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# REGIONAL CURRENCY ARRANGEMENTS IN NORTH AMERICA<sup>\*</sup>

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## **Abstract**

Choosing an exchange-rate regime is largely a matter of choosing the variables that will bear the brunt of adjustment to shocks and disturbances. Floating rates, supported by inflation-targeting regimes of varying degrees of transparency, have dominated currency arrangements in North America, especially after the peso crisis of 1994. Although the member countries have pursued their policy goals without formal coordination, their objectives have been very similar. Meanwhile, *de facto* integration of the three economies has continued, especially in the realm of cross-border production sharing. The result has been reduction of asymmetries and convergence of business cycles, as well as changes in balance of payments behavior and in the sensitivity of trade to the exchange rate. This paper explores the implications for monetary union.

**Keywords:** floating rates, monetary union, OCA, production networks.

**JEL Classification:** F41; F15; F33

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## **1. Introduction**

In North America, the dominant exchange-rate regime is the floating rate. Since the collapse of Bretton Woods, the Canadian and U.S. dollars have floated freely, while Mexico has experimented with several exchange-rate regimes, including adjustable and crawling pegs. There has been considerable movement in North American exchange rates. The Canadian dollar experienced wide swings against its U.S. counterpart in the 1980s and 1990, and the Mexican peso suffered two major crises during that period.

From time to time, the possibility of alternative exchange-rate regimes, including monetary union, has been explored in the public debate, particularly in Canada. Consideration of closer monetary cooperation is often linked to discussions of deeper economic integration among the members of the North American Free Trade Agreement (NAFTA).

The benefits and costs of fixed vs. flexible exchange rates and of full currency unification have been widely explored in the literature.<sup>1</sup> This paper examines the implications of ongoing economic integration in North America for the choice of exchange-rate regime, focusing in particular on the effects of regional trade patterns and cross-border production networks.

The rest of the paper is organized as follows. Section 2 reviews the main arguments pertaining to the choice of currency arrangements. Section 3 considers key implications of North American economic integration. Section 4 examines production networking in the region and its implications for the relevance of the OCA perspective. Section 5 concludes.

## **2. Choosing a Currency Regime**

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<sup>1</sup> For a detailed assessment of the options available to Canada, see Arndt (2003). For reviews of the basic issues, see Bayoumi and Eichengreen (1994), Carr and Floyd (2000), De Grauwe (2005), Eichengreen (1997), Tavlas (1993) and Tower and Willett (1976).

In the early days of European economic and monetary integration, the focus was more on goods markets than on financial sectors, reflecting in part the fact that capital markets were just becoming unfettered from capital controls. Since then, huge strides have been made not only in the reduction of trade barriers, but in liberalizing foreign direct investment (FDI) and other financial flows. At the same time, technological developments have brought about substantial reductions in communication and transportation costs.

Together, these developments have allowed goods, services, and asset markets to become more closely linked, for shocks to travel faster, and for adjustment processes to spill over national borders. In many parts of the world, including North America, this process has allowed market integration to race ahead of inter-governmental coordination of regulatory and other policies. Financial institutions, for example, have been able increasingly to cross borders and hence jurisdictions, while agreement on who should monitor and regulate them is yet to be achieved.<sup>2</sup>

Traditional optimum currency area theory (OCA) stresses *ex ante* fulfillment of key criteria in order to facilitate adjustment to shocks and disturbances. Of primary concern are the potential difficulties associated with cross-country asymmetries in economic structure and in the nature and sources of disturbances. McKinnon (1963) argued that such difficulties would be less severe among open economies who were each other's major trading partners, while Kenen (1969) counted on diversification in economic structure to facilitate monetary integration.

In the presence of asymmetries, fixing the exchange rate shifts adjustment to variables like wages, prices, employment and output. The more rigid are prices and wages, the more adjustment falls on employment and output. It is these considerations that led Mundell (1963) to

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<sup>2</sup> See, Mayes (2005), for example.

stress the importance of cross-border labor mobility. As the subsequent debate has pointed out, whether trade raises or reduces asymmetries among countries depends at least in part on whether it is mainly inter- or intra-industry in nature.<sup>3</sup>

An important feature of the original OCA arguments was their focus on the real side of the economy. As the debate has evolved and inter-country financial linkages have grown, concerns about financial adjustment and financial stability have come to the fore, particularly in policy arrangements involving developing economies, whose financial sectors, though very open, tend to be relatively underdeveloped and fragile.<sup>4</sup> This is relevant to North America, where economic development among the three countries ranges from highly developed to emerging.

In terms of the traditional criteria for optimum currency areas, North America is less than fully, but nevertheless substantially ready for closer monetary cooperation, but it is not clear to what extent such a move would be superior to current arrangements, especially for the United States and Canada.<sup>5</sup> There is significant market integration among the three countries; wages and prices are quite flexible, and there is considerable cross-border factor mobility.

While factor mobility was important in Mundell's original assessment, there has always been a question about the speed with which economies adjust to changes in exchange rates, on the one hand, and the speed with which adjustment occurs when exchange rates are fixed and other parts of the system have to carry the burden of adjustment. This is particularly relevant to relocation of labor in the face of wage rigidities. In contemporary North America, prices and wages are less sticky than in Europe and labor and capital are more mobile. Prices and wages are more market-driven. Capital is freely mobile among the three countries. Skilled labor

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<sup>3</sup> See, among others, European Commission (Emerson, 1990), Eichengreen (1997) and Krugman (1993).

<sup>4</sup> See, for example, Berg and Borensztein (2000) and Hausmann et al. (1999).

<sup>5</sup> Tavlas (1993) provides a modern version of the traditional OCA argument.

moves relatively easily into the United States, especially from Canada, a fact which gives rise to concerns about “brain drain” in that country. Unskilled labor is also mobile, at least from Mexico to the United States.

The question, nevertheless, is how useful an adjustment mechanism such factor movements provide, particularly in the short run. The answer obviously depends on the alternatives, including the speed with which adjustment occurs in response to movements in the floating exchange rate. While it is evident that exchange rates, as well as wages and prices can be altered faster than people and other productive resources can be relocated, exchange-rate and price changes are often only the first step in a more complex adjustment process. They are the signals that dictate needed changes in resource deployment.

The appeal of floating rates is that their adjustments shelter the economy from the need for resource re-deployment. This is the so-called buffer function touted by the Bank of Canada, for example. For a variety of foreign shocks, for example, domestic resources lose their competitiveness under existing wage-price conditions, implying a needed realignment of resource use. The exchange rate change is designed to make such a re-deployment unnecessary or at least to reduce its magnitude. Wage and price adjustments under fixed rates play a similar role.

When it comes to factor mobility, the guest-worker programs employed by many European countries in the sixties and seventies, appeared to possess considerable short-run flexibility. In comparison, cross-border labor movements in North America under current rules and regulations are likely to be slower and thus to be more useful for long-run structural than shorter-run cyclical adjustment. It is not easy to make a case for factor mobility as an efficient alternative to exchange-rate movements and price-based responses.

Although the three economies of North America are each other's major trading partners, the main linkages run between each of the two small economies and the United States. The two small economies are also quite open. Chart 1 shows the evolution of Canada's and Mexico's trade with the United States. Both ratios grew rapidly during the last two decades of the 20<sup>th</sup> century, peaked at the end of the century, and have been declining since. Chart 2 gives a slightly different perspective, focusing on the development of regional trade in manufacturing among the three NAFTA countries. It is important to note the decline since the late 1990s in intra-NAFTA imports, a decline that is particularly pronounced for trade between the U.S. and Mexico. Overall, however, the behavior of intra-regional trade underscores the continuing integration of the region's economies.

[Charts 1 and 2 about here]

The diversity criterion raises an interesting issue in the North American context. Diversity is deemed to be desirable because it makes the economy less vulnerable to shocks in particular sectors or industries. If diversified industries are subject to different types of disturbances, the negative shocks originating in any one of them may be counter-balanced by positive shocks in others. To the extent that factor mobility is needed to facilitate adjustment, it takes place within the country, where labor mobility among sectors and regions is often higher than across borders. That would be true of the U.S. and Canada, for example.

While it is certainly true that the U.S. and Canada are diversified in terms of the variety of goods and services that are produced, consumed and traded in the overall economy, there is considerable regional concentration of many of these activities, which reduces the diversity within regions relative to diversity in the country overall. This is easily seen in the concentration of manufacturing in Eastern Canada, and especially Ontario, and the concentration of agriculture

and mining in the Western provinces. These regional differences are replicated in the United States. In Mexico, too, much manufacturing is located in the Northern states, particularly in the maquiladora sector and in other activities catering to the U.S. market. These intra-country, inter-regional asymmetries have long been of concern to analysts, some of whom have suggested that instead of a horizontal division, the continent should have been divided vertically into two currency unions.

As the debate has evolved over the years, increasing attention has been paid to the role of capital mobility, in part because of its role in the impossible trinity. The potential loss of monetary policy sovereignty is a particularly hot issue in Canada. Economists at the Bank of Canada, in particular Murray (2000), have defended floating rates. While there have been periods during which Canadian monetary policy appeared to follow U.S. policy, there have also been significant policy differences between the two countries. Along with many other central banks, the Bank of Canada has pursued an explicit inflation-targeting policy for some time now and has shown considerable tolerance for significant movements of the exchange rate against the U.S. dollar. (See Chart 3 below.) The Bank of Mexico has also pursued an independent monetary policy focused on domestic price stability. In both countries, floating rates have created space for relatively independent monetary policies.

In the literature, fixed exchange rates are often seen as a way for inflation-prone countries to import price stability. As Charts 3 and 4 show, this is not an issue in Canada, where monetary policy has succeeded admirably in maintaining low inflation rates. As Chart 4 shows, however, inflation does present a problem for Mexico from time to time. Inflation has been rising in Mexico relative to both Canada and the United States, as well as in relation to some third-country competitors. The latter development is of particular concern to Mexican policy makers,



because of its implications for the country's competitiveness in the U.S. market. There is some evidence that these price changes have contributed to erosion of Mexico's trade share in U.S. markets. This development may also help explain the relative decline in intra-regional trade in the NAFTA area, noted in Charts 1 and 2.

[Charts 3 and 4 about here]

While relative inflation is of concern, however, current price movements are probably not severe enough to warrant a shift to fixed rates. If the conduct of monetary policy in recent years is any indication, the Mexican authorities are capable of dealing with the problem. Moreover, any consideration of a return to fixed rates would have to address questions about the viability of soft pegs in emerging economies.<sup>6</sup> Mexico's experience with soft pegs has been less than happy, in view of the crises of 1982 and 1994. Hence, if controlling domestic inflation were to be a major motive for fixed rates, the regime chosen would have to be combined with tougher rules governing monetary policy. Whether such a regime would be credible is a major question. Pursuit of this logic leads inevitably to the conclusion that only fixed-rate regimes capable of imposing monetary policy discipline may be viable.

An issue that arises in the discussion of regional economic integration is whether the European model of gradual deepening of real sector linkages before monetary union is necessarily the optimal strategy. Could there be situations when real sector deepening is difficult to achieve without closer monetary integration? Have real- and financial-sector integration and reduction of asymmetries proceeded far enough in North America to make monetary integration a viable option, particularly if it can become a catalyst for further real integration?<sup>7</sup>

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<sup>6</sup> See Frankel (1999) for a general discussion.

<sup>7</sup> See Frankel and Rose (1998) for a possible scenario.

There is widespread concern that NAFTA has been deficient in a number of ways and that the benefits it has delivered have fallen short of expectations, while costs have been larger than anticipated. There is concern, for example, that the dispute settlement system is not working as expected and that compliance with rules of origin is so costly and burdensome that it is causing significant amounts of intra-regional trade to bypass NAFTA altogether.<sup>8</sup> This suggests to some that NAFTA needs to be reviewed and possibly reformed and to others that the entire process of regional integration on the continent needs rethinking.

If the European approach to sequencing is the relevant model, then further initiatives in pursuit of deeper real-sector integration are in order before the continent would be ready for monetary unification. New initiatives would include movement toward a customs union and greater harmonization of regulatory, competition and dispute-settlement procedures. These would be followed by a gradual shift toward fixed rates, in the manner of the European Monetary System (EMS).<sup>9</sup>

In some respects, the European model is not directly transferable because the two regions differ in fundamental ways. One of those is the greater gap between the emerging economy of Mexico and the two advanced economies. The essence of integration in Europe was integration among similar economies. While accession of the Mediterranean countries introduced a gap and enlargement into Eastern Europe has added further dissimilarities, homogeneity rather than heterogeneity is still the dominant characteristic. The dissimilarities cover not only the degree of

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<sup>8</sup> In a recent study, Kunimoto and Sawchuk (2005) suggest that utilization of NAFTA hovers in the neighborhood of fifty percent, meaning that for a significant share of intra-NAFTA trade the costs associated with MFN tariffs are lower than compliance with NAFTA's rules of origin.

<sup>9</sup> Whether such deepening is politically acceptable is a major question. A broad segment of Canadian public opinion is concerned about the loss of national identity in the face of U.S. cultural dominance. It is further widely believed that Canada would be very much the junior partner in any joint monetary enterprise. These perceptions are strengthened by political indifference in Washington. Though not identical, the situation is similar in Mexico. In both cases, however, these considerations militate more against formal monetary union with the United States than unilateral linkages to the U.S. dollar.

economic development and industrialization, but a range of political, legal, social and institutional characteristics, which in combination make it more difficult to achieve the harmonization of policies required in, say, a single market.

Another difference between Europe and North America is the importance of production networks in industries such as motor vehicles, electronics and textiles and apparel. Production sharing, which is only now becoming significant in Europe, has played a role since the beginning of North American economic integration, as exemplified by the U.S.-Canada auto pact and the maquiladora system in Mexico. We show below that production networks affect the behavior of trade balances and exchange rates regimes and hence the costs and benefits of monetary unification.

### **3. North American Options**

Exchange rate behavior has varied considerably in North America. When most of the industrialized world was on fixed rates in the early years of the Bretton Woods System, Canada's exchange rate fluctuated freely for a time. Mexico, along with most of Latin America, combined an import substitution industrialization policy with a fixed exchange rate and heavy sovereign borrowing. That system collapsed in the early eighties, starting with Mexico. After a number of domestic economic reforms and accession to the GATT/WTO, Mexico experienced another major exchange-rate crisis in 1994.

In the recent past, however, the dominant exchange-rate regime on the continent has been the floating rate. During this period, the Canadian dollar fluctuated vis-à-vis its U.S. counterpart, at times substantially. It depreciated in the first half of the eighties and appreciated during the second half. That entire episode is probably largely explained by U.S. economic policies,

particularly in the fiscal area, and resulting movements in the relative price of tradables to non-tradables.

During the 1990s, the Canadian currency experienced a sustained depreciation against the U.S. dollar. It has recently recovered part of that lost value. Among some Canadian observers, however, the sustained “undervaluation” of the currency has raised concerns about Canada’s longer-run competitiveness. The argument may be stated as follows.

The depreciation of the Canadian dollar provided an important measure of protection to a variety of Canadian industries facing foreign competition, including resource-based industries, which suffered from depressed world prices of raw materials. The decline of the value of the home currency gave such industries room to raise prices and wages, without suffering the competitive consequences that would have manifested themselves under fixed rates. Of course, the depreciation also provided shelter to other industries. While this may have enabled these industries to sustain higher levels of activity than would otherwise have been possible, it may also have reduced pressures to innovate and stay competitive. To the extent, moreover, that Canada is a net importer of technology, the depreciation may have raised the cost of technological development.<sup>10, 11</sup>

The foregoing may be interpreted as a critique of the “buffer” argument in favor of floating rates. In the course of this debate, economists at the Bank of Canada have steadfastly

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<sup>10</sup> Courchene and Harris (2000) have asserted, in addition, that the allocation of Canadian productive resources may have been distorted as the depreciation prevented resource reallocation out of “older” manufacturing into more modern, high-tech sectors. Such reallocations would have occurred under fixed rates, where world price moderation would have forced weak Canadian firms out of business. The evidence, however, does not support this assertion; and even if it did, it may merely suggest, as McCallum (2000) has noted, that Canada needed a stronger dollar and not that it needs monetary union with the United States.

<sup>11</sup> Grubel (2000) has also been a forceful critic of Canada’s recent exchange-rate regime, but for reasons that have more to do with hysteresis and the role of labor unions.

supported the importance of the buffer function.<sup>12</sup> When a negative shock, such as a recession in the United States (or a decline in world commodity prices), disrupts Canadian trade, a floating system allows the Canadian dollar to depreciate and thereby to blunt the effect of the shock on domestic economic activity. Such movements in the exchange rate reduce the need for prices and wages to adjust and for resource to be re-allocated.

The seeming conflict between the two positions in the debate can perhaps be reconciled by noting that the buffer is useful for absorbing the burden of adjustment when shocks are short-lived and reversible, or when time is needed to work out an orderly adjustment. But when shocks are permanent, the system should facilitate adjustment rather than block it.<sup>13</sup>

#### **4. Production Networks and Monetary Integration**

In this section, we examine a feature of North American economic integration that distinguishes it from the original European experience, namely, cross-border production sharing. In several North American industries, parts and components in one country are assembled into finished products in another and then exported to the first. Chart 5 illustrates the pattern for the machinery, electronics, and transportation equipment sectors.

[Chart 5 about here]

Production sharing began decades ago between the United States and Canada in the original auto pact and was further encouraged by the Canada-U.S. free trade agreement (CUSFTA). Before NAFTA, the maquiladora program was specifically designed to support

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<sup>12</sup> See Amano and van Norden (1993), Murray (2000), and Murray, Schembri and St-Amant (2003), for example. Among the evidence brought to bear has been the well-known Bank of Canada exchange-rate equation with mainly relative price variables on the right-hand side. Murray and Powell (2003) also show that the degree of *de facto* dollarization is too small to offer justification for official dollarization.

<sup>13</sup> As we shall see below, in the presence of cross-border production, the protection provided by the buffer is limited to the content of Canadian value-added in the country's trade.

cross-border fragmentation of production between the United States and Mexico. NAFTA's arrival pushed the process along.

The flows of goods and services generated by production sharing represent a new form of intra-industry trade. In Europe, trade among the countries of the European Economic Community (EEC) and the European Free Trade Area (EFTA) was "intra-industry" in nature, but it was characterized by two-directional flows of "varieties" of finished products from the same industry. Peugeots went from France to Germany, while Audis moved in the opposite direction. Production sharing adds a new dimension to intra-industry trade.

Production sharing has a number of implications. In the context of a preferential trade area (PTA), it improves the odds that a given PTA will be net trade-creating rather than trade-diverting (Arndt 2001). If a preferential trade arrangement restricts production sharing with rules of origin, welfare may fall. Indeed, as noted above, compliance costs associated with NAFTA's rules of origin are so onerous, that a significant share of North America's cross-border trade avoids NAFTA in favor of the MFN tariff. Overall, production sharing represents a deeper form of real-sector integration than trade and trade openness alone.

Cross-border production sharing also has implications for the way in which shocks are transmitted across borders and thus for the performance of alternative monetary arrangements. It tends to support convergence and synchronization of business cycles and it affects the interaction between the trade balance and the domestic economy and between trade flows and exchange rates.

Trade associated with production sharing tends to reduce asymmetries between countries, certainly at the level of industries and sectors and possibly at economy-wide levels. Industry-specific shocks now affect production in all participating countries. If cross-border linkages

occur over a broad range of industries, then production networks will foster cyclical convergence among the trade partners. As such, this process improves the suitability of the partners for monetary integration. (See Charts 6 and 7 for the emerging pattern.)

[Charts 6 and 7 about here]

In the North American context, it is often observed that some Canadian provinces may be more closely linked to neighboring U.S. states than to neighboring provinces. This is in part attributable to production networking, as in the automobile industry between Ontario and Michigan. It is possible, therefore, for production sharing of this type to contribute to cross-border cyclical convergence, while aggravating domestic cyclical differences between Ontario and the Western provinces. Similar problems may arise between the northern states of Mexico and the rest of Mexico. Overall, however, the evidence suggests that production networks are contributing to convergence of business cycles at the national level.<sup>14</sup>

In addition to their effects on business cycles, production networks introduce a direct link between a country's exports and its imports. Traditionally, an exogenous rise in the demand for a country's exports stimulates domestic output and raises income, which in turn boosts imports. This indirect relationship also holds in the presence of production sharing, but to the extent that exports contain imported components, a rise in export demand directly raises imports.

This weakens the transmission of certain types of foreign shocks to the domestic economy. Traditionally, a decline in U.S. aggregate demand is transmitted to the Canadian economy through a fall in exports and its negative effects on output and employment there. This is where the buffer function of a depreciating currency serves to partly offset this effect. In the presence of production sharing, on the other hand, the decline in exports of end products to the

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<sup>14</sup> See, for example, Chiquiar and Ramos-Francia (2005) and Torres and Vela (2003).

U.S. gives rise to a reduction in imports of parts and components. The shock is transmitted to the domestic economy only to the extent of Canadian value-added embedded in exports.

Somewhat paradoxically, this suggests that such shocks tend to have smaller effects on Canadian provinces that are closely linked with the U.S. through production sharing than those that are not.

A further implication of these linkages is that imports of components are affected not only by changes in domestic income (in the traditional direct manner), but by changes in foreign income which change exports of end products and hence the demand for imported components. Similarly, domestic income growth has a weaker negative effect on the trade balance to the extent that the rise in imports of end products raises exports of parts and components contained in those end products.

Further, the reaction of the trade balance to exchange-rate movements is also affected by production sharing.<sup>15</sup> In auto trade between the United States and Mexico, U.S.-made parts and components are imported by Mexico for incorporation into finished vehicles, which are then shipped to the United States. Under normal circumstances, a depreciation of the peso against the dollar would be expected to raise the peso price of U.S.-made components and thus reduce the quantity imported. The higher price of imported components raises the peso cost of the vehicle into which they are incorporated. At the original exchange rate, this raises the dollar price of the vehicle. But the decline of the dollar price of the peso acts as an offset. The dollar price of the imported vehicle is pushed up by the increase in the peso price of components and pushed down by the depreciation of the peso.

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<sup>15</sup> See Arndt and Huemer (2005) for evidence.



The net effect on the dollar price of imported automobiles depends on the share of Mexican value-added in those vehicles. Mexican value added includes assembly and parts and components made in Mexico. When imported parts are intended mainly for use by Mexicans and vehicle exports consist entirely of Mexican value-added, peso depreciation reduces imports, raises exports and improves the trade balance, as predicted by the traditional model.

As the share of imported components intended for incorporation into exports rises, the response of trade to peso depreciation becomes weaker as compensating changes on the two sides of the trade balance tend to mute the effect. As Mexican value-added in Mexico's vehicle exports rises, the dollar price of those exports falls more as the peso depreciates. This, in turn, raises the U.S. demand for vehicle imports from Mexico and thereby the demand for U.S.-made components. There are two forces operating on parts imports, therefore. On the one hand, the demand for parts for use by Mexicans falls, while the demand for parts to be incorporated into vehicle exports rises. The net effect depends on the share of imports for domestic use and on the share of Mexican value-added in vehicle exports. The response of imports to peso depreciation may thus be negative, positive or zero.

Production sharing also affects the degree of pass-through of exchange-rate changes to import prices. The peso depreciation will be reflected in lower dollar prices of vehicle imports only to the extent of Mexican value-added embodied in the end product. When production sharing involves more than two countries, the degree of pass-through depends on whether the peso depreciates against the currencies of third countries from which Mexico may be sourcing components for inclusion into motor vehicles. In any event, production sharing adds a new explanation for the presence or absence of pass-through.<sup>16</sup>

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<sup>16</sup> See, for example, Knetter (1993), Goldberg and Knetter (1997), and Krugman (1987).

These changes in behavior and responses brought about by production sharing have implications for the debate over the optimal exchange-rate regime. To the extent that production sharing leads to cyclical convergence, it reduces asymmetries and thereby makes fixed rates a better option. To the extent that it reduces the effect of foreign shocks on the trade balance, there is less need for the buffer function of floating exchange rates. To the extent that it reduces the sensitivity of trade flows to exchange-rate changes, it raises questions about the efficacy and potential volatility of exchange-rate changes. As always, the relative merits of fixed and floating rates also depend on the source of domestic shocks.<sup>17</sup>

## **5. Concluding Remarks**

The pros and cons of greater economic cooperation continue to be debated in North America. The three countries in the region took a major step with the NAFTA more than a decade ago, but have done little to build on that initiative. Indeed, with the passage of time certain weaknesses of NAFTA have become apparent, including those associated with dispute settlement procedures and rules of origin.

When it comes to closer monetary cooperation, the three countries meet many of the basic pre-conditions for currency union. They are each other's major trading partners in most dimensions and their economies are strongly linked across goods, services and asset markets and to a lesser extent at the level of factor markets. Most empirical studies see gains from monetary integration, which tend to be easier to measure than the costs, especially the costs associated with the loss of monetary policy independence. But the projected gains are far from overwhelming,

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<sup>17</sup> See De Grauwe (2005) for discussion.

especially for the United States, and thus cannot provide much pressure toward further integration.

Meanwhile, *de facto* integration continues, particularly in the area of cross-border production networks. The available evidence suggests that in the course of the process, cyclical and structural asymmetries among the countries are declining, thereby eroding a major objection to currency unification. Production sharing alters the way the trade balance responds to shocks and disturbances and the sensitivity with which trade flows react to movements in exchange rates, thereby changing the effectiveness of the buffer function of floating rates.

Whether monetary union would change performance at the macroeconomic level is debatable. Uncoordinated inflation-targeting policies have brought significant price stability to the region, while exchange rates, asset prices, and output and employment have fluctuated. A central monetary authority of the European type would probably have produced much the same result, but with a different distribution of the aforementioned fluctuations across the three countries.

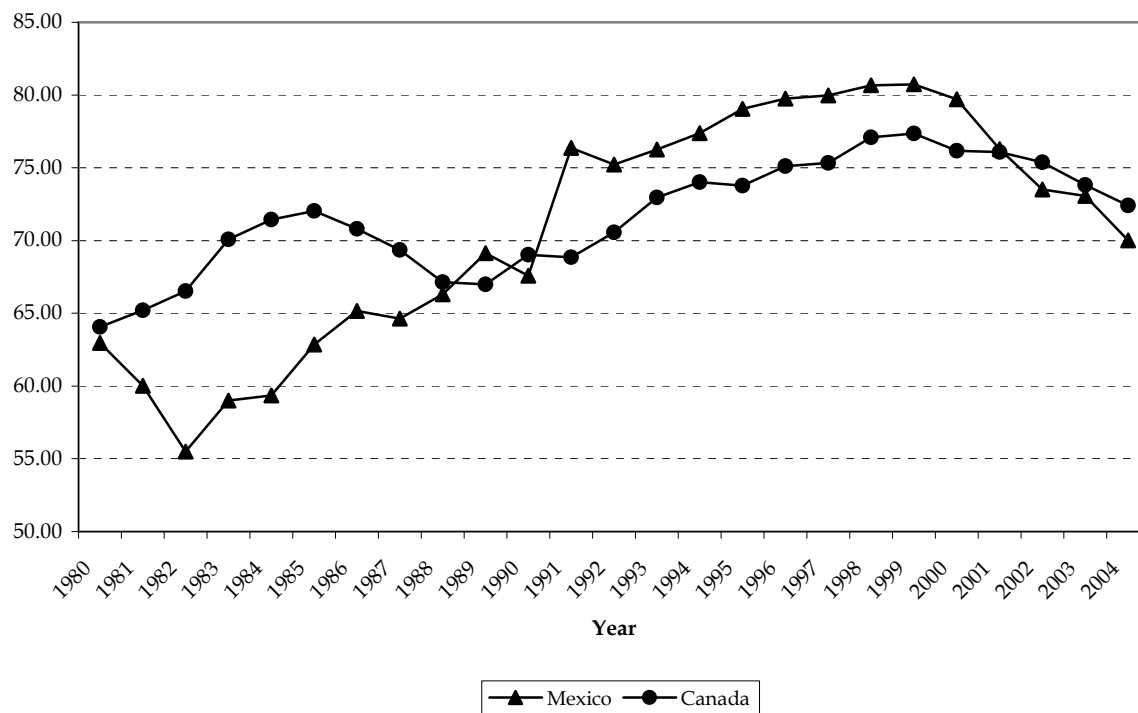
Overall, recent developments diminish the economic obstacles to currency union. But while the economic pre-conditions are favorable, the political environment is unsupportive. The attitude in official Washington is one of indifference, while fears of cultural and political domination by the United States support popular opposition in Canada and Mexico. This is quite the reverse of the conditions that prevailed in Europe, where the economic case was often less than compelling, but where integration proceeded nevertheless because political forces pushed it along.

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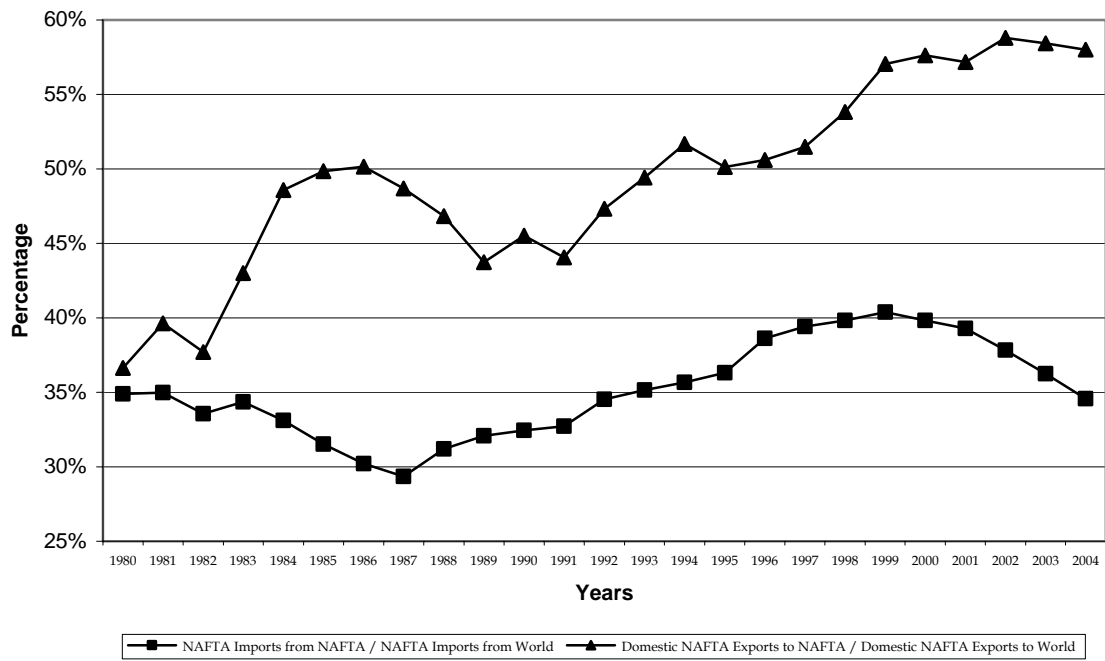
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Chart 1: Regional Openness (Ratio of X+M with US to X+M with the world; scale by 100)



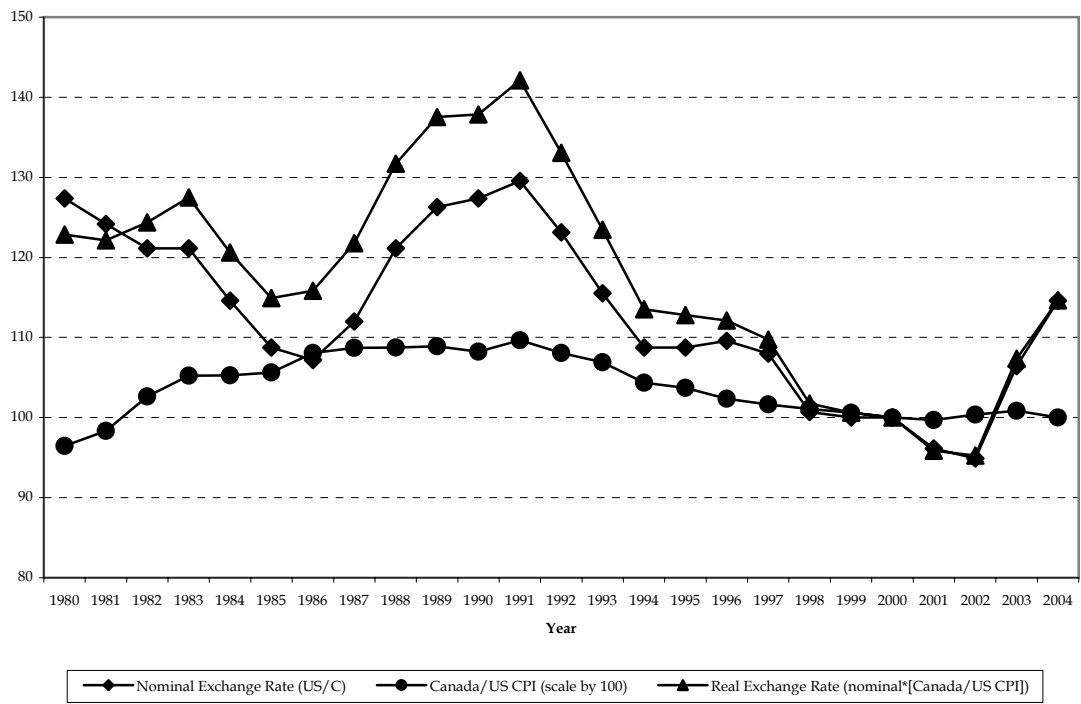
Source: UN Comtrade

Chart 2: NAFTA Shares of Intra-regional Trade of Manufactures



Source: UN Comtrade

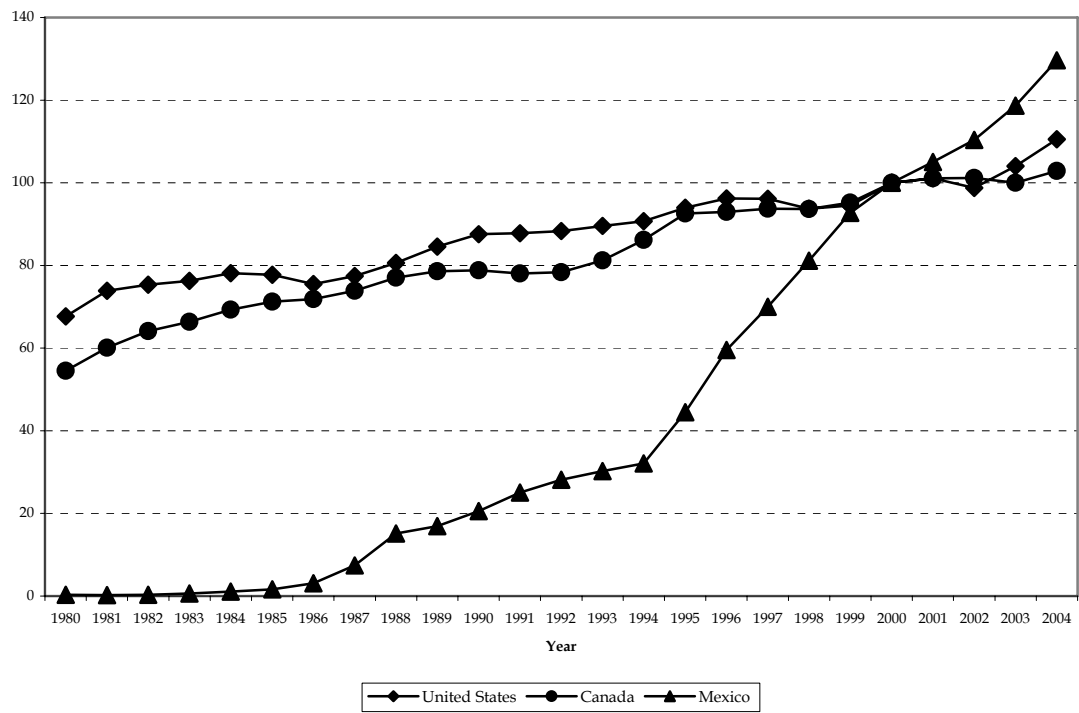
Chart 3: Canada - Nominal and Real Exchange Rates (2000 = 100)



Source: IMF/IFS

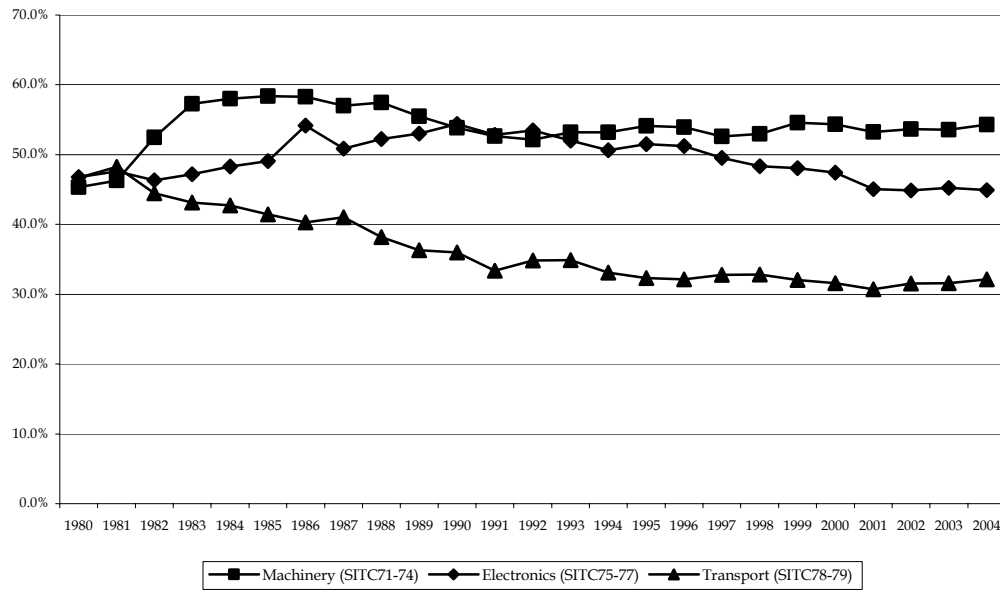


Chart 4: Producer/Wholesale Prices - Index Number (2000=100)



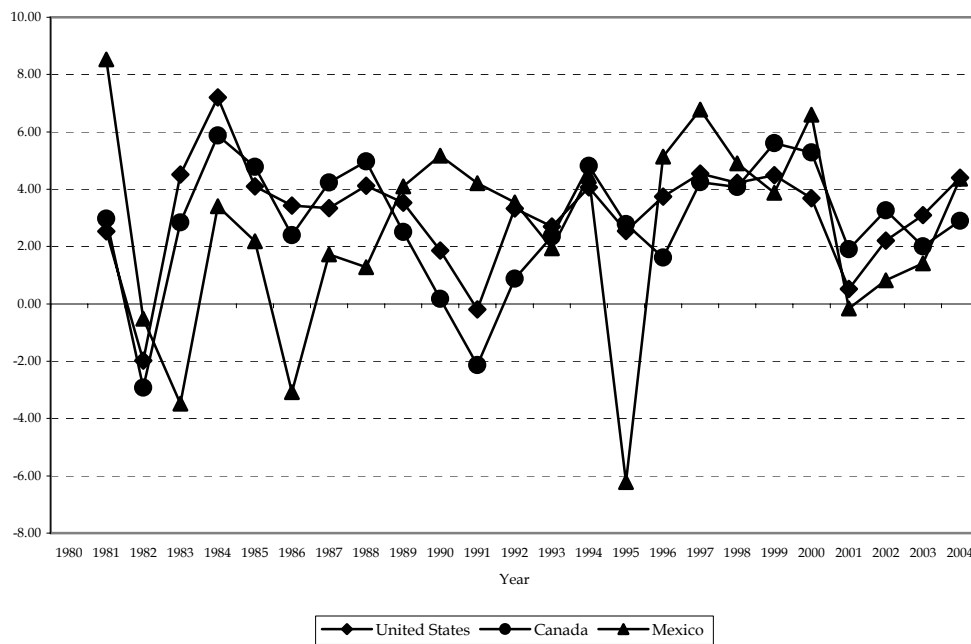
Source: IMF/IFS

Chart 5: NAFTA Sector-Level Share of Parts and Components Trade



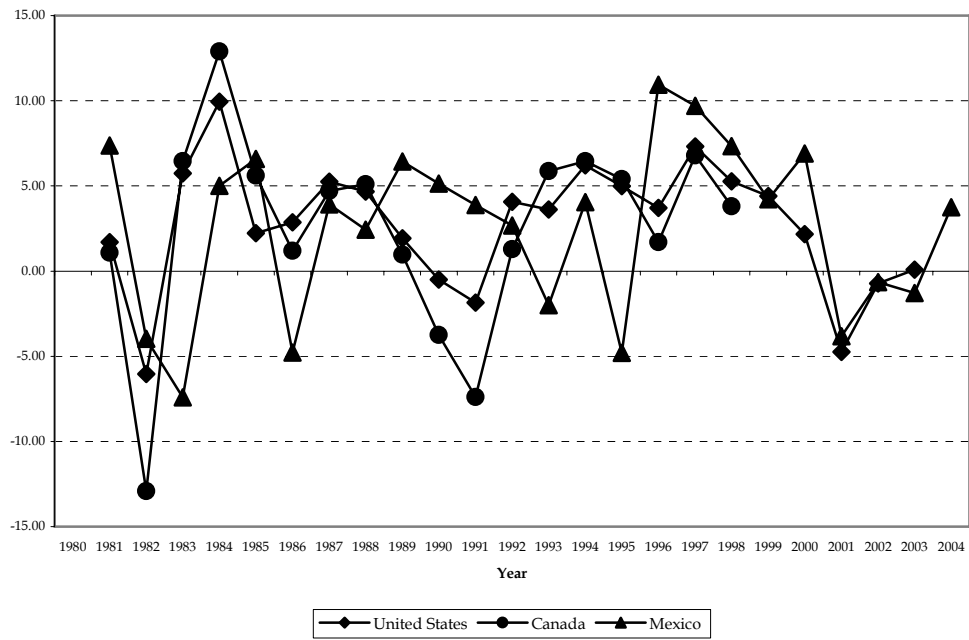
Source: UN Comtrade

Chart 6: Real GDP Growth Rates (Percent)



Source: IMF/IFS

Chart 7: Changes in Manufacturing Production Indices (Percent)



Source: UN Comtrade