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The Case for the Amero

The Economics and Politics of a North American Monetary Union

By Herbert G. Grubel

Foreword by Gordon Gibson

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Foreword

Gordon Gibson

The three huge public policy issues for Canada over the next decade are unity, productivity, and governance. All of these questions will be importantly influenced by the current debate over a common currency with the United States. This major work by Herb Grubel is the culmination of a decade of research on the topic. It sets out the best integrated approach to seizing the advantages and avoiding the dangers implicit in this current of monetary history, spurred by the success of the euro.

Unlike some other commentators, Mr. Grubel does not see a common currency as inevitable but, on balance, very desirable. However, the greatest advantage can only be gained by carefully examining and understanding our national interests and working with the United States and Mexico (and perhaps others in the longer run) to establish the institutions that would give Canada a continuing role in the management and profits of a North American currency.

In his advocacy of the "amero" for our continent, Mr. Grubel goes beyond the work of other commentators. The justification is found not only in negative terms—a way of ending the pattern of significant long-term decline that has been the fate of the Canadian dollar over the past generation with the subsequent international erosion of Canadian wealth—but for highly positive reasons.

These include the benefits of greater price stability, significantly lower long-term interest rates, enhanced trade, greater productivity, and the creation of more wealth in Canada for personal and social ends. He gives chapter and verse on the magnitudes of expected benefits and the mechanisms by which they will be realized.

Canadian critics of a common currency take three main positions. The first is that the present system has worked well, so why tamper with it? The second is that a unique Canadian currency is a necessary bulwark of our sovereignty and independence. The third is a claim that the United States would never cooperate in any event.

On the first issue, the system has not worked well. Mr. Grubel explains how the floating exchange rates of the past generation have acted as a kind of non-tariff protection from world market forces, leading to the relatively poor productivity performance and stunted technological sector we see today. Indeed this system has "contributed to Canada's continued high and excessive reliance on the production of natural resources." A monetary union will ensure that we move to "high-tech and other profitable and expanding industries at a more optimal pace."

Simply put, attempts at long-term insulation from economic reality are counterproductive in the end. Of course Canada has many such devices scattered throughout our economy—marketing boards, industrial subsidies, high deficits and government spending—but flexible exchange rates have allowed us to continue such mistakes by the simple device of lowering our wages in the world year after year. This is not an intelligent long-term strategy.

Mr. Grubel discusses Robert Mundell's concept of "Optimum Currency Areas." This discussion arises from the seminal question (translated into Canadian terms): "If a different dollar is good for Canada, why not for British Columbia as well?" The debate ranges over site-specific short-term requirements versus long-term portfolio diversification. He concludes that while, at one extreme, a single currency for the world might not be a good thing (because of the advantages of competing systems), regional currencies, as for North America, meet the optimality test.

Mr. Grubel brings some fascinating insights to bear on the issue of a separate Canadian currency as related to sovereignty and independence. For those who say that the North American economic and political situation—with one

giant player—is different in kind from the European Union, he notes that the Netherlands and Austria experienced poor performance for years until they linked their currencies to giant Germany 20 years ago, long before the advent of the Euro. Their sovereignty did not suffer.

Of course, for 100 years Canada used the same Imperial unit measurement system as the United States without any loss of sovereignty, and what is money but another unit of measurement? Tellingly, when Canada adopted a new unit of physical measurement 25 years ago (the metric system), no one forecast an increase in sovereignty for this reason, nor has it materialized.

Most fundamentally however, Mr. Grubel makes the sensible observation that "sovereignty is not infinitely valuable." Every nation in the world, even the mighty United States, has traded off elements of sovereignty to multinational associations such as the WTO, NAFTA, and the United Nations. Canada has been in the forefront of encouraging every such development—a natural policy for a middle power.

Importantly, none of these associations have impaired our ability to run our own foreign policy or foster our own cultural institutions. (The magazine war of this year is not a counter-example. We have every right under NAFTA to subsidize our magazine industry and are apparently going to do so.)

Finally, at the conceptual level, Mr. Grubel notes the advantages of a common currency in the area of governance. Advanced societies have found it useful to put constraints on politicians in fundamental areas. The Charter of Rights and Freedoms is exactly such an example in Canada. A tripartite central bank established to protect the integrity of the amero would be less open to political meddling than any of the Bank of Canada, Federal Reserve, and Mexican central banks independently. Mr. Grubel believes the mandate of such a central bank should be restricted purely to the value of money, with local governments continuing to look after questions of employment and social issues.

As to the claim that the Americans would never enter a currency marriage that gave Canada and Mexico seats on the governing board and their own share of "seigniorage" (the profits governments gain from printing money, about $2 billion annually for Canada), he makes several observations. The first is that the Americans will need new allies to maintain their ascendency vis à vis a large and growing Europe. A second is that they have seen the advantages to be gained through the WTO and NAFTA (notwithstanding the Ross Perots of this world), and a common currency fits the same mould. Finally, there are strong geographical ties across the border—the United States and Canadian prairies for example share many of the same economic concerns—that could find useful expression on a joint board.

Of course this development will take time. No one would have guessed 20 years ago that we would be almost 10 years into NAFTA today. But such are the currents of history.

For now, Canadian government politicians and bankers pooh-pooh the idea of a common currency. This is natural; it is the cautious route. And Ottawa is so fixed upon making the world difficult for Quebec sovereigntists that they see a common currency as solving a problem they do not want solved. This too will pass in the fullness of time.

For now, the job of academics and commentators is to explore the grand concepts and the nitty-gritty details that need to be worked through. Mr. Grubel's work attacks both levels admirably, from the major (optimal currency areas) to the minor (what symbol do you put on the coins?). It is a major contribution to one of the most important public-policy discussions of the coming generation.

Executive Summary

This study was stimulated by the recent successful launch of the euro, the prospect of official "dollarization" in Argentina and Mexico, the relatively poor performance of the Canadian economy, and the depreciation of the Canadian dollar during the last 25 years—and especially in 1998.

Canada's flexible exchange rates have contributed to poor economic performance. On the one hand, they have cushioned the producers of commodities from the effect of lower world prices. On the other hand, they have caused a reduction in labour-market flexibility and delayed adjustment to the long-term decline in the world prices of natural resources. They also brought high currency-exchange costs and a significant risk premium on Canadian interest rates.

The plan for a North American Monetary Union presented in this study is designed to include Canada, the United States, and Mexico. Under the proposed plan, bank notes and coins of the currency (tentatively called the "amero") will have "amero" symbols on one side and national emblems on the other to preserve important symbols of national identity. The conversion of existing currencies into the amero will take place at rates that leave unchanged each country's real income, wealth, and international competitiveness at the time of conversion.

The North American Central Bank, like the European Central Bank, will have a constitution making it responsible only for the maintenance of price stability and not for full employment. The three countries in the union will have representatives on the Bank's board in numbers reflecting their relative size in terms of some weighted average of population and national income, with the weights to be determined through negotiations. Every country will receive the profits from the issuance of ameros used domestically.

Trade among the members of the monetary union will be stimulated by the elimination of the costs of currency trading and risk. There will be greater price stability and, importantly, interest rates in Canada will fall by about one percentage point.

Against these gains in economic efficiency must be weighed possible losses in macroeconomic performance. These losses will be small or non-existent. Flexible exchange rates have not brought Canada the macroeconomic benefits promised by advocates of such a policy. Unemployment has remained high and economic growth has been slow. Changes in economic thinking and the experience of many countries have shown that the economic fine-tuning possible under flexible exchange rates has been a failure. Labour-market flexibility, essential for dealing with economic shocks, was lowered by the very existence of flexible exchange rates. The temporary protection offered producers and workers by exchange-rate deprecation has generated inefficiencies much like temporary protection through tariffs is known to have done in the past.

Canada's cultural sovereignty and political independence are not affected by monetary union. Just as in the case of free trade, there is nothing in any treaty for monetary union that interferes with Canada's ability to pursue taxation, spending, social, regulatory, or foreign policies different from those of the United States.

A small political movement for monetary union already exists. It will gain strength if the Canadian economy continues its recent record of poor performance. Even if the world prices of commodities and the exchange rate should recover, history shows that the exchange rate will not return to its old level. All Canadians will be permanently poorer. At the same time, the rise in the exchange rate taking place will cause unemployment and government deficits. Business and the general public will increasingly look to monetary union as a solution to these problems, especially if the euro succeeds.

The United States has less to gain from a monetary union than Canada and Mexico but there will be some benefits. Monetary union will reduce the threat to the power of the US dollar resulting from the greater use of the euro in place of the dollar in the rest of the world. Further, the United States will benefit from having more stable and prosperous countries as neighbours. When the United States joined other international organizations like the IMF, the World Bank, the World Trade Organization, and the North American Free Trade Agreement, the expected economic and political gains appeared to offset the surrender of some national sovereignty. In this tradition, the United States may well find it worthwhile to join the proposed monetary union.

The Institutions of a North American Monetary Union

On the day the North American Monetary Union is created—perhaps on January 1, 2010—Canada, the United States, and Mexico will replace their national currencies with the amero.[1] On that day, all American dollar notes and coins will be exchanged at the rate of one US dollar for one amero (Ⓐ). Canadian and Mexican currencies will be exchanged at rates that leave unchanged their nations' competitiveness and wealth. In all three countries, the prices of goods and services, wages, assets, and liabilities will be simultaneously converted into ameros at the rates at which currency notes are exchanged.

At the same time, the national central banks of the three countries will be replaced by the North American Central Bank. The operations of that bank will be governed by a constitution like that of the European Central Bank, which makes it responsible solely for maintaining price stability. It is not required to pursue full employment or maintain certain exchange rates. Its personnel policies will be free from political influences, in particular those arising out of partisan national politics in member countries.

The board of governors of the North American Central Bank will consist of members from the United States, Canada, and Mexico chosen by their respective governments in numbers that reflect their economic importance and population. As in Europe, membership in the union will require that countries do not incur persistent budget deficits.

The amero notes and coins will have in common abstract designs on one side. Notes and coins will be produced in each of the three countries according to their own demand and show national symbols on the other side. The currencies will circulate at par in all three countries and those spent in other member countries will be returned to their countries of origin whenever they find their way into a commercial bank. Therefore, at all times citizens of each country will deal predominantly in notes and coins that carry their national symbols on one side.

Living standards in the short term and the long term

It is important to realize that immediately after the adoption of the amero, the living standards and wealth of citizens in all three countries will be completely unchanged. To illustrate, consider a Canadian who earned CDN$3,000 per month. After the monetary union, she earns Ⓐ1,500 but a new car that cost CDN$30,000 and required 10 months of gross income under the old system, under the new regime will cost Ⓐ15,000 and still take 10 months of work to buy. Balance sheets, the assets and liabilities of individuals and firms are also not affected by the currency conversion. A bond worth CDN$90,000 can buy three cars at CDN$30,000 each; the bond, when it is worth Ⓐ45,000 and the cars cost Ⓐ15,000, can still do so.

The merit of adopting the amero depends on gains and losses accruing through time. The remainder of this paper deals with the dynamic effects of monetary union. The next section provides an historic background and conceptual framework for analyzing the costs and benefits of monetary union. Following sections discuss the issues for Canada and Mexico and for the United States. Next, I discuss the merit of alternative institutional arrangements like the fixed exchange rate and currency boards, which have been suggested as remedies for the problems raised by flexible exchange rates. The final parts of the paper analyze a number of technical problems that need to be solved before a union can be established.

Optimum Currency Areas

During the Great Depression of the 1930s, countries used currency devaluation to increase their exports and reduce imports in order to lower unemployment rates. These beggar-thy-neighbour policies were self-defeating since the gains of one country accrued at the expense of others while at the same time they disrupted trade and the flow of capital and caused protectionism. As a result, exchange-rate devaluations increased the depth and length of the Depression.

To avoid the problems of the Great Depression after the second World War, an international agreement was signed at Bretton Woods, New Hampshire, to create the parity exchange-rate system, under which individual countries committed themselves to an exchange rate fixed at a specified par rate with deviations permitted within a narrow band. Only so-called fundamental disequilibrium was considered a just cause for countries to change their exchange rates. The International Monetary Fund nominally was responsible for operating this system.

In practice, the US dollar played a key role. Central banks could convert dollar holdings into gold at $35 per ounce and the dollar was, therefore, the *de facto* international standard of value and reserve currency held by individual countries. Liquidity provided by the International Monetary Fund to individual countries represented only a small proportion of total official reserve assets. These reserves were used to buy and sell a country's domestic currency if excess supply or demand threatened to move the parity exchange rate in the open market.

For a number of reasons, the parity exchange-rate system began to run into problems during the 1960s. The world supply of gold was inadequate at the fixed rate and general inflation. The Vietnam War caused the United States to run large payments deficits and the adequacy of US gold reserves became questionable. Loss of confidence in the system caused some central banks to exchange their dollar holdings for gold, further aggravating the crisis. At the same time, Keynesian economic theory was in its heyday. It suggested that countries could lower unemployment permanently by expansionary monetary and fiscal policies at the expense of only relatively small and constant inflation. The fixed exchange-rate system was seen as the main obstacle to the free use of such Keynesian policies.

During this period, academics and politicians also gave much attention to Milton Friedman's ideas about the merit of freely floating exchange rates.[2] These ideas were used by Keynesians as one important justification for the abandonment of the parity exchange-rate system during the 1970s. The new system of floating exchange rates permitted countries to increase their money supplies, which in turn caused the great inflation of the 1970s and increased rather than decreased unemployment. It is ironic that these developments following the adoption of floating exchange rates gave birth to Friedman's "monetarist" criticism of Keynesian economics and caused some of its central policy implications to become discredited.

What domain for flexible exchange rates?

While Friedman's recommendations for freely floating exchange rates were discussed widely, Robert Mundell (1961) published a seminal article in which he introduced the world to the concept of "optimum currency areas." He criticized Friedman's recommendation for freely floating rates by asking the following question. If flexible exchange rates are such a good system, why is their introduction limited to existing nation states? Why do not regions within countries adopt them?

Mundell's answer, which readily becomes obvious once the issue is raised, is that a common currency for trading areas brings its population important economic benefits in terms of micro-economic efficiency. If every small region of Canada had its own currency and central bank, the value of the money issued by each would be very unstable and unpredictable. Exchange rates would fluctuate frequently and widely. There would be large costs for currency trading and for measures to deal with exchange rate uncertainty. As a result, industry and commerce would suffer and economic well-being would be lowered.

The issue facing a country that contemplates joining a monetary union therefore involves the following trade-off. On the one hand, there are the benefits in terms of greater economic efficiency at the micro-economic level and, on the other, there are costs in terms of less economic stability and wider fluctuations in output and unemployment on the other.[3] The following three sections consider these benefits and costs in some detail, focusing on conditions in Canada though the analysis is equally relevant for Mexico. The special conditions of the large American economy are considered later.

History of Canada's international monetary arrangements

Before turning to the gains and losses from monetary union, it is useful to review the history of Canada's international monetary arrangements. The following summary was presented by Senator Michael Kirby at the opening of the March 25, 1999 hearings of Senate Committee on Banking, Trade and Commerce in Ottawa:

> Canada has had a variety of currency arrangements through its history. The dollar was first adopted as the monetary unit of the Province of Canada in 1858 and then in 1870 for the entire Dominion. The Canadian dollar, which was backed by the gold reserves of the government, was pegged in 1858 at par with the US dollar and at $4.87 to the British pound. With the exception of a short-term drop in the US dollar during the American Civil War, this relationship continued until 1914.
>
> With the onset of World War I, Canada abandoned the fixed relationship with the US dollar until 1926, when the Canadian dollar was pegged at 82 cents (US). The fixed relationship was abandoned again in 1931 and the dollar was allowed to float until the beginning of World War II when it was pegged at 91 cents (US).
>
> Canada had trouble holding on to a pegged exchange rate in the postwar era. It dropped out from 1950 to 1962 and again in 1970, even though the commitment to peg the currency was mandated by international treaty. In early 1970s, the international community abandoned its official support for fixed exchange rates, leaving the choice of a regime up to the individual country.
>
> Since regaining its floating status in mid-1970, the Canadian dollar, measured directly against the US dollar has experienced two types of instability: broad swings in its trend exchange rate—appreciating from 1987 through late 1991 and subsequently declining—and significant short-term fluctuations around the trend rate. (Kirby 1999)

This history suggests that a number of times during the last century Canadians have had discussions resembling those taking place in 1999. In each of these discussions, the benefits and costs, the efficiency gains and loss in sovereignty were discussed using the language and economic tools of the day.[4] The conceptual and theoretical arguments made in these debates are likely to have been the same every time. What changed from one to the other was the result of an interplay between recent economic developments and political and economic ideology. The same factor permeates all of the following analysis and public discussion considered in the section, The Politics of Monetary Union, below (p. 35).

Efficiency Gains from Monetary Union

Canada will gain from joining a monetary union with the United States through two different mechanisms. The first is static and rather simple: the reduced need to buy and sell foreign currencies and to deal with exchange-rate uncertainty. The second mechanism involves the dynamic development or modification of institutions that result in greater economic efficiency.

Static gains

Foreign exchange dealings

The creation of the amero will reduce the size and risk of foreign-exchange operations engaged in by banks, firms, and travellers as a routine part of their economic activities. For example, Canadian producers of exports paid in US dollars or Mexican pesos have to exchange these receipts into Canadian dollars to pay their workers, suppliers, taxes, and stockholders. If foreign buyers pay these producers in Canadian dollars, these foreigners have to buy Canadian dollars with their own currencies. Similarly, import businesses and travellers among the countries have to buy or sell the currency of the other country.

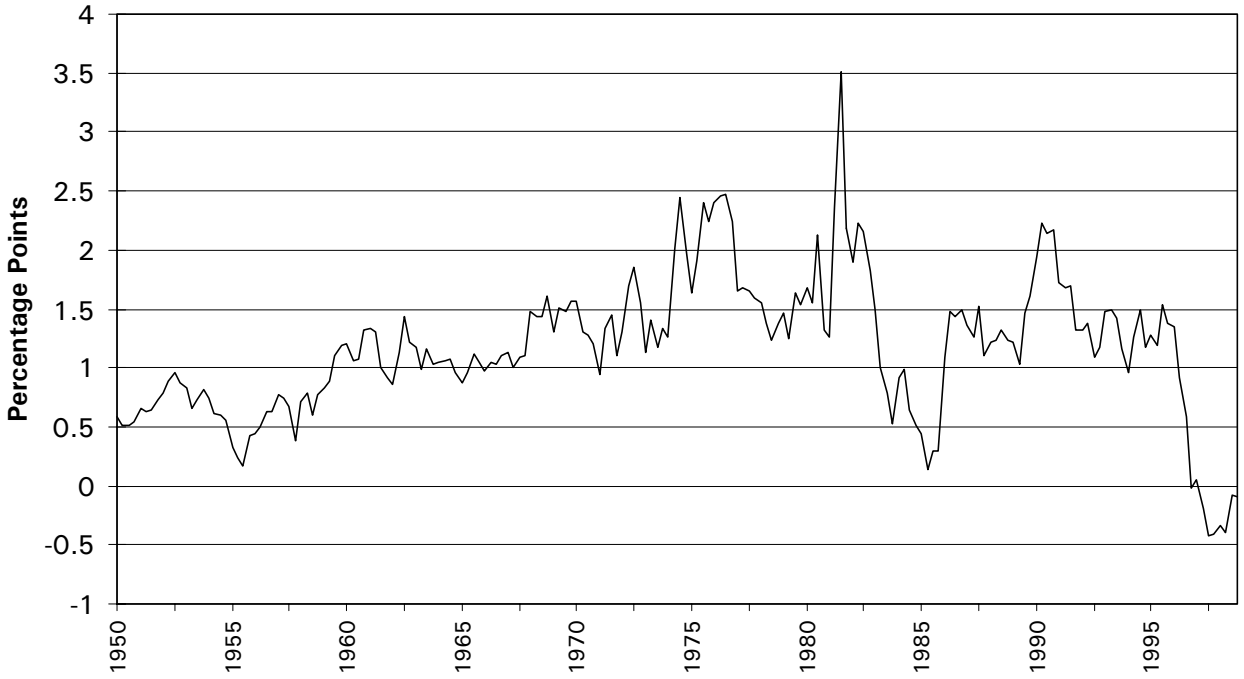
There is also a large international trade in capital-market instruments like bonds, short-term bills and common shares of corporations. As in the case of trade in goods and services, trade in financial instruments involves the currency market. For example, Canadian pension funds purchase and hold bonds and shares denominated in US dollars for investment purposes but pay out annuities to their customers in Canadian dollars. As another example, consider the provincial governments that finance a deficit by selling bonds denominated in US dollars. To service and repay this debt they must convert their Canadian dollar tax revenue into US dollars.

Finally, there is a large volume of trade in currency futures, forward contracts, and other financial derivatives. This business stems from the desire of exporters and importers of goods, services, and financial instruments to eliminate the risk of fluctuating exchange rates. For example, Canadian exporters of lumber to the United States usually sign a contract that pays a certain number of US dollars 90 days later. For financial planning, these exporters need to know whether in 90 days these US dollars will be exchanged for 1.5, 1.6 or 1.3 Canadian dollars. Forward exchange markets permit them to do so. Similarly, borrowers of US funds in Canada can lock in the Canadian dollar value of future payments of interest and principal. Other so-called derivatives are used to eliminate or reduce exchange risk associated with trade in assets in more roundabout ways, often involving a number of transactions.

All of this currency business uses up labour and capital in Canada, Mexico, and the United States. The research needed to forecast exchange risk and the determination of optimum strategies to deal with it requires much highly skilled labour. Foreign exchange trading divisions of commercial banks employ large numbers of traders, economists, and support staff and also use much capital, most of which is in modern communications facilities. Private firms use manpower and capital to operate their own foreign exchange departments. International travellers use up time and energy in currency dealings. The elimination of the need for foreign exchange transactions for trade among the members of the amero zone would free this labour and capital for the production of other goods and services. Living standards would increase correspondingly.

How big would be the savings in resources from the reduced need for currency transactions if Canada joined a North American Monetary Union? Unfortunately, it is not easy to make an empirical estimate of the savings. We know that in 1998 Canada's trade in goods and services with the United States and Mexico (exports plus imports) was valued at CDN$315 billion.[5] If foreign exchange costs represent one percent of that value, the savings would be about $3 billion. The currency transactions undertaken in the context of international lending and dealing with exchange risk are known to be some multiples of net capital flows since there is much "churning," as agents buy and sell the same currencies many times during the day in order to take advantage of small differences in exchange and interest rates.

Figure 1: Spread between the Nominal Long-Term Yields on Canadian and American Bonds, 1950–1998



The most reliable estimate of the savings from reduced currency exchange dealings can be made by a study of the foreign exchange activities of banks, private firms, and travellers. In interpreting these data and estimating the savings from monetary union, it is important to remember that the need to deal in currencies of the rest of the world would remain. In other words, the exchange departments of banks and firms would not be eliminated, they would only shrink in size.

While such studies of the possible savings from currency union have not been made for any of the North American countries, we can gain some insight into them by considering a study of European conditions. In 1990, the "Delors Commission" (Commission of the European Communities 1990) analyzed the potential gains from currency unification in Europe and in the process sponsored special surveys of banks and firms. These surveys resulted in the conclusion that the introduction of the euro will shrink the size of the foreign exchange departments of banks and firms by about 85 percent. The resultant savings will represent between .3 and .4 percent of national income of the region, with some marked differences in the savings of individual member countries, depending on the size of their foreign sectors.[6]

The adoption of the amero would result in analogous savings. We may speculate that for Canada, with a foreign sector as large as that of most European countries, the savings will resemble those estimated for Europe. For the United States, which has a much smaller foreign sector relative to national income, the percentage savings would be much smaller. Mexico's savings may be expected to lie between those of Canada and the United States. My own, rather casual, estimates put the savings for the entire region at about .1 percent on national income, or about CDN$800 million.

Lower interest rates and less exchange risk

Interest rates on long-term bonds issued by the governments of Canada and the United States historically have differed because of the risk of depreciation of the Canadian against the US dollar, the fluctuations in the exchange rate around a trend (called the exchange risk), a difference between the two countries in the risk of default on their debts (called the sovereign risk), and the lower liquidity of Canadian government bonds because fewer are outstanding and traded daily.

Figure 1 shows the historic development of the spread between the nominal interest rates on long-term securities of Canadian and American governments: the excess of the Canadian rate has averaged about one percentage point over the entire period (1.17 percent between 1950 and 1997). However, there were some periods during the 1970s and early 1980s when the turbulence of international exchange and capital markets created a spread much larger than one point. 1983 saw the record spread of 3.5 points. Since 1998, the Canadian rates have been lower than the American rates.

Kevin Clinton (1998) attributes most of the interest-rate gap to the risk of currency depreciation. He estimated the other causes of the difference to be relatively minor, though the threat of Quebec's separating has undoubtedly increased the sovereign risk component of the spread during the 1990s. The developments since 1998, which have seen the Canadian rates lower than the American rates are not covered in Clinton's paper but they are likely to be the outcome of an inflation rate in Canada lower than that in the United States, which implies a credible and very likely future appreciation of the Canadian dollar.

These recent developments in the spread suggest that nominal interest rates are not the appropriate basis for measurement of gains from monetary union. One should study instead nominal interest rates adjusted for inflationary expectations in each country. Unfortunately, such expectations cannot be measured directly and the use of actual inflation rates is an imperfect substitute for expectations. Nevertheless, Clinton estimated real interest-rate differentials on the basis of differences in consumer-price inflation. He found that between 1961 and 1998 the spread in real yields was .97 points as compared with the spread in nominal rates of 1.17 points. So, even after adjustment for inflationary expectations, investors appear to demand a premium of about one point over the American interest rates to place their funds into Canadian assets denominated in Canadian dollars.

In Europe, the obligations of the governments of Italy and Germany similarly showed differences in yields to compensate investors for the risk that the lira would continue its postwar history of depreciation against the mark. There are firm expectations that the interest rate differential between Italian and German government bonds will narrow dramatically after they have been denominated in euro. In fact, this narrowing had started in the months leading up to the conversion on January 1,1999.[7]

The introduction of a common currency in Canada and the United States will result in the same developments and ultimately the complete and permanent elimination of the exchange risk and differences in the inflation rates between the two countries. There may well remain a risk premium due to the public's perception that Canada, the smaller country with a higher ration of debt to income and burdened with a separatist movement, is more likely than the United States to default on her obligations. We can observe the equivalent spread in the interest yield of the federal and provincial governments within Canada. These spreads tend to be very small. However, it is difficult to predict how big the Canada/United States spread will be, especially since it will depend on the uncertain future fiscal responsibility of both countries and the risk of Quebec separation. However, if we assume for the sake of illustration that, of the historic spread of 1.17 percentage points, .17 points will remain and reflect the sovereign risk, then the drop in the differential will be 1 full point. The benefits of lower interest rates will be very large.

A drop of one percentage point in the cost of borrowing for the federal government alone would bring savings of $6 billion annually on its $600 billion debt though, because of the maturity structure of the debt, it will take some time to realize the full amount of these savings. This fact alone should make the federal government an enthusiastic supporter of monetary union. The fixed-interest obligations of other Canadian governments, agencies, private companies, and individuals, particularly those with mortgage obligations, will similarly be reduced by many billions of dollars. The prices of common shares will rise for a firm's given expected profits and therefore the cost of borrowing in equity markets will also fall.

The stimulus to consumer spending by such lower borrowing costs will in large part be offset by lower interest incomes of lenders. However, the lower interest rates will encourage higher investment by business, which will increase labour productivity and raise Canadian living standards. The cost of housing will fall and stimulate the expansion of the building industry and the producers of furnishings. Cumulatively and through time, the growth in productivity and housing investments may well be large. Governments will have smaller deficits or larger surpluses and will be able to lower taxes, which in turn will increase incentives to work and invest.

Greater price stability

Inflation is defined as the persistent upward trend of prices. Price instability means that prices fluctuate through time either around a trend or around zero inflation. It is possible for a country's central bank to be committed to, and succeed in the prevention of inflation. However, no central bank can prevent entirely fluctuations in the price level around a mean of zero because of random economic disturbances affecting its output and trade.

Economic theory and evidence suggest that price stability encourages economic growth and efficiency. Thus, Benjamin Klein (1977) found that in American history the greater the price stability, the higher the economic growth. He attributes this correlation to the increased usefulness of money when prices are stable. During periods of great volatility in prices, economic agents are forced to reduce the use of money in transactions and resort more to barter. Some of the efficiencies derived from a monetized economy are lost.

Price stability is an increasing function of the size of a currency area for the following reason. Consider that a bad

harvest of grains in Canada causes higher prices for food using grains. If Canada has her own currency, these higher food prices would raise the overall price level. However, this inflationary effect is dampened if, at the same time, bumper crops in another region of Canada lower prices for fruits or vegetables. Generally, the probability is greater that an opposite price development keeps the price index unchanged, the larger the number of regions and the more diversified the mix of industries. For this reason a North American currency area will have more stable prices than Canada or the other member countries operating their own currencies, given the pattern of exogenous disturbances causing fluctuations in output and prices. No estimates of their magnitude are available, but these benefits are certain to exist.[8]

Dynamic gains

Expansion of trade

The new international trade theory developed during the last 25 years suggests that gains from the lowering of trade barriers are much larger than had been estimated earlier. The traditional theory had predicted that lower trade barriers would cause a country like Canada, for example, to expand the production and export of forestry products. At the same time, Canada's machinery industry would shrink and imports of machines would increase. The new theory suggests (and empirical evidence shows) that lower tariffs affect only a very little the size and net trade of such industries. Instead, there is a large expansion of trade in all forestry and machinery products between countries as firms increasingly specialize in the production and export of narrow product lines.

As a result of this type of specialization and "intra-industry" trade, industries reap economies of scale and large productivity gains that had not been considered in the traditional theory and that were not significant in the operation of the kinds of firms important in trade in most industrial products. An econometric study by Richard Harris and David Cox (1983) using the new trade theory suggests that the dynamic gains from the elimination of tariff barriers between Canada and the United States in the longer run will equal five to ten percent of national income.

Lower costs of transportation, communication, and currency dealings are analytically equivalent to the reduction of tariffs. They encourage international specialization and trade. Quantitatively, the effects of monetary union are much smaller than those of lower tariffs and transportation costs. Nevertheless, savings in the costs of foreign exchange will bring dynamic benefits much greater than suggested by the initial cost reductions alone.[9]

More Efficient Price Structure

Studies have shown that in Europe the prices of identical products on two sides of national borders often were quite different, even for major products like automobiles and in areas over which consumers can travel readily in their search for retail bargains. On the supply side, such price differences can be explained by the organization of markets, taxation, the level of unionization, and the efficiency in retailing and other levels of distribution.

Whatever the causes of these price differences might be, the interesting question for the present analysis is why consumers have permitted them to persist. Geographic distances are not great and language differences in these regions tend not to be a serious obstacle to consumer arbitrage. Free trade has existed in Europe for some time and consumers are able to bring goods across borders freely and without the payment of tariffs. The answer to the puzzle has been found to lie in the fact that prices in the two countries are in different currencies. As a result, consumers find price comparison cumbersome. The technical term used in this context is that prices are not "transparent." In addition, the currency conversion adds extra costs to cross-border shopping.

A common currency in Europe is expected to make prices transparent and eliminate the cost of currency conversion. As a result consumers are expected to equalize the prices of consumer goods. The economic implications of these developments are as follows. Most important, inefficient retailers will be forced to become more efficient or go out of business. In addition, there will be a growth in community-wide, large and efficient distribution firms characterized by brand names and uniform quality known in all countries. These firms will charge the same retail prices everywhere. Consumers will gain from the increased efficiencies and enjoy lower prices.

Under the proposed North American Monetary Union, we can expect analogous developments with increased efficiency required of firms in both Canada and the United States. Consumers will benefit correspondingly.

The prospect of these developments merits two comments. First, for prices to be arbitraged it is not necessary to have large shifts in consumer buying patterns. What counts are marginal changes in the level of sales brought about by relatively small numbers of buyers. As retailers note these changes in sales they will look for causes and respond by becoming more efficient.

Second, differences in taxation and government-set prices are likely to remain obstacles to perfect arbitrage. Increased cross-border shopping may well cause Canadian authorities to impose the goods and services tax and provincial retail taxes on goods purchased in the United States. Of par-

ticular importance will be the much higher Canadian excise (sin) taxes on liquor and tobacco products. Problems will also arise if Canadians begin to import large quantities of dairy and other products, the domestic prices of which are set by supply management boards.

It is impossible to predict how Canadian authorities will react to much higher levels of cross-border shopping. During the 1980s, when Canadians took advantage of a favourable exchange rate and did much shopping in the United States, they tended to collect duty on products carrying sin-taxes and subject to marketing board controls. Other products tended to escape GST and provincial tax levies. Attempts to broaden tax collection would have resulted in long delays at border crossings and provoked a citizens' revolt. No government would have wanted to face such a condition in an election.

Some observers will welcome the dilemma faced by the Canadian authorities when the monetary union results in greater consumer arbitrage. It will increase incentives to dismantle supply management practices more rapidly than is now planned under the threat of sanctions permitted by the rules of the World Trade Organization. It will also increase incentives to lower taxes, which is welcomed by many who hope that it will lead to a smaller government. Other observers, mainly from the left of the political spectrum, will oppose the monetary union in order to avoid this dilemma. They like the income redistribution implicit in supply management policies, the social engineering of sin taxes, and the large government fed by excise taxes.

Increased labour-market discipline

The Delors Commission notes that one of the expected benefits from the creation of the Euro area will be "increased labour market discipline" (Commission of the European Communities 1990: 47). I believe that the same benefits would accrue in Canada, where unionization is about 35 percent of the labour force, much higher than that in the United States.

It is well known that unions provide their members with higher wages, greater job-security, and other benefits, all of which have a monetary equivalent value. The crucial question is who pays for the benefits that unions negotiate for their workers. Because of competition in international capital markets, the benefits cannot come at the expense of profits. Instead they come at the expense of other workers, the general public, or both.

The first effect occurs when higher labour costs induce firms to substitute capital for labour. Fewer workers are required to produce the same output and their productivity is raised so that it matches their higher wages. The workers forced to leave the unionized industries are re-employed in the rest of the economy, where they depress wages. Studies have shown that as a result there is a gap of between 10 to 30 percent in the wages earned by unionized and non-unionized workers of the same age, gender, educational qualifications, and work experience. To a large extent, therefore, the gains of unionized workers occur at the expense of other workers.

Most relevant for the present purposes of analysis is the second effect of the higher wages provided by unions to their members. Firms that have some market power are able to pass on higher labour costs through higher prices for the goods and services they sell. The consuming public in Canada ends up paying for the higher wages through higher costs of living and therefore reduced living standards.

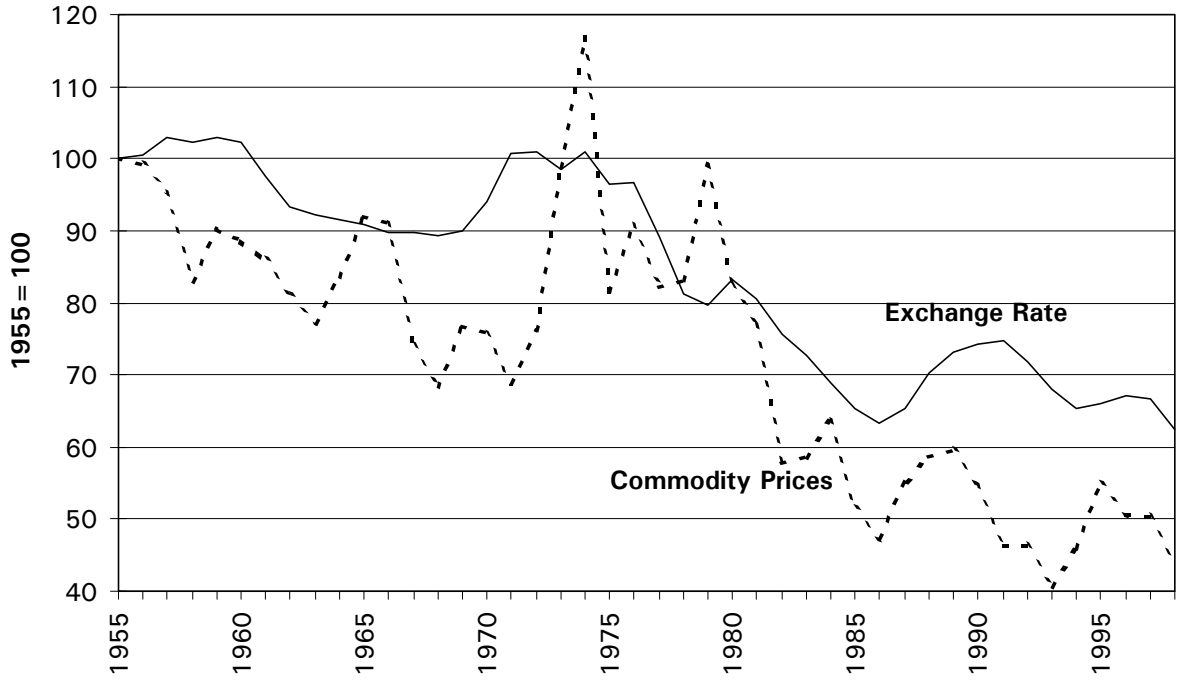
However, the general inflation created by this process results in demands for nominal wage increases across the board to compensate the public for the loss in purchasing power. In addition, the higher price levels result in reduced international competitiveness and currency depreciation. The higher prices of imported and exportable goods add to the general inflation and reduced living standards for all, including the unionized workers. In response, wage demands for unions increase again and the cycle of higher wages and prices and depreciation is repeated.

In Europe, where rates of unionization are higher and labour laws are more favourable to unions than in Canada, such cycles have been frequent and pronounced, especially in Italy, France, and Spain. As the Delors Commission notes, these cycles will be curtailed and possibly even eliminated by the adoption of the Euro. The central banks of such countries will no longer be able to depreciate their currencies to protect firms and workers whose price and wage increases have made them lose international competitiveness. As a result, unions must either refrain from demanding inflationary wage increases or face higher unemployment for their members. Either response is equivalent to the achievement of greater labour market discipline.[10]

In Canada, the power of the unions works mostly through a somewhat different process that is initiated by falling world prices of commodities and the consequent currency depreciation. Figure 2 shows that the world prices of natural resources have been on a consistent and pronounced downward trend.[11] These external developments are a theoretically plausible explanation for the fall in the real exchange rate, which is also shown in Figure 2.[12]

The correlation coefficient (*r*-squared) between real natural resource prices and real exchange rates is .7 for the period from 1955 to 1998 and supports the theory. However, figure 2 shows some interesting and important periods when it is clear that the relationship broke down. Between

Figure 2: Exchange Rate and Real Commodity Prices, 1955–1998



1955 and 1971, commodity prices fell nearly 30 percent while the exchange rate remained unchanged. Between 1972 and 1980, commodity prices remained unchanged and the real exchange rate dropped nearly 20 percent. Only since about 1978 and until 1998, did the exchange rate and commodity prices move together closely along a pronounced downward trend.

The relatively inconsistent pattern of changes in the exchange rates and commodity prices suggests that the depreciation has had other causes. One of them, operative mainly since the middle 1980s, has been pointed out by Michael Walker (1998). In an econometric study, he found that the exchange-rate depreciation was associated with the growing debt of Canadian governments. He explained this phenomenon by suggesting that the increasing debt required growing interest payments to foreigners. To make these payments Canadian governments increased the demand for US dollars, which caused the price of the Canadian dollar to fall.

The second reason involves a dynamic process much like that described above for Europe. A fall in the world prices of commodities results in a depreciation of the Canadian dollar, which produces the desirable result discussed above: employment and output shrink by less than they would have otherwise. However, the lower exchange rate also has the effect of raising profits in other Canadian industries that either export their output or face less competitive imports. The higher profits in these industries bring union demands for higher wages and management's willingness to grant them. These higher wages spread throughout the economy.

Now consider what happens when the slump in the world demand for natural resources ends and prices return to their pre-slump level. The demand for Canadian dollars rises as foreigners buy more Canadian commodities. As a result, the Canadian dollar is under upward pressure. But the appreciation is limited because the higher structure of labour costs in all Canadian industries created during the period of the slump makes Canadian industries less competitive. At every level of the increasing exchange rate, Canadian exports are smaller and imports are higher than they were before the cost increases. Balance of payments equilibrium is reached before the exchange rate returns to the previous level associated with the same world prices for commodities.

For this reason, every cycle of falling and rising world prices results in a downward ratcheting of the Canadian dollar exchange rates. As obvious in figure 2, lower world prices of commodities depreciate the currency but higher prices do not make it appreciate by the same percentage.

The villain in the piece is wage-rate increases that are not matched by compensating gains in productivity in export-oriented and import-competing industries. Under a fixed exchange-rate regime, reductions in the prices at which natural resources can be sold result in downward pressures on wages. But under the flexible exchange-rate system, these pressures are mitigated or even eliminated. In the

manufacturing sector, the currency depreciation raises company profits and there is a tendency to believe that labour has become more productive and therefore deserves higher wages. But these productivity gains are illusionary and disappear as soon as the exchange rate appreciates again.[13]

The creation of the amero will prevent the unfortunate process just described. Declines in world prices of natural resources will no longer cause the exchange rate to depreciate. Profits in other industries will not be increased and unions will be unable to negotiate higher wages based on their employers' profits. In effect, labour market discipline will be increased. Canada will enjoy the same benefits that the Delors Commission predicted would accrue to countries in the European Monetary Union.

The process just described has been analyzed intensively in the context of another large body of economic literature, that which deals with the effect of "temporary tariff protection," This type of tariff protection has been found to lead to wage increases and higher production costs in the affected industries and, as in the case of the exchange-rate protection[14] just described, cannot be reversed without serious damage to the protected industry. During the postwar years, especially in developing countries, such temporary tariff protection often became permanent. The parallel between temporary protection of industry by tariffs and exchange rates is obvious. Both types of protection tend to be irreversible.

Better structural adjustment

The preceding analysis considered fluctuations in the world prices of commodities. As figure 2 shows, these fluctuations occurred around a secular decline in these prices. This secular decline has induced labour and capital to move out of industries producing these goods in Canada and to move into industries where their productivity is higher. The flexible exchange rate system has made this process take place at a less than optimal pace for two reasons.

First, the depreciation of the exchange rate provides temporary protection to the industries through mechanisms described in the previous section. Firms and workers may well understand that the decrease in the world price is permanent but, because of the fall in the exchange rate, they do not have to act on it. They can and often do postpone the required downsizing and investments to raise productivity. In doing so they tend to be driven by the hope that the most recent downturn in prices is not permanent.[15]

Second, under a flexible exchange-rate system the current exchange rate is determined not just by world prices of exports and imports in relation to domestic costs of production. It is also influenced by short-term and long-term capital flows that may be caused by monetary policy or speculation in anticipation of economic or political events. These capital flows are often large and therefore cause wide swings in the exchange rate.

For example, in the early 1990s tight monetary policy in Canada was accompanied by very high domestic interest rates. Capital flowed into Canada in large quantities and raised the value of the Canadian dollar. The event is clearly evident in figure 2. In 1993/94 the Mexican currency crisis spread to Canada, in part because the government was plagued by a large and stubborn deficit. The actions of speculators caused the exchange rate to depreciate. This event is also reflected in figure 2. Courchene and Harris (1999a) suggest that the decline of the Canadian dollar in 1998/99 may have been caused to a considerable degree by a large flow of portfolio capital into American stock markets, which had enjoyed very great price increases not matched by Canadian stocks.

The role played by factors other than commodity prices in the determination of the exchange rate is best summarized by the fact that in the 1990s the terms of trade, that is, the average prices of all of Canada's exports, fell only three percent relative to the average of all of Canada's imports, and all of this while the prices of commodities fell by 30 percent.

Changes in exchange rates caused by speculative and normal capital flows send confusing signals to Canadian producers of commodities. These fluctuations in the exchange rates can aggravate or reduce the impact of changes in world commodity prices on producer's profitability. There are always questions about the duration of the capital flows and their influence on the exchange rate. It is therefore easy to see that the price signals for producers under the flexible exchange rate system are much more uncertain and can delay adjustment more than they will if a monetary union eliminates the Canadian dollar and exchange rate.[16]

In sum, the problems associated with the flexible exchange rate system have contributed to Canada's continued high and excessive reliance on the production of natural resources.[17] A monetary union will assure that these resources will move into the more profitable high-tech and other profitable and expanding industries at a more optimal pace. Canadians' productivity and living standards will increase correspondingly.[18]

Other efficiency gains

No more monetary policy adventures

Since World War II, most countries of the world have experimented with the use of monetary policy to lower unemployment and raise economic growth. These experiments were

based on Keynesian economic theory and the concept of the Phillips-curve trade-off between inflation and unemployment. They were made possible in part because the governors of national central banks had accepted these theories as valid and in part by pressures from governments, which wanted to increase their re-election chances when they fought a campaign during the expected economic prosperity.[19]

Much of the world inflation and currency instability of the postwar years can be explained by these experiments in macroeconomic policies. It is now well understood that unemployment rates and economic growth cannot be improved by inflation but tend to become worse. As a result, some central banks like the Bank of Canada have adopted policies to assure stable prices, in spite of strong political opposition from some politicians who continued to believe in the trade-off between inflation and unemployment and liked to be able to pressure the Bank into serving their political agenda.[20]

However, there is no guarantee that the Bank of Canada or other central banks will always remember the outcome of the inflationary policies of the 1970s. Many economists therefore believe that central banks should be made independent of political influences. More important, the central banks should be given constitutions requiring them to pursue only price stability, not full employment.

The German central bank during the postwar years was independent and had such a constitution. Its record was excellent. By contrast, the American central bank, the Federal Reserve, while nominally independent, was subjected to much political pressure to live up to its constitution and make policies to assure full employment. Its record was not as good as that of the Bundesbank. As one indication of the difference in the two countries' monetary policy, we may note that the value of a dollar fell from 4 Deutschemarks to about 1.5 Deutschemarks between the 1960s and 1990s. The Bank of Canada is nominally independent but like the Federal Reserve faced strong political pressures to allow inflation to develop and bring lower unemployment rates.

Drawing on the lessons of postwar monetary history, the European Central Bank was given a constitution that makes it politically independent and responsible only for the pursuit of price stability. Full employment is not a mandated task for monetary policy. In the introductory section of this study describing the characteristics of the North American Monetary Union and its institutions (page 5), I assumed that its constitution will be modeled after that of the Bundesbank and the new European Central Bank.[21]

Constitutions cannot guarantee that politicians and bureaucrats behave in the way the framers of the constitution intended. However, I believe that the greater the number of independent nation states have a stake in it and have collaborated on the writing and enforcement of its constitution, the more likely it is that an organization will adhere to its mandate and remain free from political influence.[22] Therefore, Canada is more likely to be protected from the adverse consequence of future misadventures in monetary policy as a member of a North American Monetary Union than if it had its own central bank exposed to influences by ambitious politicians and public opinion.

Imposing fiscal responsibility

Membership in the Euro-system imposes on governments the requirement to keep government deficits to less than three percent of national income. This rule was created because large deficits by a member country or a number of countries can lead to foreign borrowing which puts upward pressures upon interest and exchange rates in the Euro-zone. The deficits of one group of countries, therefore, affect the well-being of other members of the union. In this sense, the deficits are the equivalent of a classical economic externality since they affect all countries in the union. The limits on deficits are a method for preventing the development of such externalities.

I believe that the concern of Europeans over the effects of national government deficits is exaggerated. In federal states like the United States and Canada, the ability of junior governments to borrow and impose externalities on others is limited because of private capital-market sanctions imposed on the transgressors. Higher debt-service costs and often just the down-grading of the risk of debt issued by the jurisdiction tend to prompt legislatures to mend their ways, even if they do so often at an undesirably slow rate.

Nevertheless, in the description of the North American Monetary Union at the beginning of this paper (page 5), I have assumed that it includes an agreement that limits the freedom of member countries to incur large and persistent budget deficits. I hope that this policy will be adopted in the light of the reasoning that led to its inclusion in the European Monetary Agreement and in the memory of the large deficits of the 1980s and 1990s and the economic problems they have caused for almost all industrial countries.

Having a voice in policy formulation

The European Monetary Union and the United States are two very large, self-sufficient, currency areas. Trade and capital flows with the rest of the world represent only a small fraction of their national incomes. These conditions mean that monetary, fiscal, and exchange-rate policies in these regions can and will be determined almost exclusively with the objective of stabilizing internal conditions and maximizing economic

growth. The exchange rate is a policy instrument of relatively little importance and consequence for domestic prosperity.

During the 1970s, an important academic discussion took place about the merit of such self-centred American policies, which were expected to be adopted once the dollar-gold exchange standard and parity exchange rates were replaced by flexible exchange rates. Exchange rates were important for the small countries of the world and many of them insisted that the United States take into account the effect that her exchange rate policies had on them.[23]

The main conclusion of the debate was that the United States should continue with her policies, treating the exchange rate with benign neglect, rather than as an instrument for gaining an advantage for herself. Smaller countries would gain from such a American policy stance because the resultant prosperity of the largest industrialized country would bring increased demand for their exports and significant stimulus for their own economies. It was expected that this stimulus could be determined by each nation through its own exchange rate policy.

We may expect that the European Monetary Union and the United States in the future will practice benign neglect of their exchange and interest rates. Such a policy may increase their prosperity but there will also be an increasing risk that the exchange and interest rates in the United States and the European Monetary Union will clash with the interests of Canada, Mexico, and other small countries. The problem will be how the voices of small countries can be made to be heard and their interests be made to count in the determination of policies of the large currency blocks.

Some international forums exist at which small countries can remind the United States and Europe of their concerns. The best known of these forums are the regular summits of heads of government and meetings of ministers of finance of the group of seven industrialized countries (plus Russia), the regular Bank for International Settlement consultations and the work of the International Monetary Fund. But the influence of smaller countries like Canada and Mexico in these forums will be reduced because they will have lost the support of the smaller European countries, which have joined the European Monetary Union.

As a result of these developments it will be increasingly more important that Canada and Mexico have direct input into American policy formation. The proposed North American Monetary Union offers such an opportunity. Canada and Mexico will be represented on the board of the North American Central Bank, where they will argue their case and may even be able to influence policies through voting alliances with American representatives.

It is clear that the United States will have a majority of members on the board and that, in principle, they can always vote for policies that maximize American interests. However, in practice we may expect divisions among American board members since they represent different regions of the country with different industrial and agricultural interests. This fact will give rise to the opportunity of board members from Canada and Mexico to ally themselves with these regional interests. For example, American prairie states and Canadian prairie provinces have more economic interests in common than they have with other states and provinces in their own countries. There are similar affinities between American states and Canadian provinces in the northeastern and northwestern sea-boards.

Another threat to small countries will come from their exposure to the whims of currency speculators from around the world. These speculators will find it more difficult to bring about changes in monetary and exchange-rate policies in the very large and deep markets of the European Monetary Union and the United States than in the small markets of countries like Canada and Mexico. Only membership in a North American Monetary Union will permit these two relatively small countries to escape periodic, damaging attacks on their currencies by international speculators.

Retaining seigniorage

The printing of notes and the minting of coins gives rise to large profits for any government since the cost of printing and coining is much smaller than the value of the goods and services that can be obtained through the use of the notes and coins. In Canada these profits, known as seigniorage, recently have been about CDN$2 billion annually.[24] In practice, the Bank of Canada uses newly issued currency to buy bonds issued by the Government of Canada; these bonds yield interest that is used to pay the cost of operating the Bank of Canada.[25] The remaining revenue is paid to the Receiver General.

Under my proposed agreement for the creation of a North American Monetary Union, Canada will retain the current level of seigniorage. Canadian institutions will continue to produce the notes and coins and the Bank of Canada can continue to put them into circulation through the purchase of government bonds. The profits may even be larger if some of the traditional operations of the Bank of Canada are no longer needed and operating costs decline correspondingly.

The merit of the proposed monetary union in this respect will be discussed further in a section below where I analyze the merit of currency boards and the use of American dollars, both of which have been suggested as alternatives to monetary union.

The Costs: Loss of Economic, Political and Cultural Sovereignty

Many people believe that Canada will sacrifice too much of its economic, political and cultural sovereignty by joining a North American Monetary Union. Let us consider the merit of these concerns.

National economic sovereignty

National economic sovereignty means the ability to pursue monetary, fiscal, exchange-rate, trade, taxation and many other economic policies without restraint by international agreements. For some Canadians, such economic sovereignty is an end in itself. For them, it represents the very essence of being an independent nation. The political left in Canada considers "being different from the Americans" the most important policy agenda.

I respect those who hold such views. As an economist, however, I think the sovereignty is not infinitely valuable. The merit of giving up some aspects of sovereignty should be determined by the gains brought by such a sacrifice. It is important to note that in practice Canada has given up its economic sovereignty in many areas, the most important of which involve the World Trade Organization (formerly the GATT), the North American Free Trade Agreement, International Conventions on Refugees and the use of Landmines, the International Monetary Fund and the World Bank. As a signatory to these international agreements and organizations Canada can no longer impose tariffs and other trade restrictions without suffering serious sanctions. Canada is committed to providing capital to the International Monetary Fund and World Bank without being able to decide what the specific uses are to which this capital is put. The acceptance of refugees and the use of landmines are subject to conditions that restrain Canada's sovereignty.

While some vocal Canadians oppose all of these losses of economic and political sovereignty, the decision to become signatories to these treaties was made by democratically elected legislatures that represent all Canadians. The decision was reached after careful analysis of the economic and social benefits in relation to the cost of reduced economic sovereignty.[26] I believe that such a calculation needs also to be undertaken to assess the merit of joining a North American Monetary Union.

The most important part of this calculation in my view involves assessing the cost of losing the ability to pursue monetary, fiscal, and exchange-rate policies to serve the national interest. In theory, sovereignty in these policies is important and should improve the performance of the Canadian economy for the benefit of all. In practice, however, it has not done so very well.

Until the 1970s, Canada and other countries were committed to fixed exchange rates in the belief that the accompanying loss of sovereignty was worth the increased prosperity and stability they brought. However, economic theory and the apparent success of planned economies like the Soviet Union caused a re-examination of this position. It was widely believed that economic prosperity and stability could be raised through a switch to flexible exchange rates.

Unfortunately, after the adoption of flexible exchange rates in the 1970s economic performance did not improve. It deteriorated. Canada's unemployment rose with each business cycle and now is double that of the United States. The exchange-rate has lost nearly one third of its value not just against the US dollar but also against European currencies. Economic growth has not been impressive and during the 1990s has lagged seriously behind that of the United States.

It makes no sense to attribute the poor record of the Canadian economy to the existence of flexible rates alone, though as I argue above, they have contributed to a lack of labour-market discipline and interfered with the rational adjustment to a more appropriate mix of industries. Excessively generous unemployment insurance benefits, high rates of taxation, inflation, permanent subsidies to ailing industries

and regions, misplaced agricultural policies, and other government measures are also to blame for the poor performance of the Canadian economy. The main point is that flexible exchange rates and national monetary sovereignty have not been able to compensate for the problems caused by these policies. In fact, because they masked the effects of some problems, they have contributed to their strength and persistence. For this reason, I believe that the loss of national economic sovereignty over exchange rates and monetary policy will raise rather than lower the well-being of Canadians in the future.

Canada's experience with flexible exchange rates is not singular. Some European countries, most notably the Netherlands and Austria, experienced poor economic performance for many years until in the 1980s they linked their exchange rates to those of Germany. In the process, they lost their economic sovereignty and had to accept the interest and exchange rate policies of Germany. In all but name they had formed a currency union. The economic performance of both the Netherlands and Austria improved as a result and they obviously found these benefits greater than the cost of having lost sovereignty in monetary policy formation.

There are some highly respected economists who continue to believe that economic sovereignty brings large benefits.[27] These economists tend to be "Keynesians" in the sense that they have great confidence in the ability of monetary and fiscal policy to "fine-tune" economies. Such fine-tuning involves changes in policies to counter cyclical economic developments—booms and recessions—and to restrict fluctuations in growth and unemployment. These economists tend to be Euro-pessimists. They foresee that the loss of economic sovereignty will lead to great suffering in some member countries in the European Union, which in turn will create civil unrest and possibly even civil war.

However, there are also Euro-optimists. They tend to distrust the ability of governments to fine-tune the economy. Often called "monetarists" for the lack of a better term, they believe that economic well-being is best secured by governments that provide a stable monetary and fiscal environment. They consider the economic instabilities, slow growth, and high unemployment since the 1970s to have been the consequence of attempts to fine-tune the economies through the vigorous use of monetary and fiscal policies. I am one of these monetarists and Euro-optimists and my proposal for the establishment of a North American Monetary Union is rooted in these ideas exactly because it brings institutional safeguards against fine-tuning.

Barry Eichengreen assessed the likely consequences of the European Monetary Union using an empirical approach. In one of his papers (1992), he compared the historic experiences of American states and members of the European Monetary Union in dealing with economic shocks.[28] He concluded that American states hit by adverse economic shocks did not need sovereignty over monetary and exchange-rate policies since unemployment was readily relieved through emigration and large automatic transfers from the central government. Since migration opportunities are much more limited in Europe and central government transfers are very small, European countries need monetary and exchange-rate sovereignty to deal with adverse economic shocks. Eichengreen's findings are widely used to support the views of Euro-pessimists.

The problem with Eichengreen's results is that they are based on historic experience and neglect the fact that a number of important institutions determining a country's ability to deal with shocks are themselves shaped by the exchange-rate system in place. (This point has been made forcefully by Frankel and Rose 1997.) For example, unions tend to be stronger under a flexible than under a fixed-rate system for reasons outlined above. As a result, wages are more rigid and labour markets are less able to deal with exogenous shocks. As another example, consider that private international capital flows are the free market equivalent of transfers from the central government. Both sources of finances can be used to deal with the adverse consequences of shocks. In a monetary union, individual countries will have access to foreign capital at much lower interest rates and in larger quantities than they do when they have flexible exchange rates. In my view, therefore, Eichengreen's results do not lend strong support to Euro-pessimists.

Most of the economics literature on the subject of asymmetric shocks and the need for flexible exchange rates to deal with their effect on unemployment is theoretical, with casual references to the oil-price shock of the 1970s and the lowering of defence spending in the 1990s. However, Belke and Gros did some empirical work aimed directly at measuring the effect. They state: "We show that the data from the past 30 years in Europe does not show any strong link between *external* shocks and unemployment. Hence we would argue that EMU is *unlikely* to lead to the serious additional unemployment problems that have often been predicted" (italics in original; 1999: 38). They found that changes in the exchange rate did not alleviate unemployment. The highest correlation of unemployment is with changes in domestic investment, the classical cause of business cycles.

There is another reason to be sceptical about the ability of flexible exchange rates to cushion the effects of lower

commodity prices on unemployment. This reason involves changes in behaviour induced by the existence of the insurance against low prices inherent in the flexible exchange rates. It is well known that such changes in behaviour (called moral hazard in the economics literature) cause an increase in the incidence of the insured risk. For example, houses insured against burglary are broken into more often than those that are not. Restaurants with fire insurance burn more often than those without. Workers with unemployment insurance have more frequent and longer spells of unemployment than those without insurance. (For an early analysis of these ideas, see Grubel and Walker 1978).

Under a fixed exchange-rate regime, firms and workers in commodity-producing industries know that periodically they face lower world prices. Firms prepare for them by putting away earnings during good times and build inventories during the slump, financed with such reserves and stand-by credits from banks. By evening out production over the cycle of low and high demand, they can keep workers employed and reduce the risk that they find jobs in other industries and locations. Workers who know that slumps occur and that exchange-rate depreciation is not available to cushion the effects will restrain wage demands during booms so that their employer can keep them on during slumps.

It is possible that, because of moral hazard, the cushioning effect of exchange rates during low demand for natural resources has been strong enough to wipe out much of the beneficial effect of the exchange-rate depreciation, though I know of no research that has attempted to quantify this effect.

In this context, I want to discuss another important rationale for my proposal. It is well known that the Canadian Charter of Rights and Freedoms was deemed necessary to protect Canadians from the sovereign will of parliament if and when it results in the passage of legislation that interferes with basic human rights. The United States has a similar protection of human rights through constitutional clauses concerning the freedom of speech, the right to *habeas corpus*, and the right to bear arms.

Unfortunately, neither country has a Charter of Economic Rights and Freedoms. In my view, this is a serious omission since the economic interests of individuals and of future generations, in particular, need protection from simple parliamentary majorities. If such a charter had existed, the inflation of the 1970s and the irresponsible deficits of the 1980s would have been prevented. Tax structures that have seriously damaged incentives to work and investment would probably have been prevented. Economic prosperity would have been higher and unemployment lower.[29]

Membership in international organizations and treaties are imperfect substitutes for charters and legislation protecting economic rights and freedoms. However, presently, they are the only politically feasible measures. For these reasons, I welcome the proposed North American Monetary Union.

Cultural sovereignty and political independence

Many Canadians will oppose a North American Monetary Union on the grounds that it will interfere with national cultural sovereignty and that it represents a further step in a process that will ultimately lead to the political absorption of Canada by the United States. They will use the same arguments that they advanced in the debate over the Free Trade Agreement and the North American Free Trade Agreement. They will predict the loss of Canada's freedom to have an independent foreign policy and a broader and deeper social security net than the United States.

These concerns of the Canadian nationalists are well known, do not have to be elaborated here and were dealt with during the debate over the two free trade agreements. Suffice it to note that none of the restraints on Canadian sovereignty predicted by nationalists have developed since the free trade agreements were adopted. (For an overview of the predictions made by nationalists and a study of the actual results, see Law and Mihlar 1998.)

Since the adoption of NAFTA, Canada's foreign policy under free trade has been as independent as ever. Lloyd Axworthy, the Minister of Foreign Affairs, had his Moosehead beer and Cuban cigar during a chat with Fidel Castro in Cuba, in spite of strong opposition from the American government. Prime Minister Chretien advocated a revision of NATO's nuclear policies without regard for the American government's views on the subject. Sheila Copps, the Minister for Cultural Affairs, continued to advance policies in support of Canadian cultural industries. Canada's Medicare system has not been hijacked by American business and is in as much trouble as it was before free trade. Canadian provinces prohibit the export of bottled water. Supply management for the dairy and other agricultural industries continues to thrive and make some farmers into millionaires.

The basic fact is that the introduction of the amero does nothing to the existing national border and the ability of Canadian governments to pursue policies that get them re-elected. Nationalists do not have a good case to oppose the amero except on the grounds that it results in the loss of

national monetary and fiscal sovereignty. But, as the preceding analysis shows, this loss is incurred in the expectation of large economic gains.

Above I noted that increased border shopping in the wake of a common currency will create a dilemma for Canadian politicians. They will have to collect excise taxes at the border or lower tax rates. If the politicians are convinced that the excise taxes create a better society by reducing "sins," fostering agriculture, and raising revenues for good spending causes, they can maintain their programs. The extra money and political costs of increased tax collection should be worth the achievement of these worthy goals. Protests over costs and border delays would help politicians with the assessment of the popularity of their measures. In my view, the increased transparency of policies implied by such protests is highly desirable and promises to make economic and social policies conform better to public preferences.

Finally, some people believe that symbols of nationalism are important for human well-being since they satisfy the need for affinity to larger human groupings and national identities. The flag, the Royal Canadian Mounted Police, geographic landmarks like Lake Louise and Niagara Falls, the design of passports, and the architecture of the Houses of Parliament are such symbols. Canada's history, the settling of a wild continent, the heroics of her armies, multiculturalism, and generous social security nets are intangible but no less important symbols of a national identity. Ranked high on the list of such symbols is the currency bearing images of the Queen, important Canadians, and outstanding geographic sites.

Nationalists will deplore the loss of Canada's national currency as a major disaster and will oppose monetary union on these grounds. I agree with the proposition that symbols are an important part of a country's national identity, which is important to many people and can provide social cohesion and peace. Therefore, to minimize the loss of national symbols brought on by a common currency, my proposal envisages the design of North American notes and coins with national symbols on one side and abstract symbols on the other. This solution may not satisfy the most ardent nationalists but I am hopeful that their opinions will not carry the day and that others will remember that the currency is only one of a long list of nationalist symbols important to the Canadian identity. The Canadian identity should be strong and vibrant enough to survive the reduced strength of the currency as a nationalist symbol.

I am not optimistic that the preceding analysis and historic evidence will dampen the attack by nationalists on the proposed North American Monetary Union. I can only hope that these attacks will not interfere with a rational discussion of the proposal that, I am convinced, will lead to the creation of a common currency for North America because benefits by far outweigh the costs.

What Is in It for the Americans?

The United States is the world's largest and most prosperous economy. Americans are proud of these achievements and the US dollar is an important political and nationalistic symbol. Why would Americans ever want to join a North American Monetary Union, lose the uniqueness of their currency, and give foreigners a seat on the Federal Reserve where they would be able to influence monetary policy? Why would they want to sign an agreement that limits their ability to incur government deficits since no such policy has been enacted domestically? What interest groups in the United States would support such a policy initiative.[30]

It is tempting to suggest for the reasons inherent in the preceding questions that the government of the United States will never agree to the creation of a North American Monetary Union. However, I am more optimistic for a number of reasons.

History of international agreements and the American national interest

First, if anyone had asked analogous questions 60 years ago about the prospect of the United States becoming a member of the World Trade Organization (formerly the General Agreement on Tarifs and Trade), the International Monetary Fund, the World Bank and, more recently, the North American Free Trade Agreement, most people would have answered much as they now do when it is a question of the proposed agreement on a North American Monetary Union.

Yet, the United States did become a member of all of these organizations and did surrender a significant degree of national sovereignty. There are escape clauses in all of these treaties that can be invoked if the national interest is threatened seriously. Similar escape clauses are certain to be in the proposed monetary agreement. There is still much opposition to these organizations in the United States and it receives much media attention. However, political movements like those headed by Pat Buchanan and Ross Perot that make withdrawal from such organizations a major plank in their platforms have not had significant electoral successes.

I believe that the United States became a member and accepted the accompanying loss of national sovereignty because the benefits from doing so outweigh the costs. Increased trade, more stable economies in the rest of the world, and continuous forums for the exchange of views have increased the prosperity of Americans. The United States may be large but the rest of the world is even larger and American relationships with other countries matter to economic growth and national security. By extension, the proposed monetary agreement will benefit the United States since it is expected to improve the size and stability of the economies of Canada and Mexico; American trade and investment will grow correspondingly.

Finally, the preceding analysis of the merit of monetary union implies that some real economic benefits will also accrue directly to the United States just as they will to Canada and Mexico. These benefits to the United States will be much smaller in relation to national income than the benefits to the other two countries. But, there will be significant savings in the cost of currency exchange and protection against exchange-rate uncertainty. The increased size of the market will make for more efficient and deeper capital markets. American firms will have even more incentives and opportunity to produce and market their goods and services in the entire continent. At the same time, Canadian and Mexican firms will invest in the United States and bring consumers better and lower-priced goods and services. These and other gains will grow through time as the economies of Canada and Mexico grow absolutely and probably also relative to the American economy.

The threat to the power of the dollar

During the postwar years, the US dollar has played an important role in international finance. It has been a standard of value for official and private transactions and statistics. This

fact manifests itself in the widespread use of dollars in international trade and capital markets. The most important internationally traded goods like gold, copper, oil, and wheat are quoted and billed in dollars, as are the bonds floated by international organizations and national governments.

The dollar also serves as the key currency in the production of international statistics by the International Monetary Fund, the World Bank, various agencies of the United Nations, and the Organisation for Economic Cooperation and Development (OECD). International comparisons of national incomes, trade, and economic growth are made through national data converted to US dollars.

When small countries experience excessive price instabilities and inflation, the private sector often adopts dollars as a parallel currency in domestic trade and investments. During the inflation in Israel during the 1970s, retail prices of goods were shown in dollars as well as shekels. Israeli banks accepted dollar deposits and made dollar loans. In several Latin American countries, especially Argentina and Mexico, large sectors of the economy rely on dollar prices for domestic transactions.

Foreign-exchange markets between pairs of countries, like India and Austria produce few transactions since trade and capital flows between them are small. For this reason, the exchange rate between such countries is established by first converting each into US dollars and then deriving from these values an exchange rate for the two currencies. This rate is used by traders doing business between India and Austria.

The American economy does not gain anything other than prestige through the use of the dollar as a key currency and standard of value. In these uses, the dollar is nothing but an accounting convenience. However, there are significant indirect gains because the use of the dollar as standard of value has also made it into an international store of value and medium of exchange. National central banks hold the bulk of their international reserves in the form of dollars. Mundell (1999) estimates that the development of the euro will mean that such official holdings of dollars over the next ten years will not grow. People in unstable countries have dollars in their pockets or business accounts to trade goods and services. Illegal activities, the bulk of which involve drugs, involve the use large quantities of dollar notes. Firms and financial institutions engaged in international activities hold large inventories of dollars to carry out transactions involving exports and imports of goods and capital.[31]

Much of this world business uses US dollar notes and coins and is very profitable for the American government. It costs very little to produce notes but users give up real resources to acquire them. The sums involved are large: Feige (1997) notes that the United States government cumulatively has produced and put into circulation $390 billion in currency notes. He estimates that between 25 percent and 45 percent—between $98 billion and $176 billion—of this total is held abroad and in exchange brought goods and assets of that value into the United States.[32]

Business using US dollars in the form of bank deposits also give rise to US profits since the banks pay a lower interest on the deposits than they earn by lending out the dollars to borrowers. However, stiff international competition among financial institutions has produced international deposit and lending rates on US dollars so close that this type of banking brings only normal rates of return to the capital and labour used.[33]

The use of US dollars in the rest of the world developed during the postwar years because of the dominance and stability of the American economy in the world and the country's military power. The economic analysis of the role of the dollar suggests that the advantages that its use have brought will be difficult to challenge in the future. The costs of switching to an alternative standard have been compared to those the world would encounter if it abandoned English as the *lingua franca* and switched to the Russian or Chinese language. Historically, switches in the lingua franca, like that from Latin to French and, more recently, to English were accompanied by the fall and rise of the economic and military power of individual nations. There are presently no signs that the United States is about to lose her position of economic and military dominance.

Yet, the establishment of the European Monetary Union should give rise to some concerns. Table 1 reveals some interesting facts.[34] Initially the euro will serve a market of 11 countries with a population about nine percent higher than that of the United States. However, the GDP of the "euro eleven" (converted at market exchange rates) is seven percent lower than that of the United States.

The first half of the table considers likely future developments in Europe. If the countries already members of the European Economic Union but not yet members of the Monetary Union—the United Kingdom, Sweden, Denmark, and Greece—join the original 11, the new zone will have a substantially higher population and also a greater GDP. Surveys suggest that referenda about membership in the monetary union in the first three countries will pass when they are presented in the near future. The membership of Greece depends on the development of her fiscal conditions but is also expected to take place in a few years.

Table 1: Comparing Actual and Potential Euro- and Amero- Zones

Euro-zones			Amero-zones		
Zone	GDP[a]	Population[b]	Zone	GDP	Population
Euro 11	6,890	290	USA	7,340	265
Group 1[c]	1,693	83	Canada	579	30
Euro 11 + Group 1	8,583	373	United States + Canada	7,919	295
Group 2[d]	239	60	Mexico	335	93
Euro 11 + Group 1 + Group 2	8,822	433	Amero (North America)	8,254	388
Source: *World Development Indicators*, CD ROM, Washington: World Bank, 1998.					

(a) GDP is for 1996 in billions of US dollars at market exchange rates.
(b) Population in millions in 1996.
(c) Group 1 countries: United Kingdom, Sweden, Denmark, Greece (in European Union but not yet part of Monetary Union).
(d) Group 2 countries: Poland, Hungary, Czech Republic, Estonia (have applied for European Union membership)

The table also shows the size of the euro-zone when it will be enlarged through the membership of Poland, Hungary, the Czech Republic, and Estonia. These countries have applied for European Economic Union membership and are expected to be admitted in a few years. It is highly likely that they will also more or less automatically become members of the European Monetary Union. At that time, the euro-zone will have a population 63 percent and a GDP 20 percent larger than that of the United States.

The data in table 1 suggest that the size of population and national income of this probable future euro-zone will affect the use of US dollars in the many ways described above. The euro probably will soon become the standard of value and dominant store of wealth in many third-world countries which have historic links to Europe. There are the former French and English colonies in Africa and Asia, which have many commercial and cultural relationships with these two countries. Russia and the rest of central Europe will be drawn into much stronger economic relationships with the euro-zone than they ever will with the United States simply because of their histories and geographic proximity.

The replacement of the dollar by the euro in countries other than those in the European sphere is likely to take a long time and may never occur. However, the dollar could face additional competition if other regional monetary unions were to be created in Asia, Africa, the Middle East, and South America. In these events, the need for the dollar as a unit of account, transactions medium, and store of value will be diminished greatly.

Perhaps my vision of a world covered with blocks of countries joined in monetary unions is fanciful. However, if the case made above for the North American monetary union is correct, it applies equally to other countries, providing them with the incentive to create similar associations.

The right side of table 1 shows that this possible threat to the power of the dollar can be diminished by the creation of the proposed North American Monetary Union. The United States, Canada, and Mexico combined will have a population and GDP very similar to that of the original 11 members of the euro-zone plus the four countries likely to join it in the near future.

Looking further ahead, the North American Monetary Union could fairly readily be expanded to include the countries of Central America and the Carribean, which have strong economic relations with the original three and are in relatively close geographical proximity. It is conceivable that eventually some of the South American countries will want to join that union, though a separate South American Monetary Union is also possible.

In sum, the United States will benefit from the creation of a North American Monetary Union much less than Canada or Mexico. Nevertheless, there will be some benefits to the United States in terms of greater economic efficiency and stability. Having economically prosperous and stable countries at the American borders is beneficial. Perhaps more important is that the proposed monetary union will diminish the threat to the present power of the dollar in international trade and finance. On the downside, the union will diminish American monetary sovereignty to some extent through votes of Canadian and Mexican representatives on the governing board of the North American central bank. Implicit in this development is a threat to the reputation of the dollar as a stable currency.

I am convinced that for the United States the benefits outweigh the costs and risks from the creation of a North American Monetary Union, as they did when the country joined other international organizations in the past. I hope that this judgement will be shared by those in the position to move the initiative forward.

Support in the United States for monetary union

Public-choice theory in recent years has made the important point that many government policies do not increase a country's welfare. Often policies are driven by the desire of politicians to gather votes and resources to assure their election or re-election. Catering to special-interest groups produces such outcomes. The benefits that politicians can bestow on such groups are concentrated and often large while the costs tend to be spread over the rest of the electorate and therefore do not warrant their attention during election campaigns. Public-choice theory is relevant to my proposal for a monetary union.

Hefeker (1997) analyzed in some detail what interest groups would support fixed exchange rates and monetary union. He came to the conclusion that

> exchange rate variability adversely affects the output and the profits of the tradable goods producing industries. Uncertainty about future prices leads that sector to produce less, trade less and hence lowers its output . . . Profits and profit opportunities are reduced . . . The choice of the exchange rate regime can therefore be explained to a large degree by the influence of the tradables sector. (Hefeker 1997: 137)

Hefeker also notes that to mobilize the tradable-goods sector into lobbying for fixed exchange rates requires a period of exchange rate instability brought about by external shocks or unstable monetary policy.

The American tradable-goods sector has been growing since the end of World War II but is still quite small. The depreciation of the Japanese Yen, Canadian dollar, and Mexican peso in recent years has increased competition for American producers. However, in the case of Japan, it has resulted mainly in the demand for policies to make the Japanese market more accessible to foreigners. In the case of Canada, some import-competing American industries have concentrated on demanding import quotas and other import barriers like those on steel and lumber. More generally, the strong American economic boom throughout the 1990s has allowed American industries to prosper and has lowered their concern about import competition. There has been great monetary and price stability.

In the light of Hefeker's conclusions, this recent American economic history suggests that any proposal for a North American Monetary Union will have little support from Amerian interest groups at the turn of the century. But economic conditions do change. If and when the tradable-goods sector in the United States should suffer from large-scale monetary and exchange-rate instability, interest in monetary union will surely increase.

Alternatives to the Amero

It has been argued that most of the benefits of a North American Monetary Union just discussed can be achieved by other institutional arrangements at lower costs to national economic sovereignty. Three alternatives have been proposed:

(1) fixed exchange rates;

(2) the establishment of a currency board;

(3) the use American dollar notes and coins, also known as "dollarization."

These financial arrangements have been analyzed intensively by economists and there is an historic record in the use of all three. (The institutional characteristics and the financial and economic costs and benefits of different currency arrangements are presented conveniently in the Appendix, page 40.)

Fixed exchange rates

Two prominent Canadian economists, Richard Harris of Simon Fraser University and Tom Courchene of Queen's University have advocated that the Canadian dollar be linked to the US dollar through a fixed exchange rate (see Harris 1998; Courchene 1999; Courchene and Harris 1999a, 1999b, 1999c). In their analysis, the authors present essentially the same arguments that I have made above about the economic costs of the existing flexible exchange rate system. The authors recommend the fixed exchange rate rather than a system of monetary union because they believe that there would be too much political opposition from Canadian nationalists and other interest groups to the amero. They are hopeful that this opposition will lose influence as the euro functions well and brings the benefits they, I, and other euro-optimists anticipate. They also believe that a successful operation of fixed exchange rates in Canada will pave the way for a monetary union. In my view, for a number of reasons a fixed exchange rate is not an adequate interim solution and most certainly not a solution for the longer run.

First, the government's commitment to fixed rates is too easily reversed as different parties form government or a new economic ideology takes hold. Only a binding international treaty will avoid this problem, bring lower interest rates, greater labour-market efficiency, better rates of adjustment to changing world prices, and the other benefits noted above.

Second, even if there were to be no political or ideological developments that result in exchange-rate changes, other developments are likely to force them. Thus, external shocks can cause the domestic economy to overheat or enter a recession. Exchange-rate changes are often the easiest way to deal with these problems. For example, Canada's fixed rate was abandoned during the early 1970s because international inflation and rapid increases in world commodity prices caused a disequilibrium in the balance of payments. To maintain the fixed rate would have required changes in domestic policies, changes that were considered unacceptable.

Another frequent cause of the abandonment of a fixed exchange rate is domestic mismanagement of the economy, which creates balance of payments problems and encourages speculative capital flows. Under these conditions, typical attempts by national central banks to fight such speculation only succeed in delaying the inevitable for relatively short periods. Higher interest rates and the sale of international reserves attack the symptoms of the crisis and fail to correct the fundamental problems. Assistance by the International Monetary Fund is usually too little, coming too late.

During the 1990s, Mexico, Brazil, Indonesia, Thailand, and Malaysia experienced economic mismanagement in the form of large government deficits, excessive investment in projects not tested for a market, unsound banking practices, inflation caused by monetary policy, or the exercise of union power. For these problems, the abandonment of fixed exchange rate was the only viable way out of the crises.[35]

Perhaps Canada can avoid shifts in ideology and the problems arising from mismanagement. However, economic history suggests that this is not likely. Periods of good

economic policies inevitably have been followed by the repetition of old mistakes or by the invention of new. Fixed exchange rates will make the effects of these mistakes more serious.

Currency board

Under a currency board, a country's money supply is fully backed by US dollars and changes only in response to international payments imbalances. When the country has a surplus, the excess supply of dollars brings about an increase in the domestic money supply. The opposite occurs when the country has a deficit.

Changes in the domestic money supply encourage economic stability since, in the case of an international payments surplus, the increased money supply lowers the domestic interest rate, raises economic activity, and lowers capital inflows. These changes push the payments into balance. Deficits in international payments have an analogous, stabilizing effect. Most important, the country's central bank is no longer able to influence monetary, interest, and exchange-rate policies and, thereby, serve the whims of politicians. The exchange rate is permanently fixed.[36]

Currency boards have a long history. All past experiments had been abandoned until recently when Hong Kong, Argentina, and Estonia have adopted them. The boards in these countries have been very successful during normal periods. One of their main two short-comings tend to appear during periods of international and domestic instability. There have been reports that the Hong Kong board manipulated the link between payments imbalances and the domestic money supply during the great Asian currency crises and recession in 1997/1998. In Argentina, speculators with doubts about the permanence of the system in 1998 withdrew funds and forced large reductions in the domestic money supply on the country. In the end, however, the system was not changed and the crisis has ended. Capital markets still have some doubt about the permanence of the Argentinian system since they demand a slightly higher interest rate on government obligations denominated in pesos than on those denominated in dollars.

The second main short-coming of a currency board is that it results in the complete loss of national monetary sovereignty. The country's interest rate is completely and permanently linked to that prevailing in the United States. At the same time, Argentina, Hong Kong, and Estonia have no influence whatsoever on American monetary policy.

One important advantage of a currency board over monetary union is that it does not require international agreement. The countries presently using currency boards did not need the permission of the United States.

"Dollarization"

"Dollarization" is a new word coined a short time ago to describe two processes.[37] First, there is "market dollarization," under which much domestic business is carried out in US dollars. Large segments of the Mexican economy are dollarized as prices, wages, and contracts are denominated in dollars. Dollar notes and coins circulate widely and financial intermediaries accept deposits and make loans in dollars. In Argentina, a similar process of informal private dollarization had been so wide-spread so that the adoption of a currency board meant very little change in financial practices.[38]

The second form of dollarization is official and exists at present only in Panama and Liberia. It has been the policy of the government of Panama that all bank-notes in use are US dollars. Only coins are produced in the country, carry national symbols, and are called Panamanian dollars. In 1999, negotiations are under way to replace the Argentinian currency board with official dollarization. Early in 1999, the Mexican bankers' association and other influential lobby groups have asked their government to consider formal dollarization.

During the 1980s, some economists persuaded an influential politician in Israel to suggest that the country also should abandon the shekel and replace it with US dollars. This did not appear to be a very radical suggestion since, during several periods of high and unstable domestic inflation, the US dollar had developed into a parallel currency in Israel. Retail prices were given in dollars, which changed rarely, and simultaneously in shekels, which were adjusted frequently. Banks accepted dollar deposits and made dollar loans. Nevertheless, the recommendation caused a political uproar and was soon withdrawn.

The benefits from dollarization are that the country using it never faces currency crises. It does not have a central bank that can manipulate the money supply and interest rates in response to demands from ideologists and politicians. In effect, dollarization causes a permanently fixed exchange rate. It therefore brings all of the benefits noted above. Like the currency-board system, dollarization does not require international agreements. There is nothing the United States could do if Canada replaced its own currency with US dollars.

The main disadvantages of dollarization are that the country using it gives up its seigniorage and influence on interest rates. As noted above, Canada's seigniorage in recent years has been about $2.5 billion annually, a tidy sum but only about 1.5 percent of federal tax revenue.

However, there now exist proposals for removing this disadvantage, which appears in two dimensions. The first arises when the dollarization begins and a country's own currency is replaced by dollars. A country like Canada has reserves of gold and dollars large enough to buy all the needed US notes. To help a somewhat less wealthy country like Argentina, Robert Barro (1999) has suggested that the American government provide the dollar notes needed in return for an equivalent supply of pesos as collateral.

The second problem arises from the continuing need for additional dollar notes as the economy grows. In a report to the United States Congress, the Joint Economic Committee analyzed the issue and recommended that the American government pay to a country like Argentina the share of the total American seigniorage that is attributable to the new dollar notes used in that country (Schuler 1999).

It is possible that the American government would enter into seigniorage sharing agreements with Canada under which it would accept Canadian dollars as collateral in return for the initial supply and pay seigniorage annually in accordance with Canada's additional holdings of US dollars.

Nationalists in Canada would almost certainly oppose very strongly the official dollarization of the domestic money supply on the grounds that the currency is a very important symbol of national sovereignty and identity. It is possible that nationalists would be able to mobilize enough political opposition to dollarization to kill the policy, though Argentinian nationalists appear to have failed in their efforts. The main reason for this result in Argentina may well be that the country is so dollarized privately that making the process official and complete is not a big step.

In sum, the alternative methods for creating the benefits of a monetary union have a number of defects and basically are inferior substitutes. If a Canadian consensus emerges that flexible exchange rates are to blame for many of the country's economic ills, monetary union is the preferred alternative institutional arrangement.

Some Other Important Issues

Treaties and international agreements are relatively easy to discuss in general terms and with a focus on the large issues involved. However, once a consensus exists and it is decided to move ahead with the signing of such agreements, many smaller details have to be sorted out. While the devils in such details do not typically change the consensus about the overall merit, they need to be considered carefully. Rationally, they should be included in the analysis of the costs and benefits of the overall proposed agreement. The following sections discuss a number of such smaller issues.

How would the value of the amero determined?

There are several advantages to making the amero worth one US dollar. First, the cost of conversion would be minimized since, in the dominating, large American economy, all financial assets, liabilities, and other contracts remain unchanged. They do not have to be converted and accounting changes involve only the renaming of the currency. Second, US dollar notes and coins could continue to circulate after the introduction of the common currency. They could gradually be replaced by amero notes and coins as they wear out. Third, the opposition to the amero by Americans would be minimized as their financial transactions and accounting would be virtually unchanged.[39]

Basic economic principles suggest that with the amero worth one US dollar, the Canadian dollar cannot be equal to one amero also. I have encountered persons who argued that such a conversion rate of one for one in Canada would be just and that any other rate would be bad for Canada. This argument is false. If the two dollars were converted at par, it would be equivalent to roughly a doubling of the value of the Canadian against the US dollar. As a result, Canada's trade would be in very large deficit, there would be a recession, and the downward pressure on wages would be very strong. Canada would go through the same difficult process encountered by Germany, which, upon reunification with the formerly communist part of the country, decided that all wages and prices there would be converted at a rate of one East German for one West German deutschemark. The market exchange rate between the two currencies was about six East German deutschemark to one West German deutschemark. The official motivation behind this policy was that it would prevent massive migration to West Germany by workers attracted to higher wages there. In the adoption of the policy, an important role was undoubtedly also played by the pressure of unions and employers in West Germany, who had feared that low wages in East Germany would cause "unfair" competition and threaten living standards in West Germany.

It is ironic that the policy adopted reduced West Germany's living standards more significantly and for a longer period than would have occurred if wages and prices in the East Germany had initially been lower than those in the West Germany. Because of the policy adopted, it was necessary not only to invest large resources in upgrading the infrastructure in East Germany and in bailing out its unfunded pension system. But, as economists had predicted—this is most relevant to the current analysis—additional massive transfers were necessary to keep the economy of the former East Germany functioning at all and unemployment rates at a socially acceptable level. Five years after they began, the subsidies to labour and capital are continuing to flow because the wages paid still exceed the productivity of labour. Private capital still has few incentives to make unsubsidized investments in East Germany.

Most important, to finance these transfers, West Germany had to raise already high rates of taxation. As a result, the economic performance of all of Germany has been poor and there is no early prospect for improvement. There are important unresolved questions about the future. Will it ever be possible to stop the subsidies that have been built into the economic structure and are threatening to become considered a right? Canadians are familiar with the effects of continuous large transfers to the Atlantic provinces and the resultant dependency of the region on such support. Chanc-

es are that the same conditions will develop in much of the eastern part of Germany.

For economic reasons, the validity of which is evident from the German experience, the Canadian dollar will have to be valued at a rate that does not affect Canada's international competitiveness in the longer run. Such an efficient rate of exchange by definition would leave unchanged Canada's exports, imports, interest rates, capital inflows and outflows, production, employment, and unemployment.

Unfortunately, it is difficult to determine in practice what such an optimal rate of exchange would be. The market exchange rate is only an imperfect guide since it is distorted frequently by temporary, often speculative, short-term capital flows and random influences on trade in goods and services.

In Europe, conversion rates were established gradually during a period of ten years leading up to the official adoption of the euro on January 1, 1999. During this period, countries progressively co-ordinated their domestic monetary and fiscal policies. Increasingly stricter rules were applied to countries of the European Union aspiring to membership in the currency union with respect to acceptable inflation, deficits, and debts. This process resulted in growing exchange-rate stability and ultimately produced the rates for conversion into the euro.[40] We might expect a similar, lengthy process, say, five to ten years, of co-ordination of monetary and fiscal policies to result in more stable exchange rates among the countries of North America, which would reflect national competitiveness as defined above, rates at which the final conversion would take place.

It should be noted, however, that it is not overly important that the exchange rate used for the initial conversion is precisely equal to the theoretical optimum. A deviation of perhaps two percent to three percent from that optimum would probably be eliminated quickly through normal increases in trade and productivity, without requiring changes to current rates of pay.

The external value of the amero against the euro, the Yen, and other currencies will be determined in the longer run by prices, income, and productivity in the amero region relative to those in the other zones. Chances are that the exchange rates with these large trading blocks will be close to those prevailing against the US dollar in the period preceding the union, simply because the trade and capital flows of the United States will be of overwhelming importance in the activities of the amero zone.

During the period before the union is created, speculators may distort the equilibrium dollar exchange rate. Cyclically low or high interest rates designed to minimize unemployment or inflationary pressures might result in capital flows and correspondingly distorted value of the dollar. We might see a repetition of the experience of the euro, which started life at 1.18 against the US dollar but, six months later, had fallen to near parity.

Nevertheless, just as no significant tensions and demands for change of that dollar-to-euro exchange rate have developed since its fall against the dollar, so we may expect that the amero's value will be relatively unimportant for the amero zone. The bulk of the trade of Canada, Mexico, and the United States will be with each other and will not be influenced by the external value of the amero. In 1999, fully 80 percent of Canada's trade was with the United States and monetary union would increase this figure even more.

The advantage of this relative independence of economic conditions in the amero zone from the value of the region's currency is, of course, one of the major benefits. It will allow the North American central bank to make monetary policy with price stability as its most important policy objective while the exchange rate is given even less consideration than it has been by the Federal Reserve since the 1970s.

Political accountability, independence, and escape clauses

In the description of the institutions of the proposed monetary union, I noted the requirement that the central bank will be independent from political influences and required to pursue only stable prices, not full employment. Such an institutional arrangement raises important questions about accountability. In democracies, all government institutions are subject to control and change by legislatures if conditions warrant. If the independence of such institutions is protected by constitutional clauses, changes are more difficult. But, in the case of true emergencies, as might be caused by natural disasters, war, or serious and prolonged economic dislocations, we may expect legislatures to assert their dominance.

The independence of other institutions like the World Trade Organization and the North American Free Trade Agreement is also less than complete. When the national interest is threatened enough, rules governing trade can be suspended by the invocation of "escape clauses" by any signatory nation. There are special provisions under which such threats to the national interest can be taken to agreed-upon tribunals and processes for adjudication.

The escape clauses and adjudication procedures under the World Trade Organization and the North American Free Trade Agreement have, in the view of many Canadians, been invoked too often and have damaged the credibility of these treaties. Much of this criticism is focused on the softwood lumber agreement between Canada and the United States and American quotas on Canadian steel exports. Other trade disputes periodically are discussed widely in the Canadian media, almost always with the suggestion that Canadian interests are battered by the United States government.

As it turns out, Canada has launched more complaints about unfair trade practices and injury to industry than has the United States. The rulings in the softwood lumber case and steel went against Canada but many went against the United States. It is just that the latter are never discussed in the Canadian media.

Most important about these rulings and the operation of the mechanism for resolving trade disputes are two facts. First, the amount of trade involved in these disputes is only a very small fraction of the total. Second, if there were no such mechanism the basic problems giving rise to them would still exist and lead to much more disruptive, often unilateral, actions by authorities wanting to protect their national interest. The resolution of these conflicts through a well-defined process based on the rule of law is much superior to the alternative.

It is almost certain that the proposed North American Monetary Union will contain provisions much like those contained in the free trade agreements. They will allow the reassertion of national sovereignty under exceptional circumstances. These will almost certainly include a procedure by which a country can leave the union, re-create a national central bank and re-assert its national monetary sovereignty. There will be rules and dispute settlement mechanisms to deal with complaints from members that the operation of the amero system has caused them harm. Such a settlement procedure might deal with the distribution of seigniorage from the issuance of currency, the costs and benefits of the North American Central Bank from its function as the lender of last resort, the effects of open-market operations in different debt obligations on the liquidity and interest rates in national capital markets and other rather technical matters.

However, the monetary union agreement will face a trade-off encountered in the design of all international, cooperative organizations. There has to be a delicate balance between, on the one hand, giving the central bank freedom from political influence and, on the other, making it ultimately accountable to politicians if conditions demand it. This delicate balance is not easy to achieve but experience with other international agreements has shown that it is possible to do so.

Deposit insurance and lender of last resort

One important function of governments throughout the world has been to prevent financial crises that in the past have often spilled over into the real economy, causing recessions and unemployment. Historically, such crises started when a bank was in financial trouble, which in turn induced a run on the bank by depositors who wanted to withdraw their money. As the bank in trouble attempted to convert its assets into cash and call in loans, the prices of securities crashed and borrowers were forced into bankruptcy. These events then affected overall economic conditions. Other banks faced cash withdrawals and the need to convert their assets into cash. The process involved an ever-larger number of financial institutions and firms in the economy. Unemployment and economic turmoil brought much hardship to the public.

After many years of experimentation governments have developed two lines of defence against such financial crises. First, the national central bank is charged with lending banks cash so that they can meet the demands of depositors. In practice, the central bank takes marketable securities and notes as collateral for such loans. As it has turned out, after the central bank's function as the lender of last resort had worked successfully during a number of crises, the public no longer made a run on banks. Since they now knowing that they can get their cash any time they want it, the public decided that it really did not want it.

A second line of defence against financial crises has been the creation of deposit insurance systems. In some countries, they are administered by separate government agencies, in others, they are handled by the central bank. In either case, banks pay to the deposit insurance authority small annual premiums on the deposits they hold. In return, this authority pays out to depositors their balances—normally up to a certain limit—even if their bank goes bankrupt. Such failing banks are then taken over by the insurance authority and its assets are liquidated slowly to prevent upsetting the market. The greater the recovered value on the failed bank's assets, the smaller is the authority's net cost of paying out the depositors. As in the case of the liquidity guarantee, the deposit insurance has helped greatly in the prevention of economy-wide financial crises.

However, the very existence of the deposit insurance has become a moral hazard that has induced banks to make riskier loans bringing higher returns. Depositors are attracted to the higher interest rates they can earn from such banks and they do not care about the riskiness of their investments. Whatever happens to such banks, they will receive back their deposits from the insurance authority. To limit moral hazard and its effect on the economy, governments have regulated banks and created powerful supervisory authorities. As a result, banks have to maintain certain ratios of equity to loans and must publish financial reports that provide information needed by the public to assess each bank's financial condition.

Importantly, there are also limits on the size of the deposits insured. Economists have long argued that in the United States and Canada these limits are too high and reduce incentives for the public to keep informed about the financial conditions of their banks. Economists' recommendations have been disregarded by politicians who insist that the high levels of insurance are needed to protect financially naive depositors. Financial institutions have supported politicians, no doubt because the insurance of large deposits was in their interest. Economists blame these conditions for a number of bank failures that have occurred with some frequency in Canada and the United States during the last 20 years. While these events did not result in wide-spread financial crises, they did put heavy burdens on the deposit insurers.

In some instances, like the bankruptcy of a large number of savings and loans associations in Texas during the 1980s, the value of loans on real estate assets held by banks fell so much that the American deposit insurance agency had to be given billions of dollars by the government to meet its obligations to depositors. Taxpayers in effect suffered as a result of inadequate deposit insurance provisions and bank supervision.

Presently, the United States, Canada, and Mexico have national systems of deposit insurance and bank regulation that differ substantially. The risk of failures and of having taxpayers burdened with deposit insurance payout differs among these countries. Is there a need to do something about this problem when a monetary union is formed?

In my view, there is no such need. Consider that there are two approaches to deposit insurance. One is to form one insurance agency for the entire region and pass uniform rules for bank regulation. Under this system, presumably, the premiums paid by the banks in each country are adequate to cover costs arising from bank failures in each on average and under normal patterns of failure. If large failures take place and insurance funds are inadequate, the costs to taxpayers can be prorated according to where the costs originated.

Such a centralized system for deposit insurance was rejected in Europe as too cumbersome and as infringing unnecessarily on the sovereignty of individual countries. Instead, it was agreed that each country would retain its own deposit insurance system and its taxpayers would be responsible for the cost of bailouts. However, under this system the question of foreign banks arises. Are French banks in Germany subject to French or German deposit insurance rules? The answer to this question was provided by the invocation of the principle of mutual recognition.

This principle had previously been adopted in connection with national regulations about product safety, health, occupational and other areas. After much effort, it had proven impossible to reach specific rules that were acceptable to all countries of the European Union. Mutual recognition of every country's set of rules was adopted as a compromise. As a result, a tractor built for example according to Dutch safety regulations could be sold in Spain even if Spanish safety rules were different. In return, tractors built under Spanish regulations could be sold in the Netherlands.[41]

The application of the principle of mutual recognition in the case of bank regulation means that each country retains its own rules and applies them to all banks chartered in its territory, in whatever member country of the union they operate. As a result, a Dutch bank operating in Spain pays deposit insurance to the Dutch authorities. If that bank fails, the Dutch insurance authorities and ultimately the Dutch taxpayer are responsible for making good on the bank's deposits. At the same time, the Dutch bank in Spain operates under Dutch regulations.

The system of mutual recognition is not perfect. The Dutch bank may be subject to such onerous regulations and high premiums that it cannot compete with its Spanish rivals. Such a problem is not likely to persist for long. To start, under these conditions the Dutch bank is highly unlikely to operate in Spain. On the other hand, the laxer Spanish rules will permit that country's banks to operate in the Netherlands. The competitive pressures from such different rules are certain to lead to an equalization of regulations. What governmental negotiations could not achieve, market competition will bring about.

Those in favour of a centralized solution to such problems tend to argue that the competitive process will result in a "race to the bottom." Countries will lower the cost of regulation and therefore bank safety in order to provide a competitive advantage for their country's banks. However, a country that goes too far in this direction will soon incur

large bailout costs and therefore face pressures to tighten regulations. This process assures that national deposit insurance regimes not only converge but also become economically optimum.

There are no reasons why the system of mutual recognition cannot also be applied in North America. If it is, monetary union will not affect the safety of national financial markets and institutions. The government of every country will have to bear the cost of short-comings in their own national system. Insurance levels and regulatory environment will converge and become optimum.

But what about the North American Central Bank's function as the lender of last resort and provider of liquidity? For national central banks the operation of this function in the past has not been costly. One reason is that it has come into play only rarely. A second one is that loans of cash are backed by collateral so that even if a bank is unable to repay the loans, much of their value can be recovered.

If this history of national lenders of last resort is a guide, the North American Central Bank's pursuing this function for the entire amero-zone may be expected to involve very few costs. Nevertheless, it might be useful to design a system under which costs can be recovered from the treasuries of individual countries according to the location at which the costs are incurred. If the provision of liquidity to Canadian banks results in costs, the Canadian treasury will have to reimburse the North American Central Bank.

Transition costs and long-term benefits and costs

In the enthusiasm that often accompanies the creation of new institutions, it is easy to lose sight of the costs of moving from the old to the new system. Yet, these costs can be quite high and they should not be neglected when the long-term benefits and costs are considered.

In the case of the proposed monetary union, it will be costly to replace existing bank notes and coins with new ones, which will have to be designed and manufactured. In Europe, the design of euro notes involved a lengthy and complicated process to reach decisions on size, colour, and images. All of the symbols on the bills are abstract and carefully chosen to prevent the appearance of national icons. As it happened, one computer-created abstract design of a bridge was seen by some as a reproduction of a bridge in France. That design was promptly altered. It may appear a trivial issue to some but, while US bank notes are of equal size and colour in all denominations, many countries prefer to have different sizes and colours for each to assist the blind and people with other handicaps. It may be difficult to persuade Americans to give up their style of greenbacks using equally sized paper for all denominations. Similar resistance to change may be expected from Canada and Mexico.

In all countries, existing plants for the printing of bank notes and coins are designed to produce only the continuous additions to the outstanding stock of national money required as a result of economic growth and inflation. These plants, therefore, do not have the capacity to turn out in short order the much larger quantities of new euro notes and coins needed to replace the national ones. The capacity of the plants could have been increased for the task but it was decided instead that the production of the new money should be spread out over a number of years. As a consequence, there is a costly requirement to store and keep safe the growing stock of notes and coins.

Putting the new euro notes and coins into circulation after the official date of conversion and withdrawing the national currencies is also a lengthy and costly process. A public used to recognizing counterfeit national currency will have much greater difficulty distinguishing genuine new euro notes from fake ones. Many people will have difficulties adjusting to the new notes, coins, and prices for the things they buy.

In Europe, large numbers of automated machines are used to dispense merchandise, permit gambling, and allow the withdrawal of cash. These machines need to be replaced or adapted to accept and dispense the new notes and coins. There have to be new shapes to the receptacles and dispensers of notes. The electromagnetic sensors of coin receiving machinery have to be adjusted. The electronic brains of some machines have to be changed or replaced.

The accounting books, machines, and programs of private firms and governments in Europe have to be converted from national currencies to the euro. Provisions have to be made to deal with the large numbers of outstanding stocks and bonds denominated in domestic currencies. The price tickets on merchandise have to be changed to prices in euros. Such conversions to new prices often raise public concerns over gauging as there is a widespread perception that business is more likely to round fractional values up rather than down. This concern became a major issue in the 1970s, when Britain replaced the imperial with the metric system for fractional units of its currency.

The private costs of converting to the euro just listed will cost billions. The same level of costs will arise in the conversion of national currencies to the amero. However, in

assessing the importance of these costs in the overall picture we need to remember that they arise only once. In contrast, the benefits of lower interest rates and greater efficiency discussed above accrue for the indefinite future. It is for this reason that the transition costs for the North American Monetary Union—as in other institutional changes—should be considered but are unlikely to upset the rational case for union.

Maintaining jurisdictional competition

A logical question arises if one concludes that on balance monetary union in North America is desirable. Why stop at that regional association, why not give the entire world one common currency? I have three answers to this question.

Let me approach my first answer in the context of the likely future development of the European Monetary Union. Assuming that it will be successful, it is likely that other countries will join it. As noted above, the original 11 countries will almost certainly be joined by Greece, Denmark, and Britain in the near future. There is a good chance that the Czech Republic, Hungary, Poland, and Estonia will not be far behind. Thereafter may well come requests for membership from Turkey, Russia, Rumania, Bulgaria, and other countries of Central Europe. Countries from Africa and the Middle East might want to join eventually. It is difficult to predict how such requests for membership will be handled but there are some obvious problems to be considered.

The cultural and political affinities between the present and potential members are much less than they were among the original group. There is no economic union among these potential members and the union may not be extended because of the very large differences in the levels of economic development and even economic systems. The vision of a politically integrated Europe resembling the United States in size and power stops at the continent's borders. In addition, the decision-making process in the European Central Bank will be very much more complicated by the cultural, economic, and linguistic differences. Economies of scale in administration may well disappear and become diseconomies if the union becomes too large and contains too many nations with different languages, different cultures, and different levels of industrialization.

My second answer to the question why it is not optimal to have only one world currency has been articulated effectively by European libertarians who are concerned with the growth and centralization of government. Their opposition to the European Monetary Agreement is based on the accompanying growth in laws and regulations that limit individual freedom and the reduction of competition among jurisdictions.

Roland Vaubel (1994) is a prominent European economist who developed the latter argument about reduced competition among jurisdictions fully, using the public-choice framework of analysis. In his view, Europe and possibly the world were saved from the mistakes of Keynesian economics, harmful inflation, and unemployment by such competition among jurisdictions. During the 1970s, economic policies inspired by Keynes were adopted by virtually all industrial countries, including the United States. The only hold-out was Germany's Bundesbank. It condemned government deficits and refused to adapt its monetary policy to accommodate them. As a result, Germany escaped the fallout from the Keynesian policies. It avoided the inflation, unemployment, slow growth, and wage and price controls besetting other countries.

Vaubel expresses the view that Germany's ability to be different was important in showing to the world the errors of Keynesian economics and, as a result, hastening the return to the more traditional policies of balanced budgets and stable prices.

I share Vaubel's basic view about the merit of competition, be it in markets or among jurisdictions, even if he may overestimate Germany's role in persuading the world to turn away from inflation and deficits. The analysis of competition among the national providers of deposit insurance presented above support this position. However, I disagree with his opposition to monetary unions in principle because a network of monetary unions in the world will preserve the valued jurisdictional competition, albeit in a setting resembling an oligopoly more than the economic model of perfect competition. However, the fact that there will be only few competing jurisdictions is not as important as one may think because, unlike economic competition, jurisdictional competition has no consumers to exploit. Moreover, as the modern theory of oligopoly notes, the market power of colluding firms is limited by the availability of substitutes and potential entrants. In the case of jurisdictional competition in monetary policy, the breaking-away of member countries serves the same functions as potential entrants into economic markets: the threat of the break-up of a union serves as an important constraint on the freedom of the central bank of any currency unions to impose self-serving and untested policies. For this reason, the optimum currency area is not the world.[42]

A third answer is implicit in the arguments in favour of the gold standard or a standard based on a basket of basic

commodities. Professor Reuven Brenner (1999b), among others, is concerned about the political and bureaucratic manipulation of monetary policy. History since World War II is full of episodes where these forces made monetary policy serve their own rather than the public interest. Economists such as Brenner believe that the only solution to the problem is to make the value of money dependent upon gold or a basket of commodities, the supply of which is beyond the control of governments. If the world were to move to such a monetary standard, exchange rates among countries would automatically be fixed and the benefits noted above would accrue to all of them.

Implicit in the arguments in favour of a commodity-based standard of value is the fact that the larger the political constituency served by a central bank, the more likely it is to be subject to political manipulation by powerful or numerous groups that turn monetary policy into an instrument serving their interests at the expense of the rest of the world. Some of the United Nations agencies like UNESCO (dealing with education matters), the ILO (dealing with labour issues) and the WHO (responsible for health policies) have been accused of being dominated by left-wing bureaucrats and the large number of developing countries in the United Nations. They are seen to be operating inefficiently and making policies that are inconsistent with free markets and societies. They tend to apply policies determined centrally and not adapted to deal adequately with local conditions.

A growing chorus of criticism in this spirit has been levelled against the International Monetary Fund and the World Bank, some demanding their dissolution. It is possible that a world central bank would similarly become captured by interests making it too bureaucratic, subject to political influences, and remote from local issues. I share these concerns and therefore think that regional monetary unions are superior to one world bank and a common currency for the entire globe.

Of course, a monetary system based on a gold or commodity standard would achieve the objective of removing decisions about the supply of money nationally and globally from the influence of politicians. However, the history of gold standard has shown that it suffers from its own defects. There is the basic irrationality of people digging gold out of the ground at the expense of capital and labour, gold that is then reburied in the vaults of central banks. The supply of gold was subject to new discoveries and recovery methods, which at certain times led to inflationary increases in money supplies. For example, the development of the cyanide process for the recovery of gold from the South African fields in the 1890s dramatically increased the supply of gold and brought such disturbances. (For an analysis of the merit of the gold standard, see Grubel 1984, chapter 5.)

Money-supply systems based on gold and commodity backing have been proposed many times in this century but failed to attract sufficient interest from any government. The main reason for this lack of interest is the removal of the political influence that they require on interest rates and the money supply. While this feature makes the system so desirable for its advocates, it also makes it highly unlikely that politicians or the public will accept it. The best chance for returning to a gold or commodity standard will be a really major inflation and economic down-turn caused by politicized monetary policy. This is not likely to happen for some time or, at least, not while the economic and financial upheavals of the 1970s are alive. The fact that the world did not move to a gold or commodity standard after this experience does not bode well for its doing so in the near future.

The Politics of Monetary Union

How likely is that a North American Monetary Union will be created during the coming decade or so? To answer this question, it is useful to consider why there is so much academic and public interest in the subject in 1999 when there was not much interest before. There are three important reasons.

Immediate causes of current interest in monetary union

The launch and early success of the euro

The launch of the euro in January 1999 has made many Canadians ask whether such a monetary system could be arranged for North America or at least between Canada and the United States. The creation of the euro affects people very directly and personally, especially for the many who have family links with Europe or travel there for holidays. People will no longer think about francs, marks, and lira in connection with these countries. They can travel in Europe without having to change currencies and make calculations about prices in Canadian dollars. These changes are momentous and suggest the existence of some major benefits while also raising questions about accompanying costs. Canadians want to know more and wonder whether a similar arrangement can make travel and business with the United States easier.

Economists are similarly intrigued by developments in Europe. After I had studied and lectured about the merit of the euro in my university courses for a number of years leading up to its introduction, my natural inclination was to think through the possible creation of such a monetary union in North America. In 1992 and 1993, I presented papers at conferences making the case contained in this study, albeit at a less detailed level.[43] Richard Harris and Tom Courchene, in the course of analyzing the cause and effects of the declining dollar, suggested that a fixed exchange rate was desirable for all the reasons noted above. The idea of a permanently fixed rate implicit in a monetary union was a logical outcome of their work on exchange-rate dynamics. They support monetary union in principle but do not think it politically feasible, especially since it brings few benefits for the United States, which therefore is unlikely to support it.

The decline in the value of the Canadian dollar

The second reason for the high level of public interest in the proposal for monetary union is the decline in the value of the Canadian currency, especially against the US dollar. As figure 2 shows, this decline is secular, even though there were short periods of recovery. During the summer of 1998, the exchange rate fell at a rapid rate and reached historic lows. On August 27, 1998, it reached a record low of .634 cents to the US dollar. At that time an item that cost US $100 required CDN$157.65.

Many Canadians have experienced reductions in their living standards as a result, especially when they visit the United States as tourists or shoppers or live there for prolonged periods as "snow birds" in the winter. While the exchange rate has since recovered from this low, the public is not convinced that the historic downward trend has stopped. Many Canadians are deeply disturbed about the implications of this trend for their own living standards and that of their children and grand-children.

Recent developments in the exchange rate have been accompanied by a decline in the average, real after-tax income of Canadians at the same time that American incomes have soared. Canadians' wealth has shrunk relative to that of Americans largely because Canadian equity markets performed much more poorly than American markets. At the same time, Canadian unemployment rates have remained at levels nearly twice those prevailing in the United States. The dynamism and lower taxes of the United States have resulted in a brain drain of the best and brightest Canadians.

Favourable experience with free trade

The third reason for public interest in monetary union in 1999 is that enough time has elapsed to permit an assessment of the success of the North American Free Trade Agreement. Since its signing in 1992, the level of export and surpluses with the United States have risen much more rapidly than has Canada's trade with the rest of the world. Much of the economic growth experienced by Canada since the middle 1990s has been driven by these exports. The low exchange rates have facilitated this growth but the existence of the free trade agreement has helped prevent American trade restrictions that in the past have tended to arise in response to the rapid growth of imports to the United States.

Prime Minister Jean Chretien in 1993 had campaigned on the promise to alter the free trade agreement substantially. After he came into office, he realized the benefits of that agreement. He negotiated some face-saving minor changes but thereafter has often praised its many positive effects for Canada. Other opponents of the agreement who had predicted dire consequences for culture and social programs have been silenced by the absence of any such problems.

These favourable experiences with the free trade agreement have aroused interest in opportunities for further strengthening of commercial relationships with the United States. The possibility of creating a customs union was reported to be on the agenda for a cabinet meeting of the government in August 1999. A customs union would retain the existing free trade arrangements. In addition, it would harmonize the external tariff structure of the two countries. As a result, imports from other countries entering either Canada or the United States could cross the border between the two countries without paper work or the payment of duties. Delays and costs at the border will be reduced substantially.

Most important for the purposes of the present analysis is the report that cabinet at that meeting will also discuss the merit of monetary union. After the publication of this report the government denied that the subject was on the agenda for the cabinet meeting though it did confirm that the future of relationships with the United States was. It seems to me that any discussion of possible closer economic links between Canada and the United States must inevitably include the subject of monetary union. Official reports about the discussions in the cabinet meeting made no mention of these alleged agenda items. Instead, there was an announcement that Canadians would be exposed to an advertising program touting how much better the Canadian quality of life was than that in the United States.

Support for, and opposition to, monetary union

Academic and media interest

The preceding analysis explains the surge of public interest in the possibility of creating a North American Monetary Union, which in turn stimulated a number of activities. Foremost of these has been a flurry of newspaper editorials and stories (Brenner 1999a, 1999b; Courchene and Harris 1999c; Corcoran 1999; Coyne 1999; Crow 1999; Grubel 1999; McQueen and Nankivell 1998). Tom Courchene, Rick Harris, and I have given many interviews on radio and television and appeared on talk-shows. There have been numerous letters to the editor and callers on the phone-in shows. On June 26, 1999, the Canadian Broadcasting Corporation dedicated to the subject of monetary union its weekly national phone-in program hosted by Rex Murphy.[44] I am certain that there were many other such events of which I am not aware.

On April 30, 1999, Professors James Dean and Steven Globerman held a conference on monetary union at the University of Western Washington. It was attended by professors from both countries, as well as John Murray from the Bank of Canada and John McCallum of the Royal Bank. Professor Robert Mundell presented a keynote speech. The papers presented at that conference will be published.

Mundell has organized a meeting of the Bologna-Claremont Monetary Conference Series in Gvanajuato, Mexico at the beginning of October 1999. A number of distinguished economists from Canada, the United States, and Mexico will discuss the issue of monetary union for North America.

On March 25, 1999 the Senate Committee on Banking, Trade, and Commerce invited five economists to give their views on the prospects for a common currency for North America. At that Senate committee hearing, I presented a summary of the analysis in the present study. The second witness, Professor Courchene agreed with my reasons for having a common currency but argued that a commitment to a fixed exchange rate at this time would be the only politically feasible alternative. Professors Jack Carr and Bernie Wolf also agreed that fixed exchange rates and a common currency would bring the micro-economic benefits outlined above. However, they held that the macro-economic costs might be greater than I had made them out to be. Pressed by presiding Senator Michael Kirby they went on record as mild supporters of the idea for fixed exchange rates.

Only witness John Crow, the former governor of the Bank of Canada, was totally opposed to the idea. He said that my views were typical of those made by theoretical economists who are lampooned by the story of scientists stranded on a deserted island. They had a can of food but no means of opening it. The economist offered the solution "Let us assume that we had a can-opener" (see Carr *et al*. 1999).

At the annual meetings of the Canadian Economist Association at the University of Toronto in June of 1999, a special panel discussion dealt with monetary union and fixed exchange rates. There was a confrontation between Courchene and Harris in favour while Crow and Professor David Laidler from the University Western Ontario were against such a union. The discussion attracted much interest from other economists at the meeting.

Private-sector dollarization

While the debate over the creation of a common currency for North America proceeds, the private sector in Canada is moving rapidly in this direction by what I referred to above as private dollarization of commerce.

The assets and liabilities of Canadian banks denominated in foreign currencies have increased greatly in recent years. In January 1989, foreign currency liabilities were 35 percent of total liabilities. In January 1999, they were 46 percent (*Bank of Canada Review*, Spring 1999: table C4). While the growth in these assets and liabilities reflects the growth in the international business of Canadian banks, the following is more ominous. In April of 1989, Canadian residents other than banks held $8 billion in deposits denominated in foreign currencies. By February 1999, this sum had risen to $51.4 billion. These foreign currency deposits grew, as a percent of total deposits held by the general public from 3.2 percent to 10.8 percent (*Bank of Canada Review*, Spring 1999 and May 1991: table C2). The move by the Canadian public to foreign currency holdings, the bulk of which is US dollars, reflects a desire to protect its wealth against the depreciation of the Canadian dollar. This move has been facilitated by the ready availability and even by promotion of such deposits by Canadian banks.

Eric Beauchesne (1999) in a brief article reported more evidence on the private dollarization of the Canadian economy.[45] He found that an increasing number of Canadian firms have listed their shares in US dollars on American stock exchanges. To meet listing qualifications, their financial reports are issued in US dollars.

The salaries of top Canadian employees working for multinationals operating in Canada are paid in US dollars. The athletes in the premier baseball, basketball, and ice-hockey leagues are paid in US dollars. The same is true of the referees working in these best leagues.

Canadian manufacturing production going into or through the United States was 20 percent in 1980. In 1999, it is 55 percent. Most of these exports are priced in US dollars, with producers requiring increasingly that their suppliers also price their goods in US dollars.

Courchene and Harris considered private dollarization in Canada and noted that it "would tend to be self-reinforcing and to lead to unpredictable political dynamics . . . it would be a major mistake on the part of Canada's monetary authorities to assign a zero probability to a dollarization scenario" (1999c: 21) At the meetings in June, 1999 of the Canadian Economics Association in Toronto Courchene and Harris suggested that increasing private market dollarization in Mexico and Canada would lead to a common currency without formal agreement. If this happens, Canada will have all of the macroeconomic problems emphasized by critics of monetary union. At the same time, there would be the loss of seigniorage and of the opportunity to have formal representation on the board of a North American central bank that a monetary union of the sort described above would allow.

The road to political action

Let me conclude my analysis by considering the prospects that the widespread interest in the issues of monetary union will translate into political actions that will persuade Canadian politicians to take up the cause.

Hefeker (1995) in his analysis of the politics of monetary arrangements concludes that the interest group of domestic producers is the most likely to take up the cause for monetary union. The reason is that industry likes exchange-rate stability, which facilitates long-range planning and lowers the costs of doing business abroad. The process of private-market dollarization discussed in the preceding section shows that if there is no formal agreement, business tends to act on its own and switch to the currency of the dominant trading partner—in Canada's case, the US dollar. In addition, as noted above, Canadian business should also support monetary union because it promises to bring lower interest rates, though I am not sure that this consequence of the union is understood well.

If the interest of business in monetary union is due to its involvement in trade, then the growth of that trade in recent years should have stimulated such interest. Grady and MacMillan (1998) found that between 1989 and 1997 exports from Canada to the rest of the world rose from 26.1 percent to 40.2 percent of national income while interprovincial trade declined from 22.7 percent to 19.7 percent of

national income. These growth rates of Canada's international trade are unprecedented in peace-time.

Nevertheless, there is a well-known reluctance by basically conservative business interests—and the general public—to make major changes to important, existing public institutions like the central bank. New arrangements must be seen to be clearly superior to those they will replace and there must be a crisis that triggers an interest in such a change. The 1990s seem to have brought such conditions: Canada's unemployment rate has been high (especially in comparison with that of the United States), economic growth has been slow, exchange-rate instability great, stock-market growth anemic and there have been many sales of well-known Canadian firms to Americans.

Canadian business, therefore, may well be inclined to favour monetary union with its largest trading partner. However, there is one factor that could reduce this enthusiasm. The decline of the dollar has helped this trade expansion, especially in the case of firms harvesting natural resources.

The advantage of a falling dollar is much weaker in the case of firms that have a smaller Canadian value-added and rely on many imported inputs, the price of which rises with the fall in the exchange rate. The most outstanding example of such firms are the assemblers of computers, automobiles, and other consumer products. A lower exchange rate brings more Canadian dollars for sales abroad but raises the costs of components required for assembly by these firms. Profits rise and stay high but only as long as labour costs do not increase correspondingly.

It remains to be seen whether, and to what extent, Canadian business will look beyond the short-term dynamic benefits from lower exchange rates and appreciate the long-term benefits from exchange-rate stability. I would predict that opinion in favour of monetary union will gain momentum when the exchange rate appreciates. Such an increase in the exchange rate is likely to happen eventually, as it has done periodically during the postwar years. Figure 2 clearly shows these episodes.

When the exchange rate rises, Canadian producers of commodities will be upset because the increases in the world prices of their exports will be offset in part by the appreciation of the exchange rate. They will be upset especially if, during the preceding slump, they have allowed wage rates to rise and did not enjoy gains in labour productivity to match the higher pay.

Canadian firms other than commodity producers will also face problems when the exchange rate appreciates. They will have to lower their export prices in Canadian dollars to maintain market shares. While the resultant financial squeeze will be dampened by the lower costs of imports, they too will suffer if they have raised wage rates during the preceding period when the exchange rate was low.

In sum, if Hefeker's analysis of history and other countries is correct, Canadian firms and their employees will become supporters of a move to monetary union when the next, inevitable rise in the Canadian dollar causes them to suffer economically.

The general public in Canada and most importantly consumers will welcome monetary union after the prolonged period of currency depreciation and unemployment that Canada has experienced through the 1990s. Growing international travel fuelled by low-cost jet planes and increased awareness about the outside world via television and the internet have made Canadians aware of the decline in the value of their dollar as never before.

The big question is the extent to which the general public will be driven to take political action. There is a well-known lack of interest and organization for a number of reasons. People are too preoccupied with every-day problems of work, health, and family to find time for political activism. There is widespread cynicism about the ability of the general public to influence government policies. The media, which thrive on controversy, give much play to the arguments of some like nationalists and groups that stand to lose from monetary union. These arguments leave the public confused.

However, the public can be mobilized to produce political action if three conditions are met. First, the case for monetary union must be sound economically and in the light of recent developments. I think that the preceding analysis has made such a case.

Second, the media must disseminate the main facts and analytical conclusions because publications by academics and think tanks never reach enough Canadians directly. The basic messages must be explained simply and repeated often. The media must keep the dialogue alive by follow-up reports and stories, especially by exposing the suffering of individuals and by pressing politicians to take a stand on the issues. In the middle of 1999, there are encouraging signs that this process has begun. There was the large amount of media interest—William Watson (1999) called it a frenzy. Some members of the government and parliament declared their positions on the issue; Martin and Thiessen would not have registered their opposition to monetary union if there had not been substantial public interest in the issue, interest that has the potential of translating into votes at the next election.

Third, the issue requires leadership from politicians and parties. The debate over the North American Free Trade

Agreement gained enormous momentum when John Crosbie, an influential cabinet minister from Newfoundland in the Brian Mulroney government made free trade the centrepiece of his campaign for the leadership of the Progressive Conservatives. While Crosbie did not win the leadership, the public response to his campaign was so positive that Brian Mulroney, who had previously opposed free trade, made it a centre-piece of his election campaign in 1989.

As another example of political leadership taking advantage of crystallizing public opinion, consider the deficit and debt crisis in the early 1990s. Established parties downplayed the importance of this problem during the 1993 federal election campaign. Only the newly founded Reform Party under the leadership of Preston Manning made the deficit and debt major parts of its election platform.[46] The Reform Party's electoral success to a considerable degree was due to its stance on fiscal issues and voters' concerns.

There are some signs that monetary union may become a political issue like free trade and fiscal responsibility. In March of 1999, the youngest MPs from the opposition Reform Party and the Bloc Québeçois[47] spearheaded a debate in parliament over the issue of monetary union for North America. In the process, they asked the Prime Minister to form a committee of parliament to study the subject. The leaders of the Reform and Bloc Québeçois appear not to share the judgement of their younger caucus members that the issue has the potential to become an important, winning issue for them in the next federal election.

While there are these encouraging developments in Canada, the biggest obstacle to a North American Monetary Union will be indifference in the United States. The academic and public interest in the subject in Canada in 1999 has not spilled over into the United States. Government officials who have been prodded by journalists have said that American monetary independence will never be compromised, especially since it has produced such a superbly performing economy during the 1990s. We shall never know how the American public, politicians, and the government will react to the plan for a North American Currency Union unless we Canadians ask them. But we have to do our homework, develop a well-considered position, and build strong support in Canada before we take such an initiative.

Appendix: Assessing Alternative Approaches

Option[a]	Canadian Dollar Remains?	Seigniorage?	Bank of Canada Remains?	Exchange Rate Variability	Policy Flexibility
Fixed exchange rates	Yes	Yes	Yes	Fixed, within a narrow band	Partial, subject to gearing policy to maintaining the fixed rate
Currency Board	Yes	Yes, but offset by cost of carrying foreign currency	Yes, but under currency board rules	Fixed at one-to-one;[b] no band	Less; Bank of Canada is a passive actor; government deficits can be financed only by borrowing
Common Canada/US Currency	Maybe; depends on arrangements	Yes	Yes, but under the euro arrangement	None (common currency)	Depends on arrangements for Canadian input into US Federal Reserve policy
Market Dollarization	Yes, but much reduced scale of use	Yes, but much less because of reduced scale of Canadian dollar use	Yes	As great or greater than now, with reduced scale of Canadian dollar use	Reduced relevance of Bank of Canada policy for Canadian households and businesses
Policy Dollarization	No	No	No	None (no Canadian dollar)	Minimal, and Canada could be drawn into US policy orbit

(a) For all options, the Canadian price level would be tied to the US price level and Canada would follow the US business cycle more than under the status quo.

(b) This need not be the case. If a currency board were implemented at, say, 75 US cents to the Canadian dollar, this would not require the issuing of a new currency; the implementation time would also be much reduced.

to Exchange Rate Fixity

Implementation Costs	Implementation Time	Clearings	Reversible?	Access to US Capital Markets	Maintain Financial Sector Policy?
Minimal; need to select "entry point"	One to three years; need to establish credibility	Status quo plus smaller transactions costs for US clearings	Yes	Enhanced access vis-à-vis flexible rate status quo	Yes
Could require internal revaluation of prices and a new currency[c]	Several years, presumably preceded by fixed exchange rates[b]	More integration with US clearings systems	Yes, but expectation must be that it will not be reversed	Larger still	Yes, but with more US banks operating in Canada
Internal revaluation of prices and a new currency	Probably a decade, as in the euro process	National clearings and then full integration into Canada-US clearings (presumably along the lines of the euro target scheme)	Yes, but only under exceptional circumstances and with large costs	Full	Yes, but may be greater harmonization over time with integration of clearing systems
Parallel currencies and a depreciating Canadian dollar; large wealth transfers from Canadian-dollar asset holders to Canadian-dollar liability holders	Variable, depends on private sector agents	Progressively integrated into US clearings systems	Unlikely, once private sector operation on US-dollar basis	High for those using the US dollar	Will likely be drawn more into US financial policies
Moderate to large depending on currency replacement procedures and revaluation of existing Canadian dollar contractual arrangements	Variable, depends on private sector agents	Progressively integrated into US clearings systems	Not without major problems (no central bank, no separate currency)	Full	Will likely be drawn more into US financial policies

Source: Courchene and Harris 1999a. Reprinted with permission.

Notes

1 This study draws on over 35 years of studying and teaching international finance at Simon Fraser University and other universities. The following publications found in References (page 46) contain earlier and more detailed analyses of many of the points raised below: Grubel 1970, 1973, 1984, 1990, 1993.

2 Friedman (1953) argued for a system of freely floating exchange rates that were determined by market forces alone and free from intervention by governments. The flexible exchange rates adopted by many countries in the 1970s involved what is now known as "dirty" float because government intervention works alongside market forces. In Friedman's view "dirty" floating of exchange rates is little better, and may have worse economic effects than fixed exchange rates.

3 Robert Mundell (1998) provides a critical examination of the merit of the euro system. He is a "euro-optimist" and believes that the system will provide many benefits to its members. In a private conversation, he agreed with the judgement expressed in this paper that a North American monetary union would also be beneficial. Some further publications on the theory of optimum currency areas are Grubel (1973), Ingram (1973), Kenen (1969), McKinnon (1963). For an excellent recent summary of the theory, see Willett (1999).

4 I think it would be an interesting project for an economic historian to study what the arguments were and how they can be fitted into the current analytical framework.

5 Canadian trade with the United States was $309 billion and $6 billion with Mexico (IMF 1998: 156–57).

6 The total savings are broken down as follows: 60 percent by banks and foreign exchange dealers, 10 percent by travellers, 25 percent by private firms, and 5 percent from reduced costs of clearing foreign cheques. The report does not mention savings of time by travellers and others who are spared the need to convert currencies. It also did not discuss the saving of resources used by researchers and others involved in forecasting exchange rates and selecting proper strategies for hedging against the exchange risk.

7 Managers of the Global Hedgefund, advised by some Nobel Laureates in Economics, had been large players betting on the narrowing of this interest rate gap through the use of highly leveraged financial instruments. Unfortunately for them, currency upheavals in southeast Asia and in Russia spilled over into European capital markets and slowed the narrowing of the interest-rate gap enough to bring the Hedgefund close to bankruptcy.

It is also worth noting that these currency upheavals did not otherwise create problems in Europe, in contrast with similar episodes in the past when speculative fever infected one or more countries that had otherwise more or less routine economic or political difficulties. This stability was attributed to the policies of coordination and cooperation among governments and central banks that preceded the actual adoption of the euro. It is symbolic of the kind of benefits Canada may be expected to gain from joining a North American Common Currency area.

8 Carsten Hefeker, in a lengthy study of the history and politics of monetary integration concludes, " the benefits from monetary integration are often underestimated. This is due to the insufficient state of the economic theory regarding the role of money . . . It often neglects the network externalities of money" (1997: 141).

9 Robert Baldwin (1990) estimated that the euro would raise the income of the European Community by five to ten percent in the long run (cited in Commission of the European Communities 1999).

10 There is an alternative outcome. Unemployment will rise and unions will not fight it directly. As Lindbeck and Snower (1988) have argued, the union members are the insiders and they are not prepared to make concessions to the outsiders in the non-unionized sector. However, the insiders will soothe their consciences by pressing the government to adopt other policies to fight unemployment, policies like wage and output subsidies, generous retraining programs, and protection from foreign competition that are paid for out of general tax revenue. They will also promote such policies as work-shar-

ing and shortened work-weeks under the condition that they do not lower their own income.

11 The CRB index used here excludes energy, is produced by the Commodities Research Bureau of Chicago, and is used widely in empirical economic analysis. It is based on US dollar prices and I deflated it by the American consumer price index. For ease of interpretation, the index is plotted as a two-year moving average. I also set the commodity prices equal to one for 1955 when the nominal and real exchange rate were also very close to one. As a result, the relative rates of decline of the three variables can readily be seen.

12 See McCallum (1998) for such an analysis and references to other Canadian studies that reached similar conclusions. A major flaw in these studies stems from the fact that they use the exchange rate lagged by one period as an explanatory variable in the estimating equations. This variable exhibits a strong auto-correlation with the dependent variable and contributes much to the explanatory power of the regressions. In addition, McCallum's study covers only the period since 1972, while it is more informative to include the 1950s.

13 Nobel laureate Friedrich Hayek made the general case in 1937 that it was inefficient to use currency depreciation to assist an ailing industrial sector because of the distortions to prices and incentives that such a lower exchange rate has on other sectors of the economy. His argument is nearly the same as that made in the text.

14 Corden (1982) developed the parallel between protection due to tariffs and exchange rate depreciation.

15 John McCallum, the chief economist at the Royal Bank of Canada in a paper (1998) noted a phenomenon consistent with the process just described. In an econometric analysis, he found that in periods when the Canadian dollar depreciated against the US dollar, increases in the productivity of labour in Canada were less than those in the United States. McCallum referred to this phenomenon as the "lazy manager and worker effect" and attributed it to the protection implicit in a depreciated currency.

16 Hefeker notes: "Recent experience suggests that exchange rates move excessively without being justified by 'fundamental' factors . . . The real costs of these fluctuations could be avoided by restricting exchange rate fluctuations" (1997: 141).This same phenomenon has also given rise to demands for the "Tobin tax," which would put a small surcharge on all capital flows. The argument is that such a small tax would reduce the profitability of speculative short-term flows but would not interfere with the long-term capital flows, which are more profitable and needed for economic development. Proposals for the Tobin tax have not been acted upon because of its administrative complexity and the difficulty of enforcement.

17 The other main reason for this failure to adapt is that Canadian governments spend large amounts of money to subsidize declining industries and regions. The money is paid through federal programs like regional adjustment transfers, allegedly to assist the creation of new industries and retrain workers. Provincial governments tend to subsidize failing firms, particularly in remote regions, allegedly to allow them to make efficiency-enhancing investments. In fact, these programs have resulted mostly in a permanent state of dependency of the recipients and, most important, have delayed the needed reallocation of labour and capital. Flexible exchange rates have to some degree resulted in a hiding of the true cost of such subsidies and therefore have made them last longer than they would have otherwise.

18 In this context, it is worth noting that two of the most rapidly growing countries in the world since the 1970s have been Singapore and Hong Kong. I think it is no coincidence that both countries have fixed their exchange rates to the US dollar and have maintained free trade. In spite of the fact that neither had any natural resources, they grew rapidly and are expected soon to have per-capita incomes higher than those in Canada.

19 These ideas were exploited in the literature on "political business cycles," which was started by Nordhaus (1975) and MacRae and Duncan (1977). Subsequent developments in the understanding of the phenomenon are reviewed in Hefeker 1997: 19–20). See Buchanan and Tullock for the public-choice model that explains such behaviour.

20 Swoboda (1991) makes a point similar to mine. He supports the creation of a European Central Bank on the grounds that it would eliminate disturbances that originate with national central banks.

21 There was much debate about a strong constitution for the European Central Bank during the years leading up to its creation. Buchanan (1990) and Bernholz (1990) argue in favour of the adoption of such a constitution. Others like Vaubel (1991a, 1991b, 1992) and Lomax (1992) doubt that such a constitution can be designed or kept operative through time. Berman and NcNamara (1999) insist that central banks should at all times be subject to political oversight.

22 Kenen (1992) notes that the political interests of the members of the European Monetary Union will continue to diverge as long as they are not in a political union.

It is therefore unlikely that they will attempt to impose on the European Central Bank policies that are driven by political business-cycle motives.

23 For an early discussion of this subject, see McKinnon 1963.

24 See Annual Report of the Bank of Canada, 1997, 1998.

25 In the past, the Bank of Canada also made profits by requiring commercial banks to keep specified quantities of reserves on deposit with the bank. These deposits were used to buy government securities with a yield greater than the interest paid to the commercial banks. However, these reserve requirements have been abandoned since they represent an inefficient tax on financial intermediation ultimately borne by customers of the commercial banks. There is a vocal group of Canadians who believe that the reserve requirements should be re-introduced in the false belief that the incidence of the cost would fall on banks and not the general public.

26 William Robson pointed out to me that some international agreements like the Kyoto agreement on greenhouse gas emissions and the UN Convention on the Rights of Children may not have been given the kind of careful scrutiny that I suggest should precede Canada's commitment and surrender of national sovereignty. The same may be said about the convention on refugees. It appears to me that while the first two agreements may have much symbolic value for some politicians and activists, they have in fact had very little effect on actual policies in Canada. At the time of writing, the agreement on refugees is coming under increasing criticism and Canada may well join the ranks of signatories that have interpreted the agreement operationally in such ways as to protect their national interests. This different treatment of the agreements mentioned in the text and those mentioned in this footnote may be explainable by the fact that the former contain effective enforcement mechanisms while the latter do not.

27 A thoughtful and empirically supported Canadian view on this subject is Murray (1999), who is an economist working for the Bank of Canada. Some economists feel very strongly about the issue. For example, Hankel et al. (1998) make the case against the euro on these grounds. They have written a mock legal suit against the German signatories of the European Monetary Agreement.

28 Bayoumi and Eichengreen (1994) considered the same issues using of data on members of the North American Free Trade Agreement. For a critical discussion of these results and their implications for monetary union, see Courchene and Harris (1999a), who challenged the authors' conclusions on the basis that they are based on periods when trade between Canada and the United States was much smaller than it is now. This trade expansion has created and will increasingly result in North-South rather than East-West Canadian trade. As a result, supply shocks are increasingly symmetric in both countries and flexible exchange rates will not be needed to permit Canada and its regions to deal with them, as they were when shocks were more asymmetric.

29 Proposals to include the protection of property rights into the Canadian constitution as part of the Charter of Human Rights and Freedoms was rejected. My recommendations for adoption of such a charter (Grubel 1982; Grubel, Purvis, and Scarth 1992) and my attempt as a member of parliament to introduce balanced budget legislation in the House of Commons did not bear fruit. There are two main reasons for this: (1) Canadian politicians and most opinion makers are ideologically committed to using income redistribution and regulation to engineer a "better" society; (2) politicians have found these policies good for getting votes. After all, there are fewer voters with incomes above rather than below the mean (that is, median incomes in all countries are below mean incomes).

30 These views were expressed forcefully by a number of American economists and especially Benjamin Cohen (University of California, Santa Barbara), who attended a conference on the subject at Western Washington University in Bellingham in May, 1999.

31 Benjamin Cohen (1998) presents an interesting analysis of the benefits to the United States from the international uses of the dollar from a point of view that combines economics with political science. His political-science perspective makes him emphasize the symbolism and implicit value that Americans attach to knowing that their currency is in such widespread use. He also notes that the widespread use of the dollar gives the American government political leverage with individual countries.

32 Feige's numbers are for 1996. Schuler provides data showing that average US currency in circulation in 1997 was $425.5 billion and in 1998 had risen to $460.1 billion. (1999: 15). Porter and Judson (1996) estimate that the circulation of US dollar notes outside the United States is between 55 and 70 percent of the total.

33 The Euro-dollar business especially cut into profits of American banks after its development in the 1960s. This business sees non-American banks taking deposits and making loans in US dollars, often without the cost of reserve requirements and other taxes. However, through special policies on reserve requirements Amer-

ican banks have become large actors in this type of banking business, which prospers in Europe as well as in a number of other international financial centres like Hong Kong, Singapore, and Bahrein.

34 Excellent background information on the euro institutions, history, and economic implications is found in the series of articles, The Economist 1998a through 1998h. The pamphlet, Royal Bank of Canada 1998, provides additional, useful information from a Canadian perspective. Assessment of events in the first six months of 1999 following the first-stage introduction of the euro are found in Issing (1999) and Blair (1999).

35 See Osakwe and Schembri 1998 for an analysis of these events. They argue: "Currency crises can be prevented through the adoption of prudent monetary and fiscal policies, effective financial regulation and supervision and a more flexible nominal exchange rate." For another discussion of the merit of fixed and flexible exchange rates, see Caramazza and Aziz 1998.

36 This is an oversimplified description of the system. Private banking practices, international clearing mechanisms, and other technical details need to be considered in the design of currency boards. For more on this, see Greenwood 1998; Hanke and Schuler 1994, 1996.

37 For a detailed analysis of the way in which dollarization works, see Schuler 1999. This study focuses on the costs and benefits to the United States from encouraging emerging markets, like Argentina, to become dollarized.

38 For a discussion of market dollarization trends in North America, see Courchene and Harris 1999c. For some data on Canada, see the final section of the present study.

39 Resistance to the amero will be lessened by continuing to call it officially a "dollar" in the United States and Canada. That official designation will be less welcome in Mexico. However, there is nothing to prevent the public from referring to the amero peso in general use.

40 In the middle and late 1990s major currency speculation rocked the countries of Southeast Asia and Russia. In the past, such currency upheavals almost certainly would have contaminated currencies of some European countries. However, because of the coordination of European monetary and fiscal policies, none of the prospective euro-members' economic conditions were weak and Europe's currencies escaped all speculative upheavals.

41 I have chosen the example of tractors because during the postwar years there was a celebrated case of differing regulations requiring tractors sold in Germany to have governors that limited them to a speed different from that mandated in France. As a result, trade in tractors between the two countries was hindered since sales in the other country required expensive modifications to the engines. Many saw safety regulations of this sort as deliberate barriers to free trade, which was supposed to have been established through the Treaty of Rome and the creation of the European Economic Union.

42 A fundamental reason for the opposition of libertarians to monetary union is their agreement with Hayek's view that monetary standards would develop spontaneously in free markets. Accordingly, government mandated monetary systems based on central banks and their operations interfere with liberty and are sub-optimal. Conservative economists are split on this issue. The opposition to libertarians is represented by Milton Friedman who all of his life has stood for minimal government and argued that free markets produce superior outcomes. He believes that the setting of a monetary standard and the steady supply of money is best carried out by governments. I see a certain inconsistency in Friedman's positions on these issues and consider libertarians the winners of the controversy in terms of logic. However, I think that it is not possible to dismantle national central banks and have experiments to determine whether free markets will come up with a superior financial system. Therefore, I think that the task before us is to make these banks function properly by constraining their freedom with constitutions and covering optimum currency areas.

43 At one conference in Mexico in 1993, my paper was considered totally unrealistic and criticized heavily. The focus of the other papers was on the usefulness of currency boards to stabilize the Mexican economy. Even though the basic theme of the conference was broader and supposed to consider alternative arrangements, the publishers of the proceedings at the conference did not include my paper. Five years after the conference, Roberto Salinas, one of my critics and the co-editor of the volume (see Dorn and Salinas 1996) apologized to me for the bad reception that he and his colleagues had given my paper. He told me that he and many other economists and politicians in Mexico had seen the wisdom of my proposal and had themselves become advocates of a monetary union. He flattered me by saying: "Your name often comes up in discussions about a Mexico-US monetary union."

44 The relative number of callers for and against monetary union who got onto the air during this program cannot be taken as a reflection of public opinion: not only are the callers self-selected but the program's producers also screen them, using criteria that are not self-evident.

45 Not all of the following information is found in Beauchesnes' article.

46 I was induced to stand for election as a Reform Party candidate by this economic and political situation. To my surprise, I won the election in 1993. As a member of Parliament, I had a great opportunity to express the widespread popular concerns about the fiscal situation in the House of Commons and its Finance Committee. Most analysts agree that the Reform Party's electoral success in 1993 and its demands for fiscal prudence thereafter did much to push Liberal government fiscal policies in the right direction. I have had no contacts with the leadership of the Reform Party since I left parliament in 1997 after not seeking re-election and have not been consulted on any economic issues. Since 1997, I have worked strictly as an independent analytical economist and all of my research and publications are public and accessible to politicians from all persuasions.

47 From the Reform Party: Rob Anders, Rahim Jaffer and Jason Kenney; from the Bloc Québeçois: Bernard Birgras, Pierre Brien, Richard Marceau, Stephan Tremblay and Caroline Saint-Hilaire.

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