ownership Ratios.

In order to meet obligations arising from Taiwan's WTO membership, restrictions on foreign ownership have been gradually eased under the Cable Television Law, allowing for foreign investment in Taiwan's cable system up to specified limits. At present, direct foreign holdings of system operator shares are restricted to foreign institutional investors, and are limited to less than 20% of the total issued and outstanding shares; combined direct and indirect holdings of system operator shares must be below 60% of the total of issued and outstanding shares.

Rate Regulation.

Cable television rate regulation is necessary to protect the rights and interests of viewers as potential abuses of market power by system operators within the system of local oligopolies is inherent in the existing environment and could lead to inappropriate pricing. The central and local governments have adopted a double regulation system for cable rates, with the Cable Television Review Committee at the central level setting rate standards on a yearly basis, and local governments approving applications for subscriber rates on the basis of those rate standards.

Limits on Horizontal Combinations and Vertical Integration by MSOs (Multiple Systems Operators).

In order to safeguard against the possibility that large, national MSOs will achieve further control over the market through increasing their horizontal and vertical concentration ratios, respective limits have been placed on the vertical integration and on horizontal combinations of those firms to prevent monopolization of the cable market.

Article 21 of Taiwan's Cable Radio and Television Law places limits on the horizontal combinations of MSOs through the following provisions:

"The following situations are not allowed with respect to system operators and their affiliates and system operators controlled directly or indirectly:

1. The total subscribers shall not exceed one third of the total subscribers in the country;
2. The number of system operators in the same administrative district shall not exceed one half of the system operators in that administrative district, provided this shall not apply where there is only one system operator in such administrative district; and
3. The number of system operators shall not exceed one third of the total system operators in the country.

The Central Competent Authority shall publish the total number of subscribers in the country, the total number of system operators in each administrative district, and the total number of system operators in the country."

The term "affiliates," under Article 11 of the Cable Radio and Television Law Enforcement Rules, is defined in accordance with the relevant Company Law provisions. The Company Law's Chapter on affiliated enterprises provides two conditions under which enterprises will be considered affiliates:

1. Companies that have a controlling and subordinate relationship between them; or
2. Companies that are mutually invested.

Limits on vertical integration are provided for in Article 42, paragraph 3 of the Cable Radio and Television Law: "No more than twenty-five percent of the programs on channels broadcast by a system operator shall by supplied by such system operator or its affiliated enterprise." This provision in fact places no limits on a channel provider's shareholdings in a system operator, but primarily regulates cable systems and channel providers as affiliated enterprises such that only one-fourth of the channels of a system operator may be used for broadcast of programs provided by an enterprise affiliated with the system operator.

The "must-carry" rule.

The "must-carry rule" refers to the fact that cable systems must broadcast the program signals of local wireless television stations. Article 37 of the Cable Radio and Television Law states: "A system operator shall simultaneously rebroadcast programs and advertisements of legally established wireless television stations. A system operator shall not alter the form, content or

channel position of terrestrial stations and shall provide same as part of its basic channels."

Market Status

The makeup of Taiwan's cable market today is characterized by the dominance of two large MSOs, two mid-size MSOs, and one foreign MSO. Eastern Multimedia and the Koo's Group are the two largest players in the market, each having roughly one million cable subscribers. Pacific Broadband and Taiwan Infrastructure Technologies are the mid-size firms, with 400-500,000 subscribers each. Carlyle Group (of the US) is the foreign component, with a subscribership in the neighborhood of 500-600,000.

In aggressive bids to acquire system operators, Eastern Multimedia and the Koo's Group formed respective alliances with Pacific Electric Wire & Cable and Star TV, gaining greater access to financial resources. The Koo's Group and the Star TV group jointly took a first step into the digital TV market by establishing China Network Systems (CNS), while also jointly investing US$240 million for an upgrade of system platforms under the Koo's Group banner. Eastern also entered into cooperative ventures with Pacific Digital Technology (PDT). PDT acquired two director's seats in Eastern through acquisition of Eastern shares; meanwhile, PDT's Pacific Digital Media merged with an Eastern affiliate, Eastern DTH, moving toward development of interactive TV platforms to serve Chinese communities worldwide.

The foreign-invested Carlyle Group has established Taiwan Broadband Communications and formed an alliance with Asia Pacific Online in which Carlyle will provide its existing cable broadcast lines while Asia Pacific Online focuses on development of broadband Internet services.

Future Trends

Value-added digital platforms.
Local media reports indicate that 12 of Eastern Multimedia's system operators will begin offering digital pay channels from January 2003, while Carlyle will be offering pay channel content in the near future and CNS is assessing the possibility of adding pay channels.

The GIO has announced that fixed-network operators may also engage in cable system operations, and at the same time is also planning to relax controls on cable television viewer subscription fees and to eliminate the rule for a one-third limit on market share. The GIO is also planning to return all powers of review over subscription rates to the central government, while basically allowing the market to determine rates for new digital value-added services offered by

cable system operators (such as the digital payment channel recently launched by Eastern Multimedia). Government intervention will be limited to the setting of caps on viewer subscription fees.

Given that cable broadcast systems have already become one of the important transmission platforms for distribution of broadband services, they should be allowed to enjoy competitive advantages at the same level as other transmission platforms. Thus the Legislative Yuan is currently reviewing amendments to the Cable Radio and Television Law that will adjust foreign ownership ratios in cable system operators in light of like provisions in the Telecommunications Law and the Satellite Radio and Television Law. Key points of the amendments, intended to accelerate the pace of Taiwan's globalization and enhance its competitiveness, include:

1. Loosening of restrictions on foreign ownership: Limits on direct foreign holdings of system operator shares will be raised to 50% from the current 20%.
2. Liberalization of internal operations: In line with the relevant provisions of Article 12 of the Telecommunications Law, restrictions on the nationalities of directors and supervisors will be lifted, with only the chief executive officer of a system operator required to be an ROC national.

Wireless Television.

Government Policy and the Current Regulatory Framework

Publicization of Wireless Television.

Taiwan's government is pursuing a two-pronged policy of publicization and privatization of free-air television aimed at eradicating interference and manipulation of the media by political parties, government factions, and financial consortia, and creating an environment conducive to professional, autonomous production and programming. The Executive Yuan (Cabinet) plans to create an inter-ministerial task force to drive this policy forward. The GIO plans to draft a statute that will provide a legal basis for a public television system and allow government budget funding to be used to purchase shareholding in either Taiwan Television Enterprise (TTV) or Chinese Television System (CTS), with one of those stations ultimately to be a public enterprise and the other a private enterprise. Because the dual publicization/privatization initiative will hinge on the process of selling off government-owned shares and enacting relevant legislation, no one is yet venturing a concrete timetable. However, the goal of establishing a second public television station (in addition to the existing Public Television Service) has been clearly established. It is hoped these policies will create a truly independent media serving the entire

citizenry and at the same time prevent the conglomeration of free-air television by financial groups.

Digitization of Wireless Television

Recognizing digital television as a key trend in the development of broadcast technology worldwide, the MOTC in 1998 set a timetable for the digitization of terrestrial wireless television: if the penetration rate of digital wireless television reaches 85% by the end of 2006, the frequencies for conventional analog TV broadcasting will be returned to the government for reallocation. On 20 May 2001, the DGT resolved that specifications for terrestrial wireless digital TV systems in Taiwan should be "market driven in keeping with the principle of technological neutrality and demand for diverse systems." Taiwan has currently adopting terrestrial digital video broadcast (DVB-T) standard transmitter technology, which has the advantage of enabling two-way interactive services. This will provide incentive to operators developing digital services to branch into cross-industry services tapping other emerging telecommunications technologies.

Relevant Regulations.

Under current law, the GIO is the competent authority for wireless television enterprises and television program provider enterprises. The establishment and geographical distribution of television stations is governed by a highly controlled concession system. A television station must obtain a station license from the MOTC and a television license from the GIO before it may begin formal broadcasting. The television license is valid for a two-year term, and renewal must be applied for from the GIO six months before expiry. If renewal has not been obtained by the time of expiry of the original license, the station must immediately cease broadcasting. To avoid problems of over-concentration of shareholding and media monopolization, strict eligibility criteria are imposed on transferees of shares of television enterprises. To protect television as a cultural industry, current law requires a minimum of 70 percent of programming to be domestically produced, and completely prohibits foreign investment in wireless television. The latter prohibition is now being reevaluated under a report by the CEPD on measures for promoting investment in Taiwan, but no concrete conclusions on deregulation of foreign investment in this sector have yet been reached.

Market Status

Five wireless TV stations currently operate in Taiwan. Apart from the public TV station PTS, the four other wireless TV stations, TTV, CTV, CTS, and FTV, all have pronounced political affiliations. Reform of the free-air television market structure to establish the media as a true "fourth power" is currently an important legislative trend.

Future Trends

Industry

The five wireless TV stations have already begun pilot broadcasting of digital programming on a rotating basis during specific daily time slots (from noon to 5 p.m.). Pilot broadcasting began in Taiwan's western region in May 2002, and was scheduled to begin in the Eastern region in late 2002, but has not yet begun there.

Legislation.

A draft amendment to the Radio and Television Law aimed at eradicating political elements from broadcast media passed initial examination by the Legislature's Education and Culture Committee in December 2002. The draft bill prohibits direct and indirect investment in radio and television enterprises by political parties and sets a deadline of three years from passage and enforcement of the proposed amendment for disposal of pre-existing investment. It prohibits political parties and party employees from serving as directors, supervisors, or managers of radio and television enterprises, and requires that such persons be relieved of their positions within six months after the amendment enters into force. Meanwhile, to prevent large financial groups from cornering the shares sold off by political factions and ensure shareholding dispersion, the draft amendment specifies that a single shareholder may hold no more than 10 percent of the total issued shares of a television enterprise. It further provides that public radio and television media are not to compete economically with their private-sector counterparts, and are subject to the Public Television Law.

Satellite Television.

Government Policy and the Current Regulatory Framework

The GIO is the competent authority for satellite radio and television enterprises, except in cases involving engineering and construction project-related disputes, which fall under the purview of the MOTC. The Satellite Radio and Television Law requires Offshore Satellite Radio and Television Enterprises that operate direct broadcast services or operate as program providers to establish a branch office or agency in Taiwan and obtain permission from the competent authority. The total direct shareholdings of a foreign person in a Satellite Radio and Television Enterprise shall be no more than 50 percent of the enterprise's total issued shares; there is, however, currently no regulation limiting indirect foreign shareholding. Satellite radio and television enterprise licenses are valid for six years, and license renewal must be applied for within six months before expiry of the original license. To protect the rights and interests of

consumers, subscription tariffs and the means of calculation must be approved by the GIO.

Market Status

Taiwan's satellite radio and television enterprises can be broken down into four categories under the Satellite Radio and Television Law: direct broadcast services operators, program providers, offshore direct broadcast services operators, and offshore program providers. As of early January 2003, the GIO had awarded satellite radio and television program provider licenses to a total of 75 domestic and offshore companies offering a combined 123 channels, and to 4 domestic and 3 offshore direct broadcast services operators. The pressing question today is what tack direct satellite broadcast operators will take in their pursuit of a service niche in the face of the high penetration rate (80%) of cable television in Taiwan and the substantial redundancy and substitutability between the video services provided by direct broadcast satellite media and cable television enterprises.

Future Trends

Legislation.

A partial draft amendment to the Satellite Radio and Television Law passed initial examination by the Legislature's Education and Culture Committee in December 2002. The proposed revisions are aimed at eliminating political influence from radio and television enterprises, fostering independent news coverage, and building a healthy balance of diverse, interactive public and private media conducive to a strong democratic society, the Legislature's Education and Culture Committee passed on initial examination. The draft bill prohibits the government and political parties, and enterprises in which they have a certain level of shareholding, from holding stakes in satellite radio and television enterprises, and specifies the formula by which such shareholding is to be calculated to quell related dissent. It also prohibits political parties and party staff from serving as system operators or directors, supervisors, or managers of satellite radio and television enterprises, and requires any such persons already in those positions to be relieved of them within six months after the bill is passed and takes force.

Technological Convergence.

Advances in digital technology have driven the convergence of telecommunications industry sectors, media, and technologies. Digital telecommunications, cable, television, and computer industries are increasingly being drawn together into integrated broadband systems. At present, broadband services are most commonly provided by the telecommunications and cable television industries. These two industries both capitalize on network structures to provide their services, but diverge widely in their ultimate directions and objectives. Telecommunications

enterprises have conventionally been regarded as public utilities, and supply, demand, and pricing in this industry have been strictly regulated by the government on the grounds of protecting the public interest and welfare. Cable television, on the other hand, has historically been considered primarily as a relay/rebroadcast tool for overcoming quality limitations in free-air television program signal reception. Viewing cable television as an appendage of wireless television, government regulators tended to exclude it from the scope of regulations adopted during the gradual opening to the private sector of network infrastructure beginning in the 1970s, disregarding the issue that cable television provided services over network facilities and focusing instead on the integrity of cable television programming broadcasts (e.g., whether programs were broadcast in their entirety) and on the impact of market integration on consumers.

As technology matures, however, the boundary between the cable television and telecommunications industries is blurring, and the convergence of digital technologies and the Internet have given rise to emerging digital network industries handling digital text, audio, video, data, and image transmissions. These industries transcended individual technologies and platforms, challenge the categories imposed by existing regulations and standards, and obscure the application of existing rules and the competences of regulatory authorities. Opportunities for regulatory evasion and unequal competition have proliferated, bringing consequent risks of market distortions, obstacles to technological and commercial innovation, and circumstances adverse to consumer interests.

The diverse integrated services made possible by digital networks and the neutrality of the transmission medium have given cross-industry participants growing space for strategic maneuvering to capitalize on their inherent market strengths and stake out new domains of services or goods provision. The following sections examine and analyze some of the issues arising in cross-sector integration of telecommunications and cable television business with the advent of integrated broadband technologies.

Cross-Industry Participation in Type I Telecommunications Business by Cable Television Operators.

Under Taiwan's regulatory regime, cable radio and television system operators wishing to participate in Type I telecommunications services may apply for the following two kinds of operations licenses: integrated network license and leased-circuit license.

The price cap method is adopted in the Type I telecommunications tariff regime, but the rate-of-return method is adopted in the cable radio and television subscription tariff regime. A cable systems operator participating in Type I telecommunications business therefore find itself

caught between two different tariff regulation models, posing practical difficulties for operators and regulators alike. If portions of the cable television services and Type I telecommunications services offered by convergent operators share network lines or bandwidth, difficulties arise in fairly assigning the respective costs to be borne by the cable enterprises and telecommunications enterprises and applying a clear and practicable Type I telecommunications enterprise accounting system and accounting supervision rules as set forth in Article 19, Paragraph 2 of the Telecommunications Law.

Participation in Leased-Circuit Business by Cable Radio and Television System Operators.
A "Leased-Circuit Business" is defined as "an Operator engaging in the business of leasing its network transmission equipment, which shall have no exchange functions, and the auxiliary equipment thereof" in Article 4, Subparagraph 5 of the Regulations Governing Fixed Network Telecommunications Businesses. No limit has been placed on the number of leased-circuit business concession licenses that may be issued. The primary aims of deregulating leased-circuit business are to make fixed communications networks more readily available to operators, reduce redundancy in network cable investment and construction, and allow public utilities to offer their existing cable transmission networks for use by Type I and Type II telecommunications businesses.

Since the leased-circuit business was deregulated in 1999, cable television enterprises have responded enthusiastically, with at least 36 cable television enterprises having filed applications to date. According to the latest figures published by the DGT, as of 18 December 2002, 26 applicants had received approval to operate leased-circuit business, including 20 cable radio and television system operators, 2 mobile telecommunications enterprises, 3 natural gas companies, and Chinese Petroleum Corporation.

In addition to the issue of overlapping regulation by the DGT and GIO, there are also diverging views as to whether a cable television system operator that has become a leased-circuit business operator assumes legal obligations of network interconnection, accounting separation, and universal service.

Cross-Industry Participation in Type II Telecommunications Enterprises by Cable Television Systems.
Cable television systems with operations straddling both cable modem broadband Internet access services and Internet telephony will be regarded as operating Type II telecommunications business.

1. Cable Modem Broadband Internet Services

   Cable modem broadband Internet services were launched in Taiwan over three years ago. The DGT deems providers of cable modem broadband Internet services, like other Internet service providers (ISPs), to fall in the category of Type II telecommunications enterprises under the Telecommunications Law. Cable system operators enjoy a competitive advantage over Type I telecommunications enterprises in cross-industry participation in ISP services, because the Type I enterprises are subject to prohibitions on cross-subsidization, whereas the cable operators are not.

2. Internet Telephony

   The DGT currently categorizes Internet telephony as a special Type II telecommunications business. Cable radio and television system operators are likely to find Internet telephony an easier and more advantageous way of providing voice telecommunications services than cable telephony, which faces a thicket of regulations and double controls. Although cable operators providing Voice over Internet Protocol (VoIP) services must still share universal service obligations for those services, they do not face the interconnectivity requirements imposed on Type I operators, and they are unrestricted in setting tariffs and are free of accounting separation requirements and cross-subsidization prohibitions. In terms of physical network facilities, cable telephony services require extensive investment in engineering and facilities, further recommending VoIP as an attractive route toward a stake in the voice telecommunications market for cable radio and television system operators.

The Convergence Trend and Legislative Consolidation.

Given the trend toward technological convergence, the division between the telecommunications and radio and television markets will become steadily more blurred in pace with technological progress. The status of market participants will become more fluid and indeterminate than in the past. Corresponding changes and adaptations in the market structure will occur in the foreseeable future.

As models of cross-industry participation by telecommunications and radio and television businesses grow steadily more diverse, cable television system operators may utilize their networks to operate telecommunications business; wireless television operators may utilize the extra channels gained through digitization to operate telecommunications business; and Type I telecommunications operators may utilize their telecommunications networks to offer radio and television services. In fact, Chunghwa Telecom has already launched the initial phase of a multimedia-on-demand service, with a pilot rollout pegged for 20,000 homes in five territories in

Taiwan's northern region. Although under its current policy the GIO still requires a Type I telecommunications enterprise to apply for a separate permit to operate such business, it does not insist on the entire set of hurdles required for a regular cable television services permit, so it appears to be relaxing its control on cross-industry participation.

The trend toward integrated megamedia is opening up an array of opportunities for business cooperation and the development of value-added services. In response to the trend toward convergence of telecommunications, radio and television, and the Internet, the GIO has drafted an amendment to the Radio and Television Law that merges related provisions of the Radio and Television Law, Cable Radio and Television Law, and Satellite Radio and Television Law into a single bill. The subject matter regulated by the draft bill includes service providers transmitting image or sound by radio, cable, satellite, or other carriers or platforms for direct public viewing and listening. The draft bill is currently in the legislative committee review stage.

Taiwan's telecommunications and radio and television industries currently fall under the separate purviews of the DGT and the GIO. The emerging regulatory challenges brought by the convergence trend have created a need for integration and reorganization of regulatory powers. In response, the DGT commissioned an independent research report entitled "A Study of the Organizational Structure of Regulatory Bodies for Cross-Industry Integration of Telecommunications, Information, and Media," which was completed in December 2002.

On a parallel note, in a draft bill amending the Radio and Television Law in late 2002, legislators proposed creating a professional, objective, and independent "National Communications and Broadcasting Commission" to supervise broadcasting and television enterprises. Clearly, the convergence trend is impelling the government to address the need for reintegration and adjustment of related legislation and institutions.

