

Foreign Investment Restrictions as Industrial Policy: The Case of Canadian Telecommunications

Robert W. Crandall[†] and Hal J. Singer[‡]

We assess the economic harms that would accrue if Canada were to adopt asymmetric rules of foreign ownership for incumbent carriers and entrants. We explain the current Canadian regulatory climate surrounding foreign investment in Canadian telecommunications. Competition in the telecommunications industry is generally robust, which suggests that rules aimed at favouring entrants are not necessary. Moreover, Canadian entrants are equally capable of attracting foreign capital as Canadian incumbents, which suggests that foreign investment rules aimed at favouring entrants are especially unwise.

Next, we review the U.S. attempt to stimulate competition in local telecommunications markets through an analogous form of asymmetrical regulation. Despite the best of intentions, United States regulators have not been able to stimulate meaningful local competition through such asymmetrical regulation. Moreover, the resultant easy access to capital created wasteful investment by the entrants. Second, licensing restrictions on foreign carriers in the U.S. reflect another form of asymmetric regulation because they apply only to wireless licenses, not wireline operations. This licensing process confers substantial discretionary authority on the FCC, which has allowed the process to become highly politicized. Finally, asymmetric rules for broadband services have cemented the position of cable modem providers vis-à-vis DSL providers.

The U.S. experience highlights several issues that may be relevant for Industry Canada as it assesses the effect of changes in foreign ownership rules on competition in telecommunications. In particular, the investment of more than \$40 billion by entrants in the U.S. local telecommunications markets has been almost completely squandered. This asymmetric regulation did not succeed in attracting entrants that would have a measurable effect on the retail price of telecommunications services. Given the nature of demand for and supply of telecommunications services, competition is more likely

to develop across different platforms — cable, wireline, and wireless — not among small niche players lured into the marketplace by regulators.

With the lessons of the U.S. regulatory experience in mind, we review two specific Canadian proposals regarding foreign investment rules: tiering and licensing. We conclude that a tiering approach would harm competition and infrastructure investment because it would reduce the incentives of incumbent carriers to invest in network upgrades or new services, and potentially aggravate the problem of excess capacity that plagues the telecommunications industry. A licensing approach for foreign investment restrictions should also be rejected. Licensing would impose a further layer of regulation on the marketplace, reduce foreign investment, and expose foreign carriers to political pressures. The Canadian agencies should not follow their southern neighbours down the road to despair.

I. Introduction

Industry Canada has proposed a re-examination of Canada's foreign investment restrictions that apply to the telecommunications sector because it fears that these restrictions are leading to under-investment in the Canadian telecommunications sector.¹ Industry Canada has thus issued a number of questions to establish a dialogue about alternatives to the current foreign investment restrictions. Among the alternatives being considered are proposals to relax these investment restrictions for new entrants or for smaller companies, while leaving the restrictions in place for the established incumbent carriers.² As an alternative or complementary policy, it is examining the possibility of a new licensing regime for foreign investment in telecommunications that would allow the government to decide on the admissibility of foreign capital on a case-by-case basis.³

[†]Senior Fellow in Economic Studies at the Brookings Institution.

[‡]Senior Vice President, Criterion Economics, LLC.

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Canada thus proposes two types of asymmetric regulation: one in which firms are regulated differently, and another in which investors are regulated differently. There is no clear academic consensus on the merits of either form of asymmetric regulation. A number of authors have suggested that asymmetric regulation by firm type fosters growth in the telecommunications industry. Thomas Kiessling and Yves Blondeel assert that asymmetric regulation of incumbents can lead to net efficiency gains by countering the structural market advantages of those incumbents, provided that entrants are facilities-based.⁴ Yuntsai Chou and Kung-Chung Liu argue that the asymmetric regulation of carriers based on incumbency and platform in Taiwan played a large role in the more than ten-fold increase in Taiwan's mobile penetration rate between 1997 and 2000.⁵ Numerous authors, however, point out that there is a large danger that asymmetric regulation will distort the competitive environment.⁶

Academic opinion of the asymmetric regulation of foreign investment tends to be somewhat more resolute. Woo-Sik Moon and Yeong-Seop Rhee argue that the asymmetric regulation of capital flows in Korea was one of the "most important policy mistakes that caused the accumulation of external and internal vulnerability and triggered the currency crisis".⁷ Carsten Fink, Aaditya Mattoo, and Randeep Rathindran argue that "it is not easy to find a sound rationale" for the existence of foreign ownership requirements, but observe that there is not a sufficient analytical or empirical foundation for the evaluation of the costs and benefits of ownership restrictions.⁸ In this paper, we aim to provide such a foundation, as it applies to actions proposed by Industry Canada, through an examination of the U.S. experience with asymmetric regulation.

To the extent that Industry Canada's current concerns about the lack of investment in Canadian telecommunications are derived from a comparison of U.S. and Canadian capital expenditures in this sector since the passage of the U.S. *Telecommunications Act*, those concerns are misplaced.⁹ It is now apparent that much of the U.S. capital spending near the end of the last decade was driven by a speculative bubble, and that billions of dollars were wasted on ill-advised new entry into local telecommunications and capacity expansion in transmission. Most of the carriers who made these investments are now either bankrupt or in serious financial difficulty. Industry Canada should not induce entry from a larger number of participants than the demand for telecommunications services is capable of sustaining. It is better to leave these fundamental choices to the market. In this article, we show that attempting to guide economic resources to favoured groups of companies, whether by relaxing foreign capital restrictions or by other regulatory programs, is a serious mistake that results in substantial waste.

In Part II of this article, we explain the current Canadian regulatory climate surrounding foreign investment in Canadian telecommunications. We also describe the state of competition and foreign investment in Canadian telecommunications. Competition in the telecommunications industry is robust, which suggests that rules aimed at favouring entrants in general might not be necessary. Moreover, Canadian entrants are equally capable of attracting foreign capital as Canadian incumbents, which suggests that foreign investment rules aimed at favouring entrants are especially unwise.

In Part III of this article, we describe privileged classes of carriers identified by the U.S. Federal Communications Commission (FCC) in local exchange (competitive carriers), wireless services (designated entities), broadband Internet access (cable modem providers), and international telecommunications (wireline providers). We examine the nature of the asymmetric regulation in each of those sectors and provide a qualitative analysis of the cost of skewing the regulatory landscape.

In Part IV, we apply the lessons of the U.S. experience to the Canadian situation. The proposals advanced by Industry Canada would place restrictions on a select group of participants in the telecommunications marketplace. In predominantly privatized markets such as Canadian telecommunications, such a tiered approach presents several problems. Such an approach would reduce the incentives for incumbent carriers to invest in new facilities; if shareholders perceived that the restricted companies were at a competitive disadvantage, tiering could lower the restricted companies' share prices, and therefore, actually increase the cost of capital. Tiering would also risk replicating the problem of excess capacity that now plagues the U.S. telecommunications industry. Moreover, because Canada's facilities-based carriers differ in several dimensions, such as revenue, market capitalization, and the technology used, tiering would be difficult to implement. Licensing is equally flawed because it would create new uncertainty for carriers, which would likely reduce investment in Canada's telecommunications network. If licensing were conditioned on, for instance, a head office in Canada or investment of a certain amount each year in rural broadband deployment, then foreign investors would look for alternative (non-Canadian) investment outlets.

The form of asymmetric regulation of foreign investment contemplated by Industry Canada has failed to achieve its purported objectives in the United States, Australia, or Korea. Extending preferences to a particular class of competitors is not likely to alter the long-term equilibrium market structure if those companies are not viable. The factors that influence that equilibrium — economies of scale and scope, demographics, and market technologies — are likely to be much more important than differential access to foreign capital in relatively

large, wealthy countries, such as Canada. The persistent failure of policies in other countries that have targeted certain classes of competitors should serve as a warning to Canada as it contemplates making foreign capital more readily available to new entrants.

II. Foreign Investment in Canadian Telecommunications

Foreign investment in Canadian telecommunications carriers is currently restricted. Foreign ownership in a holding company that owns telecommunications operations is not permitted to exceed 46.7 per cent.¹⁰ The restriction applies equally to incumbents and new entrants, and it is among the most stringent of all Organization of Economic Co-operation and Development (OECD) countries. Canada's Standing Committee on Industry, Science and Technology recommended that the Government of Canada "entirely remove the existing minimum Canadian ownership requirements".¹¹ In a letter to Walt Lastewka, Chair of the Standing Committee on Industry, Science and Technology, Minister of Industry Allan Rock agreed with the Committee's suggestion to pursue the removal of foreign ownership restrictions in a symmetric manner:

You concluded that symmetrical removal of restrictions for telecommunications carriers and BDUs, which compete with similar services in the same markets, is the best way of achieving the objectives of both the *Telecommunications Act* and the *Broadcasting Act*. The government accepts this reasoning, which reinforces that in order to promote competition and regulate the industry in a smart, stable and efficient manner, it would be irresponsible to move asymmetrically.¹²

In this article, we explain that the attitude towards asymmetric regulation expressed by Minister Rock is the correct one.¹³ Although it appears that Canada will chart the correct course with respect to asymmetric regulation, the possibility of asymmetric regulation has not yet been fully laid to rest. Our examination of the shortcomings of asymmetric regulation in the United States is intended as a cautionary lesson against reversing course and imposing asymmetric foreign investment regulations on incumbents and entrants.

The State of Competition in Canadian Telecommunications

Telecommunications competition is developing steadily under the present system of symmetric foreign investment rules. Canada's commitment to telecommunications has resulted in a secure infrastructure, affordable and high-quality service, significant innovation, considerable broadband penetration, and vibrant competition. The OECD's 2002 Review of Regulatory Reform in Canada finds that "low prices, good quality service and relatively rapid diffusion of new technologies characterize the Canadian telecommunications landscape".¹⁴ Indeed, the average prices for business and resi-

dential telecommunications services are lower than the corresponding averages in the United States and OECD.¹⁵

All telecommunications sectors in the Canadian economy are open to competition. Although new entrants account for a smaller share of access lines in Canada than in the United States, competition for the local market in Canada is gaining strength. The Canadian Radio-television and Telecommunications Commission (CRTC) is an independent regulator, whose policies to date have created an effective regulatory environment. The OECD has praised Canada for "having a relatively better regulatory process" than many other OECD countries, particularly as it relates to the interface between incumbents and competitors.¹⁶

Because it does not create artificial incentives for resale, Canada's competition model encourages sustainable facilities-based competition. There exists inter-platform competition between wireline, cable, and wireless technologies. Competition in Canadian data and private line services has earned those sectors of the Canadian telecommunications industry significant regulatory forbearance. Similarly, competition among facilities-based long distance carriers has led to lower prices and has freed incumbents of rate regulation. Telus and Bell Canada, the large incumbent local carriers in BC-Alberta and Ontario-Quebec, respectively, are expending considerable resources to enter one another's geographical markets with services aimed predominantly at business customers. To be fair, two of Canada's five national network providers were reorganizing under bankruptcy protection as of April 2003, but those carriers quickly emerged from such protection over the next few months. The bankruptcies highlight the delicate tradeoff that regulators face between intense competition and long-term industry stability.

Finally, intra- and inter-platform competition between companies offering cable and digital subscriber line (DSL) has fostered growth in high-speed data access market. Indeed, as of the end of 2002, Canada's business broadband penetration was second only to Korea among OECD nations, and 85 per cent of Canadians lived in communities with access to high-speed broadband service.¹⁷

The provision of local services in Canada offers no exception to the competitive successes found elsewhere in the Canadian telecommunications industry. The CRTC has taken particular pains to enhance entrants' prospects for success by mandating number portability, unbundled local loops, co-location, and interconnection, and by implementing other regulatory safeguards. In 1998, competitive facilities-based local exchange carriers began offering local services in Canada. By 2003, facilities-based competition from competitive local exchange carriers (CLECs) was particularly intense in urban business markets.¹⁸ Entrants such as FCI Broadband, Primus, and 360 Networks are competing aggressively with

Telus and Bell Canada. CLECs are not expected to make substantial inroads with respect to residential wireline service, in large part because the incumbent local exchange carriers' (ILECs) very low prices reflect their efficiency in providing such service. These prices are so low that entrants have difficulty in matching them.

Although industry experts anticipate that CLECs will have a somewhat limited role in the provision of residential telecommunications services, residential consumers are benefiting from growing platform competition. Canadian telecommunications consumers are demonstrating an increasing willingness to substitute wireless service for not only secondary, but also primary lines. Finally, cable operators have begun to offer telephone service in eastern Canada, and have achieved market shares of as high as 30 per cent in some local markets. Canada's high degree of cable penetration provides a solid base for the continued deployment of cable telephony.

The State of Foreign Investment in Canadian Telecommunications

Canada's current regulatory climate is producing desirable investment results in the telecommunications sector, despite an adverse global investing climate for the sector. Table 1 demonstrates that Canada increased its investment *per capita* at a time when investment declined in most other markets.

Table 1: Change in Telecommunications: Investment Per Capita, 2000-2001

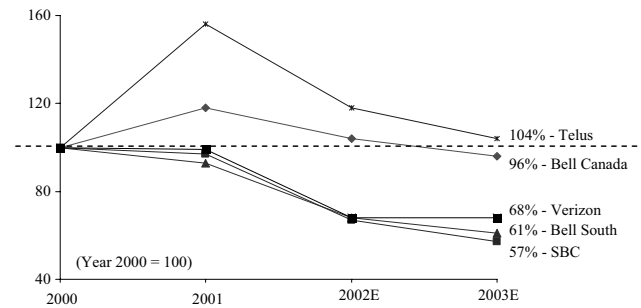
Country	Change in Investment Per Capita
Canada	22%
United Kingdom	0%
Australia	-14%
OECD Average	-16%
Germany	-17%
Japan	-21%
United States	-21%
Korea	-38%

Source: OECD, Draft Communications Outlook 2003, Chapter 4.

Similarly, Figure 1 demonstrates that, since 2000, the capital expenditures of the major U.S. incumbent local exchange carriers have declined substantially rela-

tive to the capital expenditures of the major Canadian carriers.

Figure 1: Capital Expenditure Index: Large Incumbents in the United States and Canada



Source: OECD, Draft Communications Outlook 2003, Chapter 4.

As Figure 1 shows, the capital expenditures of Telus and Bell Canada remained constant throughout the piercing of the telecommunications bubble, while investment by U.S. ILECs declined significantly.

The degree of foreign ownership of Canadian telecommunications carriers is relatively consistent across both incumbents and new entrants. Tables 2 and 3 depict the shares of foreign ownership in Canadian wireline and wireless operators, respectively.

Table 2: Shares of Foreign Ownership in Canadian Wireline Operators

	1998	1999	2000	2001	2002
BCE	10.5%	6.6%	14.2%	11.1%	14.1%
Bell Canada	10.5%	25.3%	31.4%	28.9%	14.1%
TELUS	26.7%	26.7%	30.1%	26.7%	
AT&T Canada*	33.3%	46.7%	46.7%	46.7%	
Call-Net	25.0%	25.0%	25.0%	25.0%	
GT Group Telecom	25.6%	25.6%	25.0%	25.0%	

Note: Bell Canada foreign ownership includes any direct stake in the operating company (for example, within the 20 per cent limit) plus any indirect stake held through BCE as a holding company. AT&T Canada has been reorganized as a Canadian company and renamed "Allstream". AT&T (the U.S. company) has sold all of its shares in the company.

Source: BCE Financial Reports, LYA International, Foreign Ownership of the Canadian Telecom Industry, 24 (2002).

Table 3: Shares of Foreign Ownership in Canadian Wireless Operators

	1998	1999	2000	2001	2002
Bell Mobility	10.5%	25.3%	31.4%	28.9%	14.1%
TELUS Mobility	26.7%	26.7%	30.1%	26.7%	
Rogers AT&T					
Wireless	0.0%	16.1%	31.0%	31.1%	
Cleartnet	37.5%	34.1%	26.7%	N/A	
Microcell	25.2%	26.4%	23.3%	26.4%	

Notes: Bell Canada foreign ownership includes any direct stake in the operating company (for example, within the 20 per cent limit) plus any indirect stake held through BCE as a holding company. Ownership shares are reported at the firm-wide level, so the shares of Bell Mobility are the same as those of BCE and those of TELUS Mobility are the same as TELUS.

Source: BCE Financial Reports, LYA International, Foreign Ownership of the Canadian Telecom Industry, 24 (2002).

Tables 2 and 3 demonstrate that Canadian entrants have been as successful as Canadian incumbents in attracting foreign investment. Because there is no noticeable discrepancy in the attractiveness of Canadian telecommunications carriers to foreign investors on the basis of incumbency, Canada should not impose asymmetric regulations on foreign ownership. In the next section, we demonstrate how similar attempts to skew the playing field in favour of entrants have failed in the United States.

III. The Failure of Asymmetric Regulation of Telecommunications in the United States

The recent experience of the United States illustrates the dangers of asymmetric regulation. Given its geographic proximity and similar socio-economic composition, the consequences of regulatory action in the United States are a good predictor for the consequences of similar regulatory action in Canada. The United States' failed foray into asymmetric telecommunications regulation highlights the wisdom of the Department of Industry's intention to pursue symmetric regulation and supplies a potent example of the potential damage to Canada's telecommunications sector from abandoning that course.

In the United States, the Federal Communications Commission (FCC) has tried repeatedly to inject competition into various sectors by establishing rules that apply only to a special class of competitors. In earlier years, for example, it barred the television networks from having "financial interests" in programming so as to promote the development of new, independent sources of programming. It also limited the number of hours of programming that the networks could offer during prime time to reduce network influence over viewer choices. Both initiatives were failures, redounding to the benefit

of motion-picture companies and low-budget game-show promoters.¹⁹

More recently, under the new 1996 *Telecommunications Act*, the FCC has provided CLECs with access to the incumbent carriers' networks at regulated wholesale rates. Facilities-based CLECs are not subject to the same unbundling provisions. The United States also imposes asymmetric rules on foreign investment in U.S. telecommunications companies, limiting foreign ownership of companies with wireless facilities to 25 per cent, but imposing no such restrictions on companies that only have wire-based facilities. In the wireless service industry, the FCC has provided small companies (classified as "designated entities") with bidding credits or special access to spectrum auctions — a policy that has resulted in billions of dollars of auction proceeds not being collected.

The U.S. broadband Internet access market provides a final example of asymmetric regulation by the FCC. Due to the nature of U.S. communications laws, the services of cable modem providers are exempt from the regulations that govern the provision of DSL service — despite the fact that cable modems account for about two-thirds of all U.S. broadband Internet access subscribers.²⁰

Asymmetric Rules for Local Exchange Carriers

The 1996 *Telecommunications Act* requires the FCC to stimulate competition in local exchange services by creating a privileged class of carriers, known as competitive local exchange carriers (CLECs), and to provide those carriers with preferential access to incumbents' facilities. In this section, we review the associated cost of this policy, especially with respect to the misallocation of resources by the CLECs and the investment community.

The Nature of the Asymmetry

The *Telecommunications Act* of 1996 directed the FCC to identify network facilities of ILECs that should be made available to entrants at regulated wholesale rates.²¹ The FCC liberally interpreted this mandate by ruling that virtually every element of the ILECs' networks — from loops to switches to collocation cages — be made available at forward-looking, long-run average incremental costs (LRAIC) to competitors.²² The scope of the unbundled network elements (UNEs) that the FCC deemed essential was later found by the courts to be excessive by any reasonable test.²³ According to the FCC, failure to obtain virtually any network element, even those supplied by other parties at competitive rates, would impair a CLEC's ability to compete effectively and therefore should be supplied by the incumbents at regulated rates. Moreover, because LRAIC rates are based on the costs that a perfectly efficient network would incur, the FCC determined that LRAIC rates should be

less than the actual historical costs of building and maintaining the ILECs' networks.

The FCC's unbundling rules have undergone periodic reviews and court reversals, but they remain in place.²⁴ These rules are asymmetric in the sense that facilities-based CLECs and cable telephony operators that offer services identical to those provided by a given ILEC are not subject to the same unbundling requirements. The reasoning behind this asymmetry is that the imposition of unbundling on facilities-based entrants would have the undesirable result of deterring an entrant from investing in its own network.

The intended beneficiaries of the unbundling regime were presumably consumers who, in theory, would pay rates for telecommunications services that approximated the average cost of providing those services. As it turns out, the beneficiaries of the plan were some CLEC investors. In particular, CLECs accepted the discounts and charged consumers prices that were just below the end-user price charged by the incumbents. With the most admirable intentions, the FCC created little more than an arbitrage opportunity for knowledgeable investors who enjoyed influence in Washington.

The Cost of the Asymmetry

Despite access to a larger capital market, new entrants in the United States have not created a market that is likely to be more competitive in the long term than that existing in Canada. Competition in local exchange services is settling into platform competition between incumbent carriers, cable companies that offer voice telephony, and wireless providers. Most of the entrants that relied on unbundling have failed. Only a handful of the new local carriers are likely to survive, particularly the facilities-based sellers of special access in large metropolitan areas. Two large long distance companies, AT&T and MCI-WorldCom, are also attempting to compete as resellers in this market.

The FCC's attempt to induce competition artificially by creating a wholesale market in network facilities with prices below actual costs has resulted in an enormous waste of resources. The subsidized access of new CLECs to their larger, incumbent rivals' facilities enhanced their access to capital in the United States from 1996 to 2001. The capital-spending boom is now widely acknowledged to have created excess capacity in data and voice transmission,²⁵ but the rise in investment spread far beyond fibre-optic transmission facilities. Capital spending by the new local carriers increased from virtually nothing to nearly \$20 billion in 2000 alone.²⁶

Unfortunately, these new entrants did not develop new services, and now the survivors are primarily subsisting by reselling incumbent services — that is, by offering the local service delivered by the incumbents through the so-called “UNE platform”. Very few of the survivors are likely to remain in the long term. The publicly-traded CLECs were once the repository of more

than \$80 billion in market capitalization and reported more than \$65 billion of spending on capital facilities between 1996 and 2001.²⁷ Now those CLECs have a scant \$4 billion in total market capitalization.²⁸ As was the case in the U.S. airlines and trucking industries two decades ago, a large number of new entrants have foundered on bad business plans and a disappointing market. The failure of the CLECs was magnified because of the subsidies that lured so many new carriers into the marketplace, a feature lacking in the earlier exercises of airline and trucking deregulation.

The FCC's unbundling rules discouraged CLECs from investing in their own facilities. A CLEC will forgo facilities-based investments so long as it has other opportunities that have higher net present value (NPV). Artificially low UNE prices induce CLECs to defer facilities-based investments because the NPV of UNE leasing is higher than the NPV of investing in on-net assets. In addition, because a CLEC can pick and choose from the incumbents' successful sunk investments, it pays for the CLEC to “wait and see” how well other investments in that sector have performed before committing itself to investing its own capital.²⁹

In a paper co-authored with Dr. Allan Ingraham, we found that the mis-pricing of UNE elements by the state public utility commission (at the FCC's direction) discouraged hundreds of millions of dollars from facilities-based investment.³⁰ By examining the variation in facilities-based investment in loops across U.S. states and across states over time, we found that an increase in the UNE loop rate increases CLEC facilities-based lines for any reasonable own-price elasticity of demand for CLEC service. We also found that facilities-based lines growth relative to UNE growth was faster in states where the cost of UNEs was higher relative to the cost of facilities-based investment. Hence, the best argument for maintaining the current unbundling regime — namely, that low UNE rates encourage CLECs to rent at first, and then build facilities once they have some market experience — is not supported by the data.

Because unbundling discouraged facilities-based investment and the CLECs who availed themselves of mis-priced UNEs did not leverage their customers into stand-alone networks, the FCC's attempt to “unlevel” the playing field has been a notable failure. Such a lack of success by the U.S. entrants should serve as a warning to Industry Canada that asymmetric regulation is unlikely to create an “ideal” number of competitors for Canada's telecommunications market. As of April 2003, two of Canada's five national network providers were reorganizing under bankruptcy protection and would emerge from such protection over the next few months. These bankruptcies suggest that Canada could suffer in the near future from some of the same problems of excess capacity that plague the United States. The economies of scale and scope in telecommunications push the industry towards a handful of suppliers, including cable

companies, telephone companies, and wireless providers. These companies compete vigorously with each other and will compete more vigorously in the future. Industry Canada should not induce a larger number of suppliers than the demand for telecommunications services is capable of sustaining. It is better to leave these fundamental choices to the market.

Asymmetric Rules for Foreign Carriers

Another form of asymmetric regulation in the United States involves the FCC's authority to deny (or revoke) a wireless license to a corporation with indirect foreign ownership exceeding 25 per cent³¹ if the FCC determines that such ownership is not in the public interest.³² This limitation on foreign investment imposes significant costs on the industry and on American consumers.

The Nature of the Asymmetry

Section 310(b) of the U.S. *Communications Act* of 1934 grants the FCC discretionary authority to limit foreign ownership of certain wireless communications licenses to 25 per cent.³³ The rules are asymmetric because carriers without radio-spectrum licenses, such as pure wireline carriers, are not subject to the foreign ownership restrictions.³⁴ Although the disparate treatment of wireline and wireless carriers may have been innocuous at one time, the divisions between those services are beginning to blur as consumers are increasingly substituting wireless telephones for landline connections.³⁵ As wireless and wireline carriers compete in an increasingly direct fashion, restrictions on wireless licensees will distort investment decisions of foreign investors across U.S. telecommunications carriers.³⁶

Another asymmetry arises from the fact that the FCC has interpreted the statutory language of section 310(b)(3) to mean that it has broad discretion in determining what is in the public interest.³⁷ In fulfilling that obligation, the FCC considers the following factors: "the extent of the foreign ownership or control of the corporation; the passive nature of the licensed facility; and whether the applicant was otherwise qualified".³⁸ If a foreign government has an ownership interest in the foreign investor, the acquiring firm must be reviewed under the international settlements policy (ISP) "to prevent whipsawing by a foreign monopoly carrier".³⁹ Finally, the FCC looks at the economic relationship between the United States and the foreign state.⁴⁰ If the country allows foreigners access to its market, the FCC is more likely to determine that the license transfer is in the public interest. The inclusion of these inherently subjective factors makes the regulation even more asymmetric in its application.

The Cost of the Asymmetry

The effect of these foreign restrictions in the United States is evident in the complex and expensive corporate

transactions needed to acquire capital, technical expertise, and technological upgrades from foreign investors. For example, Rupert Murdoch, the chairman of Fox Television Network, faced such great expense in complying with the strict limitations when building his network that he decided to become a U.S. citizen so as to reduce the regulatory burden.⁴¹ The funds expended on compliance with this regulation could have been directed to further upgrades in programming or the delivery of the product to U.S. consumers or both.⁴² A foreign investor who sought to build or acquire a wireline telecommunications network, by contrast, would not incur those legal and regulatory expenses. Hence, the asymmetry likely distorts investment decisions of foreign carriers between wireless and wireline acquisition targets.

The FCC's discretion in waiving the ownership restrictions creates additional costs by injecting uncertainty into investment decisions and driving away risk-averse investors. Moreover, the conditioning of U.S. licenses on tests of the "public interest, convenience and necessity" remains controversial in international trade negotiations.⁴³ The FCC has been able to delay granting licenses in response to political pressures, and has interpreted its powers broadly as a right to extract *ex ante* concessions from foreign applicants before granting licenses.

Asymmetric Rules for Carriers Bidding in Spectrum Auctions

The FCC has also attempted to induce competition in wireless services by creating a privileged class of carriers, known as designated entities (DEs). These entities have been given preferential treatment in spectrum auctions, a policy that has created confusion and led to a lengthy court battle. This policy has not improved wireless competition in the United States, but it has cost the U.S. Treasury billions of dollars of lost auction revenues.

The Nature of the Asymmetry

Congress instructed the FCC to seek ways to achieve diversity in the ownership of spectrum licenses.⁴⁴ With the best intentions, the FCC implemented several complex auction systems that were exploited by sophisticated companies in FCC Auction #5, which began in December 1995. First, the FCC set aside large swaths of spectrum for DEs — that is, for carriers believed to be too small to compete for this spectrum.⁴⁵ The FCC also provided the DEs with bidding credits in these auctions, which allowed them to purchase licenses at a fraction of the cost that non-DEs were willing to pay. Finally, the FCC offered generous financing plans to DEs that enabled them to defer payments on winning bids for up to 10 years.

Nextwave, a small company created for the purpose of bidding on the set-aside spectrum, was one of the first firms to take advantage of the FCC's new program.

Nextwave had a total of \$4.2 billion in winning bids at the conclusion of Auction #5.⁴⁶ Even though the winning bidders were allowed to defer their payments on this spectrum over 10 years (and such DEs were obligated to make only interest payments for the first six years),⁴⁷ Nextwave failed to make its scheduled payments on its licenses and entered bankruptcy. In response, the FCC reclaimed the licenses and re-auctioned them in 2000.

The FCC again reserved certain portions of the spectrum for “entrepreneurial” firms in a December 2000 re-auction of the Nextwave spectrum, Auction #35. In particular, the FCC prevented the participation of any firm in the set-aside portion of the auction that was “controlled” by a firm with assets in excess of \$500 million or annual revenues in excess of \$125 million. This control standard was intended once again to promote diversity among wireless carriers and to increase competition after the auction, while allowing small carriers to gain improved access to investment capital from larger telecommunications firms. Certain large carriers, however, evaded this control standard and gained access to the set-aside spectrum by creating companies that were (for all practical purposes) under their control.

For example, AT&T Wireless, a firm with assets of \$43.0 billion (86 times the FCC’s limit) and operating revenues of \$6.6 billion (53 times the FCC’s limit) in the summer before the auction began,⁴⁸ gained access to the closed auction through the creation of a company called “Alaska Native”.⁴⁹ According to Alaska Native’s bidding application filed at the FCC in November 2000, AT&T Wireless owned 38.2 per cent of the equity of Alaska Native plus debt that was convertible to another 41.2 per cent of the company’s equity.⁵⁰ Alaska Native was the dominant bidder in the set-aside auction. It won approximately 36 per cent of the set-aside licenses on a population-weighted basis, and approximately 50 per cent of the set-aside licenses on a value-weighted basis.⁵¹

Nextwave sued the FCC for violating the bankruptcy laws in response to the Commission’s re-auction of its spectrum, but the Supreme Court decided in January 2003 that the FCC did not have the authority to supersede the Bankruptcy Court in its role as creditor to Nextwave.⁵² As a result of the court challenge, the FCC was forced to negate its 2000 re-auction of the spectrum that Nextwave claimed. Thus, for more than six years (1996 through 2003), a significant share (30 MHz of 170 MHz of cellular and PCS licenses) of the total spectrum available to U.S. wireless carriers went unused in some geographic areas, and the U.S. Treasury was unable to collect Nextwave’s winning bids.

The Cost of the Asymmetry

The FCC’s asymmetric treatment of wireless carriers distorts investment decisions of both incumbent carriers and new entrants. Large wireless carriers that would otherwise have paid full price for spectrum have been

encouraged to disguise themselves as small firms to win valuable discounts. In a study of the price effects of the set-aside program in Auction #35, Professor Peter Cramton of the University of Maryland, Dr. Allan Ingraham, and one of the authors of this report found that, had Alaska Native pursued its objectives in the open auction, Alaska Native would have won fewer licenses and would have paid significantly more for those licenses that it won.⁵³ Hence, the FCC’s set-aside system potentially cost the government substantial revenues in the non-set-aside auction.

Although wireless consumers do not care about the financial might of their wireless operator, they do value the quality of service, range of wireless options, and price. If set-aside policies succeed in placing spectrum in the hands of small, inexperienced owners, such as Nextwave, they do little to contribute to the quality of wireless service, which can only be efficiently offered by large national carriers. Eventually, the winning bidders in a “set-aside” auction must either sell their spectrum to these experienced national carriers or contract with the national carriers to provide the wireless service.⁵⁴ In the case of Nextwave, however, the asymmetric bidding policy not only failed to achieve its stated objectives, but also deprived consumers of the competition that would have resulted from the productive use of the spectrum that Nextwave obtained in the auction.

Asymmetric Rules for Broadband Service Providers

U.S. regulatory policy has also created an unlevel playing field in the broadband Internet access market. Despite the fact that cable modem providers account for three-quarters of all residential broadband customers in the United States, the FCC continues to regulate DSL providers as if they were dominant carriers under the *Telecommunications Act*.

The Nature of the Asymmetry

The United States regulates DSL services provided by incumbent telephone carriers under the provisions of the 1996 *Telecommunications Act* that govern unbundling and interconnection. Cable modem services, on the other hand, are subject to considerably less regulation because they were developed by companies that are regulated under different provisions of the U.S. *Communications Act*.⁵⁵ The regulations imposed upon incumbent telephone companies have restricted their ability to compete in the broadband market with the unregulated cable companies.⁵⁶

The FCC’s treatment of the Regional Bell Companies (RBOCs), the major providers of DSL service, is discriminatory in a number of ways. First, the RBOCs have been excluded from the core backbone market until recently due to the line-of-business restrictions in the 1982 AT&T antitrust decree and similar restrictions

that were carried over into the 1996 *Telecommunications Act*.⁵⁷ Second, the RBOCs are not permitted to manufacture equipment used on customer premises.⁵⁸ Therefore, unlike cable providers such as AT&T (now Comcast), the RBOCs cannot collaborate with equipment vendors. Third, the *Telecommunications Act* requires RBOCs to unbundle their network facilities⁵⁹ at rates that have so far been based on the forward-looking costs of providing them.⁶⁰ Furthermore, the FCC has extended unbundling requirements to high-speed Internet services and has compelled the RBOCs to unbundle the “spectrum” within existing local loops — a regulation that is now being vacated. Fifth, until recently, RBOCs were barred from providing interLATA (local access and transport area) services,⁶¹ which prevented them from creating “regional centered points of presence that would allow them to take advantage of economies of scale in data service.”⁶²

These diverse forms of regulation of the RBOCs do not apply to cable providers’ offerings of cable modem service. As a result of this asymmetry, competition between incumbent telephone providers and cable companies in the broadband Internet access market is not as effective as it could otherwise be.

The Cost of the Asymmetry

As of June 2003, the RBOCs’ share of the residential and small business broadband Internet access market was roughly 30 per cent — slightly more than half of AT&T’s share of the U.S. interstate long distance market when the FCC declared AT&T to be non-dominant.⁶³ Incumbent telephone companies, by contrast, are still unable to reach as many subscribers with DSL as cable companies can reach with cable modem services. This imbalance is not surprising. Because cable companies do not have to provide entrants with access to their facilities, they have a much stronger incentive to invest in the system upgrades needed to deliver broadband service. The incumbent telephone companies have been much less willing to invest the necessary capital to extend fibre and electronics out into their networks so that they can provide DSL service. Their reluctance is understandable given the asymmetric regulatory requirements that they share much of these improved facilities with rivals at cost-based rates.

DSL providers would be able to compete more effectively against cable modem providers if the FCC were to free the RBOCs from the requirement to lease their new broadband facilities to competitors at regulated, cost-based rates. The beneficiaries of such a move would be consumers, who would likely experience lower prices for broadband connections. Moreover, consumers who are not yet able to receive DSL service would experience greater choice if RBOCs were assured that their incremental investment to upgrade the copper loops in these areas would not be appropriated by rivals.

IV. Economic Considerations in the Canadian Foreign Ownership Debate

The asymmetric rules designed by U.S. regulators to encourage investment by new local entrants have resulted in a large amount of wasteful investment. Although these asymmetric rules helped to increase the annual growth rate in capital spending between 1995 and 2001 from five per cent per year to 20 per cent per year, capital spending has since collapsed to less than its 1995 level. Competition in telecommunications is settling into platform competition among incumbent carriers, perhaps one or two “long distance” companies, cable companies, wireless providers, and satellite companies.

The lessons from two other examples of asymmetric regulation in the United States are also relevant to the issues raised by Industry Canada. In particular, the U.S. experience with broadband regulation and foreign ownership restrictions on wireless carriers suggests that there is a very real danger that Industry Canada’s two proposals, tiering and licensing, will provide disincentives for investment in Canadian infrastructure.

A Tiering Approach for Foreign Investment Restrictions

Establishing “tiers” of Canadian carriers eligible to attract foreign capital would not be in the public interest. If we assume that foreign-capital restrictions raise the relative cost of capital for Canadian carriers, imposing such restrictions on incumbents would decrease their incentive to invest in network upgrades or new services. This asymmetry would tilt the market towards the carriers eligible for foreign capital infusions even if those carriers were less efficient or less able to invest and develop new services and facilities. In addition, such restrictions might cause difficulty for Canada under its trade agreements with other countries.

Tiering Would Reduce the Incentives of Incumbent Carriers to Invest in Network Upgrades or New Services

We begin by assuming that allowing all Canadian carriers unfettered access to foreign capital would reduce their cost of capital. If this assumption were not true, there would appear to be little reason to address the foreign-capital restriction at this time. Any attempt to allow a favoured class of Canadian carriers access to foreign capital while denying the incumbents comparable access would result in diminished investment incentives for the incumbents. Denying incumbents access to foreign capital would raise their cost of capital *relative* to that of their rivals. This discrepancy in the cost of capital would place incumbent carriers at a competitive disad-

vantage *vis-à-vis* entrants. The lower cost of capital would allow entrants to take greater risks on new technologies and would enable them to price their services at lower costs. In an integrated global economy, the supply of capital for telecommunications is likely to be relatively elastic.⁶⁴ It is not surprising, therefore, that the imposition of barriers to foreign ownership by other nations has resulted in large reductions in foreign investment.⁶⁵ If shareholders perceived that the restricted companies were at a competitive disadvantage, tiering could lower the restricted companies share prices, and therefore, actually increase their cost of capital.

Tiering Could Aggravate the Problem of Excess Capacity

Another problem with tiering is that it would distort the investment decisions of foreign carriers looking to invest in Canada. Foreign investment that would otherwise go to an incumbent would now be steered to an entrant. This additional investment could lead to wasteful infrastructure investments, as occurred in the United States in the late 1990s. If excessive new capacity were built, as in the United States, the value of existing networks would decline. To fill excess capacity from the telecommunications networks, carriers would be forced to cut prices, precipitating exit from the industry.

For an historical analogy, Industry Canada should consider the period of 2000–2002 in the U.S. telecommunications industry. After recognizing the extent of excess capacity in long distance networks, created in part by the easy access to capital for fibre-optic networks and the asymmetrical ban of RBOC participation in this market, the market value of these long-distance carriers declined severely. Broadwing, Global Crossing, ICG, Level 3, McLeod, Touch America, WorldCom, XO Communications and several other notable long distance, fibre-optic network operators greatly scaled back their operations or filed for Chapter 11 bankruptcy during this period.

As we discussed in an earlier section, asymmetric rules designed to encourage investment by U.S. CLECs also contributed to the inefficient investment of roughly \$40 billion between 1996 and 2001.⁶⁶ Between 1987 and 1996, nominal and real (inflation-adjusted) capital spending by telecommunications carriers increased at average rates of 4.8 and 4.5 per cent per year, respectively. After the asymmetric rules were imposed, the growth rate over the next four years soared to more than 20 per cent annually. The asymmetric rules in the United States helped to accelerate capital spending by roughly 15 per cent by encouraging the entry of scores of new entrants, many of which lacked sound business plans. Were a similar acceleration to occur in Canada with the same results, \$1.155 billion per year (equal to 15 per cent of the \$7.7 billion in capital spending in 2001) could be wasted.⁶⁷ There is no reason to believe that Canadian entrants would use their favourable status any more effi-

ciently than U.S. firms have used the FCC's favourable rules.

Objective Measures To Establish Restricted Companies is Difficult

Assuming that Industry Canada were to pursue asymmetric regulations, it would be very difficult to provide an objective standard for determining which carriers should be relieved of foreign ownership restrictions and which ones should remain subject to them. The criteria for restricting investment in a company could be based on objective measures, such as financial benchmarks or market share, or purely subjective factors.

The investment criteria could be based on the type of platform, as is the case in the United States where wireline carriers are not subject to the foreign capital restriction imposed on wireless carriers. However, as alternative platforms are increasingly competing in the same product market — namely, voice and data services — it is not reasonable to give an artificial advantage to one platform over another.

Finally, large Canadian carriers might create separate subsidiaries to perform research and product development or to offer new services. Would these subsidiaries be eligible for foreign capital infusions? If the subsidiaries were considered to be under the control of the restricted carrier, then these firms might move all research and product development activities outside of Canada where the restrictions would not apply. To understand how far a carrier might go to avoid these rules (or game the system), Industry Canada should review the U.S. experiment in creating designated entities for wireless services.⁶⁸

Tiering Would Not Add to the Competitive Process

As discussed above, there is a trend in U.S. telecommunications toward platform competition between incumbent carriers, perhaps one or two “long distance” companies, cable companies, wireless providers, and satellite companies. A small number of new facilities-based local carriers add marginally to this competition. Entry promotes consumers' welfare only to the extent that new carriers can discipline the incumbents' prices, stimulate the incumbents to upgrade their offerings, or provide new and innovative services themselves. In the United States, the new carriers have not been successful in any of these respects. To the extent that incumbents are lowering prices (DSL prices are falling) and offering new services (3G wireless services), it would appear that they are reacting to the competitive offerings of facilities-based wireline carriers and other operators using alternative platforms, rather than to the derivative offerings of small, financially-troubled entrants. Moreover, those entrants have not been successful in introducing new services.

A Licensing Approach for Foreign Investment Restrictions

Industry Canada is also considering whether foreign investment restrictions should be replaced with a licensing approach. Currently, only providers of international telecommunications services are licensed. Under the new approach, there would be no ownership restrictions, but mergers and acquisitions would be examined on a case-by-case basis.

A licensing regime would risk creating new uncertainty for operators by subjecting them to new or changed conditions at the discretion of the regulator. In addition, the creation of new public policy burdens could reduce access to capital and increase the cost of capital for the whole industry. For example, a new licensing condition might require a head office in Canada, the investment of a certain amount each year in rural broadband deployment, or other service requirements. As such, it could have a chilling effect on investment in the industry that would outweigh any benefits associated with the liberalization of the current ownership rules. Moreover, a licensing approach would inject a political element into the investment calculus that might further retard foreign investment.

Licensing Would Reduce Foreign Investment

The uncertainty created by a more discretionary administrative process could have a negative impact on capital investment from both Canadian and foreign sources. In particular, foreign investors would likely be less willing to invest in an environment in which the conditions for obtaining licenses is discretionary and therefore subject to political considerations.⁶⁹ For most international carriers, the size of the U.S. telecommunications market makes it sufficiently attractive to overcome regulatory impediments. Given Canada's much smaller market and the global competition for investment, foreign investors are less likely to look to Canada if they believe there is any possibility their investment will be subject to delay or special conditions as a result of a licensing regime.

Licensing Would Subject Foreign Carriers to Political Pressures

A licensing regime essentially constitutes a case-by-case evaluation of each entity and its foreign investment transactions. Such a process inefficiently imposes compliance costs on carriers and introduces the possibility of an asymmetric application of rules from one company to another over time. The potential for such a process to be overly politicized would be significant, particularly if larger Canadian companies were involved in transactions. There is a strong possibility that the overall licensing and approval process would be highly subjective and opaque, which would ultimately damage the overall investment climate for Canadian telecommunications.⁷⁰

Asymmetric Regulation of Foreign Investment in Australia and Korea

Asymmetric regulation of foreign investment has proven to be ineffective in Australia and Korea. In Australia, the government maintains a 35 per cent foreign ownership limitation in Telstra, the incumbent provider, but it allows foreign ownership of 100 per cent in other facilities-based carriers.⁷¹ In 1997, the Korean government maintained a 20 per cent foreign ownership limitation for Korean Telecom (KT), the incumbent provider, but raised the foreign ownership limit to 33 per cent for other facilities-based carriers.⁷² In 1998, the Korean government raised the foreign ownership for KT to 33 per cent,⁷³ thus ending the asymmetry for a short period of time until July 1999, when the government relaxed the foreign ownership restrictions on other facilities-based carriers to 49 per cent.⁷⁴ Finally, in August 2002, the government raised the limit for KT to 49 per cent, eliminating the asymmetry once again.⁷⁵

Financial data suggest that the asymmetric regulation of foreign ownership in Korea harmed shareholders of the incumbent carrier. When KT announced its campaign to raise the foreign ownership ceiling to 49 per cent, its share price increased 10 per cent.⁷⁶ Analysts stated that KT's valuation had suffered because of the imbalance between supply and demand of foreign capital.⁷⁷ They reasoned that with the foreign ownership ceiling raised, potential demand from foreign investors would increase KT's share price.⁷⁸

Extending asymmetric regulatory advantages to a particular class of competitors is not likely to alter the long-term equilibrium market structure if these companies are not viable for a variety of economic reasons. A few large players dominate the telecommunications market in Australia and Korea — despite the favourable investment treatment bestowed on non-incumbent carriers.⁷⁹ In Australia, there are two large wireline providers (Telstra and Optus) and three major wireless providers (Telstra, Optus, and Vodafone). Competition has developed slowly in the local services market; Telstra controls 95 per cent of the local fixed services market. Furthermore, Australia's broadband penetration rate of 1.5 per cent trails most industrialized nations.⁸⁰

In Korea, the story is much the same. There are four large wireline providers (Korean Telecom, Hanaro, Dacom, and Onse) and three wireless providers (KT FreeTel, SK Telecom, and LG Telecom).⁸¹ Although Korea is among the world's leaders in broadband penetration (an accomplishment not owing to any foreign ownership policy), Korean Telecom still controls 95 per cent of the local fixed service market.

The factors that influence long run market structure — economies of scale and scope, demographics, and market technologies — are likely to be much more important than differential access to foreign capital in relatively large, wealthy countries. The persistent failure

of policies in other countries that target certain classes of competitors should serve as a warning to Canada as it contemplates making foreign capital available only to new entrants. Despite attempts to encourage competition through tiering, the market structure of telecommunications in Australia and Korea has not changed significantly since asymmetric regulation was imposed.

V. Conclusion

By conferring an advantage on one carrier over another, a regulator believes that it can direct resources to more efficient deployment than can the free market. Even in the rare case of market failure or a perceived lack of competition (which has not been established in Canada's case), asymmetric regulation intended to confer an advantage on a privileged class of carriers is likely to do more harm than good. Skewing the regulatory environment distorts the carriers' choices — rather than maximizing their private interests, the carriers

choose the politically desirable path and often fail to satisfy either objective. Moreover, carriers waste vast resources to convince the regulator that they are in fact complying with its objectives.

Industry Canada should not attempt to bestow preferential treatment on particular firms or particular platforms. Wireless systems should not be promoted over satellite delivery. Cable telephony should not be promoted over fibre or copper delivery. Small wireline competitors should not be given capital-cost advantages over their larger rivals. Giving one platform technology or one set of firms an artificial advantage is likely to distort the allocation of market resources if it succeeds, and to be even more wasteful of society's scarce resources if it does not. In either case, the result is adverse to the interests of Canadian consumers. Unless there is strong evidence of market failure, Industry Canada should trust the market's choices. If Industry Canada has any reservations about exercising such restraint, it can simply look to the failed experiences of its neighbour to the south.

Notes:

¹ Hearings before the Standing Committee on Industry, Science and Technology of the House of Commons of Canada Pursuant to Standing Order 108(2), Consideration of Foreign Investment Restrictions Applicable to Telecommunications Common Carriers (20 February 2003) online: National Summit on Innovation and Learning <http://www.innovationstrategy.gc.ca/cmb/innovation.nsf/MenuE/Invest04> [hereinafter Industry Canada Questions].

² In Question 7, Industry Canada asks: "should Canada adopt the approach of other countries by placing restrictions only on the existing traditional telecommunications service providers?" and in Question 8, Industry Canada asks whether the restrictions would apply to all incumbents or only large incumbents. *Ibid.*

³ *Ibid.* In Question 11, Industry Canada suggests that "the government could review all applications for license transfers and ensure the continued Canadian ownership and control of 'major' companies in the context of merger and acquisition proposals".

⁴ Thomas Kiessling and Yves Blondeel, "The Impact of Regulation on Facility-based Competition in Telecommunications: A Comparative Analysis of Recent Developments in North America and the European Union" (1999) 1 *Info* 435.

⁵ See Yuntsai Chou and Kung-Chung Liu, "The Paradoxical Impact of Asymmetric Regulation in Taiwan's Telecommunications Industry: Restrictions and Rent-seeking" (2000) online: SSRN Working Paper Series http://papers.ssrn.com/paper.cfm?abstract_id=261127.

⁶ See, e.g., Johannes M. Bauer and Michelle F. Wilsey, "National and Supranational Regulation of Cybernetworks and Telecommunications Carriers" (Presentation at the CyberComm III Conference, New York, 1996) [unpublished].

⁷ Woo-Sik Moon and Yeong-Seop Rhee, "Foreign Exchange Market Liberalization Policies in Korea: Past Assessment and Future Options" (2000) 7 *J. Int. & Area. Stud.* 59 at 66.

⁸ Carsten Fink, Aaditya Mattoo and Randeep Rathindran, "Liberalizing Basic Telecommunications: The Asian Experience" (2001) World Bank Policy Research Working Paper #2718 at 9.

⁹ Industry Canada specifically asks in Question 8 if "the U.S. approach of licensing [should] be applied in Canada". See Industry Canada Questions, *supra* note 1.

¹⁰ Foreign firms or investors may directly own 20 per cent of a facilities-based carrier. Foreign firms or investors may also own 33.3 per cent of a holding company of which the carrier is a subsidiary. Thus, foreigners can own 20 per cent directly and 26.7 per cent indirectly (33.3 per cent of holding company × 80 per cent not directly owned) for a total owner-

ship interest of 46.7 per cent. *Telecommunications Act* §16(3) (25 October 1993) (articulating the 20 per cent direct ownership limitation); Canadian Telecommunications Common Carrier Ownership and Control Regulations (1994) (articulating the 33.3 per cent holding company limitation).

¹¹ Letter from Allan Rock, Ministry of Industry, to Walt Lastewka, M.P., Chair of the Standing Committee on Industry, Science and Technology (2003) online: Industry Canada <http://www.ic.gc.ca/cmb/welcomeic.nsf/0/85256a5d006b972085256dac00616a22?OpenDocument>.

¹² *Ibid.*

¹³ The Heritage Committee opposed the Industry Group's suggested removal of ownership restrictions, counselling instead that the continuation of existing foreign ownership limits at their current levels. Thus, despite its difference of opinion, the views of the Heritage Committee do not differ from the Industry Group's with regard to the *symmetry* of foreign ownership regulations.

¹⁴ OECD, Regulatory Reform in Canada: From Transition to New Regulation Challenges, Regulatory Reform in the Telecommunications Industry, 6 (2002).

¹⁵ *Ibid.*

¹⁶ *Ibid.* at 17.

¹⁷ CRTC, Report to the Governor in Council: Status of Competition in Canadian Telecommunications Markets — Deployment/Accessibility of Advanced Telecommunications Infrastructure and Services, 78 (2002); OECD, Broadband Access for Business, Tables 2A & 2B (OECD Working Party on Telecommunication and Information Services Policies, 2002).

¹⁸ Entrants now account for about 10 per cent of business lines in Canada. The most recent statistics published by the CRTC (for 2001) show that competitors accounted for 8.6 per cent of business lines. This share has undoubtedly increased in the last two years. The relevant data can be downloaded at http://www.crtc.gc.ca/ENG/publications/reports/telecom_summary.htm.

¹⁹ There are numerous analyses of these rules. Virtually all conclude that they were a dismal failure. See U.S. Federal Communications Commission, Network Inquiry Special Staff, "New Television Networks: Entry, Jurisdiction, Ownership, and Regulation" (1990); Franklin M. Fisher, "The Financial Interest and Syndication Rules in Network Television: Regulatory Fantasy and Reality" in Franklin M. Fisher, ed., *Antitrust and Regulation: Essays in Memory of John J. McGowan* (Cambridge: MIT Press, 1985) 263-298; Robert W. Crandall, "The Failure of Structural Remedies in Sherman Act Monopolization Cases" (2001) 80 *Oregon L. J.* 109.

- ²⁰ For a detailed review of the nature of asymmetric in U.S. broadband regulation, see Robert W. Crandall, J. Gregory Sidak, and Hal J. Singer, "The Empirical Case Against Asymmetric Regulation of Broadband Internet Access" (2002) 17 Berkeley Tech. L. J. 953.
- ²¹ *Telecommunications Act of 1996*, 47 U.S.C. § 251(c)(3) (stating that "[a]n incumbent local exchange carrier shall provide such unbundled network elements in a manner that allows requesting carriers to combine such elements in order to provide such telecommunications service").
- ²² Implementation of the Local Competition Provisions of the *Telecommunications Act of 1996*, Third Report and Order (released 5 November 1999) para. 285.
- ²³ *United States Telecom Association, et al. v. FCC*, (2002) 290 F.3d 415 (D.C. Cir.).
- ²⁴ See Review of the section 251 Unbundling Obligations of Incumbent Local Exchange Carriers, Report and Order and Further Notice of Proposed Rulemaking, CC Dkt. No. 01-338 (20 February 2003).
- ²⁵ See, e.g., "Drowning in glass: The fibre-optic glut: Can you have too much of a good thing? The history of technology says not, but that was before the fibre-optic bubble", *Economist* (24 March 2001) 1.
- ²⁶ It is unclear how much of this reported capital spending was devoted to productive capacity. Much of it may have been spent on office facilities, collocation cages, marketing-related equipment, etc. For a discussion of this issue, see Larry F. Darby, Jeffrey A. Eisenach and Joseph S. Kraemer, "The CLEC Experiment: Anatomy of a Meltdown, Progress and Freedom Foundation" (September 2002) at 10 *et seq.*
- ²⁷ Information on capital spending by the CLECs may be found in the ALTS Annual Report, "The State of Local Competition 2002", online: ALTS <http://www.altis.org/resources.html>.
- ²⁸ *Ibid.*
- ²⁹ For an application of real options analysis to telecommunications investment, see *The New Investment of Real Options and Its Implications for Telecommunications Economics*, eds. James Alleman & Eli Noam (Norwell, MA: Kluwer, 1999); Jerry A. Hausman and J. Gregory Sidak, "A Consumer-Welfare Approach to the Mandatory Unbundling of Telecommunications Networks" (1999) 109 Yale L.J. 417.
- ³⁰ Robert W. Crandall, Allan T. Ingraham and Hal J. Singer, *Do Unbundling Policies Discourage Facilities-Based Investment by CLECs*, Criterion Working Paper (December 2003).
- ³¹ An investor has an indirect interest in a licensed corporation if the investor holds stock in a holding company that owns shares in the licensed corporation. See J. Gregory Sidak, *Foreign Investment in American Telecommunications* (Chicago: The University of Chicago Press, 1997) at 139 ("How should the FCC measure the extent of a foreigner's interest when he holds, say, a 10 percent interest in a corporation with a 20 percent interest in a radio license? ... [T]he FCC concludes that the foreigner holds 10 percent of the 20 percent interest — giving it only a 2 percent interest in the licensee. ... The FCC employs that simple calculation, known as the 'multiplier', in seeking to measure a foreigner's interest in a license when the foreigner holds stock in an intervening corporation rather than in the license directly.").
- ³² 47 U.S.C. § 310(b) ("No ... license shall be granted to or held by — (4) any corporation directly or indirectly controlled by any other corporation of which more than one-fourth of the capital stock is owned of record or voted by aliens ... if the Commission finds that the public interest will be served by the refusal or revocation of such license").
- ³³ *Ibid.* 47 U.S.C. § 310(b). The statute states: "No broadcast or common carrier or aeronautical en route or aeronautical fixed radio station license shall be granted to or held by any corporation directly or indirectly controlled by any other corporation of which more than one-fourth of the capital stock is owned of record or voted by aliens, their representatives, or by a foreign government or representative thereof, or by any corporation organized under the laws of a foreign country, if the Commission finds that the public interest will be served by the refusal or revocation of such license".
- ³⁴ *Ibid.* at 82 ("the foreign ownership restrictions do not extend to communications by wire. ... As a practical matter, however, wireline telephone companies almost always employ some radio links that implicate section 310(b)"). To purchase a pure wireline carrier, the foreigner would still need to receive FCC authorization under section 214 of the *Communications Act*.
- ³⁵ See, e.g., L. Mutschler, *et al.*, Merrill Lynch Capital Markets, "Wireless Service: Landline Substitution Becoming More Meaningful — Industry Report" (22 April 2002) Investext Rpt. No. 8491558 at 2; Federal Communications Commission, Annual Report and Analysis of Competitive Market Conditions With Respect to Commercial Mobile Services (2002) at 12, Table 9; Shawn Young, "More Callers Cut Off Second Phone Lines for Cellphones, Cable Modems" Wall St. J. (15 November 2001) B1.
- ³⁶ For a review of how the FCC interpreted its discretion in the Deutsche Telekom-VoiceStream merger, see J. Gregory Sidak, "Acquisitions by Partially Privatized Firms: The Case of Deutsche Telekom and VoiceStream" (2001) 54 Fed. Comm. L. J. 1.
- ³⁷ Sidak, *supra* note 31 at 130.
- ³⁸ Federal Communications Commission, *In the Matter of Regulatory Policies and International Telecommunications* (1987) CC Dkt. No. 86-494 at para. 73.
- ³⁹ "In the Matter of 1998 Biennial Regulatory Review Reform of the International Settlements Policy and Associated Filing Requirements" (1999) 14 F.C.C. Rec. 7963 at 7973, paras. 21, 22 ("the Commission adopted the ISP and related filing requirements to prevent whipsawing by a foreign monopoly carrier. Where the carrier in the foreign market lacks market power, however, its ability to whipsaw U.S. carriers is substantially diminished, if not eliminated").
- ⁴⁰ Sidak, *supra* note 31 at 186 ("the FCC would determine whether effective competitive opportunities exist for U.S. carriers in the destination markets of a foreign carrier seeking to enter the U.S. international services market either directly or through affiliation with an existing U.S. carrier").
- ⁴¹ Vincent M. Paladini, "Foreign Ownership Restrictions Under Section 310(B) of the *Telecommunications Act of 1996*" (1996) 14 Boston U. Intl. L. J. 341 at 371.
- ⁴² *Ibid.*
- ⁴³ See Susan Polyakova, "Foreign Carriers Said to Face Barriers in U.S. Market" Communications Daily (21 November 2002); "Final Fox and NAACP Arguments Address Foreign Ownership Candor" Comm. Daily (10 March 1995).
- ⁴⁴ 47 U.S.C. § 309(i)(3)(A).
- ⁴⁵ Initially, these designated entities were to include minorities and women, but the federal courts decided that such set-asides were unconstitutional.
- ⁴⁶ Online: FCC Web site <http://wireless.fcc.gov/auctions/05/charts/5hbidder.gif>.
- ⁴⁷ Federal Communications Commission, Implementation of section 309(j) of the *Communications Act*, Competitive Bidding, Sixth Report and Order (July 1995) PP Dkt. No. 93-253.
- ⁴⁸ AT&T Wireless Services Inc., S.E.C. Form 10-Q (filed 14 August 2001) at 4.
- ⁴⁹ Salmon PCS, LLC, a bidding front set up by Cingular Wireless, also bid in Auction 35. However, Salmon focused its bidding on the open segment of the auction, whereas Alaska Native bid mostly in the closed auction. In particular, Alaska Native spent \$2.7 billion for 29 of the closed licenses, and spent only \$201 million for 15 open licenses. Salmon won 35 closed licenses and paid \$674 million for those licenses, while winning 44 open licenses worth \$1.7 billion. Because Alaska Native spent 4 times as much for closed spectrum than did Salmon, we focus our analysis on the impact of Alaska Native's bidding.
- ⁵⁰ Alaska Native Wireless L.L.C., F.C.C. Form 175 Application, Applicant Identity and Ownership Information (filed 6 November 2000) at 4 (AT&T Wireless PCS Interests "holds 39.9 percent of all member interests in ANW. Under section 1.2110(c)(2)(ii)(A) of the Commission's Rules, therefore, AWPI would be considered to hold not more than 80 percent of all member interests on a fully-diluted basis ...").
- ⁵¹ Auction results are available for download from the FCC at <http://www.fcc.gov/wtb/auctions/35/charts/35markets.xls>.
- ⁵² *Fed. Comm. Comm'n v. Nextwave Personal Comm., Inc.* (2003), 537 U.S. (No. 01-653).
- ⁵³ Peter Cramton, Allan T. Ingraham & Hal J. Singer, "The Impact of Incumbent Bidding in Set-Aside Auctions: An Analysis of Prices in the Closed and Open Segments of FCC Auction 35" (October 2002) online: Criterion Economics Working Paper http://www.criterioneconomics.com/documents/cramton_ingraham_singer_incumbent_bidding.pdf.
- ⁵⁴ Nextwave has begun to sell its licenses to established carriers, such as Cingular.
- ⁵⁵ 47 U.S.C. §§ 4(i), 628.
- ⁵⁶ Recently, however, the FCC has declared cable modem service to be an "interstate information service", and therefore subject to the FCC's jurisdiction, but the federal appeals courts have overruled it, leaving the entire issue in doubt. The FCC is now contemplating the appropriate regulatory

approach to all wireline broadband services, including DSL. See Federal Communications Commission, Notice of Inquiry, In the Matter of Inquiry Concerning High-Speed Access to the Internet over Cable and Other Facilities (28 September 2000) GN Dkt. No. 00-185; Declaratory Ruling and Notice of Proposed Rulemaking (15 March 2002) GN Dkt. No. 00-185.

- ⁵⁷ 47 U.S.C. §271. This section prevents RBOCs from providing interLATA (long distance) telephone service until the FCC has determined that they have opened up their facilities to local competitors. As of 31 January 2003, 74.1 per cent of access lines addressable by BOC In-Region interLATA service, online: FCC http://ftp.fcc.gov/Bureaus/Common_Carrier/in-region_applications.
- ⁵⁸ 47 U.S.C. §273(a).
- ⁵⁹ *Ibid.* at §251(c)(3).
- ⁶⁰ *Ibid.* at §252(d)(1)(A)(i).
- ⁶¹ *Ibid.* at §271(a).
- ⁶² Strategis Group, High Speed Internet 1998-1999 (December 1998) at 201.
- ⁶³ Federal Communications Commission, *High Speed Services for Internet Access: Status as of 30 June 2003* (December 2003) Tables 3 and 5, online: FCC <http://www.fcc.gov/wcb/iatd/comp.html>.
- ⁶⁴ See Deepak Lal, "Taxation and Regulation as Barriers to International Investment Flows" (1999) 9 *Des Economistes et des Etudes Humaines* 3, online: University of California, Los Angeles <http://www.econ.ucla.edu/workingpapers/wp785.pdf>.
- ⁶⁵ See, e.g., The World Bank, "Privatization, Foreign Direct Investment and Export Performance: Evidence from Transition Economies" (1999) online: World Bank http://www1.worldbank.org/wbiiep/trade/papers/Kaminski-Premnote_1.pdf. The World Bank asks why Hungary has been more successful than other transition economies (particularly Slovenia, which erected legal barriers to foreign ownership, and the Czech Republic) in attracting FDI and notes the following: "the share of foreign-owned firms in Hungarian exports increased from 37% in 1992 to almost 80% in 1997. Over the same period the value of exports more than doubled, hence the growth came mainly, if not only from firms with foreign capital." *Ibid.* at 5. See also George Norman, "Foreign Direct Investment and International Trade: A Review" (June 1988) Tufts Discussion Paper 98-10, at 1 (finding that foreign direct investment is negatively affected by barriers to foreign ownership); Steven Globerman, "Trade, FDI, and Regional Economic Integration: Cases of North America and Europe" (Transcript of presentation at the Conference on Enhancing Investment Cooperation in Northeast Asia, Honolulu, HI, August 2002) at 5 (asserting that the "direct linkage between FDI and liberalization of restrictions on foreign ownership is obvious").
- ⁶⁶ Information on capital spending by the CLECs may be found in the ALTS Annual Report, *The State of Local Competition 2002*, online: ALTS <http://www.alt.s.org/resources.html>.
- ⁶⁷ "Telecommunications Statistics: Fourth Quarter 2001" *The [Statistics Canada] Daily* (15 April 2002), online: Statistics Canada <http://www.statcan.ca/Daily/English/020415/d020415b.htm>. The comparable statistics for 2002 have yet to be verified.
- ⁶⁸ See section III.
- ⁶⁹ Indeed, a recent study of developing countries found that higher administrative costs tend to be positively correlated with corruption in administrative governance. See Jacques Morisset and Olivier Lumenga Neso, "Administrative Barriers to Foreign Investment in Developing Countries" (2002) World Bank Policy Research Working Paper #2848. Shang-Jin Wei has found that red tape and corruption have a significant negative effect on a country's ability to attract foreign direct investment. Shang-Jin Wei, "Can China and India Double Their Inward Foreign Direct Investment?" (Presentation at the Conference on Reforms, National Bureau of Economic Research and National Council of Applied Economic Research, Rajasthan, India, December 1999).
- ⁷⁰ For a similar review of licensing, see Gartner Group, *Canada Revisits Foreign Telco Ownership Rules* (13 December 2002).
- ⁷¹ Organization for Economic Coordination & Development, *Communications Outlook 2003* (Paris: OECD Press, April 2003) at 7 [hereinafter OECD 2003 Study].
- ⁷² "Korea: Government Raises Foreign Ownership Ceiling" *Telenews Asia* (26 February 1997) at 1.
- ⁷³ "Foreign Ownership Limit in KT to Widen to 33 Pct" *Korea Times* (16 October 1998) at 1.
- ⁷⁴ "S. Korea to Hike Foreign Ownership for Telecom Operators" *Asia Pulse* (16 April 1999) at 1.
- ⁷⁵ Yang Sung-jin, "Foreign Investors Expected to Remain Cautious about Increasing KT Shares" *Korea Herald* (22 August 2002) at 1.
- ⁷⁶ "Korea's KT Seeks to Waive Foreign Equity Limit" *Saigon Times Daily* (21 August 2002) at 1.
- ⁷⁷ Yang Sung-jin, *supra* note 75.
- ⁷⁸ *Ibid.*
- ⁷⁹ OECD 2003 Study, *supra* note 53 at 2.
- ⁸⁰ *Ibid.* at 29.
- ⁸¹ SK Telecom 2001 Annual Report (2002) at 44, online: SK Telecom http://www.sktelecom.com/english/investor_info/investor_packets/annual_reports/index.html.