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Communiqué

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Consumers could benefit from bank mergers with removal of barriers to competition, says C.D. Howe Institute study

Ottawa should allow Canadian banks to merge if it wants low-cost banking services, concludes a C.D. Howe Institute Commentary released today. The study says that mergers would allow the banks to rationalize the staffing and physical infrastructure of their branch networks. But, it warns, ensuring that the benefits of the mergers will be passed on to bank customers requires that the federal government first remove remaining barriers to competition and permit wider entry of other domestic and foreign firms into the banking business.

The study, *Canadian Bank Mergers: Efficiency and Consumer Gain versus Market Power,* was written by G. Frank Mathewson, Professor of Economics and Director of the Institute for Policy Analysis at the University of Toronto, and Neil C. Quigley, Professor of Economics and Executive Dean, Faculty of Commerce and Administration at Victoria University of Wellington, New Zealand, and an Adjunct Scholar of the C.D. Howe Institute. The study is the second in a special series of Commentaries called "The Banking Papers."

Mathewson and Quigley note that an often-cited rationale for the proposed mergers of Canadian banks is that they will yield banks that are among the 25 largest in the world. Yet size matters only insofar as economies of scale reduce operating costs, producing savings that are passed on to customers. Increased size may make it easier for the banks to reduce costs by rationalizing back-office facilities, processing huge numbers of transactions at a few sites, and consolidating their software and basic products such as mortgages and commercial loans.

New technology also means that branches have become much less important as a vehicle for the delivery of banking services. As a result, Canadian banks now have too many branches for efficient operation. Mergers, say the authors, are an attractive route to a lower-cost retail network.

The authors suggest that the potential savings to be gained from domestic bank mergers may be in the order of 20 percent of noninterest costs. For the Royal Bank of Canada and the Bank of Montreal alone, 20 percent of the costs of salaries, premises, and equipment in Canada would be in the order of $1 billion a year, which is indicative of the resource cost to Canada should their proposed merger be prohibited.

Mathewson and Quigley argue that, for Canadian consumers to realize the benefits of mergers, the federal government must first remove impediments to competition, such as restrictions on foreign ownership. At the same, time, the entry of other firms, domestic or foreign, into the market for banking services should be subject only to approval by the Competition Bureau and the Office of the Superintendent of Financial Institutions.

Finally, the authors say, Finance Minister Paul Martin and others who worry that Canadian bank mergers would produce job losses should understand that the banks have no obligation to avoid staff reductions that would improve efficiency in the Canadian economy. Requiring them to do so would entangle the business of banking with social policy and the redistribution of income. Government has better ways to handle social policy, the authors argue. And to those who worry that the loss of bank branches would greatly inconvenience retail customers and small businesses, the authors suggest that many transactions (including small business transactions) are already easier and cheaper if performed with computer technology. For transactions that require personal contact, the banks are already adopting the traditional approach employed by the insurance industry and sending out mobile officers; banks in New Zealand have been using this strategy, with much success, in rural and urban areas.

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Communiqué

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Les consommateurs pourraient tirer profit des fusions des banques si l'on élimine les obstacles à la concurrence, indique une étude de l'Institut C.D. Howe

Le gouvernement fédéral devrait permettre aux banques canadiennes de fusionner s'il veut des services bancaires à coût moindre, conclut un Commentaire de l'Institut C.D. Howe publié aujourd'hui. L'étude indique que les fusions permettraient aux banques de mener à bien une rationalisation des effectifs et de l'infrastructure physique des réseaux de succursales. Mais elle contient également une mise en garde : pour que les avantages d'une fusion profitent à la clientèle des banques, le gouvernement fédéral doit commencer par éliminer les obstacles encore existants à la concurrence et laisser d'autres entreprises nationales et étrangères accéder au secteur des services bancaires.

L'étude, intitulée *Canadian Bank Mergers: Efficiency and Consumer Gain versus Market Power (Fusions des banques canadiennes : l'efficience et les avantages pour le consommateur par rapport au pouvoir sur le marché),* est rédigée par G. Frank Mathewson, professeur d'économique et directeur de l'Institute for Policy Analysis à l'Université de Toronto et Neil C. Quigley, professeur d'économique et doyen exécutif de la Faculté de commerce et d'administration à l'Université Victoria de Wellington (Nouvelle-Zélande), ainsi qu'attaché de recherche auprès de l'Institut C.D. Howe. Il s'agit de la deuxième étude dans la série spéciale de Commentaires intitulée « Les cahiers bancaires ».

MM. Mathewson et Quigley indiquent que l'argument souvent invoqué en faveur de la fusion proposée des banques canadiennes est que l'on aurait ainsi des banques figurant parmi les 25 les plus importantes au monde. Cependant, la taille n'importe que dans la mesure où les économies d'échelle diminuent les frais d'exploitation, ce qui entraîne des économies qui sont ensuite transmises à la clientèle. En augmentant de taille, les banques pourront réduire leurs frais grâce à la rationalisation des bureaux administratifs, au traitement d'une énorme quantité de transactions à un nombre limité d'emplacements, et à la consolidation des logiciels et des produits de base comme les hypothèques et les prêts commerciaux.

La nouvelle technologie impose également une importance réduite des succursales comme véhicule de prestation des services bancaires. Les banques canadiennes comportent présentement trop de succursales pour fonctionner efficacement. Selon les auteurs, les fusions représentent un moyen intéressant de se diriger vers un réseau de détail à coût moindre.

Les auteurs suggèrent que les économies que l'on pourrait réaliser grâce à la fusion des banques nationales seraient de l'ordre de 20 % des coûts non liés aux intérêts. Rien que pour la Banque Royale et la Banque de Montréal, un pourcentage équivalent à 20 % des salaires, des installations et du matériel au Canada représenterait environ 1 milliard de dollars par an, ce qui est indicatif du coût des ressources pour le Canada si l'on interdisait la fusion envisagée.

Selon MM. Mathewson et Quigley, pour que les consommateurs canadiens profitent des avantages qu'offrent les fusions, le gouvernement fédéral doit commencer par éliminer les obstacles à la concurrence, comme les restrictions portant sur la propriété étrangère. Dans un même temps, l'accès d'autres entreprises, qu'elles soient nationales ou étrangères, au marché des services bancaires, ne devrait être soumis qu'à l'autorisation du Bureau de la concurrence et du Bureau du surintendant des institutions financières.

Finalement, indiquent les auteurs, le ministre des Finances, Paul Martin, ainsi que tous les autres qui se soucient de la perte d'emplois qu'entraîneraient les fusions de banques canadiennes devraient comprendre que celles-ci ne sont pas dans l'obligation d'empêcher toute réduction des effectifs qui améliorerait l'efficience de l'économie canadienne. En les obligeant à agir ainsi, on mêle les affaires bancaires à la politique sociale et à la redistribution du revenu. Le gouvernement dispose de meilleurs moyens pour traiter la politique sociale, soutiennent les auteurs. Quant à ceux qui s'inquiètent d'une diminution des succursales bancaires, qui selon eux serait préjudiciable à la clientèle de détail et aux petites entreprises, les auteurs suggèrent que de nombreuses transactions (dont celles des petites entreprises) sont déjà d'une simplicité accrue et moins onéreuses lorsqu'elles sont traitées par l'informatique. Et pour ce qui est des transactions exigeant un contact personnel, les banques ont déjà adopté l'approche traditionnellement employée par le secteur des assurances en dépêchant des agents mobiles; les banques de la Nouvelle-Zélande ont recours à cette stratégie dans les régions rurales et urbaines, et celle-ci a été couronnée de succès.

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Canadian Bank Mergers:

Efficiency and Consumer Gain versus Market Power

by

G. Frank Mathewson
and
Neil C. Quigley

The recent proposals for merger between the Bank of Montreal and the Royal Bank of Canada and between the Canadian Imperial Bank of Commerce and the Toronto Dominion Bank are part of an international trend toward consolidation in the banking industry, driven, at least in part, by technological changes that are making a dense network of branch banks less and less necessary for competition.

These mergers may assist the banks in achieving the substantial cost savings needed to provide Canadian consumers with world-class banking services. It will, however, also be necessary to retain competitive vigor if the benefits of the mergers are to be passed on to consumers of banking services.

If the federal government wants low-cost banking services for consumers, it must allow the banks to rationalize the staffing and physical infrastructure of their branch networks, a goal most readily achieved through domestic mergers. But the benefits of such mergers can be realized only if the government first permits other firms, domestic and foreign, to enter the banking business in Canada.

Main Findings of the Commentary

- One of the much-quoted rationales for the proposed mergers of Canadian banks is that they will yield banks that are among the 25 largest in the world. Is this a good reason for supporting the mergers? Probably not. Size matters only insofar as economies of scale reduce operating costs, producing savings that are passed on to customers.
- Technological advances are making face-to-face transactions less and less necessary for banks' customers. The same kind of advances are making it possible for banks to reduce their back offices, processing huge number of transactions at a few sites, and to consolidate their software and basic products such as mortgages and commercial loans.
- One result of the new technology is that Canadian banks now have branches that are too numerous and too large for efficient operation. Because competition among firms of similar size with similar products offers a relatively slow and uncertain reduction of branch overcapacity, mergers are a more attractive route to a lower-cost retail network.
- There are no definitive sources of data on the potential savings to be gained from domestic bank mergers. Some US studies find no efficiency gains, but the relevance of the data used is doubtful and the US banking regime is so different from the Canadian that comparison may be inappropriate. Information from other countries suggests that 20 percent of noninterest costs is a reasonable figure. For the Royal Bank of Canada and the Bank of Montreal alone, 20 percent of the costs of salaries, premises, and equipment in Canada would be in the order of $1 billion a year. This amount indicates the resource cost to Canada should their proposed merger be prohibited.
- For Canadian consumers to realize the benefits of mergers, however, the federal government must first remove impediments to competition, such as restrictions on foreign ownership. Open entry will enhance competitive vigor to discipline banks to offer the optimal quantity and quality of facilities, services, and products on the most favorable terms to customers. The entry of other firms, domestic or foreign, to the market for banking services should be subject only to approval by the Competition Bureau and the Office of the Superintendent of Financial Institutions.
- Finance Minister Paul Martin and many others worry that Canadian bank mergers would produce job losses. But it is inappropriate to suggest that the banks have an obligation to avoid staff reductions that would improve efficiency in the Canadian economy. Such a requirement would entangle the business of banking with social policy and the redistribution of income. Government has better ways to handle social policy.
- Other commentators worry that the loss of bank branches would greatly inconvenience retail customers and small businesses. What they are overlooking is the possibility that many transactions (including small business transactions) are already easier and cheaper if performed with computer technology. For transactions that require personal contact, the banks are already adopting the traditional approach employed by the insurance industry and sending out mobile officers; banks in New Zealand have been using this strategy, with much success, in rural and urban areas.

The recent proposals for merger between the Bank of Montreal and the Royal Bank of Canada and between the Canadian Imperial Bank of Commerce and the Toronto Dominion Bank are part of an international trend toward consolidation in the banking industry. Proponents of the mergers argue that the banks need to be larger to compete in the modern global banking industry and that it is important for the long-run development of the Canadian economy to have some globally competitive banks that are Canadian owned and Canadian domiciled. Opponents of the mergers focus on their impact on competition, especially as reflected in the cost and availability of financial services for small business and isolated communities, and worry that consolidation will put large numbers of bank employees' out of work.

In Canada, mergers between banks require the approval of the Competition Tribunal, the Office of the Superintendent of Financial Institutions (OSFI), and the minister of finance. The decision of the latter is likely to be based on a broad assessment of the costs and benefits of consolidation in the banking industry and to be materially influenced by the outcome of the broader public policy debate that will take place.

This paper is an attempt to contribute to and inform that public policy debate. In it, we

- examine why banks want to merge, and provide an economic analysis of the primary factors in the current merger movement, including consideration of economies of scale and scope and of excess capacity;
- assess the competition issues that are raised by prospective mergers between the large Canadian banks, which entails considering the definition of *the market* appropriate for analysis of the impact of such mergers on competition;
- outline the potential savings to be obtained from rationalizing the domestic branch networks of the Canadian banks;
- consider the social policy issues raised in the debate;
- evaluate the potential benefits from within-market (domestic) mergers and cross-border (international) mergers; and
- consider the costs and benefits of permitting foreign banks freer entry to the Canadian market.

In our conclusion, we suggest that better and/or lower-cost banking services can be provided only if the banks can reduce their costs and if competition remains sufficiently vigorous to force the banks to pass those savings on to consumers.

We suggest, therefore, that domestic mergers in the Canadian banking industry would provide benefits for Canadian consumers if and only if the government allows the rationalization of the branch network and domestic staffing and if it permits the entry of other firms, domestic and foreign, into the market for banking services. Open entry would enhance competitive vigor to discipline banks to offer the optimal quantity and quality of facilities, services, and products on the most favorable terms to customers. Under these conditions, Canadians could expect to benefit from the strengthening of the economy that would result from the availability of more efficient banking services and improved resource allocation.

The Forces for Merger

Both theoreticians and government regulators ask two questions in assessing any proposed merger: Will it result in the unilateral enhancement of the merged firms' market power to the detriment of competition? Will it facilitate collusion (noncompetitive behavior) among the group of competitors remaining in the market?

Critical to any examination of the competitive vigor that would remain in the market after a merger are barriers to the entry of new firms. Also important is some understanding of factors — perhaps in the underlying economy, perhaps in changing markets or changing technology — that may be driving firms toward merger.

Why Banks Want to Merge

Much has been written about the economic factors underlying recent bank mergers in the industrial countries. We do not aim to repeat it here. Instead, we provide a brief summary of what we see as the key issues.

1. *New retail technology.* A large proportion of the transactions traditionally processed in bank branches is now directed through alternative channels, such as bank machines, direct debit terminals, the telephone, and the Internet. This shift away from the processing of routine cash-management transactions by the staff of the bank branches has occurred because the new technologies are more convenient for consumers and lower cost for the banks. The result is that banks no longer require the density of branches or the sheer amount of branch floor space they needed even ten years ago.

   Thus, they have excess capital and staff resources invested in branch offices, and this excess capacity keeps their costs above the efficient level. In particular, their costs are above those of new entrants to the market that rely solely on new delivery technologies. (An example is the monoline financial services company, a firm that specializes in low-cost, large-scale delivery of a single standardized product, such as credit cards or mortgages.)

2. *New head-office technology.* Advances in computer systems, communications, and software make it feasible to process an ever-larger number of transactions at a single back-office site. It is also feasible to integrate the operations of branches and subsidiaries around the world through the use of standard software. (Such software is now sophisticated enough to allow local customization of products within defined parameters while simultaneously ensuring international consistency in the core products delivered.)

3. *Vertical disintegration of financial services markets.* The traditional full-service retail bank is a vertically integrated producer of wholesale and retail banking products. The complete integration of computers for the management of bank data has opened up the possibility of outsourcing a range of functions because it allows the interchange of electronic data between independent institutions and accurate pricing of various components of the services provided at different levels of the hierarchy. Consequently, funds management, product design, and product distribution need not be undertaken within the same firm.[1]

4. *Competition from niche players that do not have the fixed costs of the branch network and that can focus on particular products or client groups.* This type of competition challenges the existing full-service banking firms in two respects. First, it means that niche players will identify those products and services that are currently being provided at prices above their stand-alone costs (in other words, consumers of these products are subsidizing other customers of the bank) and offer them at lower prices. Second, it forces the existing banks to go even further than they already have in estimating the actual cost of each individual

service or product provided and in pricing at that cost.

Of the factors just listed, we see vertical disintegration and niche competition as the mechanisms by which market forces are placing pressure on the banks to adjust their cost structures, while excess capacity in physical branches and changes in systems technology are the fundamental cost issues.

The Importance of Size and Efficiency

Much of the comment from the Canadian banks that wish to merge and from the press reporting their statements has focused on the importance of size as an independent factor in determining the competitiveness of a financial institution. Matthew Barrett, for example, opened his recent address to Bank of Montreal shareholders with the statement: "The creation of this new bank would restore a Canadian bank, measured by market capitalization, to a place among the top 10 in North America and the top 25 in the world."[2]

Should having banks whose capitalization is among the top 25 in the world be a goal of Canadian public policy or support the public policy case for the approval of mergers?

Size does matter in some types of banking business. For example, the borrowing requirements of the largest corporations may represent such a large proportion of the equity of a small bank that its providing all of the credit one of them needed would be imprudent. For this reason, a large corporate borrower often splits its business among several different banks. Although arranging business in this way may be relatively costly in some respects, this diversification of business across several institutions may provide advantages for both the borrower and the banks.

Size also matters for the efficient use of back-office systems, allowing their costs to be spread over a larger number of branches and customers. Recent technological change has increased the potential for obtaining economies of scale in this way.

Increasing size may, however, raise costs in certain circumstances. Larger banks face greater costs of coordination than smaller banks and may be less responsive to new business opportunities.

Overall, our assessment is that relative size matters only if there are economies of scale in banking. In other words, what matters is reaching the size at which the cost of supplying services is minimized, and this size may vary from bank to bank and from product to product. Whether this size makes the bank the tenth or the hundredth largest in the world is irrelevant except insofar as relative size is a measure of the low-cost operating size. A problem for a full-service bank is that its efficient operating size across all products may be less then the size of specialized single-line companies in the credit card or funds management business.

Economies of Scale and Scope

Underlying the factors driving changes in the banking industry are what economists call economics of scale and scope.

Static Aspects

Financial institutions are multiple-product firms whose output is spread over transactions services, deposits, loans, and funds management. In competing in the market, financial institutions must seek to achieve an efficient scale of operation and to provide the optimal package of products. The particulars of the efficient scale and the optimal package of products depend on existing production technology and complementarities in the production and / or consumption of these goods.

Consider each. If a firm produces only a single output, then economies of scale exist if average costs decline as the scale of the firm increases — if it costs less to produce multiple units of any product than to produce each individual unit separately.[3]

This definition extends easily to multiple outputs, such as the various services produced by financial institutions. If it is cheaper for a financial services firm to produce a range of products together, rather than producing each product independently, then this firm realizes economies of scope. If the demands for these products have common elements, they cost less to sell, and consumers prefer to buy them from a single supplier rather than from separate suppliers.[4] If there are common elements in consumer demand but not in production, then banks may act as distributors of other firms' products (as they do for general insurance products in Australasia and Europe).

Dynamic Aspects

Changes in technology can alter both the efficient scale of operation and the optimal composition of the bundles of products and services any firm provides. For example, we have already noted the entry of monoline niche players into the financial services marketplace. This strategy avoids the cost of producing other services, but it requires prices and service levels attractive enough to induce some consumers to purchase the single product, rather than pay a slightly higher price for it as part of a bundle from a full-service institution.

As technological change and consumer preferences alter the relative costs of producing and distributing items independently and as part of packages, efficiency may require that the range of products offered by full-service banks change through time. They face pressure to adopt to a changing market by altering their product mixes and their delivery systems. They must also be forward-looking because changes in product offerings and capacity require time to complete and to position in the market, and mistakes can be very costly in terms of both lost business and the investment required to adjust later.

Changes in technology can also offer opportunities to substitute across inputs into production — for example, to substitute computer technology and information networks for labor. One result is changes in the demand for labor skills. Another may be a reconfigured financial production system that can service a larger customer base (both wholesale and retail) with enhanced customer offerings such as on-line, real-time financial services.

The net result may be an efficient scale of operation that is larger than it used to be. For example, a streamlined head-office function may support a larger and more diverse distribution network.

Excess Capacity and Rationalization

A piece of theoretical wisdom is that oligopoly markets (markets with a small number of firms) with economies of scale in production and no barriers to the establishment of new outlets can be characterized by too many outlets.[5] Banking in Canada is currently such a market. How does the excess-capacity claim stack up here?

Consider retail banks, which have historically competed through branch location as well as on other dimensions of service and price. The excess-capacity claim is that open entry in the presence of fixed costs for branches leads the banks to establish too many branches.

The argument goes as follows. Open entry means that, if a bank can find profit in establishing another branch, it will do so. So will its rivals. Thus, banks compete through branching until their profits reach competitive levels.

Meanwhile, to pay their fixed costs, all banks impose service charges that exceed the marginal cost of providing the service. For a rival bank, the loss of a customer means the loss of demand and the corresponding markup on the service, a profit externality imposed by the bank establishing the branch.

This tendency to compete vigorously through branching, even in the face of a relatively inelastic demand for banking services, has marked Canadian banking for many decades. That strategy is one often labeled *trade diversion* or *business stealing*. When a bank introduces a new branch in a specific location, it expects to divert mobile customers from the branches of rival banks. The bank establishing the branch does not take account of this lost profit by its rivals, causing too many branches in the system.

As the externalities imposed on any rival are internalized in a more concentrated network (one with fewer rivals), trade diversion effects are more likely to be present when the oligopoly has more equal-sized firms — the historical case in Canadian banking.

Why Rationalization Now?

The introduction of new technologies for the delivery of retail banking services has reduced the number of consumers who are willing to pay for the provision of basic services through full-service branches. Nevertheless, a low tolerance for new technologies or a willingness to pay a higher price for service through a branch means that branch locations are still important for a significant number of customers. Thus, though the banks face a reduced payoff from competition through branch location and therefore desire a reduced density of branch offices, location still matters and consumers in general continue to pay higher-than-necessary service charges.

The continued importance of branch service for some customers means that any individual bank undertaking a unilateral program of branch rationalization risks losing customers to banks that have more convenient branch locations. This statement is in accord with the evidence that Canadian banks are already undertaking some rationalization of their branch networks but that they are not able to achieve the desired reduction in the density of those networks without some form of cooperation or mergers. It also suggests that the formation of coalitions between banks whose branches most directly compete would provide the greatest scope for branch network rationalization with the least risk of loss of customers to competitors. In the following subsections, we consider why mergers are preferred to cooperation and competition as vehicles for branch rationalization.

What Are the Constraints on Cooperation?

One potential means by which the banks could achieve cost savings from reduced consumer demand for branch services would to cooperate in the closing of branches. Doing so might involve agreements between banks to close branches in a way that minimized the potential loss of customers for all institutions or agreements not to accept customers wishing to transfer their business as a result of the closure of their local branch. But this approach would present two problems.

First, competition laws in general do not permit firms to coordinate either their price or their nonprice competition. As a result, any attempt on the part of competing firms to cooperate to reduce the size of their retail networks (and therefore the intensity of their nonprice competition) would run into competition hurdles.

Box 1: ***Cost Reductions and Increases in Output to Obtain Economies of Scale: The Basic Economics***

Suppose that a bank produces a single financial service. In the presence of fixed costs, it faces a downward sloping demand curve for its output, produces where this demand curve is tangent to the average cost curve, *AC*, and thus spreads its fixed costs over too few units of output (see Figure 1).

To spread its fixed costs over more units of output (to obtain economies of scale), the bank must either reduce its fixed costs while holding output constant or increase output (market share). Figure 2 illustrates both possibilities.

Figure 1: ***A Bank's Average Cost and Residual Demand Curves***

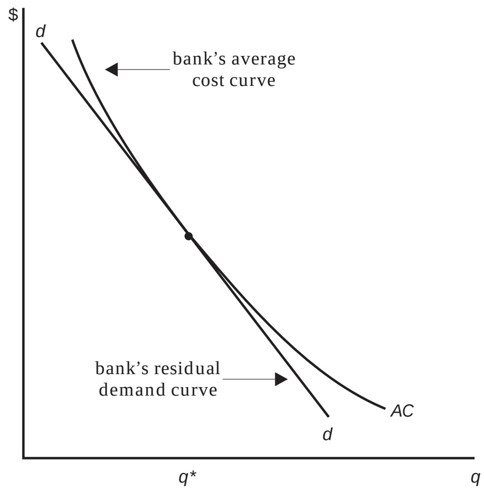
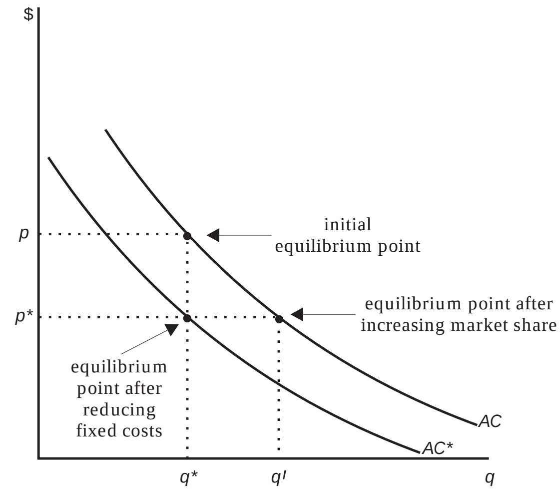


Figure 2: ***A Bank's Equilibrium Points after Reducing Infrastructure or Increasing Market Share***



Because *AC* is downward sloping over the feasible range of output, this bank faces economies of scale; it can lower its average cost and reduce prices if it can increase output.

But Figure 2 also includes a second average cost function, AC^*, which the bank can achieve by reducing its use of physical branch infrastructure for the delivery of services. The rationalization would allow it to offer the services, q^*, at the lower price, p^*.

It can also obtain economies of scale through expansion of market share, such as an expansion of output to q' while on *AC* in Figure 2.

Second, although sharing retail locations is one way to rationalize retail operations, competing banks have control reasons for being unlikely to do so. In a sense, however, they do now share retail locations through automated teller machines. ATMs are part of the new computer-driven retail technology and do not present control problems for cooperating banks. Accessing an account from a rival bank's ATM does require a connect fee. (And the terms and conditions for entry to this system were the subject of a competition case in Canada, the *Interac* case.)

Why Mergers and Not Competition?

Firms can reduce their costs by achieving economies of scale through either merging or using competition to increase their market share (see Box 1). Why do Canadian banks currently prefer mergers?

The reason is probably that competition for market share runs up against the following problems. First, Canada has a number of banks of very similar size, market profile, and technical capability. In a competitive market, each is likely to pursue much the same strategy. As a result, none can much increase its market share.

Second, the customers of any given bank are locked in to the extent that they face significant transactions costs in transferring all of their banking business. They have to perceive more than trivial differences in benefits between their existing bank and its competitors to make moving their business worthwhile (especially in a vigorous competitive environment where any price differences may be transitory).

Finally, no bank is likely to be able to increase its output to a level that would justify retention of all existing branches. This is true because technological change has reduced the value that many consumers place on branches as well as because other banks would likely match both price and nonprice competition for market share. (Of course, as long as there are some consumers who want and need branches and as long as a local market has a sufficient number of them who are willing to pay the fixed cost of maintaining a branch, even in a more consolidated industry, some such branches will remain.)

What mergers do is allow the combined banks to close redundant branches and still have a (now-combined) branch presence in a community. Some customers will continue to value a branch presence, so it will pay banks to retain one, albeit on a reduced scale. If it is more costly for banks to offer products through a branch than through other service channels, then customers who desire branch service may face a differential fee.

Closing branches and rationalizing their networks will save resources for the banks. This does not, however, mean the withdrawal of bank services. Rather, the savings will arise primarily from the substitution of more efficient distribution channels, such as the Internet, telephone, and mobile bank service delivery to customers' homes and businesses.

Will Customers Enjoy Lower Costs?

It is critical that the merged banks face sufficient competitive discipline to force them to pass on to customers, in the form of lower prices, some of the cost savings that flow from a rationalized bank service network.

Competitive vigor plays a second role: It disciplines the merged banks to offer the menu of banking services customers desire. In the face of competition, any merged bank that ignored its customers' wishes for financial services would lose its mobile customers to other, more responsive financial services firms.

Competitive vigor comes from low barriers to entry into banking and financial services. The potential for entry into banking exists for other Canadian financial services firms that do not currently offer banking services, such as insurance companies and mutual funds, as well as a range of nonfinancial sector firms, such as retailers and telecommunications companies. In fact, coalitions of such firms could offer strong competitive alternatives to banks provided there were no regulatory impediments to their accessing core facilities, such as the payments system.

Competitive discipline could also come from foreign banks and other financial institutions if they could compete with Canadian banks on equal terms. This would require the dismantling of the 10 percent foreign ownership rule and any other impediments foreign financial services firms face in competing in Canada with the merged banks. While we have not undertaken a detailed examination of the competitive impediment of each hurdle domestic nonbanks and foreign financial institutions face, ease of entry and the elimination of entry barriers are *sine qua non* for a competitive financial marketplace.

Furthermore, it would be optimal to eliminate entry barriers and permit full-fledged competition in Canadian financial markets before mergers are approved. Permitting merged banks to enjoy protection in the Canadian market would open up the possibility of so politicizing the entry process that the day of competitive reckoning might be put off indefinitely.

Market Definition

Having outlined the factors that are focusing competition in the banking industry on the use of domestic mergers as a vehicle for rationalization, we now begin our consideration of the competition issues that such mergers raise.

Any analysis of the impact of a bank merger on competition requires that the relevant product and geographical markets be defined. In the case of the proposed mergers between Canadian banks, the definition of *the market* requires answers to three interrelated questions:

- Do the activities of institutions chartered under the *Bank Act* provide an exclusive definition of the relevant market, or should a range of near banks and other financial services firms be considered competitors? In answering this question, particular attention needs to be paid to any competitive advantages or disadvantages bestowed by legislation. Access to the payments system and to membership in the Canada Deposit Insurance Corporation (CDIC) may differentiate banks and near banks from some classes of potential competitors. Other special privileges provided by the *Bank Act* may differentiate banks from near-bank competitors such as credit unions.
- Should the product market be defined as the cluster of banking services provided by full-service retail banks in Canada, or does each of the individual products in this cluster constitute a market in its own right?
- Should individual neighborhoods, towns, or regions be viewed as markets, or are the relevant markets national in scope?

Any competition analysis must answer these questions before weighing the possible efficiency gains against any prospective reduction in competitive vigor, a task made more difficult by the fact that within-market mergers involving substitutable assets may offer the largest potential cost reductions but also raise the most concerns about the impact on the extent of rivalry in the market.

Canadian competition law offers few relevant precedents on these issues of definition (see Box 2). We first review the Competition Bureau's proposed approach and then consider the approaches adopted in other countries. We then present our own view of the key issues as they relate to the assessment of any merger in Canada.

Competition Bureau Policy Guidelines

In 1991, the Competition Bureau issued its general *Merger Enforcement Guidelines.*[6] In November 1997, as part of its submission to a federal government task force, the bureau issued the "Merger Enforcement Guidelines as Applied to a Bank Merger."[7]

The latter document provides "the analytical framework used by the…[Bureau] when assessing the competitive effects of a merger, …involving two or more Schedule I banks."[8] As the document indicates, at the time these guidelines were issued, the bureau had not undertaken a major bank merger review (although it had reviewed several Schedule II bank mergers) and reserved the right subsequently to refine and revise its views.

As a general matter in defining markets, the bureau looks to the extent to which the merging parties supply substitute products and identifies suppliers who are competitors

Box 2: *The (Ir)relevance of Imperial Oil*

The only retail merger case considered to date by the Competition Tribunal has been that of Imperial Oil/Texaco. The consent order eventually approved by the tribunal, in January 1990, contained a number of detailed retail divestiture provisions that had been negotiated between Imperial Oil and the director of the Competition Bureau. Even though both banks and gasoline refiners have retail operations, the Imperial Oil decision offers little guidance to any currently contemplated bank mergers.

First, as discussed later in the text, branches are unlikely to be the correct geographical market in the face of new technology.

Second, the Imperial Oil consent order was negotiated prior to the formulations of the tribunal's *Merger Enforcement Guidelines* and the 1997 "Merger Enforcement Guidelines as Applied to a Bank Merger."[a] Consequently, Imperial Oil/Texaco does not reflect the analytical approach set out in these guidelines, including the threshold for scrutiny of mergers.

Third, even though the tribunal ultimately approved the retail divestiture proposals, it was highly critical of them, expressing the view that naming retail outlets to be divested created an unjustified aura of certainty about the analysis of the competitive impact of individual divestitures. The tribunal maintained that the divestiture proposals were far too detailed and specific, concluded that there was no clear evidence that they were required in some situations, and expressed a concern that much of the order was unnecessary.

Finally, an issue of local competition may differentiate branch banking from gasoline retailing. Retail gasoline dealers have some local autonomy in setting gasoline prices. We believe that local branch bank managers are likely more constrained from above in the corresponding dimensions of bank services. On the deposit and other services side, branches have very limited power to set terms and conditions. On the loan side, corresponding interest rates are not locally set, and the branch manager has limited powers for discretionary loans (although he or she may become an advocate for a would-be borrower whose loan requires regional or head-office approval).

For these reasons, we believe that, for the retail side of bank mergers, the Imperial Oil/Texaco case offers little by way of precedent. The slate is likely clean.

a Canada, Department of Industry, *Merger Enforcement Guidelines* (Ottawa: Supply and Services Canada, 1991); idem, "Merger Enforcement Guidelines as Applied to a Bank Merger," appendix 2 of "Submission of the Director of Investigation and Research, Competition Bureau, to the Task Force on the Future of the Canadian Financial Services Sector" (Ottawa, Department of Industry, November 1997).

to the merging parties. It considers both the ability of consumers to switch across alternative products and suppliers (the demand side) and the ability of other suppliers not currently in the market to switch capacity into the relevant market (the supply side). Markets can also have a geographical component.

The bureau identifies current general bank products as deposits, loans, and other services, such as cash management. There may be further refinements in definition. It is useful to identify various classes of demanders, from individual consumers through small businesses to large national and international corporations.

Under the bureau's hypothetical monopolist test, a set of products purchased by consumers constitutes a relevant product market if a sole supplier of these products (the merged entity) could profitably raise its price by a small but significant and nontransitory amount. (In most contexts, the bureau defines *significant* as 5 percent and *nontransitory* as a period of a year.)

With respect to the definition of product markets, analysis conventionally requires an examination of the cross-price elasticities of demand or relevant proxies. In its guidelines, the bureau indicates that it will consider factors such as product attributes; the views, strategies, behavior, and identity of both buyers and the trade; consumer switching costs; and, prior to the merger, the correlation of prices and relative prices of potential substitutes. In analyzing supply substitutability, in general, the bureau looks at the ease with which potential suppliers can switch capacity into the market for the goods in question.

As the bureau indicates, the geographical market obviously can vary from the local to regional to national to international. Again the general test is whether, over a hypothetical geographic market, a sole seller could impose a significant and nontransitory price increase.

Approaches Adopted by Other Countries

Other countries have adopted a variety of approaches to market definition in assessing bank mergers. Here we briefly describe those of the United States, Australia, and New Zealand.

The US Approach

In the United States, bank mergers require the approval of both the Department of Justice and, as appropriate, the Federal Reserve Board, the Office of the Comptroller of the Currency, or the Federal Deposit Insurance Corporation.

The Federal Reserve Board and other banking agencies use the cluster of services associated with commercial banking to define the relevant product market. In contrast, the Department of Justice uses a finer definition. It considers the retail market separate from the business services market, and within the latter, it considers the effect of the proposed merger on small and medium-sized business customers.

These differences in approach provide a basis for divergent views about the competitive effects of individual merger proposals. As a result, Greenspan and Colclough argue that, while the banking agencies should continue to use the cluster-of-services approach, they should "permit the applicant to introduce evidence that an apparently anti-competitive transaction will not have a substantially adverse effect in any of the disaggregated product markets."[9]

Both the Department of Justice's and the banking agencies' approaches place very limited weight on competition from nonbank financial institutions and from banks that do not appear to compete for the business of small and medium-sized businesses.[10] In addition, both contend that individual consumers and small and medium-sized businesses obtain their financial services in local areas.

Consequently, they attempt to preserve competition between local branch networks. Merger proposals are subject to detailed competitive analysis at the level of the individual branch, and those that are viewed as removing branch-branch competition in particular localities are subject to divestiture orders.

The Australian Approach

In its 1995 decision on the merger between Westpac Banking Corporation and Challenge Bank, the Australian Trade Practices Commission adopted a cluster-of-services approach. The market was defined to include only those institutions offering all of the deposit, loan, and transactions products included in the cluster.

In addition, the commission took the view that the market for this cluster of banking services was regional, not national. It articulated a view that the level of rivalry consistent with a competitive market required the presence of a strong regional bank in each state.

Subsequently, the government of Australia had the Special Financial System Inquiry (the Wallis Inquiry)[11] undertake a review of the country's financial services. In considering the validity of the cluster definition of the product market, the inquiry used consumer surveys to demonstrate that

- a large percentage of consumer banking products were not bundled, and aggressive pricing by new single product providers was further reducing the extent of bundling;

- less than 40 percent of consumers held banking-type relationships with only one institution;
- consumers gave evidence of increasing price sensitivity and willingness to shop around on the basis of price for services such as loans (where the total cost differentials associated with small variations in interest rates can be quite large); and
- every consumer and small business banking product was available from at least one supplier in addition to the major Australian banks.

Therefore, the Wallis Inquiry concluded that "the cluster of services approach adopted in the Westpac / Challenge merger…should be closely questioned and at least narrowed."[12] It noted, however, that competition for retail transaction accounts and for small business banking products was limited and that future bank merger assessments would need to focus on these products (as they do in the United States).

With respect to the geographic definition of the market, the Wallis Inquiry found:

- New delivery mechanisms were making traditional branches less important, and a national marketplace was developing. The extent to which the market was fully national varied between products.
- Consumers had not yet utilized these new delivery mechanisms to their full potential, so a physical local presence would continue to be of importance for at least some products.
- The market for products such as home loans and credit cards might already be national.
- Information was important for consumers' ability to shop in a national market, and the emergence of an independent advice and brokerage industry would be important for the efficiency of a national market in some products.

The findings of the Wallis Inquiry do not, therefore, provide strong support for an analysis of market power at the level of the individual branch, particularly if the product market is defined in terms of a cluster of banking services, since this cluster will almost certainly include some products for which the market is national.

The New Zealand Approach

In New Zealand (see Box 3), the competition watchdog, the Commerce Commission, has taken the view that it is not feasible to define subnational markets for banking services. It has, therefore, not undertaken a detailed analysis of branch rationalizations associated with bank mergers.

The commission's approach to the definition of the market is based on three factors:

- The market is fully contestable. Regulatory barriers to entry are low, since international banks compete in the domestic market on exactly the same terms as locally owned banks, and a firm does not have to register as a bank to enter any segment of the banking market.
- Pricing is highly transparent. Even if a bank has the sole branch location in a town, it cannot get away with posting higher-than-normal loan rates because the residents of that town have numerous low-cost means of comparing the local rates with those prevailing in the rest of the country.
- Delivery of banking products and services via alternative distribution channels is increasingly important. These alternatives include telephone and Internet banking, bank machines, direct debit and cash withdrawals from terminals for electronic

Box 3: *The Relevance of Evidence from New Zealand*

Canada can learn from the experience of a number of other relatively small economies. Our analysis is informed by data and commentary on the operation of the banking industry in New Zealand (see Appendix A), a country that, like Canada, has a much-larger neighbor and is marked by wide variations in population density (large portions of the country are devoted to farming).

The country provides a number of recent examples of within-market mergers between banks with substitutable assets, and although the central bank, the Reserve Bank of New Zealand, requires banks to meet minimum capital adequacy levels and to obtain independent ratings (which must be displayed in each branch and in formal advertising), the regime is free of the regulatory impediments to competition that currently characterize Canada. In particular, it does not discriminate against foreign-owned banks in any way, whether the mode of entry is through the purchase of a domestic bank, local incorporation, or operation as a branch of the parent bank. In addition, there is no deposit insurance. New Zealand therefore provides an indicator of the costs and benefits of free entry for foreign banks.

Contestability is enhanced by the fact that firms do not need to be registered banks to enter the business of banking (though only registered banks may call themselves *banks*). Thus, the banking subsidiary of the Australian life insurance and funds management giant AMP can operate in New Zealand without being a registered bank. Moreover, any bank that finds the modest regulatory regime too onerous can simply give up the use of the title *bank*; so long as it can convince the market that it is prudently managed, nothing need change.

The New Zealand *Commerce Act* is the sole basis for the assessment of competition issues in the financial sector; the government takes the view that the “public interest” in any bank merger is limited to a standard assessment of the impact on competition.

The country maintains a different balance between prudential regulation and consumer protection in the financial services markets. Financial institutions face stringent standards for dealing with customers imposed by the *Fair Trading Act* of 1986 and the *Consumer Guarantees Act* of 1993.

Some readers may think that the New Zealand banking market is so small that it is of little relevance to the policy debate in Canada. We reject this view for two reasons. First, the smallness of the New Zealand market makes it an ideal test of the often-cited predictions of market failure if the banking system is owned by foreigners or competition requires the entry of foreign banks. The New Zealand market is so small that market failure and unserved market niches should be readily apparent.

Second, New Zealand’s banking system is the least regulated of any member country of the Organisation for Economic Co-operation and Development, so it provides the purest test of the impact of foreign ownership and foreign entry on a domestic banking system.

funds transfer at point of sale (EFT-POS — the Canadian equivalent is Interac direct debit cards), franchise outlets, and mobile bank services. They ensure that consumers always have a choice of provider.

With respect to product markets, the Commerce Commission takes the view that a cluster-of-services approach is entirely inappropriate in this market environment. Further, with deregulation resulting in such low entry costs, entry is feasible in any individual product market. There is, in fact, evidence of recent entry by major international banks, such as Deutsche Bank, solely to compete in highly specialized market niches (see Appendix A). Since barriers to entry are so low, these banks find it profitable to undertake this business even though it is very small by comparison with their total operations.

Applicability of Alternative Market Definitions in Canada

This survey of the alternative approaches to market definition that are currently being used by bank regulators and competition authorities makes clear the lack of unanimity. It also suggests that views about the appropriate definition are changing in response to the evolution of the market.

In thinking about these market definition issues in Canada, we find the following points relevant.

For the cluster-of-services definition of product markets to be sustained, bundled delivery and joint pricing must clearly dominate the market for a particular group of products (normally because of economies of scope in production, distribution, or consumption). It must also be clear that there is no significant market for the products on a stand-alone basis. In other words, no economies of scale resulting from specialization in production would lower prices enough to make unbundling advantageous for consumers.

Equally important for the definition of the product market is the availability of individual products from specialized nonbank suppliers. Evidence that individual products supplied by banks can be provided on a competitive basis by nonbank firms is relevant. If that evidence exists for other countries but not for Canada, we should look carefully at legislative barriers to entry that are placing unreasonable restraints on the contestability of the Canadian market.

Quinn and Nicholson suggest that the Financial Sector Task Force follow the lead provided by Australia's Wallis Inquiry and conduct extensive surveys of current patterns and preferences in consumer purchase of financial services.[13] The way in which consumers currently shop may, however, be quite uninformative about the competitive impact of a merger. The fact that consumers hold most of their accounts at the local branch of a bank should not be interpreted as evidence that branches define the geographic market. Rather, it is consistent with the claim that national coordination of the branch networks of the Canadian banks results in prices that vary so little that consumers have no incentive but to shop at the local branch.

From the point of view of competition policy, the question is, could consumers obtain services from sources other than their local branch if, following a merger, that branch raised prices above the competitive level? Here the relevant test is the availability of alternative suppliers. If the alternative suppliers are accessible to consumers at a small premium over their current supplier, these suppliers will constrain the exercise of monopoly power even if their present market share is small.

Branch-Level Definitions

The notion that competition is based on service delivery through a local branch and on low-cost consumer access to that branch has driven definitions of the geographic market in the United States. In our view, however, the definition of a local geographical market places too much emphasis on both the branch and a single conception of its use. We question whether one can view individual branches as defining markets for banking services in Canada.

Granted that Blinder claims there is "a substantial amount of evidence that high level of local…concentration in banking markets is correlated with lower than average deposit rates and higher than average loan rates for small business lending."[14] But he is speaking of US evidence. We know of no equivalent evidence of local variations in pricing in Canada. The available evidence, in fact, suggests that the country has had an efficient national market since the emergence of nationwide branch banks at the beginning of this century.[15]

Of particular importance in the United States is the fact that unit banking legislation long preserved local autonomy in decision-making (and hindered the creation of a national market in consumer and small business banking). In Canada, although the managers of bank branches have some degree of autonomy in setting the terms and conditions for loans and deposits, this freedom is only within the framework of nationwide rates and policies set for each bank as a whole. Customers of

Canadian banks, therefore, find it relatively easy to compare the terms for a deposit or a loan offered at any bank branch *vis-à-vis* the rates quoted in other locations (including the main cities). For competition to be effective with only one branch or no branches at all requires reasonable transparency of the terms and conditions being offered by different institutions in different locations and an ability to transact business at a distance.

Moreover, customers no longer need to go to a bank branch to obtain most banking services. On the rare occasions when they do need to transact with a person, rather than a machine, the bank can send someone to them.

In New Zealand, for example, aggressive competition combined with rationalization of the branch network has led a number of the full-service banks to establish mobile lending officers. This kind of organization, modeled on one of the strengths of the life insurance industry's distribution system, has been operating in rural areas for some time; the Rural Bank, taken over by the National Bank of New Zealand, has specialized in providing financial services to farmers through mobile agents based in regional offices that cover a wide geographic area. The service is now also used for urban mortgages and other types of lending, and access to it via toll-free numbers is widely promoted through television and other media.

As branches become less relevant, it is particularly important that competition analysis not be unduly focused on delivery through them. Why should the potential for entry be judged according to measures of a technology that is rapidly becoming redundant?

Small Business

Competition analyses in the United States have been particularly influenced by the view that small business lending may be the least contestable market, the one most likely to be damaged by mergers. Evidence suggests, however, that new entry and innovation in service delivery are influencing the small business lending market.

US Comptroller of the Currency Eugene Ludwig calls for the approach to be revisited on the basis of "recent studies that have suggested that large banks and banks headquartered in other states are as willing as local banks to lend to small business."[16] More generally, Smith and Ryan argue, "The emergence of technologies that enable banks to offer customers nationally a variety of services should diminish antitrust concerns that once existed when banking services were available only through the local branch."[17]

Small businesses do not negotiate their lines of credit on a weekly or even monthly basis. With an increasing proportion of the transaction services that banks supply to small businesses delivered at a distance, annual negotiation of lines of credit can be undertaken by mobile lending officers and ultimately by videoconference.

In brief, the potential market for small business lending is not confined to the banks with a physical branch on the small business owner's route between home and work.

Conclusion on Market Definition

In conclusion, it seems unlikely to us that the definitions of product clusters and geographic markets used in the analysis of bank mergers in the United States would be appropriate for the investigation of a major bank merger in Canada. In particular, it would be inappropriate to evaluate mergers on the basis of definitions of product markets and delivery channels that are quickly being eroded by new technologies and new entrants to the market.

Current regulatory barriers to entry may be significant for some individual product lines and for the market as a whole, but we do not see this acknowledgment as undermining the claim that the appropriate definition of the market is national and for individual products.

Efficiency Gains from Mergers

Evidence of potential efficiency gains from mergers should enhance the likelihood that the minister of finance and the Competition Bureau will approve any proposed merger. Does such evidence exist?

Evidence from Large Samples of Accounting Data

At the aggregate level, the academic literature has thus far failed to provide support for the efficiency gains hypothesis in large samples of data from merged banks.[18] A possible explanation is that bank management is misguided in its view that mergers can result in efficiency gains — or it is incompetent in obtaining those gains during the merger process. We think both situations unlikely (if they are true, someone should tell the shareholders of the banks).

An alternative explanation for the inability of academic analyses to provide empirical evidence of efficiency gains from mergers is that the data used are not appropriate to test the theory. We think that this is the case. First, the data used are for US banks and focus on mer- gers of banks with geographically complementary, rather than substitutable, assets. Competition policy in the United States reduces the ability to consummate within-market mergers focused on branch consolidation.

Second, the accounting data used by economists do not isolate the effects of mergers. Merged banks have one-time costs associated with the rationalization and immediately begin investing in new technology. In the extreme, the reported costs of merged banks may *increase* after the merger. Thus, analysts should use microdata from individual banks in testing the hypothesis that efficiency gains result from mergers.

Complementary and Substitutable Assets

Another important point here is whether the merging firms' products are complementary or substitutable. In general, mergers between firms producing complementary products are benign from the perspective of the unilateral enhancement of market power. The strategic price effect of such mergers yields lower, not higher, prices to consumers. For example, the merger of a bank with a life insurance company, as has become common in Europe, involves complementary products (even though these institutions may compete across elements of their asset portfolios.)

Complementarity may be extended to geography where strategic price effects are simply not present. For example, the merger of a bank with only Canadian branches and a bank with only US branches would involve a geographic complementarity.

If, however, the merging parties produce substitutable products — as do the present large Canadian banks — the potential exists for unilateral enhancement of market power, an anticompetitive outcome.

But here is a quandary. A general claim is that the possibilities for efficiency gains are likely largest when the parties to the merger have been competing with each, rather than producing complementary products. So regulators face a tradeoff. The merger of firms with substitutable assets yields the greater potential for cost savings but also the greater possibility of enhancement of market power.

This is the point at which guarantees of continuing competitive vigor are obviously paramount. It is also a point of particular relevance for Canada because the *Competition Act* says explicitly that a merger that lessens competition will not necessarily be blocked if it yields resource savings that more than compensate for any loss of competitive vigor.

Evidence from Other Countries

Few of the mergers that have taken place in the United States can be considered analogous to the potential bank mergers in Canada because the former often involve the integration of geographically distinct branch networks into a single bank or holding company. Data from other countries are more informative about the extent of rationalization and cost savings that are feasible when banks with substitutable assets are merged.

New Zealand

Table 1 summarizes the impact of mergers on branch rationalization in New Zealand. ASB Bank is the only one of the six nationwide full-service banks currently operating in New Zealand that has not been involved in a merger in the past decade, but some of these mergers did not involve large overlapping networks. At the time that the Bank of New Zealand (BNZ) was sold to the National Australia Bank, the latter institution had only 39 branches in New Zealand and the BNZ had 239. This merger therefore provided limited scope for rationalization of overlapping branch networks. Similarly, the Rural Bank had only 26 branches at the time that it was taken over by the National Bank of New Zealand (NBNZ), so the merger offered little scope for the rationalization of substitutable assets.

In both of these cases, the rationalization of branches and staffing resulted from the abandonment of certain geographic locations, rather than the opportunity to combine two branches that were in roughly the same physical location. These data thus suggest that greater use of new delivery systems has made it possible to reduce the density of mature branch networks by 20 percent, even in the absence of a merger involving substitutable assets.

For the three remaining banks in Table 1, one should treat with some care the observation that the combination of the ANZ Banking Group and the formerly government-owned and government-operated Post Office Savings Bank (Postbank) branch networks has resulted in a reduction of 65 percent of the branches. Postbank had many more branches than an equivalent private sector bank would have maintained, so the results of this merger reflect, in part, the rationalization associated with its transfer to private sector management. The reduction in branches does, nonetheless, indicate that in the vast majority of cases it has been possible to combine the business of at least two branches of the combined organizations into a single office.

The mergers between the former Countrywide Building Society and United Building Society into Countrywide Bank and of the regional Trustbank networks of community savings banks with Westpac Banking Corporation into WestpacTrust more closely mirror the substitutability of assets associated with the proposed Canadian mergers.

The evidence suggests the following. When a merger combines a need to thin the branch network (resulting from the delivery of banking services through other distribution channels) with the possibility of combining offices in the same location, there is the potential for closing 40 to 50 percent of the combined branches.

The evidence of the staff reductions associated with these branch rationalizations is less comprehensive. There can, however, be no doubting that the process in New Zealand has been associated with substantial reductions in staffing levels.

Data on the actual extent of the cost savings implied by the branch rationalization and staffing reductions are difficult to obtain.

Table 1: *Branch and Staff Reductions of Major New Zealand Banks, March 1992–December 1997*

	Net Change in Branches	Change in Total Branches	Reductions in Staff
	(number)	*(%)*	*(number)*
ANZ Banking Group[a]	– 365	– 65.0	1,960
ASB Bank[b]	6	5.2	—
Bank of New Zealand[c]	– 62	– 22.3	591
Countrywide Bank[d]	– 66	– 48.0	n.a.
National Bank of New Zealand[e]	– 33	– 17.4	600
Westpac Trust[f]	– 187	– 37.5	n.a.
Total, all banks[g]	– 772	– 41.4	

[a] Formerly, the ANZ Banking Group and the Post Office Savings Bank (Postbank).

[b] Formerly, the Auckland Savings Bank. It has been 75 percent Australian owned since the mid-1980s.

[c] Formerly, Bank of New Zealand and National Australia Bank.

[d] Formerly, Countrywide Building Society and United Building Society.

[e] Formerly, National Bank of New Zealand and the Rural Bank.

[f] Formerly, Westpac Banking Corporation and Trustbank New Zealand.

[g] Including banks not shown here, which closed 65 branches during the period.

There is no one-for-one mapping from the proportion of branches closed into the proportion of total noninterest costs saved because the services offered through the defunct branches continue to be offered, albeit from different locations and through delivery channels that require more intensive investment in technology. In addition, branch rationalization does not provide any indication of the extent of the savings achieved from the rationalization of back-office functions and the adoption of a single software across a whole merged bank.

Moreover, banks naturally regard the anticipated and realized cost savings as commercially sensitive information.

During the course of interviews conducted as part of the research for this paper, however, we were told that the target cost savings in a merger involving large-scale substitutable assets should be in the range from 20 to 30 percent of noninterest costs.

The United Kingdom and Australia

The New Zealand estimate is in line with, though slightly higher than, the small amount of publicly available information about comparable mergers in other countries. For example, the savings resulting from the merger of Lloyds Bank and TSB in the United Kingdom have been officially stated at 15 percent, but it is rumored that the target and the actual savings achieved were closer to 20 percent of total noninterest costs.

Similarly, in its submission to the Wallis Inquiry, the National Australia Bank cites US data from the First Manhattan Consulting Group indicating that domestic mergers yield average savings of 17.5 percent of the combined noninterest costs of the two institutions.[19]

Given the more limited scope for branch rationalization in many US mergers, we suspect that 20 percent of total noninterest costs should be viewed as the appropriate cost saving to be realized from a Canadian bank merger.

The Policy Debate

The initial contributions to the Canadian policy debate have focused on the short-term social costs of bank mergers. In this section, we consider the problems that result from entangling bank merger policy with social policy. We provide an estimate of the cost savings from bank mergers that must be weighed against any claimed benefits arising from a policy decision to prohibit mergers between the large Canadian banks.

Banks and Social Policy

Finance Minister Paul Martin is quoted as saying that the large Canadian banks "have an obligation and responsibility to the country, and I think part of that is that they don't do things that lead to massive dislocation and job loss."[20] Thus, he challenged the banks to minimize the job losses associated with the merger.

From the perspective of allocative efficiency in the economy, it is inappropriate for the minister of finance to suggest that the banks have an obligation to Canada that involves avoiding branch closures and staff reductions when it is clearly efficient for them to undertake this rationalization. If they were to follow Mr. Martin's suggestion, four problems would surface.

First, the retention of staff not needed to run the business and of branches that operate at a loss would make the banks less efficient. The effect would be that of providing subsidies to individual communities in which loss-making branches are located, as well as to the individuals who would otherwise be laid off. All Canadians would have to pay for these subsidies through higher-cost banking services.

Second, the policy would entangle the business of banking with social policy and redistribution of income. We do not dispute the need for social policy, but we believe that it is best conducted through government. Banks should be left with the single goal of maximizing shareholder value subject to the restraints imposed by law and competitive vigor in the marketplace.

Third, banks are likely to be inefficient providers of social welfare services. In other words, it is not clear that banks would have any comparative advantage in running a social welfare scheme or that funding employment creation by what would effectively be a specific tax on the banks is the optimal approach to policy. It is normally optimal to fund social programs from the most broadly based taxes.

Fourth, the banks would likely be tempted to undertake inefficient lobbying for favors from politicians to offset the costs that they would have to bear as a result of not rationalizing their branch networks. Of particular concern to us is the fact that this lobbying would likely center on the continuation of barriers to entry in the market for banking services, including barriers to full competition from foreign-owned banks, a policy that might further reduce the efficiency of the domestic banking market.

The Costs of Constraining Rationalization

The public statements of the chief executives of those banks proposing to merge are equally opaque.[21] It is not clear whether they are merging because they have a clear strategy based on efficiency or purely because other international banks are adopting this strategy. (One thinks of herd behavior, which, indeed, has recently appeared in models in the economic literature.[22]) It also appears that, in their public statements, the chief executives have said what

Table 2: *Potential Cost Savings from Domestic Rationalization following Merger of the Bank of Montreal and the Royal Bank of Canada*

	Royal Bank of Canada	Bank of Montreal
Cost of salaries, premises, and equipment, including depreciation, for the year ended October 31, 1997 *(1997 $ millions)*	5,116	3,697
Proportion of total assets in Canada *(%)*	66.8	50.6
Value of salaries, premises, and equipment costs assumed to relate to Canada *(1997 $ millions)*	3,417	1,871
Value of cost savings in Canada[a] *(1997 $ millions)*	683.0	374.2

[a] Calculated as 20 percent of salaries, premises, and equipment costs in Canada. See text for our reasoning in adopting 20 percent as the appropriate proportion of noninterest costs to be saved through a Canadian bank merger.

Source: Summaries of bank balance sheets supplied by the Canadian Bankers' Association.

the politicians want to hear, rather than actually outlining their business case for the mergers.

Although the last strategy may appear to be good politics, it is dangerous in at least one way. The banks would be able both to achieve the highest plane of international competitiveness and to protect jobs and branches in Canada only if the government continued to provide the sector with a regulatory environment that restricted competition from domestic firms, such as insurers, and banks from other countries. The danger is that the entanglement of social policy and the business of reducing the banks' operating costs would establish a community of interest between Ottawa and the banks. In its most extreme form, this situation would protect jobs and branches at the expense of creating an environment in which competition would be insufficiently vigorous to ensure that consumers received the benefits of the mergers.

As an experiment, we did a rough-and-ready estimate of the appropriate compensation for a merged Royal Bank of Canada and Bank of Montreal, basing our calculations on the assumption that the savings achievable through merger are limited to 20 percent of the costs of salaries, premises, and equipment in Canada (see Table 2).

The crucial policy question is whether the Canadian economy can afford to sacrifice efficiency gains of this magnitude to preserve increasingly redundant bank branches.

Foreign Banks as Partners or Competitors

Domestic mergers are not the only possibilities for change in Canada's banking sector. Two others pertinent to our discussion are the merger of a Canadian and a foreign bank (the chairman of Scotiabank has indicated that his bank may respond to the merger proposals of the other four banks by seeking a merger or alliance with a complementary foreign bank) and the entrance of foreign banks as direct competitors in the domestic market.

Comparing Within-Market and Crossborder Mergers

A foreign institution entering the Canadian market would likely seek to realize scale economies by spreading a single core operating system across its existing level of output enlarged by adding Canadian output. In contrast, within-market mergers would focus on domestic rationalization but also provide a vehicle for achieving economies of scale.

A model that outlines the essential elements of this foreign-entry story is sketched in Appendix B. As applied to the Canadian market, the conclusions of this model can be summarized as follows:

- Domestic mergers would be effective in rationalizing the domestic branch network and in achieving economies of scale with respect to systems and back-office functions.
- International (crossborder mergers) would be effective in achieving economies of scale with respect to systems and back-office functions but not in rationalizing the domestic branch network.
- Domestic mergers therefore dominate crossborder mergers at the present time.

Supporting these conclusions is the analysis presented by National Australia Bank, which suggests that "out of market" mergers have the potential to achieve cost savings less than half those associated with "in-market" mergers.[23]

As Quinn and Nicholson note, the existence of substantial excess capacity in brick-and-mortar branches will influence the willingness of foreign banks to enter through this delivery channel.[24] But we do not regard this point as important because foreign banks may not need a branch presence to enter the market.

There is, however, one mechanism by which foreign banks might obtain some domestic branch presence. If the parties to a proposed merger were required to divest themselves of valuable assets as part of the regulatory process, foreign institutions would be likely candidates to purchase, conditional on the price, assets that could include items such as customer lists and loan portfolios. Any divestiture that enhanced the competitive presence of foreign institutions could come as the price merging domestic banks pay to meet competition requirements set out by the Competition Bureau and other authorities.

Finance Minister Martin is on record as rejecting protection of domestic market share against foreign competition as a rationale for the merger of the Bank of Montreal and the Royal Bank of Canada. Nonetheless, the government's policy of requiring that the banks not close branches or rationalize staffing would influence the likelihood of takeover by foreign banks. There are two possible effects, which are not mutually exclusive.

First, Mr. Martin's policy might have the effect of making the Canadian banks so unattractive that they would not be targets for foreign takeover. But at the same time, the banks would be inefficient suppliers of banking services to Canadians and less able to raise capital to expand because of their bloated domestic cost structures. So we predict that they would lose market share at home and be unable to expand abroad. In brief, this policy appears to be a recipe for the demise of a Canadian financial services industry that is globally competitive.

Second, if the banks cannot achieve the benefits of domestic rationalization, they might be forced to seek economies of scale through mergers with foreign banks, even though these gains would be smaller than what could be achieved by in-market mergers.

Foreign Competition: Entry and Ownership

Canada is similar to Australia (but unlike New Zealand) in requiring that the finance minister approve proposals for substantial foreign investment in the domestic banks. Australia's Wallis Inquiry recommends:

> The policy position prohibiting the foreign takeover of any of the four major banks should be explicitly removed [but]....the Inquiry believes that a large-scale transfer of ownership of the financial system to for-

eign hands should be considered contrary to the national interest.[25]

The Australian treasurer (finance minister) has endorsed this policy recommendation by removing the absolute prohibition on foreign takeover of one of the nation's major banks, although the government signaled it would not be willing to see all four major banks become foreign owned.

The view that foreign takeover of all of the banks would be contrary to the national interest represents an antipathy to foreign investment that is mirrored in Canada. In this section, we address two questions: (a) what is the substantive content of the concern that foreign ownership of Canadian banks may not be in the national interest? and (b) what is the evidence from New Zealand, where the banking system is almost entirely foreign owned?

Costs and Benefits of Restrictions on Foreign Ownership

The simplicity and popular attraction of the term *the national interest* belies the fact that it is extremely difficult to define. The usual arguments against foreign ownership may be divided into two groups; those concerned with the autonomy of Canadian government policy, and those concerned with the location of economic activity.

One of the most common policy concerns about foreign takeover of the domestic banks is that Canada would lose control over its monetary policy. This argument is incorrect because it is the existence of a market in Canadian dollars, not the existence of domestic banks, that allows monetary policy to function.

Foreign ownership of Canadian banks would not undermine the sovereignty of the Canadian currency. So long as the institutions offering banking services in the Canadian economy needed to settle transactions in Canadian dollars on the books of the Bank of Canada, the Bank would be able to conduct monetary policy. The general point is that, provided clearing and settlement is done on the books of the relevant central bank, that bank can carry out monetary policy. For example, New Zealand is able to carry out monetary policy despite the fact that most of its banks are foreign owned.

Neither is there any evidence that foreign ownership would erode Canadian sovereignty over banking. International harmonization of capital standards, for example, has probably done more to undermine Canadian regulatory sovereignty than would flow from foreign ownership.

Foreign ownership would, however, have implications for the Canadian government, which would be less able to use moral suasion to keep financial sector jobs in Canada in the face of inefficient labor market policies and high tax rates. In other words, the Canadian government would be confronted more directly by the costs of its policies — but it would still be free to pursue them.

We believe that concerns about the implications of a foreign takeover for the location of economic activity and Canadian economic growth are also overstated. Markets determine the location of financial activity, and Canadian banks already locate certain management and trading functions in New York. If the banks were foreign owned, some of the positions currently in Toronto offices might be located elsewhere, but it is not clear that there would be any fewer jobs or that the aggregate wage bill would be smaller.

Foreign purchasers of a domestic Canadian bank would not neglect the customers of that bank because relationships with those customers would represent a large proportion of what had been purchased. The foreign-owned bank might, in fact, provide greater facilities to Canadian firms because of its ability to introduce product innovations into the market and its superior access to capital.

Evidence from New Zealand

For reassurance about the positive impact of the removal of foreign ownership restrictions, Canadian policymakers can look to New Zealand.

In the period before 1985, the New Zealand government's support for a range of domestically owned institutions reduced their efficiency and limited the growth of the economy overall. The sale of the Bank of New Zealand (BNZ) to National Australia Bank in 1989 represented a major turning point in the country's policy on ownership in the financial sector. The BNZ cost New Zealand taxpayers hundreds of millions of dollars when, in the late 1980s, it failed for the second time in its history. Its sale to National Australia Bank was politically acceptable because the New Zealand public understood that this was by far the most cost-effective means of preserving the BNZ as an independent institution in the local market.

Similarly, under the ownership of the Commonwealth Bank of Australia, ASB Bank (the former Auckland Savings Bank) has vigorously expanded its market share and become a leader in the introduction of new distribution technologies.

The New Zealand banking sector is now almost completely foreign owned. Its largest bank, WestpacTrust, was created, as already noted, by the recent merger of the New Zealand operations of Westpac Banking Corporation with Trustbank, a chain of formerly community-owned savings banks operating in each region. Although Westpac has been in New Zealand since the nineteenth century, it operates as a branch of the Australian bank, rather than as a local corporation.

There is no evidence that Westpac's status or the high level of foreign ownership of New Zealand banks has had negative effects for New Zealand's economic development or its sovereignty.

Given the smallness of the New Zealand market and its distance from major world financial centers, it is also noteworthy that a number of the world's largest international banks have operations in New Zealand (see Appendix A). The presence of these offices demonstrates that, absent discrimination against them, foreign-owned banks can be a potent force in ensuring competition in banking markets.

In New Zealand, institutions such as the Deutsche Bank operate in highly specialized market niches, forcing the domestic banks to ensure that their pricing reflects the competitive level for the market. The Deutsche Bank's New Zealand assets represent a trivial part of its total balance sheet, but with low entry barriers, it still profits from operating in that market.

The benefits to consumers provided by the foreign banks take three forms. First, their specialized products often represent the means by which New Zealand imports product innovations. Second, the niche operations constrain the ability of the full-service banks to raise prices or reduce services in particular product markets. Third, foreign banks could quickly expand across the whole range of banking products if the relative efficiency of the existing full-service banks declined significantly. Customers would still have services available to them.

An Opportunity

The New Zealand evidence on the effects of foreign ownership and foreign entry into the banking sector suggests that Canadian consumers could obtain substantial benefits from removal of all barriers to competition in banking.

The current restrictions on foreign ownership serve the interests of Canadian bank regulators and politicians, who have more direct access to senior bank management than they would with foreign-owned banks. The restrictions also serve the interests of special interest lobby groups, which may be able to influence politicians to pass legislation that weighs bank policy in their favor (small business comes to mind). It is, however, difficult to see how the private interests of regulators, politicians, and special interest groups equate to the national interest.

A number of domestic Canadian banks have called for an end to restrictions on foreign ownership and on barriers to the entry of foreign banks.[26] Before approving mergers, Canada should take the opportunity to remove all such impediments to competition. Such changes should include allowing branch status for banks undertaking a retail business and providing for foreign takeovers of domestic banks (subject only to Competition Bureau and OSFI approval).

Conclusion

Our analysis has demonstrated that Canadian banks will reap efficiency gains from domestic mergers. We have argued that the key question is: How can one ensure that the cost savings resulting from the mergers will be passed on to consumers through the provision of world-class, lower-cost banking services?

Our view is that the main barrier to efficiency faced by Canadian banks is not size *per se* but the fact that they have excess capacity in the domestic market, which drives up their costs, making them uncompetitive both in Canada and internationally. If the Canadian government wants low-cost banking services for Canadian consumers, then it must allow Canadian banks to rationalize their domestic branch networks. This goal can most readily be achieved through mergers in the domestic market. The evidence is that substantial cost savings are associated with in-market mergers. These mergers also have the effect of providing economies of scale.

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However, a range of important changes in policy is required from the government before the full benefits of domestic mergers can be realized. In fact, allowing mergers while retaining existing barriers to entry in banking and insisting that the banks not reduce branches or employment would almost certainly be wealth-reducing.

In particular, we believe that Canada cannot have an efficient domestic banking industry that is represented by a small number of large international players if the Canadian government treats the banks as agents of social and employment policy. If policymakers are concerned about the cohesion of small communities or the level of unemployment, let them deal with these problems through social policy and addressing the levels of taxation and regulation that increase the costs of doing business in Canada.

We also believe that deregulation of domestic and foreign entry to banking is the only viable means of ensuring that consumers receive the benefits of the cost reductions and improvements in service that can flow from mergers. The New Zealand market provides evidence of the benefits of allowing free entry of foreign-owned banks and nonbank institutions into the market for banking services, including the possibility of entry through the purchase of the large domestically owned Canadian banks.

Appendix A

Registered Banks in New Zealand, 1997

	Majority Foreign Owned?	Incorporation	Assets in New Zealand	Proportion of Total Bank Assets	Retail Branches
		(local, LI, or branch, B)	*($ millions)*	*(%)*	*(number)*
Nationwide banks					
ANZ Banking Group	Y	LI	21,660	17.9	192
ASB Bank	Y	I	10,990	9.1	121
Bank of New Zealand	Y	LI	22,897	18.9	216
Countrywide Bank	Y	I	7,609	6.3	2
National Bank of New Zealand	Y	I	17,965	4.8	163
Westpac Trust	Y	B	27,300	2.5	312
Regional bank					
Taranaki Savings Bank	N	I	781	0.6	16
Banks with no retail branches					
Bank of Tokyo	Y	B	184	0.2	0
Banker's Trust	Y	I	3,068	2.5	0
Banque Nationale de Paris	Y	B	349	0.3	0
BNZ Finance	Y	I	1,021	0.8	0
Crédit Agricole	Y	B	271	0.2	0
Barclays	Y	B	351	0.3	0
Citibank	Y	B	1,688	1.4	0
Deutsche Bank	Y	B	406	0.3	0
Hong Kong and Shanghai Bank	Y	B	3,904	3.2	0
Primary Industry Bank of Australia	Y	B	108	0.1	0
Rabobank	Y	B	600	0.5	0

Notes: The deposit liabilities of an additional 29 institutions that do not have registered bank status are included in the official definition of the broadest definition of the money supply, M3.

The numbers of branches are as of year-end 1997; all other data are as of October of the same year.

Source: *Reserve Bank of New Zealand Bulletin* 60 (4, 1997).

Appendix B

Foreign Banks and Entry Barriers: A Model

Consider a world with two countries, each containing two regions. Assume that banks compete within each country in each region, but that, at the outset, regulations prevent foreign banks from competing in each domestic market. Assume further that the two markets are symmetric in all dimensions. (Although this symmetry does injustice to the descriptive facts in any Canada-US comparison, the assumption simplifies matters.)

To be present in each national market, banks incur a recurring fixed cost, *F,* which represents national costs such as head-office expenses. Being present in each regional market requires another recurring fixed cost, *G*, which represents local costs such as branching and servicing bank clients within each region of the country.

The results are simplified if we assume that bank outputs, denoted by q_i, are homogeneous, as it becomes easy to aggregate the number of banks in the market. Inverse demand is

$$P = 1 - \Sigma_i q_i.$$

Assume that the bank oligopoly structure is Cournot-Nash with open entry: banks earn competitive returns. With symmetry, an equal number of banks, *n*, exists in each country. Firms solve their profit-maximizing output strategies, which feed back into the entry decision. Firms enter until profits are driven to competitive levels.

Entry Barriers against Foreign Banks

With the foreign-entry regulations in place and domestic banks' incurring costs of *2G* and *F,* the profit-maximizing output at the second stage is

$$q=1/(n + 1).$$

With open entry, in equilibrium, output per bank and the number of banks per country are

$$q^* = \sqrt{(2G + F)}$$

and

$$n^* = \sqrt{[1/(2G + F)]} - 1.$$

The total number of firms over both countries is $2n^*$. If *G* is discrete but represents local capacity sufficient for both banks to share the accompanying investment, then there is overinvestment in local bank branches. (This efficiency may be unrealized for reasons of either competition policy or lack of coordination.)

Now we investigate the impact of removing entry barriers into the domestic market. Specifically, we ask what happens if the entry barriers are eliminated

- in the absence of realized economies of scale?
- in the presence of economies of scale in head-office functions, *F*, and / or at the local level, *G*?

No Enty Barriers and No Economies

Once the foreign-bank regulations are dropped, there is one larger market. Given symmetry, the market doubles in size. But if all banks continue to incur local costs per market of *G* and head-office expenses per country of *F*, nothing of interest happens. Outputs per bank at the second stage double to

$$q = 2/(n + 1),$$

and the total number of banks is reduced (in fact, halved). In the inverse demand function, these effects are offsetting, so prices do not fall and there are neither costs savings nor consumer benefits. Bank returns are competitive.

These effects will be different if the two countries are asymmetrical — if one is large and one is small. In this case, the small country has the potential to realize benefits through lower prices as competition across the unified market drives prices to a single equilibrium. In essence, the small country imports competition from abroad.

No Entry Barriers but Economies

Suppose that the banks realize economies but only at the head office. Only one recurring investment of F is needed to operate in both countries. We continue to impose costs of G for entry into each local market. As we maintain in the text, the foreign banks do not assist in the branch rationalization process as they would have to invest G to enter each local market. (These banks may be able to invest less than G to enter a submarket, but that situation would require an assumption of banks' producing multiple outputs.)

The resulting output at the second stage again doubles to

$$q = 2/(n + 1).$$

If we evaluate the profit per bank, π, at the old number of banks given by $2n^*$, profits are

$$\pi(q(n^*),n^*) = F > 0.$$

It is not surprising that foreign firms can save on F. So, in the open-entry case, more firms enter the market. Aggregate output increases, prices fall and banks produce at lower average costs.

The same effects are present if the local branch network has excess capacity. Local market efficiencies may be more likely to be realized through domestic merger than through the merger of a foreign and domestic operation. However, in the presence of domestic merger with small numbers of players, the specter surfaces of competition that is reduced enough for efficiencies to translate into only muted benefits for consumers or even price increases if the merger sufficiently enhances unilateral market power.

Notes

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The views expressed in this paper should not be ascribed to any of these individuals or to the C.D. Howe Institute.

1 For a more extensive discussion of the issues, see G.F. Mathewson and N.C. Quigley, "Reforming the Bank Act: Regulation, Public Policy and the Market," *Canadian Business Law Journal* 29 (1, 1997): 1–16; and John C. Pattison, "Financial Regulation in the 21st Century: Competition, Technology and Trade in Financial Services" (paper presented at the Queen's University Annual Business Law Symposium, Faculty of Law, Queen's University, Kingston, Ont., November 22, 1996).

2 Matthew W. Barrett, remarks at the Annual Meeting of Shareholders, Bank of Montreal, Winnipeg, Manitoba, February 24, 1998.

3 For output levels $(q_1,\ldots,q_n)$, $\Sigma_i C(q_i) > C(\Sigma_i q_i)$, where $C(\cdot)$ is a cost function. In the terminology of modern economics, the firm's cost function is subadditive.

4 For an analysis of bank sales of insurance in these terms, see I.J. Horstmann, G.F. Mathewson, and N.C. Quigley, *Ensuring Competition: Bank Distribution of Insurance Products*, Observation 40 (Toronto: C.D. Howe Institute, 1996).

5 This conventional wisdom dates at least back to the original 1933 edition of Chamberlin's book on monopolist competition. See Edward Chamberlin, *The Theory of Monopolistic Competition*, 8th ed. (Cambridge, Mass.: Harvard University Press, 1962), pp. 104–116.

6 Canada, Department of Industry, *Merger Enforcement Guidelines* (Ottawa: Supply and Services Canada, 1991).

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15 See L.T. Evans and N.C. Quigley, "Discrimination in Bank Lending Policies: A Test Using Data from the Bank of Nova Scotia, 1900–1934," *Canadian Journal of Economics* 23 (February 1990): 210–225.

16 E.A. Ludwig, "Antitrust and Banking," *The Antitrust Bulletin* 41 (Summer 1996): 477.

17 Smith and Ryan, "The Changing Nature of Antitrust Enforcement," p. 488.

18 See S.J. Pilloff and A.M. Santomero, "The Value Effects of Bank Mergers and Acquisitions," Discussion Paper 97-07 (Philadelphia: Financial Institutions Center, Wharton School, University of Pennsylvania, 1997).

19 National Australia Bank, *Submission to the Wallis Inquiry* (Melbourne, 1996).

20 S. Craig, "Bank merger fruits promised," *Globe and Mail* (Toronto), February 21, 1998, pp. B1, B3.

21 We note that these sentiments are shared by Terence Corcoran. See his "Bankers serve treacle and tricks," *Globe and Mail* (Toronto), April 18, 1998, p. B2.

22 See, for example, David Scharfstein and Jeremy Stein, "Herd Behavior and Investment," *American Economic Review* 80 (3, June 1990): 465–479. In these models of herd behavior, managers are more likely to follow the strategies of others if the managers are excessively pe-

nalized by shareholders who place a negative interpretation on strategies not conforming to those of other firms. This shareholder belief is only reinforced if the outcome of a deviant managerial strategy is negative, a possibility in a risky world.

23 National Australia Bank, *Submission to the Wallis Inquiry.*

24 Quinn and Nicholson, "Mergers and Acquisitions in the Canadian Banking Industry," p. 5.

25 Australia, Financial System Inquiry, *Final Report*, pp. 475–476.

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