
Observations on the Current Canadian Ownership Debate in Telecommunications

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We assess the economic harms that would accrue if Canada were to adopt asymmetric rules of foreign ownership for incumbent carriers and entrants. We begin by reviewing 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. reflects 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 neighbors down the road to despair.

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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. Among the alternatives to the current rules that it is examining 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. 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.

Industry Canada's current concerns about the lack of investment in Canadian telecommunications are misplaced because they are derived from a comparison of U.S. and Canadian capital expenditures in this sector since the passage of the U.S. Telecommunications Act. It is now painfully obvious 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 report, we show that attempts to guide economic resources to favored groups of companies, whether by relaxing foreign capital restrictions or by other regulatory programs, is a serious mistake that results in enormous waste. The

United States has attempted such policies in communications for a number of years, and none of the policies has been a success. In particular, the “asymmetric regulation” of local carriers has generated tens of billions of dollars of wasted investment without adding to meaningful competition. Competition and infrastructure investment are not advanced by policies that favor one class of carriers at the expense of others. Nor is a licensing regime that replaces uniform regulatory policies with a discretionary government approval process likely to attract additional investment or an efficient expansion of the Canadian telecommunications infrastructure.

In Part II of this report, 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 industries and reflect qualitatively on the cost of skewing the regulatory landscape.

In Part III, we apply the lessons of the U.S. experience to the Canadian situation. The proposals advanced by Industry Canada would place restrictions only on a select group of participants in the telecommunications marketplace. In predominantly privatized markets such as Canadian telecommunications, 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 risk replicating the problem of excess capacity that now plagues the U.S. telecommunications industry. Moreover, because Canada’s facilities-based carriers are different 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 and thereby reduce investment in Canada’s telecommunications network. If licensing were conditioned on, for instance, a head office in Canada or investing a certain amount each year in rural broadband deployment, then foreign investors would look for alternative (non-Canadian) investment outlets.

In addition to the failed attempts to favor certain classes of carriers in the United States, asymmetric regulation of foreign investment has proven to be impotent in Australia and Korea. Those countries have enacted the form of regulation that is now contemplated by Industry Canada, but it has not achieved its purported objective. Extending preferences of this type 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. 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 target certain classes of competitors should serve as a warning to Canada as it contemplates making foreign capital more readily available to new entrants.

II. THE FAILURE OF ASYMMETRIC REGULATION OF TELECOMMUNICATIONS IN THE UNITED STATES

In the United States, the FCC has tried repeatedly to inject competition into various industries 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 complete failures, redounding to the benefit of motion-picture companies and low-budget game-show promoters.¹

More recently, under the new 1996 Telecommunications Act, the FCC has provided competitive local exchange carriers (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 percent, 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”) bidding credits or special access to spectrum auctions with disastrous results that has resulted in billions of dollars of auction proceeds not being collected. Finally, due to the nature of U.S. communications laws, the services of cable modem providers are immune from the regulations that govern the provision of digital subscriber line (DSL) service—despite the fact that cable modems account for about two-thirds of all U.S. broadband Internet access subscribers.²

A. *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), who are provided 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.

1. *The Nature of the Asymmetry*

The Telecommunications Act of 1996 directed the FCC to identify network facilities of incumbent local exchange carriers (ILECs) that should be made

1. 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 ANTITRUST AND REGULATION: ESSAYS IN MEMORY OF JOHN J. MCGOWAN 263-298 (Franklin M. Fisher ed. 1985); Robert W. Crandall, *The Failure of Structural Remedies in Sherman Act Monopolization Cases*, 80 OREGON L. J. 109 (2001).

2. For a detailed review of the nature of asymmetric in U.S. broadband regulation, see Robert W. Crandall, J. Gregory Sidak, & Hal J. Singer, *The Empirical Case Against Asymmetric Regulation of Broadband Internet Access*, 17 BERKELEY TECH. L. J. 953 (2002).

available to entrants at regulated wholesale rates.³ The FCC liberally interpreted this mandate by ruling that virtually every element of the ILECs' networks—from loops to switches to collocation cages—should be made available at forward-looking, long-run average incremental costs (LRAIC) to competitors.⁴ The scope of the unbundled network elements (or “UNEs”) that the FCC deemed essential was excessive by any reasonable test, as the courts later decided.⁵ 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, the FCC determined that, because the LRAIC rates are based on the most efficient network imaginable, LRAIC rates must be less than the actual historical costs of building and maintaining the ILECs' networks. Why should entrants, the FCC reasoned, be forced to pay higher access charges because of the ILECs' inefficiently designed networks?

The FCC's unbundling rules have undergone periodic reviews and court reversals, but they remain in place. These rules are asymmetric in the sense that facilities-based entrants that offer services *identical* to those provided by the ILEC are not subject to the same unbundling requirements. To do so would deter any entrant from investing in its own network, surely an undesirable result. For this reason, cable telephony operators and facilities-based CLECs are not subject to the unbundling rules imposed on the ILECs.

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

2. *The Cost of the Asymmetry*

Despite access to a larger capital market, new entrants in the United States have not served to create a more competitive market 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 accepted the FCC's unbundling largesse have failed. Only a handful of the new local carriers remain, particularly the facilities- 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.

3. 47 U.S.C. § 251(c)(3) (“An 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.”).

4. Implementation of the Local Competition Provisions of the Telecommunications Act of 1996, Third Report and Order (released Nov. 5, 1999), ¶ 285.

5. United States Telecom Association, et al. v. FCC, 290 F.3d 415 (D.C. Cir. 2002), May 24, 2002.

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 incredible waste of resources. Given the subsidized access to their larger, incumbent rivals' facilities, the new CLECs found ready 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,⁶ but the rise in investment spread far beyond fiber-optic transmission facilities. Capital spending by the new local carriers increased from virtually nothing to nearly \$20 billion in 2000 alone.⁷

Unfortunately, these new entrants developed no new services, and now the few survivors are largely hanging on 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 be able to stay the course. Once the repository of more than \$80 billion in market capitalization, the publicly traded CLECs now have a scant \$1.5 billion in total market capitalization after reporting more than \$40 billion of spending on capital facilities between 1996 and 2001.⁸ 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.

6. 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, Mar. 24, 2001 at *1.

7. 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, Sept. 2002, at 10 *et seq.*

8. Information on capital spending by the CLECs may be found in the ALTS Annual Report, *The State of Local Competition 2002*, available at <http://www.alts.org/resources.html>.

TABLE 1: U.S. COMPETITIVE LOCAL EXCHANGE CARRIERS,
NOVEMBER 2002

| Company | Estimated Lines (Dec. 2001) | Network Strategy | Market Cap 11/30/02 (\$ Million) | Current Status |
|---------------------|--------------------------------|-----------------------|---|------------------------------------|
| McLeod | 1,200,000 | Resale | 249 | Emerged from Bankruptcy; Operating |
| Allegiance | 1,005,900 | UNE | 187 | Solvent |
| Winstar | 1,000,000 | Facilities (Wireless) | 0 | Sold in Bankruptcy; Operating |
| XO | 800,000 | Facilities (Wireless) | 38 | Emerged from Bankruptcy; Operating |
| RCN | 800,000 | Facilities (Cable) | 75 | Solvent |
| ICG | 800,000 | Facilities and UNE | 0 | Emerged from Bankruptcy; Operating |
| Intermedia | 750,000 | UNE | -- | Sold to WorldCom |
| Adelphia | 700,000 | Resale | 0 | In Bankruptcy; Operating |
| Focal | 593,000 | UNE | 2 | Solvent |
| CTC | 566,000 | Resale | 1 | In Bankruptcy; Operating |
| Time Warner Telecom | 348,000 | Facilities | 312 | Solvent |
| Mpower | 338,000 | UNE | -- | Bankrupt; Closed |
| Convergent | 335,000 | Resale | -- | Bankrupt; Closed |
| ChoiceOne | 300,000 | | 16 | Solvent |
| Ztel | 297,000 | UNE | 24 | Solvent |
| Network Plus | 295,000 | UNE | -- | Bankrupt; Acquired by Broadview |
| CoreComm (now ATX) | 295,000 | Resale | 20 | Solvent |
| ITC DeltaComm | 287,300 | UNE | 121 | Emerged from Bankruptcy; Operating |
| e.spire | 255,000 | Facilities; Resale | -- | Bankrupt; Sold to Xspedius |
| Global Crossing | 250,000 | Facilities | -- | Bankrupt; Sold to Citizens Comm. |
| US LEC | 249,000 | UNE | 59 | Solvent |
| Pac West | 247,000 | UNE | 20 | Solvent |
| Net 2000 | 89,000 | UNE | -- | Bankrupt; Closed |
| GCI | 73,000 | UNE; Facilities | 323 | Solvent |
| Teligent | 70,000 | Facilities | -- | Bankrupt |

Table 1 shows the status of these publicly traded CLECs as of November 2002. Few have any appreciable market capitalization left, and most are in danger of closing altogether. 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 CLECs were discouraged from investing in their own facilities due to the FCC's unbundling rules. 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 calculations of UNE leasing are higher than the NPV calculations of sinking capital into 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.⁹

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.¹⁰ Using regression analysis on a cross-section of statewide data, we found that a one-percentage point increase in the price of UNEs relative to the price of building a facilities-based line caused a 1.23 percentage point increase in the ratio of facilities based to UNE lines. We also found that increasing UNE prices by 40 percent—an amount that would equate them with historical costs—would increase CLEC facilities-based lines by between 400,000 and 2.1 million.

Because the unbundling experiment discouraged facilities-based investment and the CLECs who availed themselves to mis-priced UNEs did not leverage their customers into a stand-alone network, the FCC’s attempt to “unlevel” the playing field has been a colossal disaster. Such rampant failure by the U.S. entrants should serve as a warning to Industry Canada that it is unlikely to be able to use asymmetric regulation to create an “ideal” number of competitors for Canada’s telecommunications market. Currently, two of Canada’s five national network providers are reorganizing under bankruptcy protection and will emerge from such protection over the next few months. These bankruptcies suggest that Canada suffers from the same excess capacity that plagues 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.

B. 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 percent¹¹ if it is not in the public interest.¹² This

9. For an application of real options analysis to telecommunications investment, see THE NEW INVESTMENT OF REAL OPTIONS AND ITS IMPLICATIONS FOR TELECOMMUNICATIONS ECONOMICS (James Alleman & Eli Noam eds. 1999); Jerry A. Hausman & J. Gregory Sidak, *A Consumer-Welfare Approach to the Mandatory Unbundling of Telecommunications Networks*, 109 YALE L.J. 417 (1999).

10. Robert W. Crandall, Allan T. Ingraham & Hal J. Singer, *Do Unbundling Policies Discourage Facilities-Based Investment by CLECs*, Criterion Working Paper (Nov. 2002).

11. 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 139 (The University of Chicago Press 1997) (“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.”).

12. 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

limitation on foreign investment imposes significant costs on the industry and on American consumers.

1. *The Nature of the Asymmetry*

Section 310(b) of the U.S. Communications Act of 1934 limits foreign ownership of certain wireless communications licenses to 25 percent.¹³ The provision grants the FCC discretionary authority, however, to waive this requirement if such ownership does not offend public interest.¹⁴ The rules are asymmetric because carriers without radio-spectrum licenses, such as pure wireline carriers, are not subject to the foreign ownership restrictions.¹⁵ Treating wireline and wireless carriers differently may have been innocuous at one time, but the divisions between those services are beginning to blur, as consumers are increasingly substituting wireless telephones for landline connections.¹⁶ This restriction on wireless licensees only serves to distort investment decisions of foreign investors across U.S. telecommunications carriers.¹⁷

Another asymmetry arises from the fact that the FCC has interpreted the statutory language of Section 310(b)(3) to mean it has broad discretion in determining what is in the public interest.¹⁸ 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.”¹⁹ 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.”²⁰ Finally, the FCC will look at the economic relationship

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.”)

13. 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.” *Id.*

14. *Id.* At § 310(b)(4).

15. *Id.* 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.

16. See, e.g., L. Mutschler, *et al.*, Merrill Lynch Capital Markets, Investext Rpt. No. 8491558, Wireless Svc: Landline Substitution: Becoming More Meaningful—Industry Report at *2 (Apr. 22, 2002); FED. COMMUNICATIONS COMM’N, ANNUAL REPORT AND ANALYSIS OF COMPETITIVE MARKET CONDITIONS WITH RESPECT TO COMMERCIAL MOBILE SERVICES 12 tbl.9 (2002); Shawn Young, *More Callers Cut Off Second Phone Lines for Cellphones, Cable Modems*, WALL ST. J., Nov. 15, 2001, at B1.

17. 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*, 54 FED. COMM. L. J. ___ (2001).

18. SIDAK, *supra* note 11, at 130.

19. IN THE MATTER OF REGULATORY POLICIES AND INTERNATIONAL TELECOMMUNICATIONS, CC Dkt. No. 86-494, ¶ 73 (1987).

20. In the Matter of 1998 Biennial Regulatory Review Reform of the International Settlements Policy and Associated Filing Requirements, 14 F.C.C. Rcd. 7963, 7973 ¶¶ 21, 22 (1999) (“the Commission adopted the ISP and related filing requirements to prevent whipsawing by a foreign

between the United States and the foreign state.²¹ 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.

2. *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, incurred great expense in complying with the strict limitations during the decade in which he built his network, finally deciding to become a U.S. citizen so as to reduce the regulatory burden.²² 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.²³ 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 giving the FCC so much discretion, the rules inject uncertainty into investment decisions, 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.²⁴ 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.

C. *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 incredible confusion and 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.

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.").

21. SIDAK, *supra* note 11, 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.").

22. Vincent M. Paladini, *Foreign Ownership Restrictions Under Section 310(B) of the Telecommunications Act of 1996*, 14 BOSTON U. INTL. L. J. 341, 371 (1996).

23. *Id.*

24. See Susan Polyakova, *Foreign Carriers Said to Face Barriers in U.S. Market*, COMMUNICATIONS DAILY, Nov. 21, 2002. *Final Fox and NAACP Arguments Address Foreign Ownership Candor*, COMM. DAILY, Mar. 10 1995.

1. *The Nature of the Asymmetry*

Congress instructed the FCC to seek ways to achieve diversity in the ownership of spectrum licenses.²⁵ With the best intentions, the FCC implemented several complex schemes 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.²⁶ The FCC also provided the DEs 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 ten 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. In 1996, Nextwave had a total of \$4.2 billion in winning bids at the conclusion of Auction #5.²⁷ Even though the winning bidders were allowed to defer their payments on this spectrum over ten years (interest payments only for the first six years, principal and interest payments over the last four years),²⁸ Nextwave failed to make its scheduled payments on its licenses and entered bankruptcy. In response, the FCC reclaimed the licenses and offered re-auctioned them in 2000.

Unfazed by the Nextwave controversy, 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 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. Under this control standard, however, certain large carriers 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,²⁹ gained access to the closed auction through the creation of a company that used the name “Alaska Native.”³⁰ According to Alaska Native's bidding application filed at the FCC in November 2000, AT&T Wireless owned 38.2 percent of the equity of Alaska Native plus debt that was

25. 47 U.S.C. § 309(i)(3)(A).

26. Initially, these designated entities were to include minorities and women, but the federal courts decided that such set-asides were unconstitutional.

27. Downloaded from FCC's web site at <http://wireless.fcc.gov/auctions/05/charts/5hbidder.gif>.

28. Implementation of Section 309(j) of the Communications Act, Competitive Bidding, Sixth Report and Order, PP Dkt. No. 93-253 (released July 18, 1995).

29. AT&T WIRELESS SERVICES INC., S.E.C. FORM 10-Q at 4 (filed Aug. 14, 2001).

30. 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.

convertible to another 41.2 percent of the company's equity.³¹ Alaska Native was the dominant bidder in the set-aside auction. It won approximately 36 percent of the set-aside licenses on a population-weighted basis, and approximately 50 percent of the set-aside licenses on a value-weighted basis.³²

Nextwave then sued the Commission for violating the bankruptcy laws, and 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.³³ 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 was tied up in the courts, and the U.S. Treasury was unable to collect Nextwave's winning bids.

2. *The Cost of the Asymmetry*

The primary cost of the FCC's asymmetric treatment of wireless carriers is that it distorts investment decisions of both incumbent carriers and new entrants. Large wireless carriers that would otherwise pay 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 the licenses that it would have won.³⁴ Hence, the FCC's set-aside scheme 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 obviously value the quality of service, range of wireless options, and price. The only interests that are served by promoting diversity in the airwaves are those of the politicians who can extract concessions from constituents seeking preferential treatment. Moreover, if these 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 must be 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. In the case of Nextwave, however, the asymmetric bidding policy not only did not achieve its objectives, but for several years it deprived consumers of the competition that would have resulted from the productive use of the spectrum that Nextwave obtained in the auction.

31. ALASKA NATIVE WIRELESS L.L.C., F.C.C. FORM 175 APPLICATION, Applicant Identity and Ownership Information at 4 (filed Nov. 6, 2000) (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 . . .").

32. Auction results are available for download at the FCC's web site <<http://www.fcc.gov/wtb/auctions/35/charts/35markets.xls>>.

33. Fed. Comm. Comm'n v. Nextwave Personal Comm., Inc., 537 U.S. ____ (2003).

34. 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*, Criterion Working Paper (Oct. 2002).

D. 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.

1. 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, have not been regulated in this manner because they were developed by companies that are subject to much less regulation under different provisions of the U.S. Communications Act.³⁵ The regulations imposed upon incumbent telephone companies restrict their ability to compete in the broadband market with the unregulated cable companies. Recently, however, the FCC has decided that cable modem service is an “interstate information service,” and therefore subject to the FCC’s jurisdiction. It is now contemplating the appropriate regulatory approach to all wireline broadband services, including DSL.³⁶

The FCC’s treatment of the Regional Bell Companies (RBOCs), the major providers of DSL service, is discriminatory in many ways. First, the RBOCs have been excluded entirely from the core backbone market until recently due to the line-of-business restrictions that were in the 1982 AT&T antitrust decree and similar restrictions that were carried over into the 1996 Telecommunications Act.³⁷ Second, the RBOCs may distribute, but not manufacture, equipment used on customer premises.³⁸ Therefore, unlike cable providers such as AT&T, the RBOCs cannot collaborate with equipment vendors. Third, RBOCs face separate-subsidiary requirements for offering advanced, broadband services that may make it more expensive to provide Internet search engines or content of any kind.³⁹ Again, unlike cable firms that may completely integrate portals such as Yahoo! or Excite, RBOCs must set up fully separate subsidiaries for that purpose. Fourth, and most important, the Telecommunications Act requires RBOCs to unbundle their network facilities⁴⁰ at rates that have so far been based on the LRAIC of providing them.⁴¹ The FCC has even extended unbundling requirements to high-speed Internet services and has compelled the RBOCs to unbundle the “spectrum” within existing local loops. Fifth, until very recently, the RBOCs were barred from

35. 47 U.S.C. §§ 4(i), 628.

36. FCC, *Notice of Inquiry*, In the Matter of Inquiry Concerning High-Speed Access to the Internet over Cable and Other Facilities, GN Dkt. No. 00-185, September 28, 2000; *Declaratory Ruling and Notice of Proposed Rulemaking*, GN Dkt. No. 00-185, March 15, 2002.

37. 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 January 31, 2003, 74.1 percent of access lines addressable by BOC In-Region interLATA service. Compiled from FCC’s web site at http://ftp.fcc.gov/Bureaus/Common_Carrier/in-region_applications.

38. 47 U.S.C. § 273 (a).

39. *Id.* § 274 (a).

40. *Id.* § 251 (c)(3).

41. *Id.* § 252 (d)(1)(A)(i).

providing interLATA (local access and transport area) services,⁴² which meant they were prevented from creating “regional centered points of presence that would allow them to take advantage of economies of scale in data service.”⁴³

These diverse forms of regulation of the RBOCs do not apply to cable providers’ offerings of cable modem service. As a result, the incumbent telephone companies are denied the opportunity to be effective competitors of cable companies in the broadband Internet access market.

2. *The Cost of the Asymmetry*

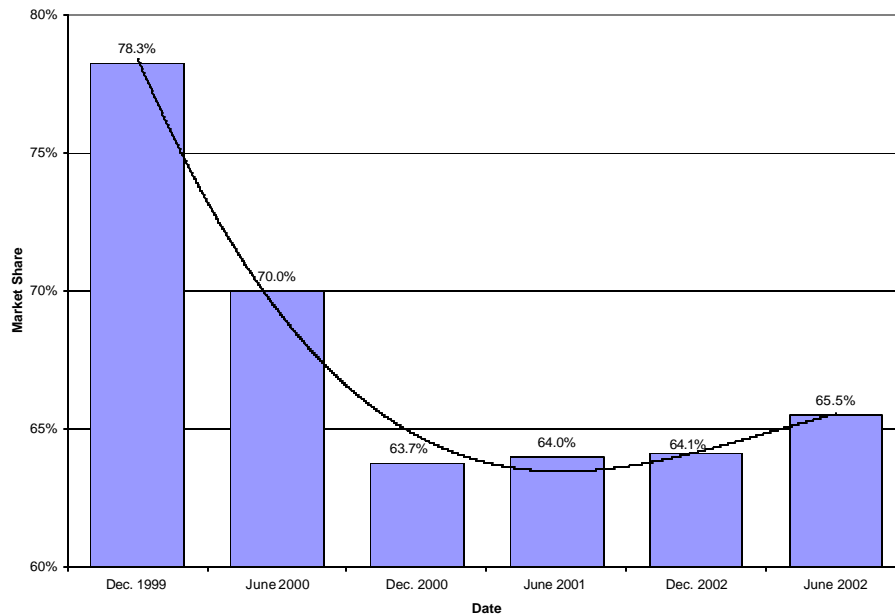
As of June 2002, the RBOCs’ share of the residential broadband Internet access market was roughly 32 percent—slightly more than *half* of AT&T’s share of the U.S. interstate long distance market when the FCC declared AT&T to be non-dominant.⁴⁴ Figure 1 shows the market share of cable modem providers in the residential broadband Internet access market from 1999 through 2002. These data reflect the fact that the incumbent telephone companies are still unable to reach as many subscribers with DSL as cable companies can reach with their cable modem services. The reason for this imbalance is quite clear: cable companies have invested much more extensively in the system upgrades required to deliver broadband services than have their ILEC rivals because they do not have to provide these new facilities to entrants at cost-based rates. The incumbent telephone companies have been much less willing to invest the tens of billions of dollars required to extend fiber 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.

42. *Id.* § 271 (a).

43. STRATEGIS GROUP HIGH SPEED INTERNET 1998-1999, at 201 (Dec. 1998).

44. HIGH SPEED SERVICES FOR INTERNET ACCESS: STATUS AS OF JUNE 30, 2002, FEDERAL COMMUNICATIONS COMMISSION, AVAILABLE AT [HTTP://WWW.FCC.GOV/WCB/IATD/COMP.HTML](http://www.fcc.gov/wcb/iatd/comp.html), TABLE 3 (DECEMBER 2002).

FIGURE 1: CABLE MODEM SHARE OF U.S. RESIDENTIAL AND SMALL BUSINESS BROADBAND INTERNET ACCESS MARKET, 1999-2002



Source: High Speed Services for Internet Access: Status as of June 30, 2002, Federal Communications Commission, available at <http://www.fcc.gov/wcb/iatd/comp.html>, Table 3 (December 2002).

Note: Share of residential and small business broadband Internet access connections that are high-speed in at least one direction.

These market share data surely demonstrate that the RBOCs are non-dominant in the provision of mass-market broadband services. Indeed, far from acquiring market power, telephone companies have recently *lost* ground to their cable competitors in the broadband Internet access market. As Figure 1 shows, cable's share of the broadband Internet access market increased from 64.0 percent in June 2001 to 65.5 percent in June 2002.

DSL providers would be able to compete more effectively against cable modem providers if the FCC were to unshackle the RBOCs and free them 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.

III. ECONOMIC CONSIDERATIONS IN THE CANADIAN FOREIGN OWNERSHIP DEBATE

We have shown that the asymmetric rules designed by U.S. regulators to encourage investment by new local entrants have resulted in a large amount of wasteful investment. These asymmetric rules helped to increase the annual growth rate in capital spending between 1995 and 2001 from 5 percent per year to 20 percent per year and then to collapse to less than its 1995 level. Now competition in telecommunications is settling into platform competition between 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 its two proposals, tiering and licensing, are likely to provide disincentives for investment in Canadian infrastructure.

A. A Tiering Approach for Foreign Investment Restrictions

Establishing a set of “tiers” of Canadian carriers eligible to attract foreign capital would be a serious mistake. If we assume that foreign-capital restrictions raise the relative cost of capital for Canadian carriers, imposing such restrictions on only the 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 they 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.

1. 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 favored 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 could therefore raise their cost of capital *relative* to that of their rivals. Stated differently, the favored firms could obtain capital from foreign sources for any given project at rates that would be lower than those generally available in Canada. Since the incumbents would not have access to such capital, they would be at a disadvantage in funding infrastructure investments relative to their rivals. This discrepancy in the cost of capital would place incumbent carriers at a competitive disadvantage 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. Furthermore, 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.

2. 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 wring out any

potential excess capacity from the telecommunications networks, carriers would be forced to cut prices, precipitating exit from the industry.

For an historical analogy, Industry Canada need look back no further than the gloomy period of 2000 to 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 fiber-optic networks and the asymmetrical ban of RBOC participation in this market, the stock market turned on these carriers with a vengeance. Broadwing, Global Crossing, ICG, Level 3, McLeod, Touch America, WorldCom, XO Communications and several other notable long distance, fiber-optic network operators greatly scaled back their operations or filed for Chapter 11 bankruptcy during this period.

Tiering could also lead to the related problem of over-investment. As we discussed in an earlier section, asymmetric rules designed to encourage investment by U.S. CLECs contributed to the mostly wasteful investment of roughly \$40 billion between 1996 and 2001.⁴⁵ Between 1987 and 1996, nominal and real (inflation-adjusted) capital spending by telecommunications carriers increased at average rates of 4.8 and 4.5 percent per year, respectively. After the asymmetric rules were imposed, the growth rate over the next four years soared to more than 20 percent per year. The asymmetric rules in the United States helped to accelerate capital spending by roughly 15 percent by encouraging the entry of scores of new entrants that lacked sound business plans. Were a similar acceleration to occur in Canada with the same results, \$1.155 billion per year (equal to 15 percent of the \$7.7 billion in capital spending in 2001) could be wasted.⁴⁶ There is no reason to believe that Canadian entrants would use the government's largesse any more efficiently than U.S. firms have used the FCC's favorable rules.

3. *Objective Measures to Establish Restricted Companies is Difficult*

Finally, it is very difficult to determine which carriers should be relieved of foreign ownership restrictions and which ones should still be 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.

Alternatively, 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. In the United States, treating wireline and wireless carriers differently may have been innocuous at one time (when wireless services were used more narrowly) but the divisions between those services are beginning to blur, as consumers are increasingly substituting wireless telephones for landline connections.⁴⁷ This restriction on wireless

45. Information on capital spending by the CLECs may be found in the ALTS Annual Report, *The State of Local Competition 2002*, available at <http://www.alts.org/resources.html>.

46. Statistics Canada, *The Daily*, Telecommunications Statistics: Fourth Quarter 2001, Apr. 15, 2002, available at <http://www.statcan.ca/Daily/English/020415/d020415b.htm>. The comparable statistics for 2002 have yet to be verified.

47. See, e.g., L. Mutschler, *et al.*, Merrill Lynch Capital Markets, Investext Rpt. No. 8491558, *Wireless Svc: Landline Substitution: Becoming More Meaningful—Industry Report at *2* (Apr. 22, 2002); FED. COMMUNICATIONS COMM'N, ANNUAL REPORT AND ANALYSIS OF COMPETITIVE MARKET CONDITIONS WITH RESPECT TO COMMERCIAL MOBILE SERVICES 12 tbl.9 (2002); Shawn Young, *More Callers Cut Off Second Phone Lines for Cellphones, Cable Modems*, WALL ST. J., Nov. 15, 2001, at B1.

licensees only serves to distort investment decisions of foreign investors across U.S. telecommunications carriers.⁴⁸ Because these alternative platforms are 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.⁴⁹

4. *Tiering Would Not Add to the Competitive Process*

As discussed above, competition in U.S. telecommunications is settling into platform competition between incumbent carriers, perhaps one or two “long distance” companies, cable companies, wireless providers, and satellite companies. A very few facilities-based new local carriers add marginally to this competition. Entry promotes consumers’ welfare only to the extent that new carriers can discipline the incumbents’ prices or stimulate the incumbents to upgrade their offerings. In the United States, there is no evidence to support either of those conclusions. To the extent that incumbents are lowering prices (DSL prices are falling) and offering new services (3G wireless services), they are reacting to the competitive offerings of facilities-based wireline carriers and other operators using alternative platforms, not to the feeble offerings of failing small entrants who have been lured into the market by regulators.

B. *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 approach also would be a step backward for Canada. 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, investing 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 far outweigh any benefits associated with the liberalization of the current ownership rules. Barriers to foreign ownership by other nations have resulted in large reductions in foreign

48. 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*, 54 FED. COMM. L. J. ___ (2001).

49. See Section II.C., *infra*.

investment.⁵⁰ Moreover, a licensing approach would inject a political element into the investment calculus and further retard foreign investment.

1. *Licensing Would Reduce Foreign Investment*

If the objective of licensing is to replace the current regulatory requirements on Canadian carriers and broadcasters with a more discretionary administrative process, the uncertainty created could have a devastating impact on capital investment, from both Canadian and foreign sources. In particular, foreign investors would be less willing to invest in an environment in which the conditions for obtaining licenses is discretionary and, therefore, subject to political considerations. Moreover, the incumbent carriers would be more hesitant to undertake investments since they would not know how the licensing rules would be interpreted. For most international carriers, the U.S. telecommunications market is sufficiently attractive to overcome regulatory impediments. Given Canada's much smaller market and 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.

2. *Licensing Would Subject Foreign Carriers to Political Pressures*

The final outcome of a licensing approach would be the politicization of foreign investments. A licensing regime essentially constitutes a case-by-case evaluation of each entity and its foreign investment transactions. Not only is such a process tedious and inefficient, but it also 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. The overall licensing and approval process would be highly subjective and opaque, ultimately damaging the overall investment climate for the Canadian telecommunications network.⁵¹

50. See, e.g., The World Bank, *Privatization, Foreign Direct Investment and Export Performance: Evidence from Transition Economies*, available at http://www1.worldbank.org/wbiep/trade/papers/Kaminski-Premnote_1.pdf (based on Bartlomiej Kaminski, *Foreign Trade and FDI in Hungary and Slovenia: Different Paths—Different Outcomes, Transition*, The World Bank and The William Davidson Institute, Dec. 1998). 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.” *Id.* at 5. See also George Norman, *Foreign Direct Investment and International Trade: A Review*, Tufts Discussion Paper 98-10, June 1988, 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 conference on Enhancing Investment Cooperation in Northeast Asia, Honolulu, HI, Aug. 2002, at 5 (asserting that the “direct linkage between FDI and liberalization of restrictions on foreign ownership is obvious”).

51. For a similar review of licensing, see GARTNER GROUP, CANADA REVISITS FOREIGN TELCO OWNERSHIP RULES (Dec. 13, 2002).

C. *Asymmetric Regulation of Foreign Investment in Australia and Korea*

Asymmetric regulation of foreign investment has also proven to be impotent in Australia and Korea. In Australia, the government maintains a 35 percent foreign ownership limitation in Telstra, the incumbent, but it allows foreign ownership of 100 percent in other facilities-based carriers.⁵² In 1997, the Korean government maintained a 20 percent foreign ownership limitation for Korea Telecom (KT), the incumbent provider, but raised the foreign ownership limit to 33 percent for other facilities-based carriers.⁵³ In 1998, the government raised the foreign ownership for KT to 33 percent,⁵⁴ thus ending the asymmetry for a short period of time. In July 1999, the asymmetry was restored when the government relaxed the foreign ownership restrictions on other facilities-based carriers to 49 percent but retained the 33 percent limit for KT.⁵⁵ Finally, in August 2002, the government raised the limit for KT to 49 percent, eliminating the asymmetry once again.⁵⁶

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 percent, its share price increased 10 percent.⁵⁷ Analysts stated that KT's valuation had suffered because of the imbalance between supply and demand of foreign capital.⁵⁸ They reasoned that with the foreign ownership ceiling raised, potential demand from foreign investors would increase KT's share price.⁵⁹

Extending subsidies of this type 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 favorable investment treatment bestowed on non-incumbent carriers.⁶⁰ 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 percent of the local fixed services market. Australia's broadband penetration rate of 1.5 percent trails most industrialized nations.⁶¹

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).⁶² Although Korea is among the world's leaders in broadband penetration (an accomplishment not owing to any foreign

52. Organization for Economic Coordination & Development, *Communications Outlook 2003*, at 7 [hereinafter *OECD 2003 STUDY*].

53. *Korea: Government Raises Foreign Ownership Ceiling*, *TELENEWS ASIA*, Feb. 26, 1997, at *1.

54. *Foreign Ownership Limit in KT to Widen to 33 Pct*, *KOREA TIMES*, Oct. 16, 1998, at *1.

55. *S. Korea to Hike Foreign Ownership for Telecom Operators*, *ASIA PULSE*, Apr. 16, 1999, at *1.

56. Yang Sung-jin, *Foreign investors expected to remain cautious about increasing KT shares*, *KOREA HERALD*, Aug. 22, 2002, at *1.

57. *Korea's KT seeks to waive foreign equity limit*, *SAIGON TIMES DAILY*, Aug. 21, 2002, at *1.

58. Yang Sung-jin, *Foreign investors expected to remain cautious about increasing KT shares*, *KOREA HERALD*, Aug. 22, 2002, at *1.

59. *Id.*

60. *OECD 2003 STUDY*, supra note 53, at 2.

61. *Id.* at 29.

62. SK Telecom 2001 Annual Report at 44, available at http://www.sktelecom.com/english/investor_info/investor_packets/annual_reports/index.html.

ownership policy), Korean Telecom still controls 95 percent 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 different since asymmetric regulation was imposed.

IV. CONCLUSION

Asymmetric regulation is the regulatory equivalent of handicapping. To compensate for some competitors' shortcomings, the regulator affirmatively skews the environment so that these firms have an artificial advantage in some dimension. By conferring this advantage on one carrier over another, the regulator believes that it can direct resources to more efficient deployment than can the free market. Of course, this cannot be true. Even in the rare case of market failure or the perceived lack of competition (which has not been established in Canada's case), asymmetric regulation intended to confer an advantage to 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 fiber 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 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 neighbor to the south.

V. ABOUT THE AUTHORS

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Robert W. Crandall is the Chairman of Criterion Economics. Dr. Crandall is Senior Fellow in Economic Studies at the Brookings Institution in Washington, D.C., a position that he has held since 1978. His areas of economic research are antitrust, telecommunications, the automobile industry, competitiveness,

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Dr. Crandall has written widely on telecommunications policy, the economics of broadcasting, and the economics of cable television. He is the author or co-author of five books on communications policy published by the Brookings Institution since 1989. With Leonard Waverman, he is co-author of *Who Pays for Universal Service? When Telephone Subsidies Become Transparent* (Brookings Institution 2000) and *Talk Is Cheap: The Promise of Regulatory Reform in North American Telecommunications* (Brookings Institution 1996). With Harold Furchtgott-Roth, he is co-author of *Cable TV: Regulation or Competition?* (Brookings Institution 1996). He is also the author of *After the Breakup: U.S. Telecommunications in a More Competitive Era* (Brookings Institution 1991). With Kenneth Flamm, he is co-author of *Changing the Rules: Technological Change, International Competition, and Regulation in Communications* (Brookings Institution 1989). In addition, he has published four other books on regulation and industrial organization with the Brookings Institution. With Pietro S. Nivola, he is co-author of *The Extra Mile: Rethinking Energy Policy for Automotive Transportation* (Brookings Institution 1995). He is the author of *Manufacturing on the Move* (Brookings Institution 1993). With Donald F. Barnett, he is co-author of *Up From Ashes: The U.S. Minimill Steel Industry* (Brookings Institution 1986). He is also co-author with Howard K. Gruenspecht, Theodore E. Keeler, and Lester B. Lave of *Regulating the Automobile* (Brookings Institution 1986). Dr. Crandall's work has been cited on numerous occasions by the federal judiciary and the Federal Communications Commission (FCC).

Dr. Crandall has been a consultant on regulatory and antitrust matters to the Antitrust Division of the U.S. Department of Justice, to the Federal Trade Commission, to the Canadian Competition Bureau, and to more than twenty companies in the telecommunications, cable television, broadcasting, newspaper publishing, automobile, and steel industries. He has also been a consultant to the Environmental Protection Agency and the U.S. Department of the Treasury.

Dr. Crandall was an Assistant Professor and Associate Professor of Economics at the Massachusetts Institute of Technology between 1966 and 1974. He has also taught at George Washington University. He has twice served in the federal government. He was Acting Director, Deputy Director, and Assistant Director of the Council on Wage and Price Stability in the Executive Office of the President. In 1974-75, he was an adviser to Commissioner Glen O. Robinson of the FCC.

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Hal J. Singer is Senior Vice President of Criterion Economics. His areas of expertise are antitrust, telecommunications and the Internet, spectrum policy, auction design and strategy, and information economics.

Dr. Singer has prepared economic expert testimony in support of, or in opposition to, many major telecommunications mergers, including AT&T-Comcast, EchoStar-DIRECTV, AOL-Time Warner, AT&T-MediaOne, Bell Atlantic-GTE, Deutsche Telekom-VoiceStream Wireless, and WorldCom-Sprint. He has made merger presentations to staff economists and lawyers at the Antitrust Division of the Department of Justice, Federal Communications Commission, and

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Dr. Singer is also an expert in the area of auctions. He has advised wireless firms in the U.S. FCC C re-auction, the Australian UMTS auction, the German 3G auction, and the U.S. FCC C & F re-auction. He has testified on behalf of Allegheny Communications in the United States Court of Appeals for the District of Columbia Circuit.

Dr. Singer has published scholarly articles on telecommunications regulation and spectrum auctions in several economics and legal journals, including the *American Economic Review Papers and Proceedings*, *Berkeley Technology Law Review*, *Hastings Law Journal*, *Journal of Business and Finance*, *Journal of Industrial Economics*, *Journal of Network Industries*, *Journal of Regulatory Economics*, and *Yale Journal on Regulation*.

Before joining Criterion Economics, Dr. Singer managed the telecommunications practice at an internationally recognized consulting firm. In addition, he has worked as an economist for the Securities and Exchange Commission and has taught microeconomics and international trade at the undergraduate level.

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