

# *Structural Changes in the Canadian-American Balance of Payments*

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Almost exactly one year ago, I spoke on roughly the same topic in Montreal.<sup>1</sup> A number of observers on both sides of our border (but particularly in Canada) found that paper interesting enough to comment on it rather extensively. While I was naturally flattered by this reaction, I also noted the lack of enthusiasm among some Canadians with respect to my views on the issues I raised. In fact, not a few commentators thought I was simply wrong.

This paper is intended to update and to extend the discussion of several of the questions considered in that paper as well as to discuss a number of developments that have occurred since then. Last year, I noted several basic shifts in Canada's payments situation -- particularly with respect to trade flows and the long-term capital account. I observed that, in the last half of the 1960's, Canada experienced a sharp swing from a large deficit to a sizable surplus with the United States. Simultaneously, a weakening occurred -- at least temporarily -- in its formerly strong surplus with the rest of the world (especially with industrial countries other than the United States). Canada's current account and its overall payments balance generally strengthened during that period. Observing these changes, a year ago I asked whether the shifts were permanent or transitory.

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<sup>1</sup>See "United States-Canadian Balance of Payments: Prospects and Opportunities", presented before the First National Conference of Canadian Bankers, sponsored by the Institute of Canadian Bankers, September 28, 1970.

Canada's long-term borrowing in the United States was quite heavy in that period, producing sizable increases in Canadian reserves, and raising the question of whether Canada really needed to be -- or ought to be -- as dependent on external capital as it had been in earlier years. The role of Canadian borrowing in the U.S. capital markets was of more than cursory interest to us at the time because of our precarious balance-of-payments situation.

This occasion provides an opportunity to take another look at the structural transformations which appeared to be present in the U.S.-Canadian balance-of-payments a year ago to determine whether they are continuing or have instead been reversed.

In the meantime, of course, a watershed has been crossed in the balance-of-payments policies of both countries. The Canadian Government's decision at the end of May, 1970, to allow the Canadian dollar to float has proved to be somewhat more than transitory. The U.S. measures announced in mid-August of this year have resulted in at least temporary changes in the payments system. While I certainly would not join the host of obituary writers for the Bretton Woods system, it does seem to me unlikely that we will simply reinstate without significant modification the balance-of-payments arrangements that have been in place for more than a quarter of a century. On the other hand we do not want to overlook the success of the system of the previous period in providing a framework in which restrictions on world trade were greatly reduced and in which the resulting rapid growth of trade provided a crucial impetus for the recovery of Europe and Japan. Having said this, I must also hasten to add that I do not want to contribute to the flood of speculation on the future payments system that is likely to emerge.

In the wake of the recent U.S. actions, we have seen once again that steps taken to deal with U.S. global problems have a direct and perhaps disproportionate effect on Canada. I believe it is important to note, however, that beyond the immediate difference in view on the 10 percent surcharge on U.S. imports, there is a basic common interest between our two countries in achieving a more viable structure of exchange rates, reductions in trade barriers generally, and a less rigid environment for balance-of-payments adjustment. If the U.S. initiative succeeds in generating some forward motion on these questions, we will be able to judge more clearly whether any given exchange rate relationship is appropriate.

It is not my purpose here to consider how the immediate differences in the economic policy objectives of our respective governments can be resolved. That task remains the province of the governments themselves, and we must be careful to avoid treading on their preserves and thereby prejudicing their activities. Rather, I would address myself to several issues relating to Canadian-American financial relations that are of interest to economists generally as well as to those with responsibilities for public policy.

This range of issues can be posed in terms of several questions:

- Is Canada's current account surplus transitory? If it is, one might consequently expect Canada to remain fundamentally an importer of capital.
- On the other hand, if Canada's current account situation has fundamentally changed, has Canada about reached a stage in its development where it might become a net exporter of capital in the long-run?
- If changes in exchange rates ultimately are assigned a greater role in maintaining the balance-of-payments in equilibrium, would it still be desirable to foster special trading arrangements -- such as the automotive agreement -- which significantly shift the trade balance in the direction of one country or the other?

Before turning to a further discussion of these questions, it might be helpful to review briefly recent trends in the balance-of-payments of our two countries.

#### *Recent Trends in the U.S. Balance-of-Payments*

Although the United States had a payments problem in the early 1960's, the situation then was reasonably hopeful. An increasingly strong trade and current account showed some signs of being sufficient to cover a normal volume of capital outflow. In 1960-64, the United States had an annual trade surplus averaging \$5.4 billion, a statistic which evokes a sense of nostalgia in 1971. But from 1964 on, the widely discussed inflationary pressures in the United States, together with increasingly effective production capabilities in other industrial countries, brought a swift deterioration in our trade account. Of course, we also had the burden of large foreign military

expenditures. Increasingly tight controls over capital outflows, however, probably helped somewhat to reduce the overall payments deficit, and the United States also benefited from a larger inflow of foreign long-term capital.

As late as a year ago, we had some confidence -- or at least hope -- that our balance-of-payments problems could be dealt with through the orthodox approach of reducing excess demand and thereby improving our international price competitiveness. The results for 1970 and early 1971 ended this hope. Although the recession of 1970 combined with considerable inflation abroad to produce a modest current account gain, the lessening of monetary restraint called for by domestic considerations caused a large reflow of previous capital inflows, and the overall accounts showed a \$9.8 billion deficit in that year. (See Table 1 attached.) Thus far in 1971, particularly since the first quarter, the trade account has deteriorated -- despite the continuing lack of excess demand in the United States -- and continuing large capital outflows made the situation intolerable by summer. Clearly we could not expect to recover through demand management the losses in competitiveness that had accumulated in the 1960's. Our absolute levels of costs and prices were too far above those of our competitors.

Once this situation became clear, it led to the conclusion that the set of exchange rates facing the United States was no longer viable. The appreciation of the Canadian dollar after May, 1970, certainly helped. Unfortunately, to correct the deficit in the American balance-of-payments will require more pervasive adjustment, and we have had to move to encourage exchange rate changes for other surplus countries. The extent to which inflation continues in the United States -- despite unemployment -- as well as in the economies of many of our major trading partners, makes it difficult to foresee success for the orthodox adjustment mechanism for anything but rather modest imbalances. It certainly was not successful for the United States. And I know that those responsible for economic policy in this country tried, however imperfectly, to make it work until the domestic output and employment implications of its use became unacceptable.

#### *Recent Trends in the Canadian Balance-of-Payments*

The Canadian payments situation since the mid - 1960s has been considerably happier. The Canadian current account went from deficits of about \$1 billion in 1965 and 1966 to a surplus of \$1.2

**TABLE 1**  
**UNITED STATES BALANCE OF PAYMENTS**  
**(U.S. \$ MILLIONS)**

	1964	1965	1966	1967	1968	1969	1970	First Half 1971 <sup>1/</sup>
1. Trade	+6,831	+4,942	+3,927	+3,859	+ 624	+ 660	+ 2,110	- 771
2. Services	- 985	- 647	- 1,517	- 1,720	- 1,010	- 1,559	- 1,666	+ 284
3. Current account (1+2)	+5,846	+4,295	+2,410	+2,139	- 386	- 899	+ 443	- 487
4. Long-term capital	- 5,818	- 6,109	- 4,024	- 5,335	- 963	- 1,980	- 3,482	- 3,960
5. Current account plus long-term capital (3+4)	+ 28	- 1,814	- 1,614	- 3,196	- 1,349	- 2,879	- 3,038	- 4,447
6. Short-term capital <sup>2/</sup>	- 1,562	+ 525	+1,833	- 222	+2,990	+5,581	- 6,782	- 6,797
7. Total capital (4+6)	- 7,380	- 5,584	- 2,191	- 5,557	+2,027	+3,601	- 10,264	- 10,757
8. Official settlements balance (3+6)	- 1,534	- 1,289	+ 219	- 3,418	+1,641	+2,702	- 9,821	- 11,244

<sup>1/</sup> Seasonally adjusted.

<sup>2/</sup> Including errors and omissions.

Source: U.S. Department of Commerce, *Survey of Current Business*.

**TABLE 2**  
**CANADIAN BALANCE OF PAYMENTS**  
**(U.S. \$ MILLIONS)**

	1964	1965	1966	1967	1968	1969	1970	1971 -I.Q.
1. Trade	+ 650	+ 109	+ 208	+ 525	+1,276	+ 799	+2,876	+ 730 <sup>1/</sup>
2. Services	- 1,043	- 1,157	- 1,286	- 988	- 1,375	- 1,497	- 1,633	- 381 <sup>1/</sup>
3. Current account (1+2)	- 393	- 1,048	- 1,078	- 463	- 99	- 698	+1,242	+ 349 <sup>1/</sup>
4. Long-term capital	+ 760	+ 801	+1,083	+1,256	+1,535	+2,097	+ 780	+ 268 <sup>2/</sup>
5. Current account plus long-term capital (3+4)	+ 367	- 247	+ 5	+ 793	+1,436	+1,399	+2,022	
6. Short-term capital <sup>3/</sup>	- 31	+ 394	- 338	- 775	- 1,112	- 1,338	- 557	- 361
7. Total capital (4+6)	+ 730	+1,195	+ 745	+ 481	+ 423	+ 758	+ 223	- 94
8. Official settlements balance (3+7)	+ 337	+ 147	- 333	+ 18	+ 324	+ 60	+1,466	+ 48 <sup>4/</sup>
MEMORANDUM								
Average exchange rate (U.S. cents per Canadian \$)	92.7	92.7	92.8	92.7	92.8	92.9	95.8	99.5

<sup>1/</sup> Seasonally adjusted. The comparable first quarter 1970 results were: trade +691 m, services -385 m, and total current account +306 m.

<sup>2/</sup> The capital account and reserve changes are not seasonally adjusted. Hence, those accounts do not balance for the first quarter.

<sup>3/</sup> Including errors and omissions.

<sup>4/</sup> Excludes SDR allocation.

Source: Statistics Canada

billion in 1970, and it has been doing approximately as well thus far in 1971. (See Table 2.) Despite the improving current account, Canada continued to import large and increasing amounts of long-term capital through 1969. However, this inflow has declined since then -- in part because of government policy designed for this purpose and thus to restrain upward pressure on the exchange rate. From 1965 to 1969, rapidly increasing outflows of short-term capital maintained approximate equilibrium in the overall balance-of-payments, and these flows probably masked an increasingly undervalued Canadian dollar. Canadian reserves were relatively stable in 1967 and 1969 and rose sharply only in 1968.

In 1970, the emerging Canadian surplus -- with its implication of an undervalued Canadian dollar -- became far more apparent. Partly in response to this situation, on June 1 last year Canada returned to the floating exchange rate system of the 1950's. The extent of the basic shift in Canada's balance-of-payments has been indicated quite directly by the market's appreciation of the Canadian dollar from 92½ U.S. cents to 98½ cents since June 1970. The fact that the Canadian current account remained in surplus despite this appreciation is even more striking. The Canadian recession of that period was only slightly deeper than that in the United States, so Canada's cyclical situation probably provided only a limited source of upward pressure on the current account and the exchange rate. In my own mind, this outcome raises some fundamental questions about Canada's historic role as a sizable recipient of net capital inflows. As we know, these inflows have been used to finance current account deficits which were viewed as a necessary source of real resources for Canada's development. I will return to this issue in a few minutes. But before doing so, we should make a brief review of the Canadian-American bilateral balance-of-payments.

#### *Canadian-American Balance-of-Payments in Perspective*

One has to begin a discussion of this topic by asking why we ought to be interested in bilateral payments patterns between Canada and the United States. There are two reasons for our continued interest in this subject. The first is historical. Obviously the worsening U.S. payments position with Canada had something to do with the overall U.S. payments problem which led to the measures adopted in August. Second, in looking ahead, we cannot assume that the exchange rate system which will grow out of the current negotiations will necessarily solve all of the U.S. or Canadian payments problems.

Hence we must retain a continuing interest in recent bilateral payments patterns as a guide to potential problems.

Canada has enjoyed an amazingly consistent record of improving trade and current account balances with the United States since the mid-1960's. As shown in Table 3, Canada's trade account with the United States showed a deficit of \$965 million in 1965. The balances improved in each of the following five years to reach a surplus of \$1.1 billion in 1970. Canada's current account began its year-by-year improvement in 1966, rising from a deficit of \$2.0 billion in that year to only \$59 million in 1970. Both the size of the improvement in Canada's position (or the worsening of the U.S. position) and the consistency of the pattern over a five-year period are impressive -- or quite discouraging, depending upon one's point of view.

Despite this improvement in Canada's current account with the United States, Canada continued to raise large amounts of long-term capital in our market through 1969. This flow declined in 1970, and apparently so far this year it has been further reduced. Short-term capital flowed from Canada to the United States in increasing amounts between 1965 and 1968. This was partly due to policies aimed at fulfilling the requirements of the Canadian-U.S. reserve agreement of 1963. Following the modification of that agreement in December 1968, the Canadian outflow was reduced sharply in 1969 and 1970.

Canada's overall payments balance<sup>2</sup> with the United States improved greatly in the last half of the 1960's, rising from a deficit of \$1.5 billion in 1965 to a surplus of \$626 million in 1970. This was accomplished in a consistent pattern of year-by-year improvements. The approximately \$2 billion swing in the bilateral account against the United States in a five-year period represented an important part of our generally unfavorable payments experience. Thus, it undoubtedly contributed to the deterioration in the U.S. international position which made the mid-August measures inescapable.

From the U.S. point of view, I should note that about 83 percent of the improvement in Canada's trade balance in the last half of the 1960's was in trade with the United States. Since about 70 percent of Canada's trade is typically with the United States, this does suggest a relative concentration of Canada's gains in trade with the United States. The largest proportion of this improvement resulted from the effects of the 1965 automotive agreement -- which have been variously estimated at between \$1 billion and \$1.5 billion. In

<sup>2</sup>That is, current and capital account combined, excluding official monetary flows.



**TABLE 3**  
**CANADIAN BALANCE OF PAYMENTS WITH U.S.**  
**(U.S. \$ MILLIONS)**

	1964	1965	1966	1967	1968	1969	1970	1971-I.Q.
1. Trade	- 749	- 965	- 922	- 527	+ 231	+ 341	+1,094	+ 306 <sup>1/</sup>
2. Services	- 901	- 959	- 1,080	- 821	- 1,086	- 1,122	- 1,153	- 429 <sup>1/</sup>
3. Current account (1+2)	- 1,650	- 1,924	- 2,002	- 1,348	- 855	- 781	- 59	- 122 <sup>1/</sup>
4. Long-term capital	+ 939	+1,024	+1,236	+1,153	+1,052	+1,491	+ 918	n.a.
5. Current account plus long-term capital (3+4)	- 711	- 900	- 766	- 195	+ 197	+ 710	+ 859	
6. Short-term capital	+ 578	- 619	- 394	- 878	- 1,179	- 502	- 233	n.a.
7. Total capital (4+6)	+1,517	+ 405	+ 842	+ 275	- 126	+ 989	+ 685	n.a.
8. Overall balance (3+7)	- 133	- 1,519	- 1,160	- 1,073	- 981	+ 208	+ 626	n.a.
MEMORANDUM								
Average exchange rate (U.S. cents per Canadian \$)	92.7	92.7	92.8	92.7	92.8	92.9	95.8	99.5

<sup>1/</sup> Seasonally adjusted. The comparable first quarter 1970 results were: trade +163 m, services -\$414 m, current account -\$251 m.  
Source: Statistics Canada

my opinion, that agreement certainly turned out to be something less than an unmixed blessing for the United States. But, since we agreed to it, we can hardly complain (at least not very loudly) about the consequences. On the other hand, I think it is appropriate to wonder whether Canada now feels able to live without the transitional arrangements. At a distance, one might expect that any resulting loss of automotive exports would produce a somewhat lower exchange rate -- which in turn would improve prospects for other Canadian export industries.

In looking at Canadian trade performance from a U.S. point of view, two important points should be made. First, there is no evidence of Canadian discrimination against the United States of the type sometimes alleged for Japan and Europe. Second, statistics which have become available since a year ago indicate a reversal of the trend toward a worsening of Canada's trade position with the rest of the world. This trend, which appeared particularly in the 1969 data, was sharply reversed in 1970 when Canada's trade balance with the rest of the world improved by about \$1.3 billion. The United States may not be happy about our trade developments relative to Canada, but we cannot argue that Canada has arranged her trade policies to discriminate against the United States or to ignore export opportunities in the rest of the world.

This conclusion obviously leads to the question of the U.S. 10 percent surcharge and its application to Canada. We are sensitive to the implications of this move for Canadian exports in general and for some Canadian industries in particular. We have not reversed our fundamental orientation toward free trade. I can assure you that we are not happy with the necessity of adopting such an unpleasant, if temporary, posture with respect to our payments problems. While we do not enjoy asking Canada to be patient, we do hope that the seriousness of our payments problems will be appreciated.<sup>3</sup>

The seriousness of the surcharge for Canada, however, should not be overestimated. It is calculated that about 25 percent of Canada's \$11 billion of exports to this country is affected by the surcharge. This means that an even smaller percentage of Canada's total exports (perhaps one-sixth) is affected. In addition, the fact that Canada is now on a floating exchange rate means that any significant decline in exports of dutiable goods probably will be largely offset by the effects of the resulting depreciation of the Canadian dollar on other

<sup>3</sup>It is worth noting in passing that Canada applied a similar surcharge in the midst of payments difficulties in 1962, and the United States was not exempted.

export and import competing industries. That view, of course, looks at Canada as a whole. I realize that the primary difficulty in the surcharge for Canada is its impact on particular areas: it hurts certain narrow sectors of the economy and regions of the country, although its net effect on the economy as a whole may be quite limited. We can certainly understand Canada's concern over these industries and regions. Yet, I think it is also helpful to emphasize that the surcharge is not quite the general disaster for Canada that some press reports have suggested.

*Lessons of the Recent Canadian Balance-of-Payments Experience*

As indicated above, one of the issues concerning Canada's payments experience which I raised a year ago, and which is even more relevant now, is the question of Canada's continuing need for net capital inflows and hence for heavy use of the New York capital market. Many Canadians have long held the view that the country's potential saving was so low relative to the need for capital that it could not possibly develop without large amounts of foreign capital, and hence without free access to the New York capital market. This argument was quite compelling when Canada had a small population and much lower levels of per capita income. However, after a decade of vigorous economic growth, it is not quite so convincing today.

Canada's large current account surplus in 1970 meant that Canada was actually a net exporter of capital in that year, counting reserve accumulation as a capital export. The same results thus far in 1971, in the face of the appreciation of the Canadian dollar, suggest that Canada may well become *fundamentally* an exporter of capital to the rest of the world. Although this is admittedly a long view, and the implied payments pattern may not develop after world exchange markets settle, it does seem fairly unlikely that -- in the near future and even at relatively full employment -- Canada will again run a sizable current account deficit which would require financing through long-term capital inflows. The effect of the automotive agreement and the rapid growth of Canada's oil and gas exports have fundamentally changed Canada's payments situation to a degree which has not been generally recognized. In my opinion, continued failure to recognize this change might lead to seriously incorrect prescriptions for Canadian balance-of-payments policies.

The trend of long-term capital inflows into Canada can be traced in data published by the Bank of Canada. In 1965, net new Canadian issues amounted to Can. \$2.5 billion in all currencies, of which Can.

**TABLE 4**  
**CANADA: NET NEW BOND ISSUES**  
**(PAR VALUES, IN CANADIAN \$ MILLIONS)**

	Total	Canadian \$	Payable in	
			U.S. \$	Other non-Canadian Currencies
1965	2.3	1.6	0.7	---
1966	3.4	2.4	1.0	---
1967	4.1	3.3	0.7	0.1
1968	4.3	2.9	1.0	0.4
1969	3.5	2.0	0.9	0.6
1970	5.0	4.4	0.6	---
1970, Jan.-June	1.3	0.9	0.4	---
1971, Jan.-June	2.8	2.6	0.2	---

Source: Bank of Canada, Statistical Summary, August 1971.

\$2.3 billion were bonds. (Table 4.) Bonds issued in Canada accounted for Can. \$1.6 billion (or about 70 percent of total bonds). Just over one-quarter (30 percent) of all bonds sold was denominated in foreign currencies -- all of which was in U.S. dollars. By 1969, total bond flotations had climbed to Can. \$3.5 billion, of which Can. \$0.9 billion (or 26 percent) were payable in United States dollars. In 1970, total bond sales rose further to Can. \$5.0 billion, but sales in foreign currencies dropped noticeably -- to only Can. \$600 million (about 18 percent), all in U.S. dollars.

More recently, in trying to reduce upward pressure on the exchange rate, the Canadian Government has requested that Canadian borrowers avoid raising funds in foreign markets and instead borrow at home. The result has been a sharp decline in Canadian bond flotations in New York and other foreign markets. In the first six months of 1971, total flotations of Canadian bonds were \$2.8 billion, compared to \$1.3 billion in the same period of 1970. Of the 1971 volume, only \$0.2 billion (about 7 percent) was raised abroad -- all of which was in U.S. dollars. In contrast, in the first half of 1970, flotations denominated in U.S. dollars amounted to \$0.4 billion, representing 31 percent of the total.

It should be noted that the sharp improvement in Canada's current account in recent years of necessity implies an increase in Canadian savings relative to domestic investment. In 1970, this was in part the result of the recession, which restrained the normal growth of capital equipment expenditures. At the same time, however, Canadian personal savings grew by \$541 million in 1970 while personal disposable income rose by only \$3,038 million. This represents a marginal propensity to save of 18 percent. This hardly sounds like an economy in which savings are not growing rapidly enough to finance normal development. On the other hand, it should be noted that the increased savings were not helpful to a recessionary economy, which would have benefited from more consumer demand.

Although Canada may no longer need sizable net inflows of capital to finance current account deficits, the question remains of the role of New York as a financial intermediary between Canadian borrowers and lenders. Ideally, Canadian financial markets would intermediate between the apparently different liquidity and safety needs of Canadian savers and investors, and this may be occurring to an increasing degree. The request by the Canadian Government that borrowers stay away from New York has forced an increasing amount of long-term financing into the Canadian markets. This has probably resulted in these markets growing and broadening more rapidly than they otherwise would have. About \$2.6 billion of new bonds were sold in the Canadian markets in the first six months of 1971, compared to \$0.9 billion in the same period of 1970, and \$0.5 billion in 1969. From the U.S. point of view, this is a desirable development. Whatever the international payments system of the future, we are likely to be more comfortable about our payments situation if the pattern of short-term capital flows from -- and long-term capital flows to -- Canada is reduced in importance.

The final question which I would like to explore against the background of recent Canadian experience relates to the automotive agreement. If the new international monetary arrangements do assign a more important role to exchange rate changes as an adjustment tool, special trade arrangements such as that agreement may not necessarily be ideal for the country gaining relatively more exports. When such arrangements shift the trade balance significantly in the direction of one country, the effect must ultimately be an appreciation of that country's currency and potential injury to its other export and import competing industries. One might ask whether Canada would have been forced to float its exchange rate in 1970 if

the automotive pact had been designed to leave the overall balance of trade largely unaffected. Again, at a distance, it appears that a sizable share of the adjustment problems now facing the Canadian economy as a result of the 6½ percent appreciation of the Canadian dollar might be traced to the trade balance effects of the automotive agreement. This suggests that it might be better not to design future free trade arrangements between Canada and the United States with the aim of affecting the trade balance. This should leave the exchange rate and the interests of other industries relatively unaffected.

*Lessons of the Recent U. S. Balance-of-Payments Experience*

As far as the United States is concerned, there are a number of lessons to be drawn from its unhappy payments experience of the last few years. The most obvious of these is the danger of allowing inflationary trends to go unchecked and to become entrenched in the form of expectations. Once the excess demand pressures of 1965-68 had gone on for a year or so, large corporations and labor unions began to act on the basis of a shared expectation of further inflation. Consequently, collective bargaining agreements increasingly failed to reflect accurately labor market conditions. When fiscal and monetary restraint was finally applied, this set of expectations was not broken. This had the effect of greatly worsening the trade-off between unemployment and inflation with which national policy had to cope. Our inability to reduce significantly -- and quickly -- the rate of wage and price inflation -- and to do so without unacceptable levels of unemployment -- had a great deal to do with the deterioration of our payments situation in 1970-71. We have some hope that the wage and price freeze of August 15 and the measures which are to follow it will finally break the inflationary expectations which have plagued us.

Although the United States will undoubtedly remain a net exporter of capital in the years ahead, another lesson of recent years is that unrestrained capital outflows can put enormous pressure on our payments situation when our competitive situation is not strong enough to produce the offsetting current account surpluses. The same conclusion obviously holds for military expenditures abroad. Although the various restrictions which we have applied to capital flows (including the Interest Equalization Tax, the Voluntary Foreign Credit Restraint Program, the Foreign Direct Investment Regulation, etc.) helped to restrain our deficits, they were not sufficient to offset

the effects of increasingly inappropriate exchange rates. Thus, as many observers foresaw, it became increasingly necessary to consider measures of the variety adopted on August 15.

Finally, I would like to mention a view of the U.S. payments situation which has recently received some attention. It has been said that we ought to take an entirely passive approach to the problem and allow the surplus countries to adjust their own positions. The problem with this passive approach is that surplus countries other than Canada have been very hesitant to act. The result has been that decisions have been made only in periods of serious crisis. This hardly encourages well thought-out permanent solutions. Instead, it produces an *ad hoc* patchwork that may provide only temporary assistance. Too often inaction by governments in the face of serious imbalances has encouraged normally stabilizing short-term capital movements to become destabilizing and to generate pressures which eventually threaten to produce a monetary crisis. In far too many cases it is only then that the governments have acted.

It is clear that the United States has to be involved in -- and take considerable responsibility for -- the adjustment mechanism, hopefully to reduce the tendency of the system to drift from crisis to crisis.

#### *Concluding Observations*

Before closing, I want to reemphasize my awareness of the need -- ultimately -- to look at Canadian-U.S. balance-of-payments relations in a much broader context. While our bilateral relations are important, the crucial trade and payments issues between our two countries eventually merge into the problems currently facing the international payments system as a whole.

In my opinion, the most pressing need at the moment is for a much better understanding among the major industrial nations with respect to the fundamental goals of the payments system, and better coordination of national goals in the areas of international trade, investment, and aid. I certainly would not want to play down attempts to negotiate new exchange rates or to promote institutional changes. But I would not be optimistic about the long-run viability of such arrangements unless there is a broad consensus on goals. It is not obvious that such a consensus exists at this time.

On the record, it is clear that a basic goal of the United States with respect to the current efforts at reform is to assure that the payments system which emerges is not based on the prospect of a continuing

and sizable U.S. payments deficit. This objective should also be one of the fundamental goals of our trading partners. It means that, as a group, those countries with sizable trade surpluses cannot have as their goal for the payments system a continuation of such surpluses. I realize that the reduction or elimination of a long-standing payments surplus involves complex and difficult adjustments within an economy. Yet, one of the clearest lessons of the last year or so is the impossibility of a continuing structural imbalance in the world's payments system. In my opinion, surplus as well as deficit countries must face the domestic adjustment problems involved in returning the system to equilibrium.

Even when a compatible set of goals is worked out by the major industrial countries, we will still have only a limited ability to forecast payments trends and consequently to make the necessary adjustments to reach our shared objectives. Obviously we need better forecasting techniques and better arrangements for making prompt adjustments when reasonable payments goals are not being attained. Future payments shifts must not be allowed to become entrenched imbalances as has too often occurred in the past.

The current uncertainty in the payments mechanism and some features of the U. S. response to its problems are undoubtedly disturbing to Canada and to our other major trading partners. Nevertheless, the present period also provides opportunities as well as problems. We have the opportunity to improve fundamentally the payments system with which we have lived for a quarter of a century -- and which has served us well during most of those years. Now we have a chance to make reforms which will end -- or at least greatly ease -- many of the problems which have plagued us in recent years. I certainly hope that the current impasse will not either produce basic divisions among the industrialized countries or foster hurried arrangements aimed at a return to normalcy -- without acceptance of the need for basic reform. If we are successful in this course and finally do produce fundamental improvements in the payments system, the inconveniences and costs to Canada -- and to other countries -- of the current situation will be far outweighed by the benefits of increased international trade and investment.



## DISCUSSION

RONALD I. McKINNON

Not knowing when a copy of Governor Brimmer's September 1971 paper on Canadian-American relations would arrive, I spent some time perusing his 1970 paper which he gave in Montreal almost exactly a year ago. I understand the paper created a furor by suggesting that Canada might reduce its trade surplus with the United States and also limit flotations of Canadian bonds in New York. Apparently the advice was heeded. New flotations of Canadian bonds in American dollars have fallen off rather sharply in the past year at the behest of the Canadian government. The effect of the appreciation in the Canadian exchange rate of June 1970 may still cause a significant change in the Canadian trade balance. The evidence isn't yet in. Nevertheless, Canada did make these two major moves to reduce its balance-of-payments surplus in line with official American desires.

Governor Brimmer notes approvingly this change in Canadian policy in his paper of September 1971. Notwithstanding, the American government imposed the surcharge on Canadian imports despite these fairly strenuous efforts by Canada to maintain balanced international accounts. It may well be that Canada is the unintended victim of American economic policy oriented toward Europe and Japan, but such indirection in American policy is no less unfair or severe for certain segments of the Canadian economy where unemployment is significantly higher than it is in this country.

Governor Brimmer's principal economic hypothesis is that the Canadian balance of payments may have undergone a structural change over the past six or seven years. The current account deficit has disappeared because the surplus in the balance of trade is now sufficient to pay for the return flow of interest and dividends on

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American investments in Canada. Consequently, there is a greatly reduced need for Canada to float long-term bonds in the New York money market on a net basis.

To use the jargon of international trade, Canada has changed from being an immature debtor which is still absorbing foreign capital net, to being a mature debtor which is paying the service costs on past investments without the aid of new capital inflows. I agree that Governor Brimmer's mature-debtor hypothesis may now hold for Canada and would like to spell out the reciprocal implications for the United States. If Canada is to behave as a mature debtor, so should the United States behave as a mature creditor.

American policy makers have the unfortunate habit of switching their focus of concern in the balance of payments to whichever accounting measure of the deficit looks the worst. In the late 1950s and early 1960s, the "liquidity" deficit was the main preoccupation of policy makers and their concern spawned the restrictions on capital outflows which have driven financial and banking business away from New York to the Eurodollar market centered in London.<sup>1</sup> The fact that the United States was enjoying rather large trade balance surpluses at that time – say over \$6.8 billion in 1964 – was glossed over and not allowed to shift official attention away from the liquidity deficit. *Now* there is a surprisingly nostalgic tendency to look back favorably on the large trade balance surpluses of the early 1960s and to view the current rise in American imports relative to exports with excessive alarm. In his 1970 paper, Governor Brimmer suggested that \$5 billion may be the desired "sustainable" size of the American trade balance surplus over the long run.

In view of the tough bargaining stance being taken by American negotiators regarding appreciation in foreign currencies, it would seem that the administration now has an inappropriate and unrealistic target of \$5 or \$6 billion for its trade balance surplus, much like its earlier unfortunate appraisal of the desirability of eliminating the liquidity deficit. The consequence is likely to be deleterious for worldwide commodity trade – with the very real danger of a trade war to the ultimate disadvantage of the United States and much greater disadvantage of her trading partners.

A mature creditor country is one that accepts a decline in its trade balance as the natural consequence of the return flow of interest and

<sup>1</sup>I notice that the latest revision of B of P accounting by David Devlin of the Department of Commerce in June 1971, *Survey of Current Business*, relegated the old liquidity definition to a minor role.

dividends on past investments, coupled with some net liquidation of these investments as capital scarcity abroad is reduced. Given the large and growing current earnings on overseas American investments, it is now really unthinkable to go back to a trade balance surplus as large as those of the early 1960s. To do so is to foreclose the opportunities for countries like Canada to repay their past debts without incurring new ones. In short, an overall American trade surplus of the order of \$1 or \$2 billion is more consistent with the structural changes that have occurred in the balance of payments, as described by Governor Brimmer, than is a trade surplus of \$5 or \$6 billion. Even this target of \$1 or \$2 billion trade surplus could, optimally, be reduced in the future, depending on whether or not the return flow of interest and dividends increases. With countries like Canada which are particularly heavily indebted, the United States should be prepared to accept a bilateral American deficit in commodity trade with equanimity.

What does the acceptance of the role of mature creditor imply for current American policy toward exchange rates and the import surcharge? Although difficult to assess, there does seem to be a cyclical imbalance in the American trade accounts due to domestic inflation. However, fairly modest correction in exchange rates with movements of 10 percent or less in the yen, franc, and the currencies of other smaller countries seems sufficient to balance their price levels with those in the United States, whereas countries like Germany and Canada would seem to have already appreciated sufficiently.<sup>2</sup> Such relatively modest discrete changes in the present, coupled with the provision for more continuous gradual appreciation in high growth countries in the future, should be sufficient to induce the United States to remove its import surcharge. It is all too easy to overestimate the amount of exchange-rate adjustment that is really needed. Canada has had significant experience with over-reacting to foreign imbalances with three fairly large discrete adjustments — appreciation, depreciation, and appreciation — in the later 1940s and early 1950s.

However, the government of the United States may have decided not to play “mature” creditor, but rather to play “mercantilist” instead. In which case large exchange rate changes — of the order of 15 percent — would be required to restore the large trade-balance

<sup>2</sup>A statistical analysis of recent price level movements, which is the basis for these assertions, can be found in R. McKinnon, “Monetary Theory and Controlled Flexibility in the Foreign Exchanges,” *Princeton Essays in International Finance*, No. 84, 1971.

surpluses of the 1960s. This neo-mercantilism seems to ignore the structural changes in international payments which were the focus of Governor Brimmer's paper. I am afraid other important trading countries – many of whom are potentially *mature* debtors – cannot accept a more or less permanent deficit in their current account balances. Paradoxically, this outbreak of neo-mercantilism in the United States could well imperil the safety of the huge extant American investments overseas, and even those on this continent. With the import surcharge, the President's newly revised proposals for textile quotas of a day or two ago, and other tax measures biased against foreigners, American mercantilism would already seem to have significantly damaged the liberal trading environment of the postwar period – and Canada is more dependent on liberal trading arrangements than is the United States.

## DISCUSSION

JOHN F. HELLIWELL

Governor Brimmer's stimulating paper is divided roughly into halves, the first assessing recent history, and the second drawing lessons from that history. The first half has three sections, the first two dealing with recent trends in the U.S. and Canadian balance of payments, and the third viewing the bilateral balance in perspective. The second half also has three sections, drawing lessons alternately from the Canadian and U.S. experiences, topped off with some concluding observations. My comments follow the same pattern, but I shall take most of the history as read, and concentrate more on the lessons to be drawn from it.

### *A. The History and Perspective*

#### *1. Recent Trends in the U. S. Balance of Payments*

Governor Brimmer's reaction to the recent U.S. balance-of-payments history has a slightly surprised air. He suggests that U.S. analysts had more hope than did most outside observers that the deflationary policies applied in recent years would have by now eliminated the U.S. balance-of-payments deficit. Observers who have not been surprised by the continuing deficit are not particularly prescient; they merely have a more healthy respect for the length of the lags in the price and wage adjustment processes. Given the length of these lags, earlier action would no doubt have been desirable; given that the policy responses were delayed, a greater willingness to ride through an extended period of deficits would have been desirable. I shall discuss later how I think policies could have been developed to make that ride reasonably comfortable.

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### *2. Recent Trends in the Canadian Balance of Payments*

In viewing the recent Canadian experience, Governor Brimmer is struck by the continuing Canadian current account surplus in the face of a 6 percent revaluation since June 1970. Governor Brimmer has attempted to interpret this evidence as heralding a new role for Canada as an exporter rather than an importer of capital. Some of us who have been playing with quantitative descriptions of trade relationships are more inclined to the explanation that trade flows respond with some lags to changes in relative prices, and that the full balance-of-payments consequences are achieved after even longer lags.

In order to get some idea of the size and time distribution of the effects of a revaluation of the Canadian dollar similar to that occurring after June 1970, we have run simulations using RDX2, a large (over 140 behavioural equations) quarterly model of the Canadian economy. In addition to possessing detailed policy response mechanisms, and many interactions between aggregate supply and demand, the model has almost 40 behavioural equations explaining international trade and capital flows, the majority of these equations relating to flows between Canada and the United States. Thus the model is an appropriate vehicle for simulating exchange rate changes. We ran the experiment by suppressing the endogenous determination of the exchange rate, and using as exogenous values 1.030 in 4Q63 (compared to the official peg value of 1.081 and the actual value of 1.079 in 4Q63) and 1.010 thereafter. The simulation was started in 4Q63, and ran until 4Q68 to allow the results to play themselves out over a full five years. The very tentative results quoted will compare the solution values for the revaluation run with those from a control solution run over the same period of history.

In the first quarter, the Canadian dollar value of goods and services exports to the United States drop by \$16 million, and imports drop by \$15 million. Thereafter the price effects start to take a stronger hold; so that over the first four quarters, current account trade of goods and services with the United States is \$39 million per quarter more in deficit under the revaluation. The average is only slightly higher, \$55 million, over the whole sample period, because the increasing price effects in the trade account are offset, during the middle of the simulation period, by reductions in real imports caused by the decline in domestic activity and prices. The Consumer Price Index (Base 1961=100) is 1.5 points lower on average, and 2.6 points lower by the end of the simulation period. The unemployment rate is higher by an average of .2 percent over the five year period, and the

main business quarterly wage rate is about 2.2 percent lower by the end of the period. Some built-in policy responses came into play, increasing Federal government employment and decreasing interest rates as prices and employment sag. The net effect of all the changes in employment, prices, personal taxes and transfer payments is that aggregate real disposable wage income is slightly higher, after five years of revaluation, than in the control solution.

As for the overall balance-of-payments effects, it is notable that the declines in Canadian demands for investment funds, and decreases in the cost of capital, lead to large induced changes in capital flows. The balance on trade and long-term capital account between Canada and the United States shows an average deficit of \$47 million/quarter for the first four quarters (compared to an average of \$39 million for the trade account alone), but a much larger average of \$110 million/quarter for the whole five year period (compared to \$55 million for the trade account alone). This becomes \$148 million/quarter if we look at the balance of trade and long-term capital accounts between Canada and all countries. The corresponding average change for the first four quarters is \$75 million. It should be noted that the drop in capital inflows is itself responsible for a subsequent decline in the deficit on current account, because the model explains the links between capital account flows and the subsequent debt service payments.

The results I have quoted are not strictly applicable to the 1970 revaluation, principally because we are now dealing with a larger economy and smaller dollars. Nevertheless, they do indicate that we should not be surprised if the effect of the 1970 revaluation on the Canada-U.S. long-term bilateral balance totalled no more than \$200 million (on an annual basis) by the middle of 1971.

### 3. *Canadian-American Balance of Payments in Perspective*

In this section, Governor Brimmer is concerned chiefly with two topical issues – the auto pact and the effects on Canada of the U.S. measures of August 15th.

When assessing the trade effects of the auto pact, Governor Brimmer, like most other observers, measures only the change in the flows of vehicles and parts. A more thorough investigation of the trade effects of the pact would include an assessment of Canadian imports of machinery, as well as the dividends and unremitted profits of Canadian subsidiaries of U.S. auto firms. Governor Brimmer goes on to question the role of the transitional arrangements under the auto pact. The more important of these arrangements apply to the division of production between the countries and to restrictions on

the freedom of Canadian individuals to import cars duty-free from the United States. It might be argued that some guarantees about the maintained minimum levels of production in Canada may be a necessary feature of an agreement involving an industry in which the entire North American production is concentrated in the hands of three U.S.-controlled firms. However, that issue is not relevant at the present time, because the Canadian share has far exceeded the guaranteed minimum. I agree with Governor Brimmer that the other feature of the transitional arrangements is unnecessary and inefficient. If Canadians had free access to U.S.-made cars, the most striking consequences would probably be a reduction in the price of Canadian-made cars and some reduction in the profits of the Canadian subsidiaries of the U.S. car firms. Consumers and governments in the two countries have little to gain from this aspect of the pact since it merely permits the firms to undertake a profitable exercise in discriminating monopoly. It is not clear, however, that the removal of this transitional provision would shift much production from Canada to the United States, but it would reduce the profits and consequential dividends flowing from Canadian subsidiaries to U.S. parents.

In dealing with the effects of the August 15th measures, Governor Brimmer first notes that there is no evidence of Canadian discrimination against the United States of the type sometimes alleged for Japan and Europe. Nor is there any recent evidence to support his suggestion of a year ago that Canada has arranged her trade policies at the expense of the United States and in favour of the rest of the world. Why then apply the surcharge to Canada? The only argument stated by Governor Brimmer is of the “you did it to us” sort – because Canada applied a similar surcharge to the United States, amongst other countries, in 1962. However weak the rationale for the Canadian policies may have been, this is not a strong parallel to draw. In 1962 Canada was fending off a speculative attack in an attempt to hold a fixed rate relative to all countries. In the present circumstances, the U.S. policy is intended to be a temporary spur to force others to liberalize their trade and capital flow policies, and to realign their exchange rates. To my mind, it is bad politics to apply such measures equally to all countries, including those with flexible exchange rates and trade policies more liberal than those of the United States herself. The lesson for countries not presently offending seems clear—if you are to be treated as an offender when you are not, then you might as well offend to pick up any benefits going and to acquire a position from which to bargain. Beyond their



particularly unsatisfactory stance in relation to Canada, the August measures seem a rather sloppy as well as dangerous exercise in international bargaining. Since particular targets have not been set for countries involved, or for groups of countries, in terms of either exchange rates or the removal of trade restrictions, no one knows what has to be done in order to get the surcharge removed. Thus, there is no effective and realistic incentive for trade liberalization. More on this later.

The second reason why the surcharge may be applied equally to Canada and to other countries is unstated by Governor Brimmer but is stated in GATT. That treaty is more offended by trade restrictions that discriminate between countries than by those applying to all countries equally. Since the surcharge is not easily applied as a delicate instrument of persuasion on particular countries, it seems an unsuitable tool in the current circumstances. In addition, the use of a trade restriction for the supposed purpose of achieving trade liberalization invites a cynical smile.

Governor Brimmer's final comment on the application of the surcharge to Canada is that it only applies to about one-sixth of total Canadian trade, and the exchange rate will presumably float to help the adjustment process. But given the costs and lags in this adjustment process, it is surely not in anyone's best interest to shift resources from a surcharged to an unsurcharged industry in response to a temporary surcharge.

## *B. Lessons and Conclusions*

### *1. Lessons of the Recent Canadian Balance-of-Payments Experience*

Governor Brimmer's first lesson is that if Canada is likely to move into a position of capital account balance or deficit, then it is appropriate that Canadian financial markets should intermediate so that Canadian borrowings in the New York market can be reduced. This reiterates a similar suggestion he made in his paper a year ago, that if Canada's capital markets were well developed, Canada would not be lending short and borrowing long, vis-a-vis the United States. In a world of flexible or uncertain exchange rates, it would be very surprising if a net balance on capital account also meant that gross flows would be zero. When account is taken of exchange rate variance and the resulting desires of traders and others to match currencies in which their rates and payments are due, it is quite natural that firms in one country should wish to issue bonds in the currency of another country. Unless the U.S. bond market is

strikingly less efficient than the European market for U.S. dollar bonds, it is likely that continuing use of the New York market by Canadian firms will be desirable. As U.S. interest rates come to be more in line with world rates, in the hoped for world of freer capital movements, it may also be feasible for U.S. firms to raise money in Canadian bond markets. From Operation Twist on, the various U.S. policies designed to insulate U.S. long rates from world rates have been doomed by the increasing integration of world capital markets. The history of the last decade, in which the United States has been lending long and borrowing short, is evidence more of the distortions caused by the Interest Equalization Tax and other U.S. balance-of-payments policies than of inefficiencies in private capital markets.

There are no doubt many inefficiencies in the Canadian capital market and the removal of some might help to reduce U.S. long-term capital flows to Canada. For example, the large tax concessions to the extractive industries, mainly controlled by foreign firms, lead to over-investment in those industries, adding to the incentive for U.S. firms to develop Canadian resources, and hence to add (at least temporarily) to the U.S. balance-of-payments deficit.

Governor Brimmer's second lesson, drawn from the auto pact, is that future bilateral trade arrangements would be better if they increased trade without altering its balance. This conclusion takes no account of the efficiency considerations which presumably underlie any advantageous free trade arrangement. Why should we constrain the reallocation so that production has the same country distribution as before the shift? Granted, any extensive shift will require a facilitating exchange rate adjustment, and consequent adjustments in other industries; and the deal should only be on if the long-term efficiency gains exceed the adjustment costs. It would be strange if the existing tariff structure in each industry had a zero net effect on the trade balance in related goods and services relative to the situation in the no-tariff world — indeed, any country establishing a tariff surplus hopes to improve its balance in the commodity concerned.

Both of Governor Brimmer's lessons involve restrictions on the extent to which economies should trade in goods and capital. As such, they seem inconsistent with the stated basic U.S. goal of establishing a system geared to increase international trade and investment. No doubt political considerations are likely to restrict the acceptable amount of economic interdependence, but we should make sure that any necessary restrictions are designed to achieve the political aims at the least cost in terms of foregone efficiency.

### 2. *Lessons of the Recent U.S. Experience*

The main lesson drawn here is that if inflationary trends become entrenched in expectations, then interest equalization taxes and related paraphernalia may help, but only Draconian measures of the August 15th variety would turn the tide. Here too I think that Governor Brimmer is unduly surprised by the lags in price and wage formation. Given that policy makers found themselves with a legacy of unemployment and inflation, why are measures of the August sort inevitable consequences? Governor Brimmer's argument against benign neglect is that surplus countries are generally very hesitant to act. Under this argument, the measures of August are only more rational than passivity if they cause other countries to adjust in a quicker and less painful way. I believe that if gold had been completely dethroned earlier, by cutting trading between central banks, and cutting any official support of private production, and if the IET and the balance-of-payments programmes were scrapped, then the U.S. authorities could safely have let other countries choose whether or not to accumulate liquid claims on the United States for a longer or shorter period prior to the inevitable revaluation of their own currencies. The kind of pressures created by the August measures are such as to make many countries more resistant to realignment of exchange rates. More importantly, they may render impossible any agreement on a more rational system of continuing adjustment.

### 3. *Concluding Observations*

Here Governor Brimmer emphasizes that the most pressing need at the moment is for a better agreement among industrial nations about the fundamental world payments mechanism. He states a basic goal of the United States with respect to reform efforts to be that any emerging payments system must not be based on a continuing U.S. payments deficit. This implies, he concludes, that countries with sizeable trade surpluses cannot have as their goal for the payments system continuation of such surpluses. Quite so. But in the light of these requirements it is disappointing that Governor Brimmer's paper throughout uses terminology that makes trade surpluses "good" and trade deficits "bad". Mercantilism lives on. Even more disappointing is the announced U.S. aim of achieving a \$13 billion balance-of-payments turnaround from deficit to surplus. Who is to be the deficit country? To conclude my comments I must note the major gap in the paper. The bright side of the present crisis is announced to be the opportunity to "improve fundamentally the payments system with which we have lived for a quarter of a century", but there is no

discussion about the features of the basic reforms that Governor Brimmer thinks necessary. Without firm statements of the purpose and nature of reform, there can be no progress to that end. In the meantime we are stuck with trade restrictions masquerading as tools to build a freer system.

## APPENDIX

*The following section was prepared by Professor Helliwell after the conclusion of the conference.*

### The Effects of Revaluation on Trade and Capital Flows between Canada and the United States

#### 1. Introduction

This note explains some of the assumptions and results of simulating the Canadian quarterly model<sup>1</sup> RDX2 for a five year period (4Q63-4Q68) of assumed revaluation of the Canadian dollar relative to the U.S. dollar (and all other currencies). During the historical period 2Q62-2Q70, the Canadian exchange rate (PFX), measured as the number of Canadian dollars required to purchase one U.S. dollar, had a par value of 1.081. The revaluation simulation was performed by suppressing the equations for net private and official demands for foreign exchange (which interact to determine the exchange rate), and setting the exchange rate equal to 1.03 in 4Q63 and 1.01 in each subsequent quarter. For the five years 1Q64-4Q68, the value of 1.01 represents a revaluation of the Canadian dollar of approximately 6.2 percent on the average actual value of the exchange rate during that period.

The lowering of the price of foreign exchange (PFX) has numerous direct and indirect effects on private decisions and public policies in Canada, the United States, and other countries. The simulations we have performed thus far involve only the Canadian model RDX2, so that domestic prices, expenditure, and public policies in countries other than Canada do not alter in response to the change in the value of the Canadian dollar.

Further experiments are underway in which RDX2 and the MPS model (formerly the FRB-MIT-Penn model) are solved simultaneously to depict the interactions between the two economies in

\* I am grateful to Fred Gorbet and Ian Stewart for collaboration in running the simulation described in this note, and to Jillian Broadbent for assistance in interpreting the results.

<sup>1</sup>The model is presented and explained in J.F. Helliwell, H.T. Shapiro, G.R. Sparks, I.A. Stewart, F.W. Gorbet, and D.R. Stephenson: *The Structure of RDX2*. Ottawa, 1971. (Bank of Canada Staff Research Studies, No. 7).

greater detail.<sup>2</sup> We expect that the full effects of revaluation on the Canadian economy will not be altered much by the inclusion of the U.S. model in the simulations. The situation is dramatically different, however, if we wish to determine the total effects of the U.S. August 15th measures on trade and capital flows between Canada and the United States. Many of the August measures have their primary points of impact within the U.S. economy rather than directly on the trade flows. Any realistic simulation of the total effects of the package therefore requires each of the major policy changes to be put into the U.S. model, or into the trade equations linking the two models, so that both direct and indirect trade and capital flow effects can be assessed by the combined solution of the pair of models.

In the meantime, we can use the Canadian model on its own to suggest some of the consequences of Canadian revaluation on the assumption that the trade effects are not large enough to trigger major changes in the U.S. economy.

The three remaining sections of this note discuss some of the relevant features of RDX2 (in section 2), the main characteristics of the results (in section 3), and how the results might be made more directly relevant to the revaluation of the Canadian dollar since May 1970 (in section 4).

## 2. *Some Effects of Revaluation in RDX2*

This brief discussion will be concentrated on those features of the model most important in the transmission of the effects of revaluation. The estimated equations of RDX2 are based on data samples ending in 4Q68 and starting usually in the mid-1950s.

### 2.1 *Trade Equations for Goods and Services*

There are five equations for movements of goods from the United States to Canada, all estimated in terms of 1961 Canadian dollars. The categories treated separately are crude materials, energy fuels, food and beverages, autos and parts, and all other. These categories were chosen in connection with Project LINK (concerned mainly with forecasts of multilateral trade flows), and provide a much more even split for U.S. imports than for Canadian imports. During the 1958-68 fitting period for the equations, the residual import category (mainly manufactures) comprised more than 60 percent of Canada's imports of goods from the United States. The equation for

<sup>2</sup>The main features of the links between the two models, and of the planned simulations, are described in J.F. Helliwell, H.T. Shapiro, G.R. Sparks, I. Stewart, and F.W. Gorbet: "Comprehensive Linkage of Large Models: Canada and the United States," Chapter 10 in R.J. Ball, ed. *International Linkage of National Econometric Models*, Amsterdam, North-Holland, forthcoming.

this large category treats imports as an input to the domestic productive process; the main explanatory variable is the product of a weighted average of domestic expenditure components, the ratio of the domestic output price to the price of imports, and the degree of domestic capacity utilization. There is an additional impact from Canadian investment in machinery and equipment. The equations for the imports of other categories are fairly similar. The weighted average of domestic expenditures (based on input/output information on the import content of final demand categories) differs in each equation, and the role of capacity utilization varies. The U.S. rate of capacity utilization enters directly only in the equation for crude materials. Northward flows of autos and parts are determined only by Canadian consumer expenditure on motor vehicles, variables reflecting U.S. auto strikes, and the increasing degree of integration brought about by the Canadian-U.S. auto pact.

The southbound flows of goods are split only two ways — exports of motor vehicles and parts, and all other exports of goods from Canada to the United States. The main export equation is driven by U.S. gross national product, capacity utilization, and relative prices. As with the equations for Canadian imports, the capacity utilization variables multiply the demand variables, so that the marginal propensity to import is directly influenced by capacity utilization.

There are seven equations for service flows between Canada and the United States, all estimated in current dollars. Four of these are straightforward equations for travel payments, and for freight and shipping payments, from each country to the other. Then there are separate equations for dividends and for interest payments from Canada to the United States, based on the relevant rates of return and detailed accounting of the elements of indebtedness. The much smaller northbound flows of interest and dividends are modelled by a single equation.

Trade in goods and services between Canada and countries other than the United States is depicted by eight stochastic equations. There are separate import and export equations for goods, interest and dividends, freight and shipping, and travel payments.

Table I summarizes the effects of the exchange rate in the equation for trade flows, and the related trade prices, linking Canada and the United States. The figures provide some basis for comparison with the simulation results reported in the next section.

### *2.2 Capital Movements*

Capital flows of several sorts — new issues of provincial and municipal bonds, new issues of corporate bonds, trade in outstanding

TABLE I

PARTIAL EFFECTS OF REVALUATION ON TRADE FLOWS  
BETWEEN CANADA AND THE UNITED STATES

All changes are measured with respect to PFX, the Canadian-dollar price of U.S. dollars.

	Elasticity of constant-dollar (Can.) trade flow	Elasticity of Trade Prices	Elasticity of current-dollar (Can.) trade flow	Change in quarterly trade flow, in millions of current Can. dollars resulting from a 1% decrease in PFX
Canadian imports from the U.S.				
goods	-.46	.66	.20	-2.6
services	-.34	0	-.34	2.1
total	-.42	.44	.023	-.5
Canadian exports to the U.S.				
goods	.63	.30	.93	-10
services	.79	0	.79	-3
total	.67	.22	.89	-13
Exports-Imports				-12.5

NOTE: The calculations supporting this table are based on the effects of changes in the exchange rate operating through the trade price equations and trade flow equations explaining movements of goods and services between Canada and the United States. The lags in the price effects are assumed to be fully worked out, but no indirect effects are taken into account. That is, these figures are based directly on the trade price and flow equations, holding constant Canadian domestic final demand, capacity utilization, domestic prices, employment, and so on. The elasticities have been calculated using the sample mean values for trade flows and other variables. The flow changes in the last column are based on average quarterly flows in 1964 to permit closer comparison with the simulation results.



bonds, direct investment, and trade in outstanding shares are modelled for transactions involving Canadian assets and securities traded between Canada and the United States. For transactions involving U.S. assets and securities, there are equations for Canadian direct investment in the United States and for net trade in U.S. bonds and shares. The capital flows in both directions are influenced heavily by rates of return, net wealth, and financing requirements in both countries. The equations are designed to have reasonable long-run tendencies; for example, if wealth and rates of return are constant, and net requirements for funds are zero, then capital flows will cease when the necessary portfolio adjustments have been completed. On the other hand, continued net business requirements for funds in the two countries will lead to continued long-term capital flows in both directions across the border. If revaluation leads to a reduction in Canadian investment expenditure and interest rates, there will be induced decreases in capital inflows and increases in capital outflows.

There is less detail in the explanation of long-term capital flows between Canada and other countries, chiefly because appropriate wealth, expenditure, and rate-of-return variables are not available for the heterogeneous "other countries" category.

### *2.3 Domestic Supply and Demand*

Revaluation acts on the domestic economy initially by decreasing the real value of exports and increasing the real value of imports, thus altering domestic incomes and the balance between aggregate supply and demand. The chain of repercussions can only be explained by reference to some of the mechanisms brought into play in these circumstances. There are two main aggregate supply concepts in RDX2, one based on current levels of employment, average hours, and capital, and the other based on normal hours and a typical unemployment rate. The latter supply concept is used as the bottom half of the main index of imbalance between supply and demand. The main aggregate demand variable is equal to business output less unintended inventory accumulation. Any decline in net exports leads initially to some unintended inventory accumulation and some reduction in output. The total reduction in demand leads first to reductions in average hours worked, then to reductions in employment and investment. The drop in aggregate demand relative to supply puts downward pressure on prices, money wages, and the marginal propensity to import. The drop in employment leads to lower real wage rates. The combination of lower real wages and a higher unemployment rate leads to less immigration and more

emigration. These induced migration flows are very important in the operation of the model; if the migration equations are suppressed the effects of revaluation on the unemployment rate are very much greater (about 50 percent greater in the third year of revaluation).

The induced declines in Canadian prices and capacity utilization naturally lead to increases in Canada's exports and reductions in imports, thus tending to reduce the induced trade deficit. However, the increasing slack in the Canadian economy leads to a number of expansionary changes in government policies, as described below.

#### *2.4 Government Sector Responses*

Any drop in income and employment leads to cuts in personal and company taxes, increases in unemployment insurance benefits, and other endogenous changes in the tax and transfer system. RDX2 also has a number of government employment and expenditure equations. In general, the provincial and municipal expenditure equations depend on demands for services, relative costs, and the availability of finance. The federal equations depend more upon the values of policy target variables. For example, federal employment is increased when the unemployment rate is high, and federal nonwage expenditure is increased when there is a decline in the expected rate of change of consumer prices.

Monetary policy is also endogenous to RDX2. The interest rate on short-term government securities is treated as the focus of policy actions, and is determined chiefly as a function of recent rates of inflation, recent rates of increase in bank lending, and the U.S. short-term interest rate. The central bank is then assumed to provide the quantity of bank reserves required to support the chosen rate of interest. When running the revaluation simulation, we cut the link between the balance of payments and the domestic money supply. Thus we are assuming that any reduction in foreign exchange reserves brought about by the balance-of-payments deficit does not lead to any change in domestic monetary policy. Alternatively, we might have assumed that monetary policy would be specifically directed toward defending the lower price of foreign exchange. This would have required a much tighter monetary policy than was employed in the control solution. In our simulation, the deflationary effects of the revaluation lead to lower interest rates, presumably intended to cushion the downward movements, relative to the control solution, in prices, expenditure, and the size of the banking system.

Thus the net effect of government policies, in our simulation, is to maintain the levels of incomes, output, prices and employment higher than they otherwise would have been. Sooner or later, the

continued loss of foreign exchange reserves implied by these policies would cause the policies themselves to be altered, until balance on trade and capital accounts was eventually achieved at the new exchange rate. Further discussion in this vein follows a description of the simulation results.

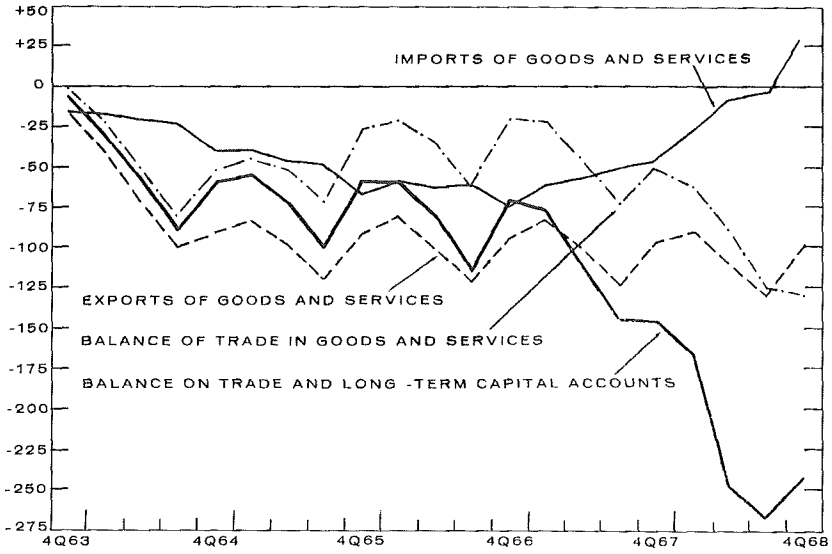
### *3. Features of the Simulation Results*

The results reported here (and in the revised version of my comments on Governor Brimmer's paper) differ slightly from those reported at the conference. The chief difference lies in the results for the unemployment rate, which increases less in the present version. The reason for the difference is that the latest results are based on a version of RDX2 in which both immigration and emigration are endogenous, thus cushioning the effects of revaluation on the unemployment rate.

The results reported here will be in terms of differences between the control solution and the revaluation solution. The dollar flows are seasonally unadjusted, and are measured at quarterly rates, in millions of dollars. The constant-dollar flows are measured at 1961 prices. It may be helpful to provide some bench-mark figures describing the scale of the Canadian economy during the simulation period. The average quarterly value for gross national expenditure 4Q63-4Q68 was 15,300 million current dollars. Current dollar imports of goods and services averaged \$3,570 million, of which \$2,515 million were from the United States. Current dollar exports of goods and services averaged \$3,490 million, of which \$2,190 million were to the United States. In 1961 dollars, total exports of goods and services averaged \$3,015 million and imports averaged \$3,120 million.

Charts 1 to 8 illustrate some of the more interesting features of the simulation results. Chart 1 depicts the changes in current dollar trade flows between the United States and Canada. Shown are Canadian exports and imports, net exports, and the net balance on trade and long-term capital account. The growing difference between the two balance lines indicate the size of the induced Canadian deficit on capital account. New direct investment inflows to Canada and new issues of Canadian business bonds are initially not much affected by the revaluation, because the declines in fixed capital expenditures are offset by unintended inventory accumulation and reduction in profits, so that net requirements for new funds are not much altered. Later on, however, investment in fixed assets and inventories drops substantially, and direct investment inflows drop sharply, influenced also by the lower supply price of capital in

**Chart 1**  
**CHANGES IN CANADA - U.S TRADE AND CAPITAL FLOWS**  
(Millions of Current Dollars)



**Chart 2**  
**CHANGES IN TOTAL CANADIAN TRADE AND CAPITAL FLOWS**  
(Millions of Current Dollars)

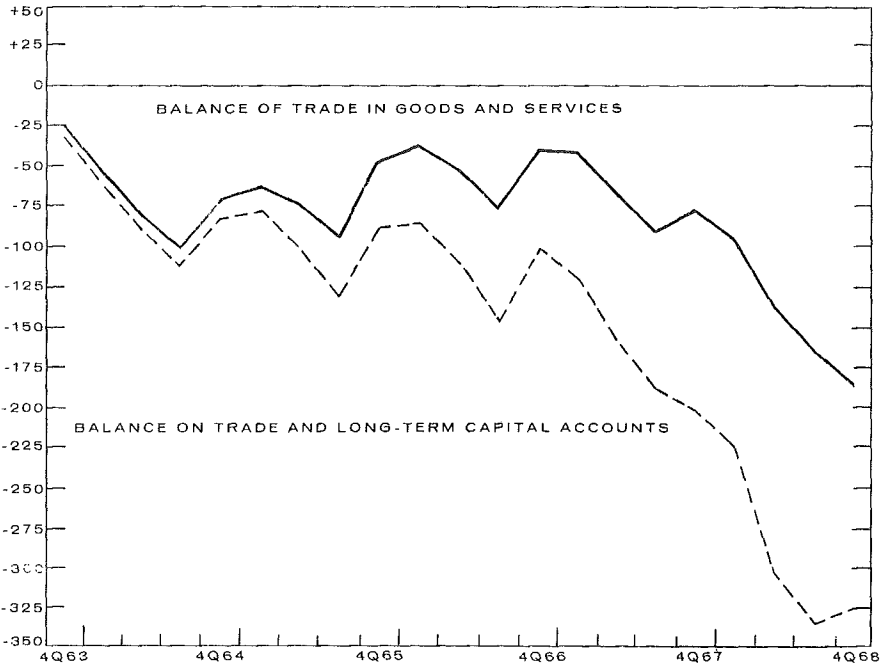


Chart 3  
 CHANGES IN TOTAL REAL TRADE FLOWS  
 (Millions of Constant 1961 Dollars)

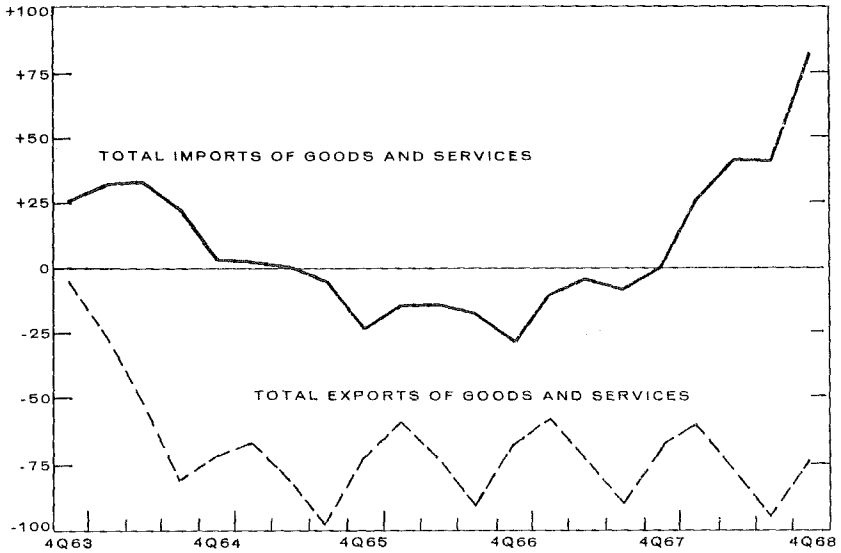


Chart 4  
 CHANGES IN THE PRICES OF FOREIGN EXCHANGE AND DOMESTIC OUTPUT  
 (Revaluation-Control, as a Percent of Actual Prices)

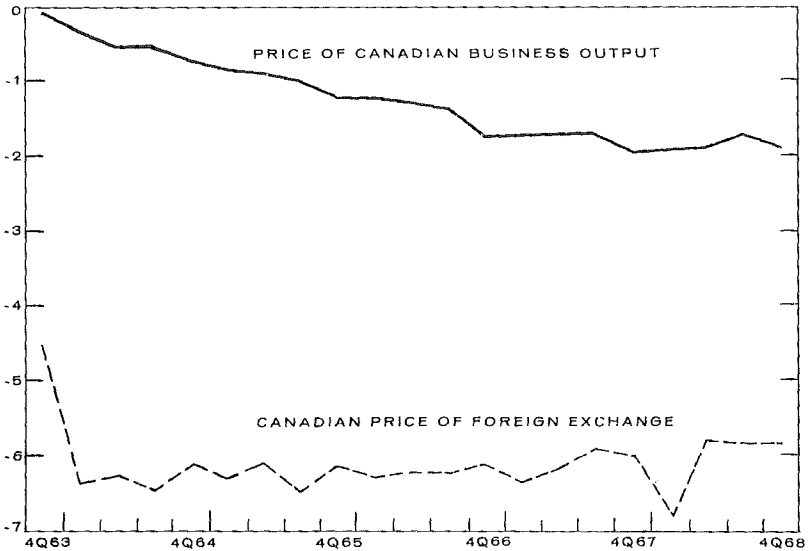


Chart 5  
 CHANGES IN AGGREGATE SUPPLY AND DEMAND  
 (Millions of Constant 1961 Dollars)

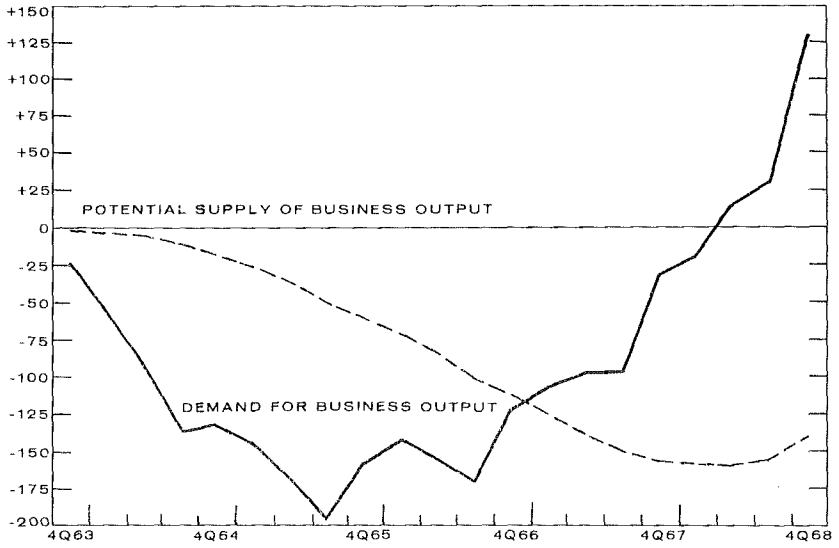


Chart 6  
 CHANGES IN EMPLOYMENT AND LABOR FORCE  
 (In Thousands of Persons)

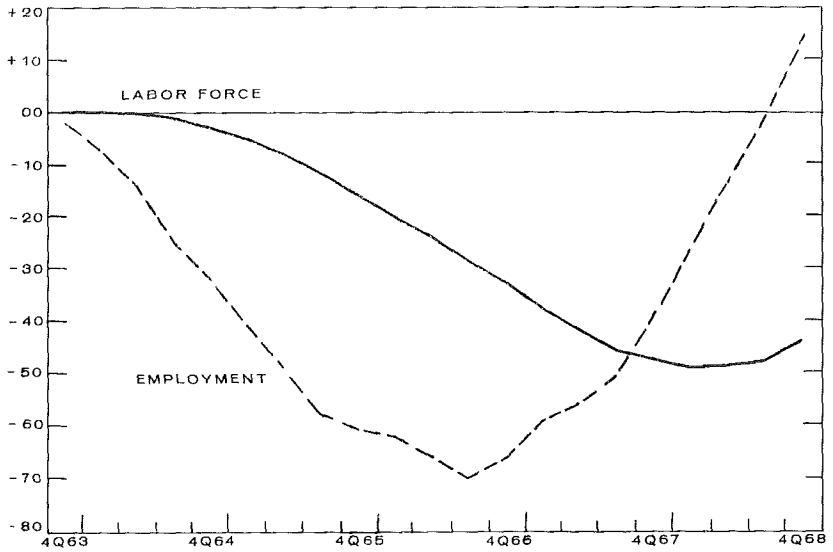


Chart 7  
 CHANGES IN WAGES, PROFITS, AND FEDERAL SURPLUS  
 (Millions of Current Dollars)

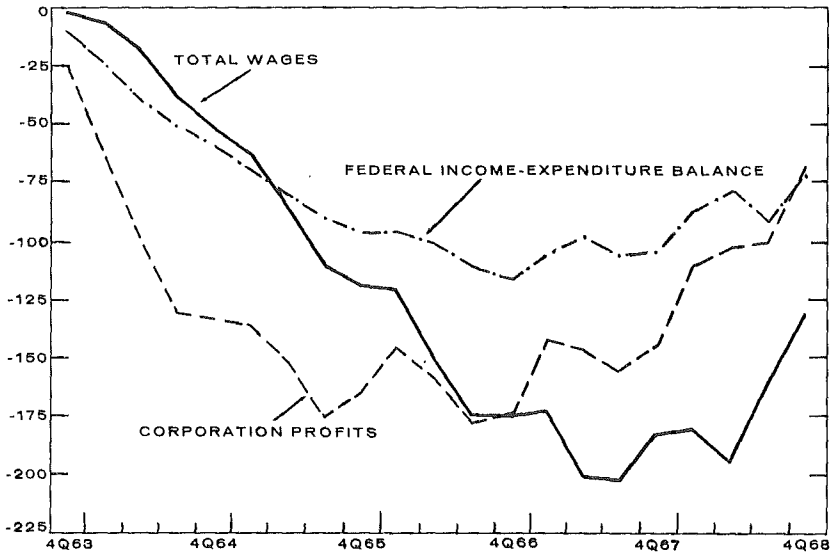
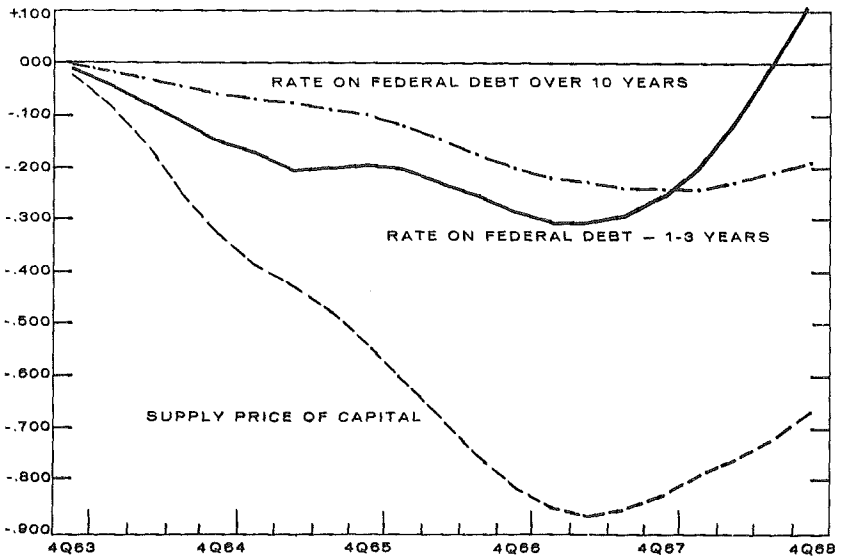


Chart 8  
 CHANGES IN INTEREST RATES



Canada. During most of the simulation period, about \$10 million of the reduction in the quarterly capital inflow arises from supposed expectations that the exchange rate will return to its control solution par of 1.081. This effect, which appears in the equation for trade in outstanding bonds of Canadian corporations, may have been appropriate for variations of the exchange rate within a band about 1.081 but surely distorts the nature of the speculative bond trading that might have accompanied the choice of a new parity of 1.010. The new value might well have been accepted with equanimity at first, with speculative trading starting in a rush when the cumulative loss of reserves reached some alarming level.

Chart 2 shows the current-dollar trade balance and the “basic balance” in trade and long-term capital flows between Canada and all countries. These flows show roughly the same pattern as the corresponding measures for flows between Canada and the United States. The net effects of revaluation on the basic balance are about one-half as large for other countries (excluding the United States) as they are for the bilateral balance with the United States.

Chart 3 shows the constant-dollar (in millions of 1961 Canadian dollars) flows of imports and exports of goods and services between Canada and all countries. Real imports are at first higher than in the control solution, because of reductions of import prices. The real flow drops sharply during the middle of the simulation period as the increasing slack in the Canadian economy diminishes the marginal propensity to import. However, by the end of the simulation, aggregate demand is recovering and aggregate supply is still less than in the control solution (as shown in Chart 5), so that imports rise sharply. Exports drop initially because of the effect of revaluation on Canadian export prices in terms of foreign currency. About one-third of the effect of revaluation is absorbed by lower Canadian-dollar export prices, but there is still a substantial price-induced reduction in export volume. Later on, this effect is reduced as Canadian domestic output prices, including the prices of exports, drop because of excess capacity. Chart 4 indicates the extent to which the decline in the price of U.S. dollars (PFX) is matched by a decline in the price of Canadian business output (PGPP). For ease of comparison, both changes are measured as a percent of their actual values. By the end of the simulation, the Canadian output price is no longer dropping relative to control, evidence primarily of the government fiscal and monetary policies designed to support income and employment and leading eventually to a strong resurgence of demand.



The net effects of revaluation on aggregate supply and demand are shown graphically in Chart 5. The aggregate demand variable is equal to actual business output less unintended inventory changes. Aggregate supply is the output that would be forthcoming if business fixed capital and the labour force were employed assuming average rates of unemployment and productivity. The ratio of the demand variable to the supply variable influences trade flows and domestic prices. The chart shows the difference of each series from its control solution, measured in millions of 1961 dollars. Aggregate demand falls at first because of the decline in net exports and then further because of induced reductions in consumption and investment, chiefly the latter. The reductions in investment and in the labour force (see Chart 6) lead to continuing reductions in supply potential. Aggregate demand starts to recover strongly once the point is reached (in 1Q67) where the cumulative reductions in investment, net immigration and labour force participation cause aggregate supply to reach a lower point than aggregate demand, thus raising the index of capacity utilization higher than it was in the control solution. The recovery in investment is also aided by the lower supply price of capital, which leads firms to choose higher capital/output ratios for their replacement and expansion investment.

Lower aggregate demand, during the first years of the simulated revaluation, leads to the reductions in employment shown in Chart 6. The implied increase in the unemployment rate leads to marginal reductions in the labour force participation rate and to substantial decreases in immigration and increases in emigration. The change in the unemployment rate is determined by the net effect of the changes in employment and the labour force. The peak increase in the unemployment rate occurs in 4Q65, where it is .64 percentage points above the control solution. By 4Q67, the drop in the labour force is greater than the drop in employment, and the unemployment rate is thereafter lower than in the control solution. No doubt there would be further cycles if the simulation were allowed to run over a larger number of years.

Chart 7 shows the induced declines in aggregate wage income and corporation profits, both measured before taxes and in millions of current dollars. These declines in pre-tax factor incomes lead to substantial drops in tax receipts. The reductions in tax revenues, when coupled with induced increases in federal expenditures and transfer payments, produce the decline in federal government income-expenditure balance shown in Chart 7.

Finally, Chart 8 gives some idea of the induced changes in monetary policy. The short-term government interest rate is the focus of monetary policy in RDX2, and the induced changes in the long-term rate follow as the distributed lag term structure works itself out. The supply price of capital (RHO), which is a major determinant of domestic investment and savings decisions, and of international capital flows, is reduced even more than the long-term interest rate. This is because the continuing federal government deficit increases the supply of government bonds, leading to an increased demand for shares (and hence a decrease in the cost of capital to firms) required to maintain balance in private portfolios.

#### 4. *The Analogy Between Past and Future*

It is apparent that the simulation results reported above are very dependent on the assumed pattern of government behavior. Whether a given change in the par value of a currency leads to eventual duplication of the original balance-of-payments situation or to a continuing change in flows depends primarily on which outcome is adopted as a policy goal. In the simulation reported here, Canadian authorities were assumed to attach their usual degree of concern to domestic goals and to ignore entirely the continuing balance-of-payments deficit implied by the revaluation. This is presumably unrealistic in the case of a continuing deficit, as after some point the power of a government to borrow foreign exchange reserves is contingent upon policy actions being taken to stop further reserve losses. However, for the purpose of analogy with the Canadian revaluation since May 1970, the simulation assumptions are not so drastically unrealistic. By means of a very rough analogy, the simulation suggests how different things would have been, speculative flows aside, if the Canadian authorities had chosen to keep the exchange rate pegged at 1.081 and let foreign exchange reserves accumulate. According to the analogy, monetary and fiscal policies would have been tighter than they actually have been, in order to offset the greater aggregate demand and inflationary pressures that would have existed had the exchange rate been pegged at 1.081 rather than allowed to float. The parallel between the two situations is rather weak, for several reasons. First, the trade flows between the United States and Canada are different now than between 1963 and 1968, and the equations do not take adequate account of how trade in autos and parts (either earlier *or* now) would be affected by revaluation. Second, the analogy depends on changes in monetary and fiscal policies being symmetric in their use and effects, while RDX2 offers ample evidence of non-linear public

and private sector responses. Third, the simulation results depend heavily on the control solution values of the various exogenous variables in the model. Because many of these variables have quite different relative values now than they did during the 1963-68 period, solutions for the endogenous variables will differ by more than just a scale factor reflecting today's larger economy and higher prices. Fourth, the Canadian revaluation since May 1970 cannot be represented by a uniform change in the price of all foreign currencies. In the current circumstances, it is no longer appropriate to treat foreign exchange as a commodity with a single price, and trade and capital flow equations will have to be reformulated to bring the relevant exchange rates into play. Finally, the situation in the U.S. economy is very different now than between 1963 and 1968, and realistic simulations ought to reflect contemporary policies as well as likely U.S. responses to any unilateral action taken by Canada with respect to the exchange rate linking the two countries.

All of the above qualifications do not suggest that models are of no use for assessing contemporary events — only that a simulation of RDX2 between 1963 and 1968 gives different answers than we would get from *ex ante* simulation of alternative exchange rate policies assessed from 1970 to 1975. In the temporary absence of an *ex ante* version of RDX2, the simulation results from 4Q63 to 4Q68 do provide (to the builders of the model, at least) some valuable insights into the impacts and repercussions of revaluation.

## RESPONSE

ANDREW F. BRIMMER

I will comment first on the remarks by Professor Helliwell. I am delighted that my paper stimulated the kind of effort which he has made. This is especially so because he has been away from his academic home base since he received the paper. Perhaps some assistance from the Bank of Canada (with which he is also associated) enabled him to analyze on such short notice some of the issues raised by my paper.

In particular, I want to congratulate him on the quality of the research which he undertook in an effort to estimate the lags in the adjustment of trade to changes in the Canadian exchange rate. However, my concern was not with the speed with which the Canadian balance of trade responded to the changes in the exchange rate since May, 1970. I was more concerned with the origin and evolution of the trade surplus since the mid-1960s. In a short period of only 15 months or so, I would not have expected to see the full impact of the appreciation registered on the trade account. This was not my concern. Instead, I was more concerned with the evolution of the trade account over the last four or five years.

I was also pleased to see Professor Helliwell's comments on the auto pact. He feels that some kind of guarantee is needed to maintain minimum production in Canada. But he agrees with me that the restrictions on the freedom of Canadian consumers and non-auto firms to import duty-free automobiles from the United States are no longer necessary. If such restrictions were abolished, the price of Canadian-produced cars would probably fall, and consumers would benefit.

At this point, let me react to the question of applying the surcharge to Canada. Frankly, this is the question every country asks, "Why apply it to us?" And especially those countries such as Canada can take a stance saying, "Look, we have not been the offenders." But frankly, aside from the GATT requirement which Professor Helliwell stressed, the need is to get all countries (especially the Group of Ten industrial nations, of which Canada is one), and

particularly those with surpluses, to realize that we do need to make a basic reform in the international monetary system. So I would not encourage the Canadians or anyone else to think about early and special exemptions from the surcharge. That is not the purpose. The purpose is to bring about a basic, multilateral revamping of the old arrangements, and Canada ought to be included along with everyone else.

Now let me turn to Professor McKinnon's paper. Essentially, he reiterated his views about the dangers of new-fashioned mercantilism which he expressed some time ago in an article in the *Washington Post*. My paper apparently served as another peg on which to hang that same set of considerations. In my judgment, it is quite appropriate for the United States to think about a current account surplus (with special emphasis on the trade account) of the order of magnitude being talked about. Given the other kinds of commitments which many people (perhaps not Professor McKinnon) think the United States ought to try to take on—or at least maintain—a sizeable surplus is desirable. I would suggest that some countries have to yield up part of their surpluses.

The observation was made that an improvement on the order of \$13 billion is entirely too large, or even a long-run surplus of some \$5 billion is too large. The \$13 billion figure which has been suggested is a swing figure. From a deficit of perhaps \$6-8 billion in 1970—based on the assumption we did nothing—we might aim for a surplus of about \$5 billion looking down the road a year or two later, that is, through 1973. This is the kind of planning period which I had in mind. That is how one gets an order of magnitude of \$13 billion. It is not a \$13 billion improvement in 1972 over 1971. I want to make that distinction because apparently it did not come out quite so clearly.

Professor McKinnon argued that if we want to assume our role as a mature creditor, we ought to be happy with a trade surplus of some \$1 or \$2 billion. I would say, "Fine, but what do we do about our role as a source of capital for the developing countries?" Leave aside the question of capital flows to Europe, to Canada, and to other industrial countries, how do we sustain over the long haul the capacity to provide access to our capital market with a trade surplus of that magnitude? These are the immediate reactions I had to the discussion.