Free Trade, Tax Reform, and Transfer Pricing

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PRÉCIS

Le nombre et l'ampleur des changements qui sont intervenus dans les règlements applicables aux impôts et aux tarifs douaniers au Canada et aux États-Unis au cours des 10 dernières années, et le fait qu'un grand nombre de ces changements influencent directement les transactions entre les sociétés affiliées à une même multinationale et le flux des investissements directs, sont deux facteurs qui nous amènent à nous demander quelle sera la réaction des multinationales américaines ayant des filiales situées au Canada? Cet article décrit les changements qui sont intervenus récemment dans l'impôt direct des sociétés (IDS), dans le traitement des prix de transferts internationaux et dans les règlements sur les tarifs douaniers au Canada et aux États-Unis, et comment ces changements affectent les filiales des sociétés américaines qui opèrent dans le secteur de la fabrication au Canada. Nous nous sommes servis d'un modèle micro-économique d'une entreprise multinationale (EMN) intégrée horizontalement pour démontrer comment diverses mesures fiscales concernant l'impôt direct des sociétés, les prix de transferts internationaux et les tarifs douaniers peuvent influencer d'une part les décisions des multinationales reliées à la maximisation du profit et d'autre part les opérations transfrontalières entre sociétés affiliées. Notre analyse montre que, durant la période précédant la réforme, le Canada et les États-Unis ont subventionné les nouveaux investissements dans le secteur de la fabrication. Les taux légaux d'impôt direct des sociétés étant beaucoup plus élevés aux États-Unis qu'au Canada, ils ont eu pour effet de décourager l'imputation des frais du siège social de la multinationale et le versement de dividendes, et d'inciter à facturer à des prix inférieurs les importations des sociétés affiliées en provenance des États-Unis. Après la réforme, l'écart à long terme des taux d'impôt direct des sociétés s'élargira favorisant ainsi les

investissements basés aux États-Unis. Toutefois, les manoeuvres financières des multinationales s'avéreront moins utiles à mesure que les États-Unis renforceront leurs règlements applicables aux revenus en provenance de source étrangère et aux prix de transferts internationaux, que les taux légaux d'impôt direct des sociétés s'harmoniseront, et que les tarifs douaniers entre les deux pays disparaîtront. C'est pour cette raison que dans le secteur de la fabrication, nous assisterons probablement dans les années 1990 à une augmentation des transferts de revenus et de capitaux des filiales canadiennes vers leurs sièges sociaux aux États-Unis.

ABSTRACT

Given the number and size of the changes in Canadian and US tax and tariff policies over the past decade, and that many of these changes directly affect intrafirm trade and direct investment flows, how are US multinationals with Canadian subsidiaries likely to respond? This article outlines recent corporate income tax (CIT), transfer pricing, and tariff policy changes in Canada and the United States, and how these policy changes are affecting US-controlled subsidiaries in the Canadian manufacturing sector. We use a microeconomic model of a horizontally integrated multinational enterprise (MNE) to show how tax, transfer price, and tariff regulations are likely to affect MNE profit-maximizing decisions and intrafirm cross-border transactions. Our analysis shows that, in the pre-reform period, Canada and the United States subsidized new manufacturing investments. With a US statutory CIT rate much higher than the Canadian rate, MNE head-office charges and dividend remittances were discouraged and underinvoicing of intrafirm Canadian imports encouraged. After reform, the long-run CIT differential in favour of US-based investments widens; however, MNE financial manoeuvres are less useful as US foreign-source income and transfer pricing tax rules tighten, statutory CIT rates are harmonized, and tariffs disappear between the two countries. Therefore MNE cross-border outflows from Canada to the United States in the manufacturing sector are likely to rise in the 1990s.

INTRODUCTION

Over 70 percent of Canada's trade and investment is conducted with the United States. Manufacturing counts for much of this cross-border activity. Roughly 30 to 40 percent of shipments, value added, investments, and assets in Canadian manufacturing are generated by US-controlled subsidiaries, and over 70 percent of their trade is ''intrafirm'' (that is, between affiliates of the same multinational). Given these close links, recent changes in corporate income tax (CIT) legislation, transfer price regulations, and customs valuation methods in both countries, coupled with the signing of the Canada-US

free trade agreement,[1] are likely to have significant impact on cross-border income flows. These policy reforms are likely to affect cross-border intrafirm flows more significantly than cross-border total flows.

This article discusses the probable effects of recent changes in US and Canadian CIT, transfer pricing, and tariff policies on trade, financial, and investment flows between US multinational enterprises (MNEs) and their Canadian manufacturing affiliates. It identifies several recent policy changes that are likely to have conflicting effects.

Both countries have introduced major corporate income tax reforms, the United States in 1986 and Canada in 1987. Both have revised their transfer pricing regulations. Canada (in 1985) and the United States (in 1981) introduced the new customs valuation code, which changes the method of evaluating imports for tariff purposes. In 1988 the Canada-US free trade agreement was signed, eliminating tariffs between Canada and the United States over a 10-year period. The MNEs with operations in these two countries therefore faced an enormous array of policy changes over the 1980s. Given the importance of multinationals in the North American economy, it is necessary for policy makers to have some understanding of probable MNE responses to these changes.

This article first briefly reviews recent changes in Canadian and US tax, transfer pricing, and tariff policies. It then develops a simple model of a horizontally integrated, multinational manufacturing firm, consisting of a US parent and a Canadian subsidiary, to show how these policies can affect multinational pricing, intrafirm trade, financial, and real investment decisions. The model is then used to predict the likely effects of recent changes in Canadian and US policies on Canada-US cross-border flows in the manufacturing sector.

Our analysis shows that in the pre-reform period both Canada and the United States subsidized new manufacturing investments. With a higher statutory CIT rate in the United States, MNE head-office charges and dividend remittances were discouraged, and underinvoicing of intrafirm Canadian imports encouraged. After tax reform in both countries, the long-run tax differential in favour of US-based manufacturing investments widens, encouraging MNEs to choose a US investment location. On the other hand, as US tax and transfer pricing tax rules tighten, statutory CIT rates are harmonized, and tariffs disappear between the two countries, the incentive for MNEs to manipulate transfer prices and financial flows is reduced. We conclude that intracorporate income transfers from Canadian subsidiaries to their US parents should increase relative to 1980s levels. In the 1990s, therefore, manufacturing MNEs may be generating increased outflows on both the current and capital accounts in the Canadian balance of payments.

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[1] An Act To Implement the Free Trade Agreement Between Canada and the United States of America, SC 1988, c. 65 (herein referred to as "the free trade agreement" or FTA).

CANADIAN AND US TAX AND TARIFF POLICIES
Corporate Income Tax Reform
CIT Reform in the United States

The general US corporate income tax (CIT) practice with respect to US multinationals before the 1986 tax reform is well studied in other publications.[2] In the United States, the CIT applies to domestic income of US MNEs plus accrued foreign branch profits plus head-office fees and interest payments remitted from foreign affiliates. Remitted dividends are grossed up by the amount of foreign CIT and also brought into taxable income. A foreign tax credit (FTC) is provided for (1) withholding taxes on remitted interest, head-office payments (if taxed), and dividends; (2) foreign branch taxes; and (3) foreign CITs on dividends.

The 1986 US tax reform introduces two basic types of changes that affect the tax description given above: (1) tax changes that apply to all firms located in the United States, and (2) changes that apply to US MNEs with foreign-source income. First, all corporations are affected by the reduction in the US statutory CIT rate from 46 percent in steps to 34 percent. The investment tax credit is repealed, and the capital consumption allowance (CCA) changes from a 150 percent to a 200 percent declining balance on basically unchanged asset lives. Many tax exemptions are also eliminated. As a result of the 1986 tax reform, effective US CIT rates are expected to rise in industries where exemptions are large, such as oil and mining. In manufacturing, however, the effective rate is expected to fall, inducing firms to shift investments and jobs to the United States from abroad. Countries like Canada with high tax rates are therefore widely expected to lose US investment.[3]

In addition, changes are made with respect to the taxation of MNE international income that are designed to reduce the potential for international tax avoidance and evasion by US MNEs.[4] First, the 1986 rules limit the ability of MNEs to average foreign-source income in the calculation of the foreign

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[2] A good recent outline of the US tax rules with respect to international income, both before and after 1986, can be found in Hugh J. Ault and David F. Bradford, "Taxing International Income: An Analysis of the US System and Its Economic Premises," in Assaf Razin and Joel Slemrod, eds., *Taxation in the Global Economy* (Chicago and London: University of Chicago Press, 1990), 11-46. The authors discuss both the actual legislation and the theory behind taxation of international income. Principles of taxing international income are also discussed in Brian J. Arnold, *The Taxation of Controlled Foreign Corporations: An International Comparison*, Canadian Tax Paper no. 78 (Toronto: Canadian Tax Foundation, 1986); Donald J.S. Brean, *International Issues in Taxation: The Canadian Perspective*, Canadian Tax Paper no. 75 (Toronto: Canadian Tax Foundation, 1982); Richard M. Bird, "The Interjurisdictional Allocation of Income" (no. 3, 1986), 3 *Australian Tax Forum* 333-54; and Lorraine Eden, "Equity and Neutrality in the International Taxation of Capital" (no. 2, 1988), 26 *Osgoode Hall Law Journal* 367-408. See also the references in those papers.

[3] For example, in "For Business, Tax Bill Offsets Rate Cut with Loss of Deductions," *The Wall Street Journal*, August 19, 1986, it is argued that US tax reform would create domestic tax shelters, since it would be cheaper to manufacture in the United States.

[4] The tax changes with respect to foreign affiliates located in the United States are minor. A branch profits tax is introduced, but it is not expected to raise much income. The tax changes for US MNEs with foreign-source income, however, are substantial.

tax credit. Before 1986, MNEs could choose to adopt either the overall or the per-country limitation method for the FTC calculation. The 1986 reform adopts a schedular system that restricts the FTC to a per-country limitation for all types of income except active business income. This is designed to reduce the incentive for US MNEs with high-tax subsidiaries to set up subsidiaries in low-tax countries and average the credits. Limits on averaging are expected to depress dividend remittances. Second, the lower US statutory CIT rate reduces the FTC available to offset foreign taxes on dividends remitted from abroad, placing many MNEs in a situation where they have a surplus of credits. This second factor is also expected to slow dividend repatriation. A third factor is the "look through" or characterization of types of incomes and their placement in separate baskets with separate FTC calculations, again designed to reduce tax avoidance. Fourth, the US tax reform eliminates MNE use of the so-called rhythm method, whereby dividends are timed to coincide with years of high foreign tax; after 1986, foreign earnings must be pooled and the FTC calculated using cumulative rather than annual foreign-source income and taxes. Finally, a larger proportion of overhead expenses must be allocated to foreign subsidiaries, but creditable expenses are to be calculated on a consolidated basis rather than by affiliate.

CIT Reform in Canada

In Canada, foreign-controlled permanent establishments are taxed at a federal-plus-provincial statutory CIT rate, with most tax deductions and credits that are available to domestic firms also being available to foreign establishments. Manufacturing and processing firms benefit from a reduced CIT rate. Foreign-owned branches pay 25 percent of taxable income as a branch tax. This rate is reduced, for tax treaty partners, to the withholding tax rate applicable to dividends under the treaty. In 1980, Canada signed a tax treaty with the United States, which was later amended and ratified in 1984, reducing the withholding tax on dividends from 15 to 10 percent.

On June 18, 1987, the Canadian government announced its own CIT reform package, which is being phased in over the 1988-1991 period.[5] The federal statutory rate falls from 46 to 38 percent, with the CIT on the manufacturing sector falling from 40 to 33 percent. The investment tax credit disappears, while the capital consumption allowance is reduced. The two-year write-off for machinery and equipment is reduced to a 25 percent declining balance rate, both subject to the half-year rule. The Canadian government argued that these changes were necessary to keep its tax level competitive with the United States:

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[5] See Canada, Department of Finance, *Tax Reform 1987: Income Tax Reform* (Ottawa: the department, June 18, 1987); Alan V. Douglas, "Changes in Corporate Tax Revenue" (January-February 1990), 38 *Canadian Tax Journal* 66-81; Lorraine Eden, "The Impacts of Tax and Tariff Reforms on US Direct Investments in Canadian Manufacturing," in David L. McKee, ed., *Canadian-American Economic Relations: Conflict and Cooperation on a Continental Scale* (New York: Praeger Publishers, 1988), 121-51; and Jack Mintz and John Whalley, eds., *The Economic Impacts of Tax Reform*, Canadian Tax Paper no. 84 (Toronto: Canadian Tax Foundation, 1989), and their references for information on Canadian CIT reform and its likely effects.

Without tax rate cuts, income-earning activity in Canada could be diverted elsewhere and corporations . . . could arrange their activities in such a way as to earn more income taxable abroad and less in Canada. The tax rate cuts . . . are designed to avoid these undesirable effects.[6]

The lower US statutory rate was therefore perceived as a limit on the creditability of Canadian taxes against the US tax when Canadian subsidiaries remitted dividends and head-office charges to their US parent corporations. To the extent that Canadian tax rates were higher than US rates, Canadian taxes would not be creditable in the United States. By reducing the statutory CIT rate, the Canadian government sought to avoid that possibility.

US and Canadian Transfer Pricing Reforms

Foreign direct investment by an MNE parent corporation involves supplying its affiliates with a package of capital, technology, and managerial skills, for which it receives a stream of dividend and interest payments, royalties, and licence fees. In addition, goods are traded in both directions, and the parent often provides regular business services to its affiliates. All these transactions are intrafirm in the sense that they take place between related parties that are not at arm's length with each other. The prices associated with tangible transactions that are not at arm's length are called "transfer prices" (TPs).
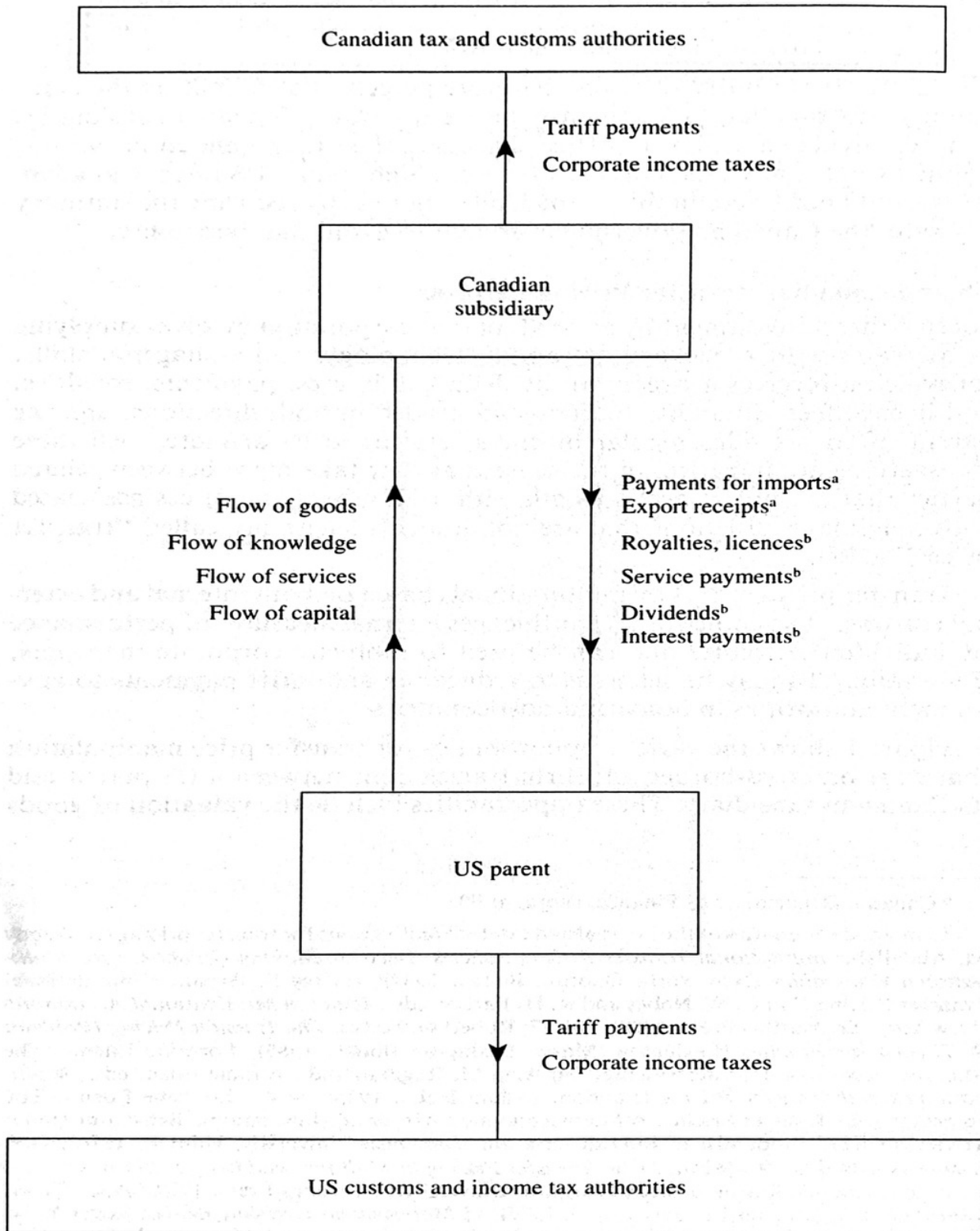
Transfer prices are set by multinationals based on both internal and external reasons.[7] The choice of a TP influences internal measures of performance by individual affiliates and can be used to motivate corporate managers. Externally, TPs may be set so as to reduce tax and tariff payments to government authorities in home and host countries.

Figure 1 shows the various opportunities for transfer price manipulation that exist on cross-border intrafirm transactions between a US parent and its Canadian subsidiary. These opportunities include the valuation of goods

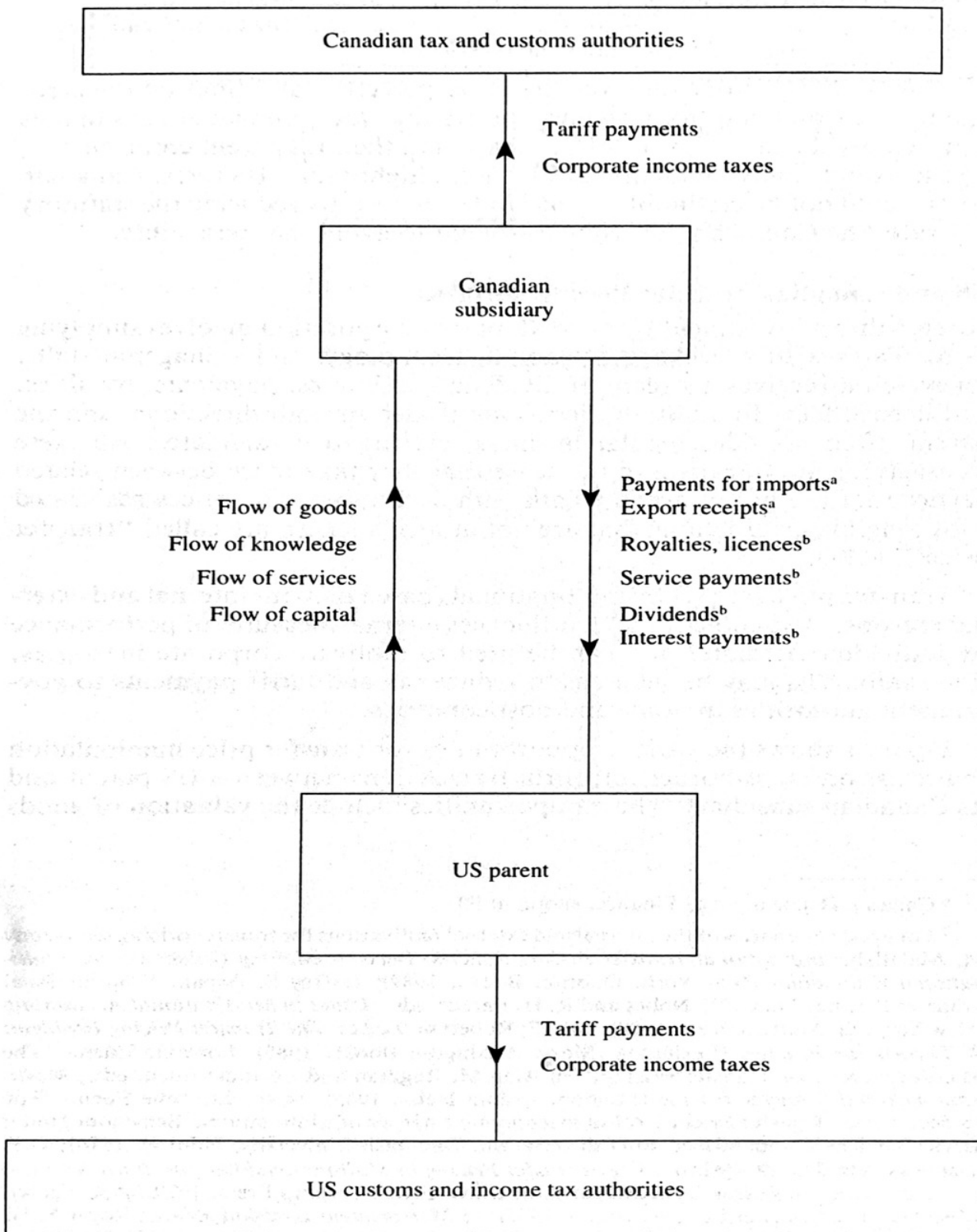---

[6] Canada, Department of Finance, *supra*, at 99.

[7] For good summaries of the internal and external motivations for transfer pricing see Wagdy M. Abdallah, *International Transfer Pricing Policies: Decision-Making Guidelines for Multinational Companies* (New York: Quorum Books, 1989); Jeffrey S. Arpan, "International Transfer Pricing," in C. W. Nobes and R. H. Parker, eds., *Issues in Multinational Accounting* (New York: St. Martins Press, 1988), 161-77; Robert G. Eccles, *The Transfer Pricing Problem: A Theory for Practice* (Lexington, Mass.: Lexington Books, 1985); Lorraine Eden, "The Microeconomics of Transfer Pricing," in Alan M. Rugman and Lorraine Eden, eds., *Multinationals and Transfer Pricing* (London: Croom Helm, 1985), 13-46; Lorraine Eden, "The Importance of Transfer Pricing: A Microeconomic Analysis of Multinational Behaviour Under Trade Barriers" (unpublished PhD dissertation, Dalhousie University, Halifax, 1976); G.F. Mathewson and G. D. Quirin, *Fiscal Transfer Pricing in Multinational Corporations*, Ontario Economic Council Research Study (Toronto: University of Toronto Press, 1979); A.G. Slater, "International Transfer Pricing" (no. 6, 1977), 15 *Management Decision* 550-60; Roger Y. W. Tang, "Canadian Transfer Pricing Practices" (March 1980), 113 *CA Magazine* 32-38; United Nations, United Nations Conference on Trade and Development Secretariat, *Dominant Positions of Market Power of Transnational Corporations: Use of the Transfer Pricing Mechanism* (New York: United Nations, 1978); and H.C. Verlage, "Transfer Pricing by Multinational Enterprises: Issues and Developments" (August 1982) *Intertax: European Tax Review* 285-93.

Figure 1   Tax and Tariff Avoidance Opportunities in Intrafirm Trade

| Canadian tax and customs authorities |

Tariff payments

Corporate income taxes

| Canadian subsidiary |

Flow of goods

Flow of knowledge

Flow of services

Flow of capital

Payments for imports[a]
Export receipts[a]

Royalties, licences[b]

Service payments[b]

Dividends[b]
Interest payments[b]

| US parent |

Tariff payments

Corporate income taxes

| US customs and income tax authorities |

[a] Potential transfer price manipulation.   [b] Potential manipulation of intangibles.

Figure 1 Tax and Tariff Avoidance Opportunities in Intrafirm Trade

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┌─────────────────────────────────────────────────────────────┐
│            Canadian tax and customs authorities               │
└─────────────────────────────────────────────────────────────┘
                            ↑
                            │   Tariff payments
                            │   Corporate income taxes
                 ┌──────────────────────┐
                 │      Canadian         │
                 │     subsidiary        │
                 └──────────────────────┘
                  ↑                    │
                  │                    ↓   Payments for importsª
        Flow of goods                      Export receiptsª
        Flow of knowledge                  Royalties, licencesᵇ
        Flow of services                   Service paymentsᵇ
        Flow of capital                    Dividendsᵇ
                  ↑                    │   Interest paymentsᵇ
                  │                    ↓
                 ┌──────────────────────┐
                 │      US parent        │
                 └──────────────────────┘
                            │
                            │   Tariff payments
                            ↓   Corporate income taxes
┌─────────────────────────────────────────────────────────────┐
│            US customs and income tax authorities              │
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ª Potential transfer price manipulation.   ᵇ Potential manipulation of intangibles.

(where both tariff and tax authorities are involved) and of intangibles (where tax officials are involved).[8]

When TPs are altered so to as to reduce such tax and tariff costs, governments argue that transfer price manipulation has occurred. Many governments regulate these transactions to discourage such manipulation. The best-known regulation is section 482 of the US Internal Revenue Code,[9] which applies to all intracorporate transfers, both tangible and intangible.

Section 482 of the IRC is responsible for ensuring that the income earned on transactions between related parties is determined on an arm's-length standard.[10] Transactions include loans, rentals, or sales of tangible property (that is, goods), transfer or use of intangible property (for example, patents or copyrights), and performance of services (for example, managerial or technical services). Sales of tangible property are tested against an arm's-length standard based on one of four methods, as follows (in order of priority): comparable uncontrolled price, resale price, cost plus, and the so-called fourth method.[11] The most difficult problem associated with section 482 appears to be the lack of comparables; the problem is accentuated when non-US MNEs are involved, since information is often less readily available than for US MNEs. In the absence of comparables, particularly for intangibles, the IRS is making increasing use of the fourth method, in which a

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[8] Note, however, that if royalties and licence fees are a condition of sale for export to Canada, they are included in customs valuation adjustments. See Michael Stark, "Valuation Principles: Canadian Customs Duties and Sales Tax," International Tax Planning feature (September-October 1988), *Canadian Tax Journal* 1261-77, at 1263.

[9] Internal Revenue Code of 1986, as amended (herein referred to as "IRC").

[10] Good summaries of the IRC section 482 legislation can be found in Abdallah, supra footnote 7; Robert T. Cole, "Allocations of Income and Deductions in Sale Transactions Between Related Entities and Competent Authority Procedures as a Solution to Pricing Disputes: The US Experience," in International Fiscal Association, *Special Seminar on Issues in International Transfer Pricing: Texts of Seminar Papers* (Don Mills, Ont.: De Boo, 1987), 9-41; Eden, 1976, supra footnote 7; Guenter Schindler, "Taxation of Intercompany Transfer Pricing: A Management Responsibility" (November 1986), 40 *Bulletin for International Fiscal Documentation* 479-501; Stuart R. Singer and Michael J. A. Karlin, "Multinationals and New Customs Law Will Have Broad Impact on Intercompany Pricing" (April 1983), 58 *The Journal of Taxation* 226-31; United States, Treasury Department, *A Study of Intercompany Pricing: Section 482 White Paper*, in *Standard Federal Tax Reports*, no. 53, extra ed. (Chicago: CCH, October 1988), chapter 1 (herein referred to as "the Treasury white paper"); United States, Internal Revenue Service, "Transfer Pricing Among Related Companies" (December 1988), 42 *Bulletin for International Fiscal Documentation* 516-22; United States, Internal Revenue Service, "US IRS Study of International Cases Involving Section 482 IRC" (May 1985) *Intertax: European Tax Review* 126-39.

[11] An IRS study found that tangibles pricing represented over 60 percent of the 4.4 billion dollars of recommended tax adjustments under IRC section 482 over the 1980 and 1981 fiscal years (United States, Internal Revenue Service, supra footnote 10, at 129). In terms of Canada-US intrafirm transactions, the study concluded that 3.6 percent of recommended adjustments were with Canada; of these, 23 percent were tangibles, 57 percent expense allocations, and 13 percent income allocations (at 132).

functional analysis (often performed by economists) is used to split profits on the transaction between the related parties.[12]

The IRC section 482 legislation is also affected by the 1986 tax reform. The "commensurate with income" standard is now applicable to valuation of intangibles.[13] As a result, the revised section 482 allocates the actual profit from the intangible to the related parties in proportion to their contributions to that income. Since then, the Treasury white paper has suggested that a functional analysis based on arm's-length rates of return should be used to satisfy the "commensurate with income" standard for intangibles.[14] Where both marketing and manufacturing intangibles are involved, they should be separated and the residual income after the arm's-length rate of return analysis should be split between the categories. A second tax change is the introduction of IRC section 1059 which requires that TPs on import transactions between related parties not exceed those prices used for US customs valuation purposes. The US customs value therefore becomes a quasi-fifth method of determining an arm's-length price under IRC section 482.[15]

The Canadian TP legislation, section 69 of the Income Tax Act,[16] was passed in 1972. It is much less developed than the corresponding US legislation.[17] Subsection 69(1) applies a fair market value criterion to the arm's-length criterion for intrafirm transactions. This section is designed to prevent related domestic firms from artificially shifting income or deductions among their divisions. Subsections 69(2) and (3) apply to international transactions and use the "reasonable under the circumstances" approach as the criterion for ensuring arm's-length transactions. Subsection 69(2) insists that intra-

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[12] On the use of functional analysis under IRC section 482, see Schindler, supra footnote 10; United States, Treasury Department, supra footnote 10; and Deloris Wright, "The Role of Functional Analysis in Intercompany Pricing," in *Special Seminar on Issues in International Transfer Pricing*, supra footnote 10, at 61-68.

[13] Intangibles have always been hard to value because exact comparables have seldom been available. In addition, tax authorities were particularly worried about the transfer of intangibles with a high profit potential (the "crown jewel" intangibles).

[14] United States, Treasury Department, supra footnote 10, at chapter 6, 45-55.

[15] Ibid., at 42.

[16] RCS 1952, c. 148, as amended by SC 1970-71-72, c. 63, and as subsequently amended.

[17] On section 69 of the Canadian Income Tax Act and Revenue Canada *Information Circular* 87-2, February 27, 1987, see George C. Baxter and Raymond A. Konopka, "Transfer Pricing Across the Canada-U.S. Border" (June 1985), 118 *CA Magazine* 50-55; Edwin C. Harris, "Intercompany Cross-Border Transactions: A Growing Concern for Revenue Canada" (June 1985), 118 *CA Magazine* 22-33; Roy D. Hogg, "Intercompany Pricing: A Canadian Tax Overview" (June-July 1983) *Intertax: European Tax Review* 224-38; Roy D. Hogg, "A Canadian Tax Overview of Transfer Pricing" (December 1983), 116 *CA Magazine* 54-62; William R. Lawlor, "Revenue Canada's Approach to International Transfer Pricing," in *Special Seminar on Issues in International Transfer Pricing*, supra footnote 10, 1-8; Allan R. Lanthier, "Canada: Tough Times Ahead for Multinationals?" (Winter 1989), 41 *The Tax Executive* 123-36; Allan R. Lanthier, "Canada: Draft Guidelines on International Transfer Pricing" (November 1986), 40 *Bulletin for International Fiscal Documentation* 487-96; and Robert J. Lindsay, "Canadian Issues in Transfer Pricing," in *Special Seminar on Issues in International Transfer Pricing*, supra footnote 10, 51-59.

corporate cross-border payments not exceed a reasonable amount, whereas subsection 69(3) insists that such receipts be not less than a reasonable amount.[18]

Although the 1987 Canadian tax reform did not directly involve TP regulations, in February 1987 Revenue Canada issued *Information Circular 87-2*, which was designed to set out its approach to applying section 69.[19] The circular defines "fair market value" in subsection 69(1) and "reasonable under the circumstances" in subsections 69(2) and (3) as potentially equivalent to the arm's-length price. The circular states that the primary method for calculating arm's-length prices is the comparable uncontrolled price. Other methods include resale price and cost plus.[20] A functional analysis is recommended when exact comparables do not exist. Revenue Canada is therefore now applying a modified version of IRC section 482, and is also following the approach outlined in the OECD 1979 report on MNEs and transfer pricing.[21]

Recent Tariff Policy Reforms
The Canada-US Free Trade Agreement

The largest policy change over the 1980s is likely to be the 1988 signing of the Canada-US free trade agreement (FTA). The FTA will eliminate tariffs between the two countries over a 10-year period and substantially reduce non-tariff barriers. The agreement also allows much freer movement of labour and capital between the two countries. Dispute settlement procedures were introduced to handle complaints of unfair trading.

The creation of a preferential trading area between the two countries is generating a series of plant rationalizations, mergers, and acquisitions as MNEs reallocate their businesses on a continental basis. In addition, the United States in particular is welcoming a flood of foreign investment inflows. The volume and value of trade, particularly intrafirm trade, is therefore expected to rise substantially, because of both the static and the

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[18] When a tax adjustment is made to one party, section 69 of the Canadian Income Tax Act does not require offsetting adjustments to the second related party. In practice, however, Revenue Canada has made such adjustments. Under IRC section 482, such adjustments are required. See Hogg in *Intertax: European Tax Review*, supra footnote 17.

[19] See the appendix to *Special Seminar on Issues in International Transfer Pricing*, supra footnote 10, at 69-79.

[20] According to Lindsay, supra footnote 17, at 53-54, the resale price method is used frequently and the cost-plus method infrequently, because of the high proportion of marketing subsidiaries relative to manufacturing subsidiaries in Canada, and the difficulty of obtaining foreign cost statistics.

[21] See Organisation for Economic Co-operation and Development, *Transfer Pricing and Multinational Enterprises,* Report of the OECD Committee on Fiscal Affairs, 1979 (Paris: OECD, 1979); and K. Messere, "OECD: Report on Transfer Pricing and Multinational Enterprises" (August 1979) *Intertax: European Tax Review* 288-93.

dynamic gains from the FTA.[22] As the volume and value rise, the need to regulate intrafirm cross-border transactions of both tangibles and intangibles therefore increases.

The Customs Valuation Code

Under the 1979 Tokyo Round of GATT negotiations, article 7 or the customs valuation code (CVC) was adopted, creating a uniform system of customs valuation among GATT member countries.[23] Most industrialized members have adopted the CVC, with the United States introducing it in 1981 and Canada in 1985.

The CVC provides for four methods of customs valuation: transactions value, deductive value, computed value, and derived value, to be used in descending order. Transactions value is the actual price of imported goods, adjusted for certain buyer and seller costs or revenues. In the case of transactions between related parties, the transactions value method is not allowed if the relationship affects the price, or if the transactions value does not approximate a test value (for example, the import price of comparable goods, or the deductive or computed value).

The new CVC is closely related to the transfer pricing regulations under the CIT codes. For example, transactions value is similar to the comparable uncontrolled price, deductive value to the resale price, and computed value to cost plus. Since customs valuations are made at the time of importation while tax determinations are often several years later, and customs information is available to tax authorities, an obvious recommendation is the adoption of the customs valuation as the TP for tax purposes. In 1986, the United States moved partly in that direction by restricting the TP for tax purposes to not exceed the customs valuation. The choice of the CVC as a ceiling for tax authorities suggests, however, that the primary motivation for the CIT is to raise US tax revenue rather than to promote efficiency and equity.[24] In addition, tax authorities may be hesitant to trust customs valuations. In a paper entitled "Valuation Principles: Canadian Customs Duties and Sales Taxes," Michael Stark notes that over 95 percent of US imports have been valued using the transactions value method since the CVC was introduced.[25] Revenue Canada, in contrast, has been reluctant to take the

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[22] Little has been written to estimate the effect of the FTA on multinationals. See, however, David F. Burgess, "The Impact of Trade Liberalization on Foreign Direct Investment Flows," in John Whalley, research coordinator, *Canada-United States Free Trade*, Collected Research Studies of the Royal Commission on the Economic Union and Development Prospects for Canada, vol. II (Toronto: University of Toronto Press, 1985); and Alan M. Rugman, *Multinationals and Canada-United States Free Trade* (Columbia, SC: University of South Carolina Press, 1990).

[23] On the customs valuation code see Lorraine Eden, "Transfer Pricing Policies Under Tariff Barriers" (November 1983), 16 *Canadian Journal of Economics* 669-85; Singer and Karlin, supra footnote 10; and Stark, supra footnote 8.

[24] That is, imports valued under the CVC are deductible costs for US firms. A ceiling limits the amount of such costs and thus the potential for tax minimization.

[25] Stark, supra footnote 8 at 1268.

CVC into account in applying section 69 of the Income Tax Act, and has gone so far as to note that the CVC and tax-based TPs can well differ. Given the high percentage of imports that are intrafirm, this is perhaps not surprising, since the tax loss from using the CVC could be substantial. In addition, with the elimination of customs duties between the two countries under the FTA, it becomes quite difficult to use customs valuations for the purpose of calculating CIT values under both sections 482 and 69.

Having outlined the major tax and tariff policy changes that have occurred or are occurring, let us now turn to modelling the likely multinational responses to those policies. The following section of this paper develops the model, and the next one contains the policy analysis.

MODELLING MULTINATIONAL RESPONSES TO TAXES AND TARIFFS

Assume that there is a horizontally integrated multinational manufacturing firm, consisting of a US parent (U) and a Canadian subsidiary (C). The subsidiary produces a finished good and also imports the same good from its parent, depending on relative costs and the transfer price charged on the intrafirm imports, for sale in the Canadian market.[26] The subsidiary pays head-office fees to cover technology and business intangibles provided by the parent, and also makes dividend payments to the parent.[27]

Each firm produces output, Q_I for sale locally, Y_I, or for export, X, where $I = U$ or C. We assume that the Canadian subsidiary is the importer, and that a Canadian tariff at rate τ is levied on imports. Intrafirm imports are priced at transfer price p for a total trade value of pX. US parent sales are therefore $Y_u = Q_u - X$, with revenues R_u, while affiliate sales are $Y_c = Q_c + X$, with revenues R_c. We assume the exchange rate between the two countries is e and that all variables are measured in US currency.

Each firm's net profit function is based on its taxable income, defined as its economic profit minus tax-deductible expenses. The initial tax payable is the CIT rate, t, times taxable income, from which tax credits are subtracted to determine the actual tax bill. Subtracting the actual tax bill from the economic profit determines the net profit of the firm, π_I. The net profit function for the Canadian subsidiary is therefore:

$$\pi_c = e\left[(1 - t_c)\{R_c - (1/e)(1 + \tau)pX - H\} - C_{kc} - w_h H \right.$$
$$\left. - (1 + w_d)D\right] \qquad (1)$$

where C_{kc} is the net-of-CIT cost of capital, K_c, employed by the affiliate.[28] (Labour costs are ignored for simplicity.) We assume the subsidiary is charged H for head-office services where H is deductible against the host country's CIT. The subsidiary remits H to the US parent firm after paying a withholding tax at rate w_h to the Canadian government. We treat dividends as a residual payment out of after-tax subsidiary profits; the subsidiary remits its dividends, D, to the US parent, net of a withholding tax at rate w_d paid to the Canadian government.

The after-tax profit function of the US parent is also calculated as the CIT times taxable income, minus tax credits. Taxable income equals domestic economic profits plus remittances from the subsidiary (after grossing up the dividends by the host CIT) minus other tax-deductible expenses. Both the Canadian CIT and withholding tax paid by the subsidiary are creditable up to the level of the US CIT. The profit function of the US parent can therefore be written as:

$$\pi_u = (1 - t_u)(R_u + pX) - C_{ku} + e[1 - (t_u - w_h)]H$$
$$+ e[1 - f\{(t_u - (t_c + w_d(1 - t_c)))/(1 - t_c)\}]D \qquad (2)$$

where C_{ku} is the net-of-tax cost of capital, K_u, employed by the parent. The variable f must be either zero (if the subsidiary has a surplus of foreign tax credits) or positive (a deficit of credits).

We assume the overall goal of the MNE is to maximize global net profits, $\pi = (\pi_c + \pi_u)$, subject to the constraints that $\Sigma Q_I = \Sigma Y_I$, and (the net return) $r = r_c = r_u$, where

$$\pi = e[(1 - t_c)R_c - C_{kc} + (1 - t_u)R_u - C_{ku}]$$
$$+ e[t_c - t_u]H + [(1 - t_u) - (1 - t_c)(1 + \tau)]pX$$
$$+ e[-w_d - f\{(t_u - (t_c + w_d(1 - t_c)))/(1 - t_c)\}]D \qquad (3)$$

The real decision variables for the MNE are K_c, K_u, and X; the MNE's financial decision variables are H, D, and p. Differentiating equation 3 with respect to K_c, K_u, and X, we have three first-order (that is, real) conditions for a net global profit maximum.

The first and second conditions determine the optimal amounts of plant investment (and hence output levels) in the two firms:

$$MRP_{kI}/P_{kI} = C_{gI} \qquad (4)$$

(where $I = C$ or U).

Equation 4 says that the marginal revenue product (MRP) of capital divided by its price, P, should equal C_{gI}, the tax-adjusted or gross cost of capital per

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[28] The calculation of the cost of capital can be found in Eden, supra footnote 5. See also economy-wide calculations in Michael Daly, Jack Jung, Pierre Mercier, and Thomas Schweitzer, "A Comparison of Effective Marginal Tax Rates on Income from Capital in Canadian Manufacturing" (November-December 1985), 33 *Canadian Tax Journal* 1154-92; and Michael J. Daly and Jack Jung, "The Taxation of Corporate Investment Income in Canada: An Analysis of Marginal Effective Tax Rates" (August 1987), 20 *Canadian Journal of Economics* 555-87.

dollar of capital expenditures. Note that although capital arbitrage ensures that the net return, r, is equalized between the firms, the gross costs of capital are unlikely to be equalized, since CIT rates, nominal interest rates, tax deductions, and credits are likely to differ between countries, and depreciation and leverage ratios to differ between firms.

The effective marginal tax rate facing each firm can be calculated as the gross cost of capital minus the net cost of capital as a percentage of the gross cost, where the net cost is the net return, r, plus the depreciation rate. Other things being equal, the higher (lower) the effective marginal CIT rate in country I, the higher (lower) the gross cost of capital and the less (more) capital investment allocated to that plant.

The third condition determines the optimal volume of intrafirm trade (and hence sales levels):

$$(1 - t_c) \, [eMR_c - (1 + \tau) \, p] = (1 - t_u) \, [MR_u - p] \tag{5}$$

which says that the MNE should balance the subsidiary's net marginal revenue, MR, from imports against the parent's net marginal cost of exports. The marginal revenue from imports equals Canadian marginal revenue from domestic sales, eMR_c, net of importing costs, $(1 + \tau) \, p$, in after-tax terms. The net marginal cost of exports equals US forgone marginal revenue in domestic sales, MR_u, minus earnings from exports, p, after tax.

The optimal financial decisions for the MNE are found by differentiating equation 3 with respect to p, D, and H. Since dividends are a residual item paid after all costs are deducted, the transfer price p and the amount of head-office charges can affect the optimal dividend payment.[29] We assume either or both governments impose constraints on the size of p, H, and D so that the optimal variables may have to be set at those upper or lower government-imposed limits rather than at the profit-maximizing ones.

The optimal level of D depends on whether a surplus or deficit of tax credits applies to dividends. In the case of a deficit of credits, since $t_u > t_c$ and $f > 0$, the optimal size of dividends is:

$$d\pi/dD = e \, (t_c - t_u)/(1 - t_c) < 0 \tag{6a}$$

In the case of a surplus of credits, where $f = 0$, the optimal amount of dividend repatriation is:

$$d\pi/dD = -ew_d < 0 \tag{6b}$$

Therefore in both deficit and surplus cases, the MNE maximizes profits by setting dividends at their lowest possible level. Thus the important tax variables influencing dividend repatriation are the statutory CIT rate and the dividend withholding tax rate.

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[29] For example, higher H reduces dividends by $\alpha \, (1 - t_c)$ times the change in H, whereas a higher p, given X, reduces profits by the change in p times $\alpha \, (1 - t_c) \, X$.

The optimal amount of head-office charges is:[30]

$$d\pi/dH = e(t_c - t_u) + (\delta\pi/\delta D)\,[e\,\alpha\,\{-(1 - t_c) - w_h\}] \tag{7}$$

Equation 7 shows that head-office charges have two effects on MNE profits. First, if t_c exceeds (is less than) t_u, head-office charges should be raised (lowered) since they are tax deductible in Canada and taxable income in the United States.[31] Second, higher charges reduce after-tax subsidiary profits and thus indirectly reduce dividends. The impact of higher H charges, via dividends, on MNE profits is unambiguously positive.[32] Thus the "dividend effect" tends to raise the optimal H if $t_c > t_u$, and to reduce it if t_u is higher. We assume this second effect is second-order small.

The optimal transfer price, p, is determined by:

$$\begin{aligned}
d\pi/dp = {}& [t_c - (t_u + \tau(1 - t_c))]\,X \\
& + (\delta\pi/\delta D)\,[\alpha\,\{-(1 - t_c)(1 + \tau)\,X\}]
\end{aligned} \tag{8}$$

The first square-bracketed term in equation 8 may be either positive or negative depending on the tax and tariff costs; that is, a higher CIT rate in Canada than in the United States tends to encourage overinvoicing, whereas Canadian tariffs encourage underinvoicing. If the Canadian CIT exceeds (is less than) the combined US CIT rate plus the tax-adjusted Canadian tariff, the MNE should over- (under-) invoice its exports to the Canadian affiliate. The second impact of the TP on profits, that via dividends, is unambiguously positive, but we assume it is second-order small and ignore it in what follows.

MULTINATIONAL RESPONSES TO CANADIAN AND US POLICY CHANGES

As outlined earlier, there have been several major recent changes in tax and tariff policies in both countries. Both have reformed their CIT structures and tightened their transfer pricing regulations. Both have adopted the new GATT customs valuation code, and in addition, moved to eliminate tariffs on cross-border trade. What effects are these policy changes likely to have on the TP, and output, trade, and financial decisions of US manufacturing firms with Canadian subsidiaries? Clearly, this is a complex area, and any conclusions must be covered in caveats. Given the importance of intrafirm manufacturing trade and investment flows to both countries, however, it is imperative at least to address and attempt to answer the question.

The Situation Before Tax and Tariff Reform

As our analysis has shown, two basic types of taxes influence MNE decisions: effective marginal tax rates influence capital investment decisions, while

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[30] That is, $d\pi/dH = e(t_c - t_u) + (\delta\pi/\delta D)(\delta D/\delta H)$ can be positive or negative. Since $D = \alpha\,\pi_c$, it follows that $\delta D/\delta H = \alpha\,\delta\pi_c/\delta H$. Substituting this into $\delta\pi/\delta H$ gives us the result.

[31] The withholding tax has no effect on the optimal amount of H because w_h is so low relative to t_u that the tax is always fully deductible in the United States. The net cost of H to the Canadian firm is $e(1 - t_c + w_h)H$, and to the US parent is $e(-1 + t_u - w_h)H$, for a total net cost to the MNE of $e(t_u - t_c)H$.

[32] Since $\delta\pi/\delta D < 0$, and the term in { } is negative.

statutory tax rates and tariffs influence financial and intrafirm trade decisions. These are summarized in the following table. We therefore must look at both tax measures in order to gauge the effects of tax reform on MNEs.

MNE Responses to Tax, Tariff, and Transfer Pricing Policies

1) *The capital investment decision* (where $I = C, U$),

$$MRP_{kI}/P_{kI} = C_{gI}$$

Depends on the marginal effective tax rate (METR), which influences the gross cost of capital, C_{gI}, in each country; the higher the METR, the lower the long-run new investment.

2) *The volume of intrafirm trade decision,*

$$(1 - t_c) [eMR_c - (1 + \tau) p] = (1 - t_u) [MR_u - p]$$

Depends on the net revenue from exports to the US parent relative to the net revenue from imports to the Canadian affiliate. Any change in statutory corporate income tax (CIT) rates, t_c and t_u, the Canadian tariff rate, τ, or the transfer price, p, alters this condition, forcing a readjustment in intrafirm trade; for example, if the tariff rises the net Canadian return falls, discouraging imports.

3) *The dividend repatriation decision,*

    a) Deficit of foreign tax credits,

$$d\pi/dD = e (t_c - t_u)/(1 - t_c) < 0$$

Reduce dividend remittances D on the basis of the relative statutory CIT gap between the two countries.

    b) Surplus of foreign tax credits,

$$d\pi/dD = - ew_d < 0$$

Reduce dividend remittances to avoid the Canadian withholding tax.

4) *The head-office charges decision,*

$$d\pi/dH = e (t_c - t_u)$$

If the Canadian CIT exceeds (is less than) the US CIT, increase (reduce) head-office payments by the subsidiary.

5) *The transfer pricing decision,*

$$d\pi/dp = [t_c - (t_u + \tau (1 - t_c))] X$$

Depends on the Canadian statutory CIT rate, t_c, relative to the combined US rate, t_u, and the Canadian tariff rate, τ. If t_c exceeds (is less than) $t_u + \tau (1 - t_c)$, the MNE should over- (under-) invoice the affiliate's imports. The choice of p may, however, be set by tax and customs authorities in both countries.

First, as equation 4 shows, capital investment decisions are influenced by marginal effective tax rates (METRs). In earlier research, I have estimated the 1981 METRs on new investment for a representative US manufacturing multinational with a Canadian subsidiary.[33] In 1981, the US statutory CIT

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[33] See Eden, supra footnote 5, for details. More general calculations can be found in Daly et al., supra footnote 28, and Daly and Jung, supra footnote 28. See also Neil Bruce, ''The Impact of Tax Reform on International Capital Flows and Investment,'' in *The Economic Impacts of Tax Reform*, supra footnote 5, 193-217, for a discussion of economy-wide METR changes due to tax reform. Given that statutory tax rates are substantially higher in non-manufacturing sectors of the Canadian economy, estimates of METRs for manufacturing are much lower than for other sectors. See Daly and Jung, supra footnote 28, for other sectors.

was 49.46 percent compared with a Canadian rate of 41.87 percent on manufacturing firms, taking into account CITs by both government levels. My estimates show that a representative manufacturing MNE in the United States faced a pre-reform negative METR of -33.86 percent (a subsidy) on new investment in 1981. The corresponding pre-reform METR on a representative Canadian manufacturing affiliate was also negative, -19.66 percent. Even though the US statutory CIT was higher than in Canada (49.46 percent compared with 41.87 percent), the US METR was more generous than the Canadian METR because of the higher US investment tax credit and the lower opportunity cost of capital, only partly offset by the higher Canadian capital cost allowance. The US METR was therefore 14.20 points lower than the Canadian METR in the pre-reform period, implying a tax bias toward new investment in the United States.

Second, equations 5 through 8 show that statutory tax rates, not METRs, affect MNE financial and trade decisions. Equation 7 reveals that, given a statutory rate differential in favour of Canada of 7.59 percentage points, US manufacturing multinationals would be expected to lower their office charges, since they are tax-deductible expenses in Canada and taxable income in the United States.[34] Dividend remittances would also be avoided, since the subsidiary faces a deficit of foreign tax credits (see equation 6).

The impact of CIT rates, section 482 and subsections 69 (2) and (3), and the Canadian tariff on the optimal TP is given by equation 8. After the Tokyo Round, both Canada and the United States cut their average tariff levels to approximately 8 percent on dutiable imports in Canada and 5 percent in the United States. Given pre-reform levels of taxes and tariffs and some flexibility in the choice of a transfer price, a profit-maximizing MNE would have chosen to underinvoice US exports to its Canadian affiliate. Given the statutory CIT rates and an average Canadian tariff rate of 5 percent, the US parent would have saved 10.50 cents per TP-dollar by charging a low export TP that shifted profits to the Canadian subsidiary.[35] Since a low TP reduces US taxable income, however, the price might have been disallowed under section 482.

Finally, in terms of the volume of intrafirm trade, equation 5 shows that, given the levels of taxes and tariffs, if underinvoicing of imports was (was not) allowed by the two governments, the MNE would have expanded (contracted) intrafirm trade flows, thus producing relatively less (more) in Canada.

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[34] With $t_c = 0.4187$, $t_u = 0.4987$, and $w_h = 0.15$, the effective net revenue per dollar of remitted H is -7.59 cents, discouraging MNE head-office remittances. Since the Canadian government bears $t_c - w_h = 26.87$ percent of the burden of H on the subsidiary in forgone taxes, while the US government receives $t_u - w_h = 34.46$ percent of the return from H to the US parent, it is not surprising that the US tax authorities encourage high H.

[35] The net return to the MNE from a high transfer price is $t_c = 0.4187$, while the effective cost is $t_u + \tau (1 - t_c) = 0.4946 + 0.05 (1 - 0.4187) = 0.5237$. Since the cost exceeds the return, the MNE sets a low price, to avoid both the tariff and the higher US CIT.

Most firms are unlikely to know their true economic profits. In this case they are likely to focus on measurable statistics, such as book profits. My earlier study also calculated average tax rates on book profits.[36] That study estimated that pre-reform average tax rates were 41.72 percent in the United States and 27.72 percent in Canada. The US rate was substantially higher because of the larger tax deductions available to manufacturing firms in Canada. Therefore MNEs were likely to underinvoice imports and minimize their head-office charges to avoid the extra US tax. With a 10 percent with-holding tax on dividend repatriations, the average Canadian tax rate on dividends was 34.95 percent in the pre-reform period. The typical Canadian manufacturing subsidiary therefore had a surplus of foreign tax credits and would face extra US taxes on remitted profits.

Therefore in the pre-reform period, we conclude that there was a marginal tax bias in favour of US capital investments, and statutory and average tax and tariff biases toward underinvoicing of Canadian intrafirm imports and minimizing of head-office and dividend remittances by manufacturing affiliates of US parents.

The Situation After Tax and Tariff Reform
Corporate Income Tax Reform

Tax reform in the United States reduces the statutory CIT rate to 34 percent; in Canada, tax reform reduces the rate to 33 percent by 1991, to all intents and purposes eliminating the spread in statutory rates. Although the statutory rates fall, tax incentives are reduced, which overall raises the METR on manufacturing firms. My earlier study estimated that US CIT reform causes the METR on new US investment to rise from −33.86 percent to −0.59 percent (that is, the subsidy falls).[37] Other things being equal, Canadian tax reform causes the METR to shift from a subsidy of 19.66 percent to a tax of 25.37 percent. In both cases, the sharp rise in METRs is due to the elimination of the investment tax credit and curtailed capital consumption allowances. The net impact of both reforms is an METR of 25.40 percent in Canada and a subsidy of 8.03 percent in the United States. The gap between METRs therefore widens compared with pre-reform levels, and manufacturing MNEs are likely to shift new investments out of Canada in the long run.

The 1986 US tax reform reduces the statutory CIT rate, reducing the value of the foreign tax credit. US foreign-source income tax legislation and IRC section 482 are both strengthened in order to shift taxable income to the United States from host countries. In the absence of the subsequent Canadian tax reforms, this would have left Canadian subsidiaries of US multi-nationals facing probable large surpluses of foreign tax credits. The incentive to remit dividends would have been substantially reduced. According to equation 8, our representative MNE would also have switched from under-

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[36] See also the recent paper by Douglas, supra footnote 5.

[37] Eden, supra footnote 4.

to overinvoicing its imports, given the positive net return to overinvoicing (a tax saving of $41.87 - 35.91 = 5.96$ cents per transfer-price dollar).

With Canadian tax reform, the gap in statutory rates is practically eliminated. Given the new statutory rates, dividend repatriation is still discouraged by the Canadian withholding tax. In terms of head-office charges, however, the incentive to manipulate such payments is eliminated. My estimates show that US tax reform lowers the average tax rate in manufacturing from 41.72 percent to 35.50 percent, while Canadian reform, other things being equal, raises the average tax rate from 27.72 to 32.23 percent. Combined with US reform, average post-reform rates are close: 33.35 percent in Canada and 37.57 percent in the United States. Coupled with a 10 percent withholding tax, the effective Canadian tax rate on dividends increases to 40.02 percent, giving the Canadian subsidiary a surplus of tax credits.

Reform of Transfer Pricing Regulations

The tax incentive for MNEs to manipulate transfer prices is also significantly reduced, since statutory CIT rates are almost equalized. Simple rate equalization is insufficient, however. If the tax authorities use different tax base definitions (for example, IRC section 482 enforces a high TP that raises the US parent's taxable income, but does not make the corresponding adjustment to the Canadian subsidiary), the incentive remains.

Similarly, the new "commensurate with income" standard for intangibles may create tax problems for MNEs. The 1988 Treasury white paper suggests allocating intangible income according to the rates of return each factor could earn in the marketplace.[38] The Treasury acknowledges that an integrated business may earn firm-specific rents arising from internalization that are unavailable to unrelated firms, but argues that the arm's-length standard applied to individual transactions is still the appropriate method for allocating income among MNE affiliates.

We can illustrate the Treasury's rationale for IRC section 482 using figure 2, which shows our Canadian subsidiary case. For simplicity we assume the Canadian firm has no monopoly power. Assume the subsidiary has a set of firm-specific advantages (for example, marketing intangibles) on which it earns per-unit rents of R. These rents are like a fixed, depletable resource that the MNE can use or store.[39] Given the transfer price of imports, p, and domestic marginal production costs, MC_c, and the domestic demand curve, D_c, the subsidiary chooses its output Q_c and sales Y_c such that (if the Canadian price is P_c) $P_c - R = MC_c = p$, and imports equal $Y_c - Q_c$. The economic

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[38] United States, Treasury Department, supra footnote 10, at 79-86. See also Lowell Dworin, "Transfer Pricing Issues" (September 1990), 43 *National Tax Journal* 285-91, and John Turro and Kathleen Matthews, "Treasury, IRS Seek To Clear Up Transfer Pricing Confusion at International Tax Conference" (December 1989), 1 *Tax Notes International* 582-84, for recent discussions of the IRS proposals.

[39] See John M. Hartwick and Nancy D. Olewiler, *The Economics of Natural Resource Use* (New York: Harper & Row, 1986) on depletable resources, types of rents, and Hotelling's rule.

Figure 2 The Pricing of Intangibles in a Horizontally Integrated Business
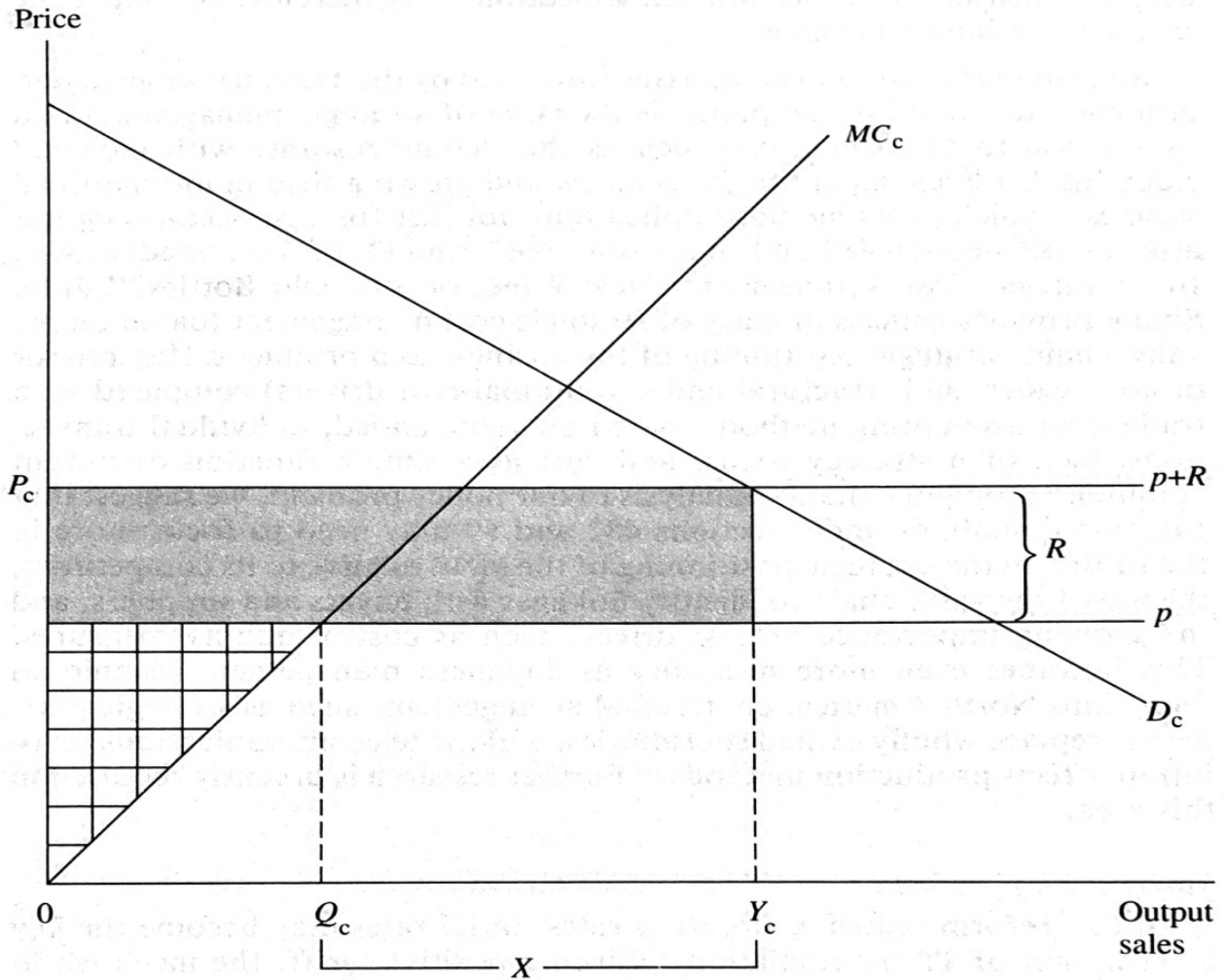
rent or scarcity value of its intangibles is the shaded rectangle. The Ricardian rent, based on the relative efficiency with which the MNE uses its labour and capital inputs, is the hatched triangle. Measured in terms of opportunity cost, the hatched and shaded areas together equal the true rents to the firm-specific advantages of the subsidiary.

The Treasury argues that the benefits from internalization show in a larger R for the parent;[40] however, internalization benefits are more accurately reflected by a fall in the MC_c curve (for example, economies of scale or reduced transactions costs) or a fall in the cost of imports (for example, because of TP manipulation to avoid tariffs). If there are supranormal rents because of monopoly power (which are not shown here), then R would capture both the supranormal and scarcity rents. Although arm's-length prices may make it feasible to measure labour, capital, and import costs, the split between scarcity and supranormal rents will be difficult to determine.

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40 Treasury white paper, supra footnote 10, at 82-83.

The use of a general rate of return on assets is clearly unlikely to be an accurate measure of *R*. Section 482 allocations may therefore be inaccurate measures of intangible assets.[41]

Related to the internalization issue identified by the Treasury white paper, although not raised in the paper, is the issue of strategic management and its relation to TP regulations such as the "commensurate with income" standard. Strategic management is a new and growing field in international business, which probably has implications not just for cost accounting but also for IRC section 482 and subsections 69(2) and (3) of the Canadian Act. In "Strategic Cost Management: New Wine, or Just Old Bottles?" John Shank provides a nice summary of strategic cost management (based on the value chain, strategic positioning of the business as a product differentiator or cost leader, and structural and executional cost drivers) compared with traditional accounting methods (based on value added, individual transactions, lack of a strategy focus, and cost as a simple function of output volume).[42] Applying Shank's analysis to our policy problem, we suggest that functional analyses under sections 482 and 69 may need to focus more in the future on the strategic positioning of the MNE relative to its competitors, the use of the value chain to identify linkages with buyers and suppliers, and the growing importance of cost drivers such as cost-of-quality measures. This becomes even more necessary as Japanese management techniques move into North America, contractual arrangements such as strategic partnering replace wholly owned subsidiaries, and the telecommunications revolution affects production methods.[43] Further research is urgently required in this area.

Tariff Policy Reform

With CIT reform reducing statutory rates, tariff rates may become the key determinant of TP manipulations. Given a positive tariff, the incentive to underinvoice imports still remains. There were also, however, two major tariff reforms over this period: the FTA and the adoption of the customs valuation code by both countries. Both changes should reduce the role of tariffs in MNE trade decisions; the first because the tariff rate itself shrinks, and the second because transaction value is now generally acceptable.

As we saw earlier, the only decisions that are directly influenced by the tariff are the volume of trade and transfer pricing decisions. Combining the tariff reforms with the tax reforms analyzed above, we see that these reforms

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[41] "Mirror, Mirror on the Wall," *The Economist*, July 28, 1990, 55, discusses some of these issues and proposes a rent measure similar to the Treasury's.

[42] John Shank, "Strategic Cost Management: New Wine, or Just Old Bottles?" (Fall 1989), 1 *Journal of Management Accounting Research* 47-65.

[43] The one work in this area is apparently by Eccles (supra footnote 7, at 79) who shows how business strategy can affect company TP policies; however, the only two strategy elements considered are the choice of vertical or horizontal integration and whether the various divisions are treated as distinct businesses.

substantially eliminate two of the major reasons for TP manipulation by manufacturing MNEs: statutory CIT differentials and tariffs.

CONCLUSIONS

The purpose of this article was to outline the major tax and tariff policy changes that affect US multinationals with Canadian affiliates in the manufacturing sector. We examined three changes: to the corporate income tax, to customs duties, and to transfer pricing regulations. We then used a microeconomic model of a horizontally integrated MNE to illustrate how tax and tariff changes would affect the MNE's profit-maximizing decisions. The model showed that marginal effective tax rates influence long-run real investment decisions, whereas statutory tax rates and tariff rates influence short-run trade and financial flows. We then analyzed the likely impacts of these tax and tariff reforms on intrafirm cross-border foreign direct investment, trade, and financial flows.

Our analysis shows that both countries were subsidizing new investments in the pre-reform period. With respect to the trade and financial flows, the US statutory and average rates were much higher than the Canadian ones, discouraging head-office and dividend remittances and encouraging underinvoicing of imports from US parents. Tax reform both reduces subsidies to new investment and widens the differential in favour of US-based investments. After tax and tariff reform, financial avoidance mechanisms appear much less likely. Not only is the United States substantially tightening its tax rules with respect to foreign-source income and transfer pricing, but also the tax and tariff incentives for such MNE manoeuvres are now reduced. As tariffs disappear between the two countries and statutory and average corporate tax rates are harmonized, the incentive to manipulate head-office charges and TPs between the two countries is substantially reduced. The joint impact of these changes may well be to increase the cross-border intrafirm flows from Canada to the United States.

It should be noted, however, that our analysis applies only to active business income of manufacturing multinationals. As Brian Arnold notes, this ignores a wide range of tax situations, including the effects of these policies on other industries, other types of transactions, other policies, and other countries.[44] For example, we have ignored the imminent introduction of the goods and services tax in Canada[45] and the unitary tax debate in the

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[44] Arnold, supra footnote 2.

[45] Another major change that starts in 1991 is the replacement of the Canadian manufacturers' sales tax with a value-added tax on all goods and services, the goods and services tax (GST). The GST will alter the relative prices of goods to services, and traded to non-traded goods, in Canada. Services will now be taxable; as a result of this base broadening, the same tax yield can be reached with a lower tax rate on manufactured goods. The GST is expected to raise the landed price of imports and reduce the FOB price of Canadian exports. Underinvoicing of intrafirm imports in order to avoid the GST appears to be a likely possibility. On the possible effects of the GST on multinationals see Bruce, supra footnote 33, at 214-16. Martin Feldstein and Paul Krugman, "International Trade Effects of Value-Added Taxation, in *Taxation in the Global Economy*, supra footnote 2, 263-78, discuss international aspects of value-added taxes.

United States.[46] Our results should therefore be qualified with the caveat that further work is clearly necessary in this most difficult and crucial of areas for Canada: the economic linkages between tax systems, trade policies, and multinational enterprises.

[46] On the unitary tax debate in the United States, see Richard M. Bird, supra footnote 2; George N. Carlson and Harvey Galper, "Water's Edge Versus Worldwide Unitary Combination," in Charles E. McLure Jr., ed., *The State Corporation Income Tax: Issues in Worldwide Unitary Combination* (Stanford, Cal.: Hoover Institution, 1984), 1-40. On the relevance of unitary taxes to Canada, see D. J. S. Brean and R. M. Bird, *The Interjurisdictional Allocation of Income*, Discusion Paper no. 304 (Ottawa: Economic Council of Canada, May 1986).

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