

FOCUS

**ON
REAL WAGE
UNEMPLOYMENT**

THE FRASER
INSTITUTE

JUNE 1986

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**ON
REAL WAGE
UNEMPLOYMENT**

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and
D.C. MacCharles**

FOCUS NO. 18

1986

Second Class Mail Registration No. 2698

Focus is published four times a year by The Fraser Institute

Date of Issue: June 1986

Canadian Cataloguing in Publication Data

Daly, D.J. (Donald James), 1922 -
On real wage unemployment

(Focus, ISSN 0715-5417 ; 18)

Bibliography: p.

ISBN 0-88975-079-3

1. Wages and labor productivity - Canada.
2. Unemployment - Canada.
3. Canada - Economic policy - 1971 -
4. Supply-side economics - Canada.
- I. MacCharles, D.C. (Donald Clare), 1935 -
- II. Fraser Institute (Vancouver, B.C.)
- III. Title.
- IV. Series: Focus (Fraser Institute (Vancouver, B.C.)) ; no. 18.

HD4946.C2D34 1986 331.11'8'0971 C86-091334-1

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Errata

Charts 4 and 5 on pages 14 and 36 have been inadvertently reversed. The chart on Import Volume should have been included on page 14 and the chart on Real Business Fixed Investment should have been included on page 36.

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INTRODUCTION

Unusual developments

One of the major economic developments in Canada during the 1980s has been the emergence of a significantly higher unemployment rate in Canada than in the United States. By the end of 1985 the rate in the United States had dropped to a bit over 7 percent, almost identical to the rate at the peak of the previous business cycle expansion in mid-1981. In Canada, on the other hand, the rate was about 10 percent, well above the 7 percent in the first half of 1981. This difference in the unemployment rate was the greatest divergence since the labour force survey was initiated four decades ago.

Historically, the timing and extent of economic growth and cycles in the two countries has been very similar, and explanations for any past differences have been developed and become widely accepted.

There have been two recent significant departures from the usual historical experience in the two countries. First, while every business cycle in Canada from 1900 to 1980 was milder than the concurrent cycle in the United States, the 1981-82 recession was more severe in Canada than in the United States. Second, the growth rates in the two countries have begun to diverge as well.

Real growth was higher in Canada than in the United States up until 1973 (compared either for similar stages of the business cycle, or for longer periods). This growth differential arose from high rates of growth in domestic and world demand, but also reflected important differences on the supply side. The rate of growth in the labour force was higher in Canada. (This was due to higher rates of population growth, a larger increase in the participation rates of women (especially married women), and a higher rate of net immigration over most of the period.) In addition, the stock of business capital grew more rapidly in Canada (based on comparable life assumptions for business fixed assets). Furthermore, until 1973 total Canadian productivity growth was somewhat faster than American experience.

Since 1973, there has been a slowdown in the rate of productivity growth in both countries, and for that matter in all the OECD countries. For the United States, the extent of slowdown in output per hour between 1973 to 1979 and the earlier post-war period was greater than any previous slowdown since the 1890s.¹ Evidence since 1979 suggests the slowdown has continued, or even intensified.² In Canada, meanwhile, the productivity-growth slowdown has been even more pronounced than in the United States and Canadian productivity growth since 1973 has been one of the lowest of all the OECD countries.

This is the second important deviation of recent experience from the longer-term developments in the two countries. It is likely that it and the greater severity of the 1981-82 recession noted above, are interrelated.

Purpose — to explain slower growth and higher unemployment

The purpose of this study is to analyze the factual evidence on economic growth since 1973, the 1981-82 recession, and high unemployment in Canada compared to the United States, compared with the longer-term experience in both countries. The statistical comparisons are summarized in Chapter 1 where it is noted that this record of inferior economic performance in Canada since 1981 took place in spite of a relatively larger federal government deficit, lower real interest rates in Canada, and a greater stimulus from foreign trade than in the United States.

In Chapter 2, the renewed recent attention to the theory of real wage unemployment will be summarized and explained. This theory has been getting more attention in Europe than in North America.

In Chapter 3, this theory will be explored and tested for Canada, with special emphasis on manufacturing. Manufacturing will be emphasized as this is a key area in the discussion of international trade and international competitiveness, key areas for a country like Canada that is becoming increasingly interdependent on developments in the rest of the world. This is especially important when Canada's natural resource exports no longer seem able to provide the stimulus to growth that they did in our earlier history. This chapter will show the contrasting performance of real wages and real output per hour in Canadian manufacturing, compared to the United States and Japan, our two closest trading partners. Comparisons will also be made with other measures of unit labour costs in manufacturing for some of the major European countries as well. Chapter 3 also provides evidence that these longer-term problems of high costs in individual manufacturing industries in an increasingly competitive world market for manufactured

products are crucial in understanding the unusual developments at the macro level in Canada.

Chapter 4 will show how these structural problems on the cost and supply side at the micro level would affect performance at the macro level in certain key areas. Business investment has been a key area in macro theory since Keynes *General Theory*, so the adequacy of this theory is explored as a basis of explaining the large divergence in business investment behaviour since 1981 between Canada and the United States. Secondly, international equity capital flows will be examined to see if the decreased attractiveness of investing in Canadian manufacturing have been reflected in a reversal in the long persisting net inflow of foreign direct investment into Canada. Thirdly, the implications of a more structural interpretation of high unemployment will be examined as an alternative to the widely accepted view that recent unemployment is essentially cyclical and that it has been intensified by excessively restrictive fiscal and monetary policy.

Chapter 5 will explore the policy implications of this alternative interpretation for high unemployment in Canada. The policy options discussed include more stimulative fiscal and monetary policy, deliberate and systematic exchange rate depreciation, a more active policy of industrial strategy by the government, and policies to improve the environment for performance in the private sector.

The study has two appendices which serve to support and provide content for the findings. Appendix A reports the methodology used to construct the international comparisons of wages and productivity. Appendix B provides a more general discussion of the conditions facing Canadian manufacturers.

Notes

1. Moses Abramovitz, "Welfare Quandaries and Productivity Concerns," *American Economic Review*, March 1981, pp. 1-17, Appendix Table 1.
2. Edward F. Denison, *Trends in American Economic Growth, 1919-1982* (Washington: The Brookings Institution, 1985), for example. See also "Long-Run Trends in Economic Growth, Five Countries," in *International Economic Scoreboard* (New York: The Conference Board, Inc., Feb. 1985), as developed by the Centre for International Business Cycle Research.

CHAPTER 1

RECENT DIFFERENCES IN ECONOMIC PERFORMANCE BETWEEN CANADA AND THE UNITED STATES

Historical similarities

Historically, there are many similarities in the experiences of the Canadian and United States economies. Essentially this comes about from the long-standing interdependence of the two economies. In many respects there is only one North American economy which has been divided by historical and political factors into two countries with a separate set of statistics for each country (but with largely common definitions, concepts, coverage etc.). Political considerations notwithstanding, the extent of economic interconnections has increased. For example, exports to the United States were just a bit over 25 percent of total exports in 1901 and 1902, a bit over 50 percent in 1960, and in excess of 75 percent by 1984.¹ Furthermore, exports of goods and services were only about 18 percent of GNP in the late 1950s, but this had increased to more than 30 percent in 1984 the highest ratio in more than fifty years.²

Additionally, improvements in transportation, communication and access to computers have increased the interconnections of markets and information in goods, services, bond and security markets, etc.

Three important generalizations about the Canadian economy

Three important generalizations about the experiences of Canadian growth and cycles from 1900 to the early 1970s can be made. Firstly, Canada never had a period of sustained economic growth unless similar developments

were also occurring in the United States. Secondly, there is no example of a recession in Canada unless there was one occurring concurrently in the United States. The timing of Canadian business cycle peaks and troughs have been close to those in the United States, with 80 percent of the turns being within three months of each other since 1900. A third generalization is that every recession in Canada from 1900 to 1980 was milder than the one occurring concurrently in the United States.³ The first two generalizations now appear to be widely accepted, but the third one seems to need further explanation.

Trade dependence moderates Canadian business cycle

A typical recession in Canada is more apparent in the commodity producing industries than in GNP or in the large and growing service industries. The extent of fluctuations in output of the commodity producing industries is greater than in the final demands for such output, with a build up of inventories during expansions and inventory liquidation during recessions. During Canadian recessions, part of the drop in domestic demand (for both final demand and inventory investment) is felt by domestic suppliers. However, a further important part affects foreign suppliers and is reflected in a much larger drop in the volume of imports than the volume of manufacturing production. This import volatility is reflected in consumer durables and non-durables as well as in machinery and equipment. The greater volatility in imports during recessions is matched by a greater increase in imports than in domestic production during the next expansion.⁴

Paradoxical performance

How well does the Canadian experience since 1973 correspond to the historical experience of considerable similarities in performance? In a sense the increase in exports of goods and services to the U.S. as a percent of GNP from about 10 percent in 1960 to more than 20 percent in 1984 would be expected to intensify the interconnections. In fact, performance in the two economies over the last decade has diverged to a greater degree than over any comparable period in the present century!

In the next few pages we review the evidence for the two countries (with occasional comparisons with other industrial countries as well) and consider some of the possible interpretations for that divergence.

Canada shows slowest productivity growth

It is widely recognized that there has been a slowdown in the rate of economic growth and growth in productivity in all the major industrialized countries since about 1973. What is unusual in the Canadian experience since 1973 is the extent of the slowdown in productivity growth. From 1973 to 1984 Canada had the smallest increase in both real GDP per employed person and second smallest in real output per hour in manufacturing of the seven countries shown in Tables 1 and 2.

Table 1-1
Growth in Real GDP per Employed Person
Major Industrialized Countries
1950-73 and 1973-84

	1950- 1973	1973- 1984	Change
Canada	2.59	0.54	-2.05
U.S.A	1.98	0.32	-1.66
United Kingdom	2.55	1.51	-1.04
France	4.73	2.26	-2.47
Germany	5.05	2.30	-2.75
Italy	5.74	1.26	-4.48
Japan	7.48	2.93	-4.55

Source: U.S. Department of Labor, *Comparative Real Gross Domestic Product, Real GDP per Capita, and Real GDP per Employed Person*, 1950-1984 (Washington: Bureau of Labor Statistics, January 1986). Growth rates based on terminal years.

Table 1-2

**Growth in Output per Hour in Manufacturing
Major Industrialized Countries
1950-73 and 1973-84**

	1950- 1983	1973- 1984	Change
Canada	4.31	1.87	-2.44
U.S.A.	2.79	2.00	-0.79
United Kingdom	3.31	2.56	-0.75
France	5.78	4.65	-1.13
Germany	6.55	3.54	-3.01
Italy	6.60	3.62	-1.98
Japan	9.98	6.92	-3.06

Source: United States Department of Labor News "International Comparisons of Manufacturing Productivity and Labor Cost Trends, Preliminary Measures for 1984," (Washington: June 10, 1985). Growth rates based on terminal years.

In terms of comparisons with the United States, this is a reversal of the larger increases in both measures of productivity in Canada that had gone on from 1950 to 1973. This slowdown is also reflected in the trend rates of growth in the two countries. These trend rates of growth have been prepared by the Center for International Business Cycle Research over comparable stages of the shorter-term business cycle.⁵ The trend rate of growth in Canada had been about two percentage points higher than in the United States for almost a decade, but for the last five years has been running about two percentage points below the United States. This, in spite of the fact that the output per hour slowdown in the United States since 1973 was greater than any previous slowdown since the 1890s.

Highlights of the recent recession and recovery

What are the highlights of the 1981-82 recession and subsequent recovery in the United States and Canada in light of this brief sketch of the historical experience of trends and cycles in the two countries?⁶ The recession troughs have been dated as November 1982 in the United States and December 1982 for Canada, so we are now more than three years on in the expansion.

Since we will be emphasizing comparisons between the Canadian and U.S. cycle since 1981, it may be useful to make a few points about the U.S. recession in historical perspective. For one thing, the 1981-82 recession was roughly comparable to the two more severe post-war recessions of 1957-58 and 1973-75. The decline in industrial production, for example, of 12.3 percent was a little less than during those recessions, and well below the declines of more than 30 percent in 1920-21 and 1937-38, and the decline of more than 50 percent in 1929-33.

The duration of 16 months was somewhat longer than previous post-war recessions.⁷ The recovery since the trough has been somewhat sharper than from other post-war recessions, so the increases from the previous peak to date are strikingly similar to the previous post-war cycles in the United States.⁸ Thus, the 1981-82 recession was somewhat longer in duration, roughly comparable to the intermediate severity of the 1957-58 and 1973-75 recessions, and roughly comparable from the 1981 peak to date with the median performance of previous post-war cycles.

In Canada, by the second quarter of 1985 real GNE was only about 7 percent over the previous peak in the second quarter of 1981 (four years earlier), while the United States was about 11 percent higher. Industrial production in Canada was about 3 percent over the previous peak, while the increase was about 8 percent in the United States.

In the United States unemployment in early 1985 was a bit over 7 percent, about the same as at the previous peak. In Canada, however, unemployment was still over 10 percent compared to 7 percent at the previous peak.

In Canada, the level of business capital spending was still about 15 percent below the previous peak, while in the United States it was almost 30 percent above, a very dramatic difference.

This pattern of significantly *slower* economic growth in all the main volume indicators of economic activity for Canada is a significant departure from the *higher* rates of growth in Canada than in the United States from 1950 to 1973 as shown in Tables 1 and 2 above.

These differences can be seen in Charts 1 to 3.

Differences defy usual explanations

Can one explain these differences in performance between Canada and the United States from 1981 to date with a Keynesian framework of the kind that has largely dominated economic analysis and forecasting for the last four decades or so? The answer is no. The federal deficit has been consistently a larger ratio of GNP in Canada than in the United States.⁹ In ad-

Chart I
REAL GNE

1979 = 100

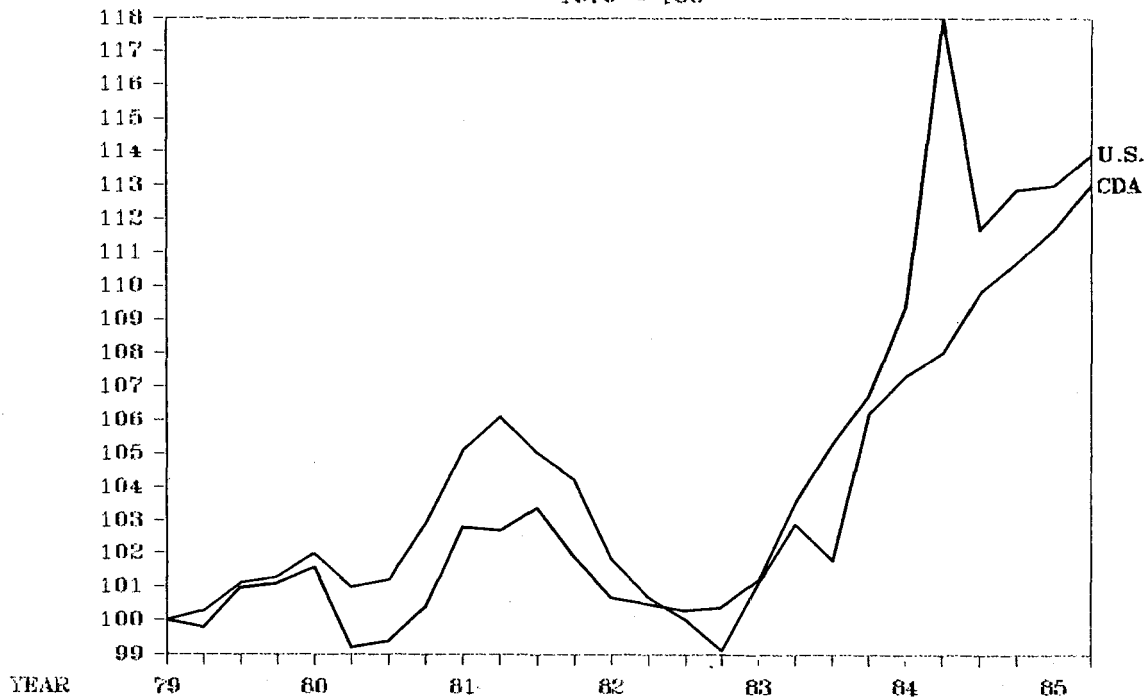


CHART 2 INDUSTRIAL PRODUCTION

1979 = 100

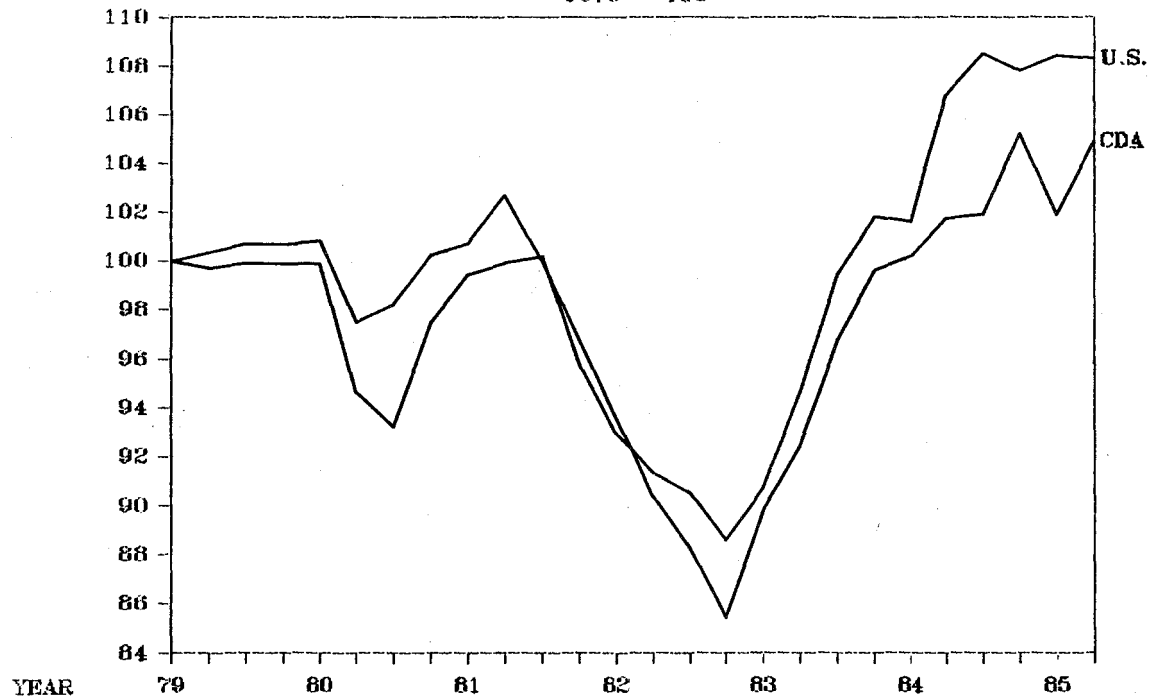
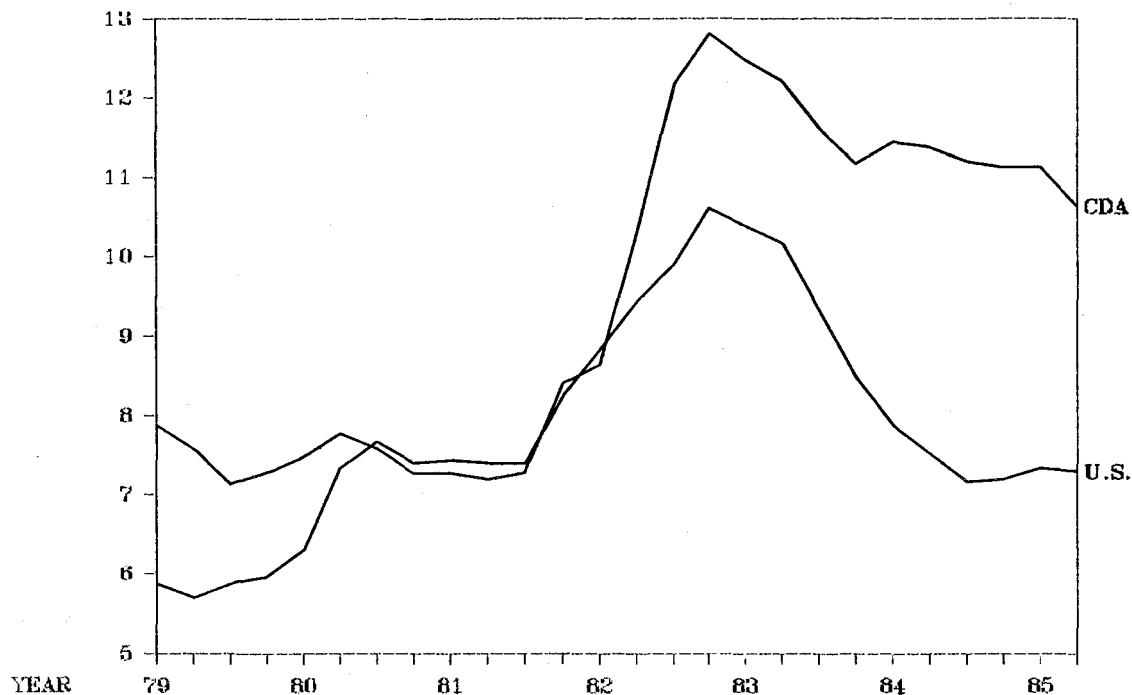


CHART 3
UNEMPLOYMENT RATE



dition, real interest rates have been lower in Canada than in the United States since 1980.¹⁰

Moreover, this more sluggish performance in output and unemployment in Canada has come about in spite of a dramatic difference in the external sector in the two countries. In the United States, the volume of imports of goods and services in the second quarter of 1985 was almost 50 percent above the previous peak, while industrial production was up less than 10 percent.

On the other hand, U.S. exports of goods and services in 1972 dollars were still about 10 percent below the previous peak. This has led to a large current account deficit for the first time in the post-war period.

In Canada, merchandise exports in volume were up about 25 percent over the previous peak, while United States' exports were still about 15 percent lower.

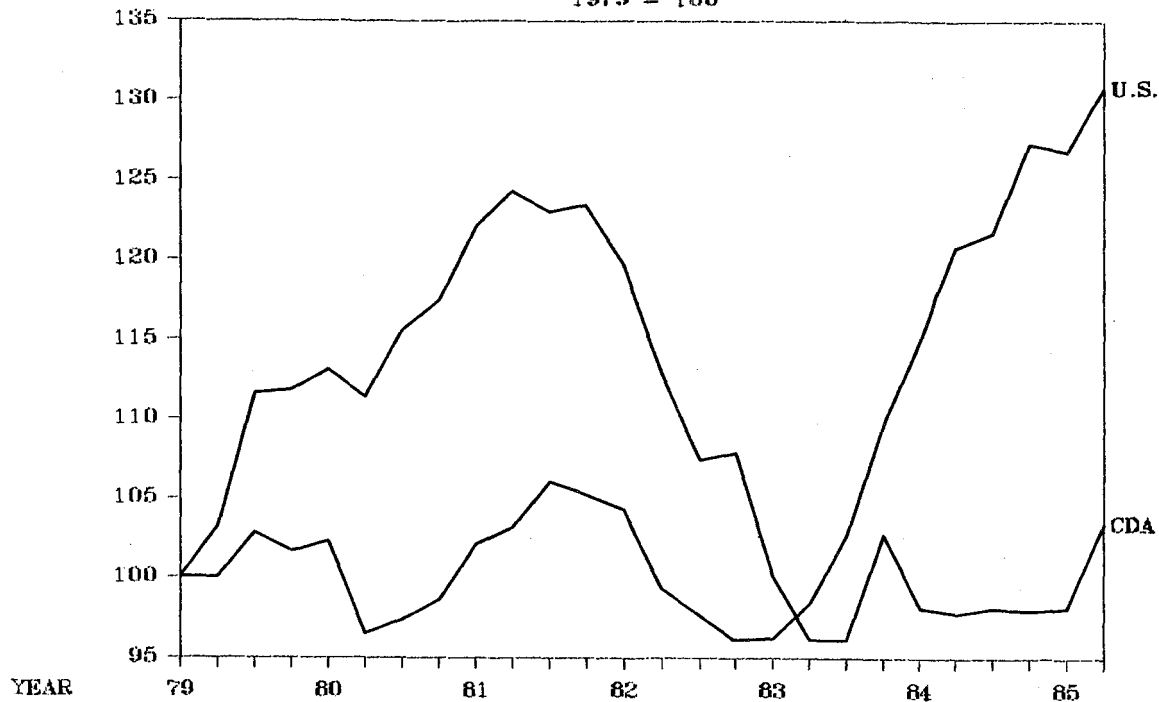
By the fourth quarter of 1984, there had been a net shift in the Canadian current account deficit of \$4.9 billion (in 1971 dollars), which was almost half the increase in real GNE of \$9 billion over the same period. Real final domestic demand was up only about \$4 billion (1971 prices) or 3 percent over the previous peak four years earlier. A significant part of the increase in final demand in Canada had come from the net shift in trade and the current account balance. These differences in performance of imports of goods and services can be seen in Chart 4.

In the United States, on the other hand, the strong growth in domestic demand had led to a large increase in imports (50 percent over the previous peak), while exports were still 15 percent below. A net current account surplus of about \$160 billion at annual rates at the peak in the second quarter of 1981 had become a current account deficit of \$125 billion in the fourth quarter of 1985.¹¹ It would appear that the United States has continued to experience a falling share of the world market that has been going on for some years. On the other hand, the much greater increase in import volume than in industrial and manufacturing production relative to the previous peak is an indication of a significant increase in the extent of import competition in the United States (a development that has increased protectionist pressures in the United States and intensified economic frictions with such countries as Japan).

Ordinarily, the emergence of such a current account deficit would be expected to lead to a depreciation in that country's exchange rate (if on a freely floating exchange rate system), or a loss in foreign exchange reserves (if on a fixed exchange rate system). However, over this period the U.S. dollar has appreciated by about 50 percent on a trade weighted basis since mid-1981. This is probably the largest exchange rate change for a major

CHART 4 REAL BUSINESS FIXED INVESTMENT

1979 = 100



currency during a five year period in a century. The change occurred in spite of the current account weakness because of a large inflow of capital. The appreciation of the U.S. dollar tends to erode profit margins in both export and import competing markets, discourage export volume, and encourage a higher volume of imports. However, a significant decline in the value of the U.S. dollar has occurred between the fall of 1985 and the spring of 1986.

Changes in the Canadian exchange rate since 1981 have been much less than in the effective exchange rate for the U.S. The Canadian dollar has depreciated relative to the U.S. dollar, but from 1971 to date the exchange depreciation has been roughly in line with the greater increase in domestic costs and prices. (See Appendix B for discussion of this evidence.) However, many of the European currencies have undergone a far larger exchange rate depreciation in relation to the U.S. dollar since 1980 than Canada. On a trade weighted basis, the change in the Canadian exchange rate has been quite small. Any price effects on Canadian trade volume have thus tended to be offsetting since 1981 and there has been nothing like the large net negative effect on trade and domestic activity in Canada compared to the United States.

However, the significant increase in U.S. domestic activity relative to the 1981 peak has had a large positive effect on Canadian export volume, while the small, hesitant and incomplete Canadian recovery has limited the increase in import volume. An increase in domestic economic activity in Canada since 1981 more in line with the higher growth rates from 1950 to 1973 would have been reflected in a level of Canadian imports far above recent experience. The size of the Canadian surplus in merchandise and the current account balance until recently, has reflected the more sluggish Canadian recovery, a development that has been without precedent in the post-war period.

In summary, the greater weakness in demand growth in Canada relative to the United States since 1981 has occurred in spite of a larger budget deficit, lower real interest rates and a far larger net stimulus from the foreign sector. This section on comparative performance in the two countries suggests that these economic factors which have been emphasized in Keynesian explanations for economic fluctuations cannot explain the divergent performance of the two countries in recent years and the emergence and persistence of higher unemployment in Canada.

Notes

1. M.C. Urquhart and K.A. Buckley, *Historical Statistics of Canada* (Toronto: MacMillan, 1965, p. 182 and Richard G. Lipsey and Murray G. Smith, *Taking the Initiative: Canada's Trade Options in a Turbulent World* (Toronto: C.D. Howe Institute, 1985), p.47.
2. Department of Finance, *Economic Review, April 1984* (Ottawa: Supply and Services, 1984), p. 128 and Statistics Canada, *National Income and Expenditure Accounts, Vol. I* (Ottawa: Information Canada, 1976), pp. 96-97 and 196-197.
3. Derek A. White, *Business Cycles in Canada* (Ottawa: Economic Council of Canada, 1967). Similar conclusions were reached in studies by W.A. Beckett, Ted Chambers and Gideon Rosenbluth. See also D.J. Daly, "Business Cycles in Canada: Their Postwar Persistence," in M. Bronfenbrenner, *Is the Business Cycle Obsolete?* (New York: Wiley Interscience, 1969), pp.45-65.
4. See references in 3 above.
5. The Conference Board, *International Economic Scoreboard* (New York: February 1985). The methodological note included there is as follows: We use a method of calculating growth trends that has been employed for the past ten years or so, with recent modifications developed by the Center for International Business Cycle Research. This method eliminated the effect of business-cycle movements by using averages of GNP running from each country's growth cycle peak to its trough, and from the trough to the subsequent peak. These "phase-averages" are smoothed by taking a two-phase moving average, and these in turn are regarded as points on the trend line, centred at the midpoint of the period covered by each successive pair of phases. To deal with the incomplete phase at the end of a series (for example, the current U.S. recovery, which dates from the fourth quarter of 1982 but has not yet ended) estimates are made of what the phase average would be if it resembled preceding completed phases. These estimates are incorporated in the trend to bring it up to date.
6. There have been some earlier studies of the interrelations between longer-term trends and shorter-term business cycles.

Later research has tended to go in new directions, but some of the key conclusions from the earlier research may be helpful to put the 1981-82 business cycle in the United States and Canada into a longer-term perspective. The earlier research recognized the persistence of construction cycles of long duration characterized by periods of high ratios of investment to GNP and high rates of growth in construction activity followed by low ratios of investment to GNP and stagnant or declining levels of construction activity. Although these construction cycles had averaged about twenty years in duration up until the Second World War, construction activity has stayed stronger since for a longer period of time than anything previously experienced. However, some symptoms of weakness reappeared in Canada in the late 1950s and early 1960s, but renewed growth took place until early in the 1970s.

For our purpose, a key inference is that during periods of the expansion phase of the long construction cycle, the shorter-term business cycle expansions were amplified in vigor and lengthened in duration while recessions tended to be relatively short and mild. However, during the declining phase of the long construction cycle, the shorter-term business cycle expansions were short and hesitant, and incomplete in the sense that a new recession could begin before economic activity had surpassed the levels reached at the previous peak.

The really severe business cycle recessions occurred during these construction cycle downward phases, although a severe depression did not take place in every construction cycle decline. For further discussion, see D.J. Daly, "Long Cycles and Recent Canadian Experience," in Royal Commission on Banking and Finance, *Appendix Volume* (Ottawa: The Queen's Printer, 1964), Appendix K. pp.281-301. The fuller evidence is discussed in the studies by Burns and Mitchell, S. Kuznets and M. Abramovitz quoted there.

7. Geoffrey H. Moore, *Business Cycles, Inflation and Forecasting* (Cambridge: Ballenger, 1980), p.28 and current data from various issues of *Business Conditions Digest* (Washington: U.S.Government Printing Office).
8. See the peak to current charts of individual indicators in the experimental data and analysis of pages of *Business Conditions Digest* (Washington: U.S.G.P.), various issues in late 1985. These show comparisons with the median cycle of the post-war period, and the last three cyclical recessions and recoveries. For a comparison of the first 18 months of the recovery from the 1982 trough in comparison with the five previous expansions see Robert Tannenwald, "Why the Jobless Rate has Fallen," in *Economic Impact* (Washington: U.S. Information Agency, 1985/2), pp. 38-41, initially published by the Federal Reserve Bank of Boston. The relative strength of the recovery partly reflects the severity of the recession. The vigour in the early stages of a recovery partly reflects the degree of slack present at the cyclical trough, a point not developed in the article by Tannenwald.
9. Herbert G. Grubel and Josef Bonnici, "Focus: Why Is Canada's Unemployment Rate So High?" (Vancouver: The Fraser Institute, forthcoming 1986), Figure 3. To some degree the larger deficit reflects the more sluggish performance in Canadian income and output, a point that many analysts have made in discussing recent fiscal policy and the size of federal deficits and federal debt.
10. *Ibid.*, Figure 2.
11. *Business Conditions Digest*, January 1986, pp.44 and 82. The divergent performance of the balance of trade in the two countries can also be seen in Grubel and Bonnici, *Op. cit.*, Figure 4.

CHAPTER 2

THE THEORY OF REAL WAGE UNEMPLOYMENT

The Keynesian theory of business cycles or movements in aggregate demand put a heavy emphasis on the drop in private fixed investment in the severe depression of the 1930s in the United States and elsewhere. Once a drop in investment and aggregate demand (through the multiplier) occurred, any stickiness in nominal and real wages would lead to a dramatic drop in corporate profits. The greater volatility in corporate profits than in other income components would come about because corporate profits are a residual between much larger aggregates of sales and costs at the level of the individual firm. The drop in corporate profits would have significant feedback effects on business fixed investment and inventory investment. The basic theory of investment has been extended, developed and formalized in the decades since, but the basic theory still incorporates business expectations (from additional future profits), the rate of interest, and the existing extent of pressure of demand against capacity supply, as the basic determinants of investment.¹

The standard macro theory of business investment puts considerable emphasis on the influence of interest rates on business investment. Two important practical problems are encountered in using this theory in analysis and forecasting.

For one thing, interest costs are typically only a small part of costs to the firm. In manufacturing, for example, salaries and wages were 19 percent of total costs in 1980, compared to only 2.1 percent for all interest costs, or nine times as great. Material costs were 64 percent of total costs, or thirty times as important as interest costs. It is understandable that the potential gains to the firm can be increased by greater attention to such ma-

jor cost items as labour and material costs, while interest costs turn out in practice not to be as critical in investment decisions and other areas of business decision as the prevailing macro theory of the last four decades or so had indicated.

A second important development has been that a series of studies of the effects of changing interest rates on business investment decisions keep concluding that these effects are relatively minor. The most systematic study for any country was done for the Royal Commission on Banking and Finance in Canada and that research suggested an elasticity of one-tenth of one percent.

This would indicate that an increase in interest rates of 10 percent would lead to a direct reduction of business capital spending of one percent. Similar results were obtained from company interviews and mail questionnaire surveys, and from econometric studies.² Although no subsequent studies have been as comprehensive, later studies for the United States and Canada tend to confirm rather than radically revise these small orders of magnitude. These small effects for business investment are in marked contrast to the significant responsiveness in housing (both owner-occupied and apartments and other rental accommodation).³

In the latter part of the 1970s, there has been a renewed interest in the relationship between real wages, profitability and unemployment. This theory emphasizes wage costs and profitability as critical determinants of both investment behaviour and unemployment. If real wages become too high relative to real productivity levels, corporate profits will be squeezed. This in turn leads to plant closures, corporate bankruptcy, reduced investment and higher unemployment.⁴

This theory shifts the emphasis from interest rates as a key determinant of investment (as in the post-Keynesian theory) to wage costs and productivity. When wage costs are almost ten times as large as interest costs, this can be an important refocusing.

The next chapter will review some of the evidence for Canadian manufacturing relevant to this theory to see whether application of the theory can explain the divergence between Canadian and American economic performance.

Notes

1. A convenient summary of the theory is in Dale W. Jorgensen, "Capital Theory and Investment Behaviour," *American Economic Review Papers and Proceedings* (1963), pp.247-59. As part of the decision-making process, the capital costs of new investment are made in the present, while the net additional income will only be received in the future, and that future is uncertain. The future incomes have to be discounted to a present value to make a rational investment decision.
2. D.J. Daly, "The Scope for Monetary Policy: A Synthesis," in *Conference on Stabilization Policies* (Ottawa: The Queen's Printer, 1966), pp. 1-51.
3. *Ibid.* See also an update of this discussion in Appendix B below.
4. Edmond Malinvaud, *Theory of Unemployment Reconsidered* (Oxford: Basil Blackwell, 1977); Edmond Malinvaud, *Profitability and Unemployment* (Cambridge: Cambridge University Press, 1980); and Edmond Malinvaud, "Wages and Unemployment," *Economic Journal*, March 1982, pp. 1-12. For an application of these views to investment and growth in Europe see Michel Albert and James Ball, "Towards European Economic Recovery in the 1980's" (Brussels: Report for the European Parliament, mimeo, 1984). For a discussion of these issues in an economics principles text see Richard Lipsey, *An Introduction to Positive Economics* (Cambridge: Harper and Row, Sixth Edition, 1983), p. 733.

CHAPTER 3

THE REAL WAGE THEORY APPLIED TO CANADIAN MANUFACTURING

Although the theory of real wages in relation to unemployment has been presented as an aggregative theory, it can be easily examined and tested at the industry level as well. This chapter will concentrate on manufacturing, and will put special emphasis on international comparisons between Canada and other countries. Manufacturing is particularly important for two reasons.

For one thing, trade in manufactured products has been the most rapidly growing area of world trade since the Second World War. International trade in manufactured products has been growing more rapidly than either domestic production or domestic consumption in most of the industrialized countries, reflecting the increased importance of intra-industry trade in manufactured products.

Furthermore, the post-war reductions in tariff and non-tariff barriers to trade in Canada and elsewhere together with greater increases in manufacturing capacity than in demand on a world basis are bound to put increased pressure on high cost producers to get costs more in line with alternative suppliers.¹

Canadian wage growth outstrips productivity

The evidence for both real wages and real output per hour for 1973 and 1984 can be seen in Table 3-1 for Canada, the United States and Japan. The key point for Canada is that real compensation per hour had largely caught up to U.S. levels by 1984, while output per hour was still 28 percent less. This primarily reflects the marked slowdown in the growth in real compensation per hour in the United States.

Table 3-1

**Real Wages per Hour and Real Output per Hour
United States, Canada and Japan,
1973 and 1984**

	Real Wages (U.S. 1977=100)			Real Output (U.S. 1977=100)		
	1973	1984	% Change	1973	1984	% Change
United States	100.0	105.0	+ 5.0	93.0	115.6	+ 24.3
Japan	45.7	56.3	+23.2	48.3	100.8	+108.7
Canada	87.7	104.1	+18.7	68.1	83.5	+ 22.6

Source: See Appendix A for full discussion of sources and methods. Real wages are measured by compensation per hour adjusted by consumer price index in the respective countries. Real output per hour is based on comparisons of prices and quantities at the industry level in a base period and carried forward to later years by the Bureau of Labor Statistics estimates of output per hour in manufacturing in the individual countries.

Unionization differences

It is not clear what factors have contributed to the greater increase in real wages in Canada and the corresponding disappearance of the gap in real wages between the United States and Canada. One factor could be the changing extent of unionization in the two countries.

Previous studies for Canada and the United States have indicated differences in compensation between unionized and nonunionized workers in comparable industries of 15 or 20 percent.² Furthermore, the proportion of U.S. manufacturing employees unionized has fallen from more than 50 percent in 1960 to under 30 percent in 1984, while the proportion in Canada had increased to 44.3 percent by 1982.

U.S. unions have frequently accepted wage reductions in recent years, and many states have introduced right-to-work laws, especially in the south.³ Comparable concessions in Canada have been rare, but the new wage settlements have been substantially smaller in 1983 and 1984 than over the previous decade.

The greater wage rigidities in Canada partly reflect the fact that unemploy-

ment insurance benefits in Canada are much higher in relation to incomes while working than in the United States.⁴ In addition, unionization in the public service has gone much further in Canada than in the United States. Union membership in public administration in Canada exceeded 75 percent of total employment in 1975, compared with only 23 percent in the United States in 1978.⁵ In the early stages of public sector unionization in the federal government (when Lester B. Pearson was Prime Minister), several large public sector wage increases were precedent setting.

In addition, wages in the primary industries, construction and transportation industries all increased significantly over the last two decades and these developments put pressure on wages in manufacturing to try to maintain traditional differentials.⁶

Comparison with Japan

The contrasting performance of Japan and North America is even more dramatic. Although output per hour in Japanese manufacturing more than doubled between 1973 and 1984, the increase in real wages in manufacturing was only 23 percent. About 80 percent of the productivity increase in manufacturing was passed to the buyers of manufactured products in Japan and in world markets rather than accruing to the workers in manufacturing as in Canada.⁷ By 1984 output per hour in Japanese manufacturing was higher than in Canada and only about 15 percent below the United States, while real wages were only about half the U.S. level. The much smaller increase in real wages per hour than in real output per hour has not been reflected in an increase in corporate profits and the rate of return to capital in Japan. In fact, the downtrend in the profit share has been stronger in Japan than in North America and the European countries studied.⁸

This Japanese practice of large increases in productivity combined with small increases in real wages has permitted a significant reduction in the Japanese terms of trade since the early 1970s, and a level of unit labour costs in U.S. dollars that is well below that in the other industrialized countries.

This has permitted Japan to get a significant increase in its share of the world market for manufactured products and to maintain a very low level of unemployment domestically.

International comparisons of unit labour costs

Table 3-2 summarizes the differences in unit labour costs for the major industrialized countries for 1984.

Table 3-2

**Unit Labour Costs, Manufacturing,
Major Industrialized Countries
1984, U.S. = 100**

Country	Level, U.S. = 100
United Kingdom	117.6
Canada	115.5
U.S.	100.0
Italy	95.4
Sweden	92.4
Germany	81.8
France	76.9
Japan	59.2

Source: See Appendix A.

Canada registers the second highest unit labour costs of all the countries, with only the United Kingdom being higher. Canada has been consistently higher than the United States for decades, while Japan has been one of the lowest during the post-war period. During the 1970s, many of the European countries experienced increases in domestic costs far higher than in North America, but with the depreciation in their currencies in relation to the U.S. and Canadian dollar, their unit labour costs have moved much closer to U.S. levels, with most of them below Canada since 1983.⁹

Canada's position as a high cost producer of manufactured products is reflected in a large net deficit in manufactured products. However, Canada's comparative advantage in natural resource products is reflected in a large net trade surplus in these other products and in recent years this surplus has been more than enough to finance the deficit in manufactured products and the large and growing net deficit in interest and dividends. There appears to be little evidence to suggest that Canadian external trade relationships are in fundamental disequilibrium that need correction by a significant further exchange rate depreciation.

It bears mentioning that in this respect Canada's situation is very different than that which existed in Europe until recently and which led to their currency depreciation. The difference between European and North American unit cost levels was pervasively reflected in their balance of international payments and many European governments engaged in long-

term borrowing to offset the outflows associated with trade deficits. Such borrowing artificially supported the value of European currencies. Recent depreciations have therefore been necessary to redress their balance of payments disequilibrium.

While, of course, exchange rate changes would also offset Canadian lack of competitiveness, an exchange rate depreciation would not solve the wage-productivity imbalance identified here. This is subjected to further scrutiny in Chapter 5.

As long as the pattern of high unit costs of labour identified in this chapter and other cost components persist, Canadian manufacturing is bound to experience persisting pressure on profit margins and on total rates of return. These problems are already present,¹⁰ and some of their effects will be discussed in the next chapter.

Notes

1. For a full discussion of this evidence see D.J. Daly and D.C. MacCharles, *Canadian Manufactured Exports: Constraints and Opportunities* (Montreal: I.R.P.P., forthcoming).
2. H.G. Lewis, "Union Relative Wage Effects: A Survey of Macro Estimates," *Journal of Labour Economics*, January 1983, pp. 1-27; Glenn M. MacDonald and John C. Evans, "The Size and Structure of Union — Non-Union Wage Differentials in Canadian Industry," *Canadian Journal of Economics* May 1981, pp. 216-231; and C.J. Parsley, "Labour Union Effects on Wage Gains: A Survey of Recent Literature," *Journal of Economic Literature*, March 1980, pp. 1-31.
3. Henry S. Farber, "Right-to-Work Laws and the Extent of Unionization," *Journal of Labor Economics*, July 1984, pp. 319-352, NBER Reprint No. 524.
4. Herbert G. Grubel and Josef Bonnici, *Op. cit.*
5. W.D. Wood and Pradeep Kumar, *The Current Industrial Relations Scene in Canada*, 1984 (Kingston: Industrial Relations Centre at Queen's University), p. 247; Bureau of Labour Statistics, *Handbook of Labor Statistics*, Dec. 1980 (Washington: U.S. G.P.O.), p. 408 and Dec. 1983, p. 159.
6. Economic Council of Canada, *Steering the Course*, (Ottawa: Supply and Services, 1984), p. 3 and Department of Finance, *A New Direction for Canada: An Agenda for Economic Renewal* (Ottawa, Nov. 8, 1984), p. 6. Economic Council of Canada, *Steering the Course* (Ottawa: Supply and Services, 1984), p. 73 shows the relative wages in various industries in 1962 and 1982 and illustrates the greater gains over that two decade period in primary industries, construction, and the transportation, storage and communications industries than in manufacturing.

7. D.J. Daly, "Labour Sharing of Productivity Improvement Canada — Japan Contrasts," in J.W.C. Chow et al., eds., *Productivity: Confronting the Crisis* (Edmonton: Decho Publishing, 1984), pp. 129-138.
8. John McCallum, "Wage Gaps, Factor Shares, and Real Wages," *Scandinavian Journal of Economics*, forthcoming.
9. D.J. Daly, "Cost Competitiveness in Canadian Manufacturing: The Challenge and Some Policy Options," *Productivity*, 1985, Vol. 2, No. 1, pp. and D.J. Daly, "Canada's International Competitive Position," (Ottawa: National Economic Conference Issue Paper, forthcoming).
10. D.J. Daly, D.C. MacCharles and Wendy Altwasser, "Corporate Profit Drop Is Worst Since 1930's," *The Canadian Business Review*, Autumn 1982, pp. 6-12; D.J. Daly, "High Costs and Low Productivity Erode Profits," *The Canadian Business Review*, Spring 1984, pp. 6-10 and D.J. Daly, "Inflation, Inflation Accounting and Its Effect, Canadian Manufacturing 1966—1982," *Review of Income and Wealth*, December 1985, pp. 355 to 374.

CHAPTER 4

MACROECONOMIC EFFECTS OF REAL WAGE DISEQUILIBRIUM

The last chapter summarized the highlights of the evidence that real wages per hour in Canadian manufacturing have moved ahead of the real output per hour, relative to the experience of the similar measures in both the United States and Japan, Canada's two closest competitors. This is a development that dates from about 1973. The evidence also indicates that unit labour costs in Canada continue to be higher than in the United States and Japan, a development which is not new but has persisted for decades.

What is new is that Canadian manufacturers will be more seriously affected by these high costs in the 1980s and 1990s than in earlier years with increased pressure of international excess capacity in manufacturing and lower Canadian tariffs. In this chapter, the effects of these developments on the Canadian economy will be discussed, concentrating on three areas, namely, business investment in fixed capital facilities, international investment flows and unemployment. The relevant theoretical aspects will be mentioned where deemed appropriate.

Although this study has emphasized manufacturing (and the related cost and profit problems), other industries and regions in Canada have also experienced further problems during the 1980s. The unemployment rate in B.C. in 1986 continued well above the 1981 level, reflecting continuing problems in forestry and other primary industries. The sharp drop in world petroleum prices is bound to further set back exploration in both frontier oil and tar sands developments and in Alberta. Unemployment rates in the Atlantic provinces also persist well above the 1981 level. The strong pick up in U.S. economic activity that was persisting in early 1986 had not led to a pick up in Canada's primary industries to the same degree as in earlier

post-war expansions. This absence of a strong recovery in the primary industries was reflected in some weakness in natural resource prices. This was reflected in a significantly lower level in Canada's terms of trade in late 1985 than the peak levels reached in 1976. The weakness in the natural resources industries and in construction partly reflect the problems in manufacturing and did not provide alternative sources of strength when the problems in manufacturing persisted. In some instances, there were problems of high real wages similar, in some respect, to the problems in manufacturing emphasized in this study.

This study has emphasized the effects of the longer-term problems of high costs, high real wages and low productivity in manufacturing on the recent problems in the Canadian economy as a whole. Developments in manufacturing are important when about two-thirds of the Canadian labour force are in Ontario and Quebec. However, there are unemployment problems outside the major areas of manufacturing in Ontario and Quebec as well. Unemployment rates in British Columbia and the Prairies in the winter months of 1985-86 were still about double the rates in the 1980 pre-recession level on a seasonally adjusted basis. The Maritimes also still have higher unemployment rates than in the pre-recession period. However, manufacturing merits special attention when almost two-thirds of the Canadian labour force is in Ontario and Quebec, and manufacturing has become so important in light of the dynamic developments in world trade in manufactured products.

I. ON BUSINESS FIXED CAPITAL INVESTMENT

Business investment has been given a key emphasis in macroeconomic analysis and forecasting since Keynes's *General Theory*. A factor affecting business investment is the pressure of demand against capacity (both current and anticipated). This is understandably regarded as important in influencing the profitability of the additional investment. Of course, for any given level of aggregate demand, the higher the level of the existing capital capacity the less will be the investment response. (Hence, the focus on capacity utilization measures in the popular press.) Given both the level of output and the level of capacity, Keynesian theory predicts that interest rates have a final determining effect. This central role of interest rates is said to emerge for two reasons. First, additional net incomes to the firm from the investment would have to be discounted to the present to compare it with the additional capital costs being considered for a current decision on a rational basis. A higher discount rate would reduce the present value

of any such future incomes. A higher interest rate would also involve higher costs in the future for interest costs on any borrowing associated with the financing of the additional investment.¹

Failure of a central link

While in the Keynesian view, interest rates play a very important role in determining the level of investment, research has not confirmed this dependency. A series of studies of the effects of interest rates on business investment have been done in the United Kingdom, the United States and Canada in the past, using both econometric models and company questionnaires and interviews. Such studies conclude that such interest rate effects are quite small. Several reasons have been put forth to explain such small effects. For one thing, interest costs were still only about 1.5 percent of total costs at the beginning of the 1980s, in spite of the increased importance of external funding in the growth of corporate assets and higher interest rates. Salaries and wages were about 10 to 15 times the size of interest costs in the early 1980s, and costs of purchased materials and components were about forty times interest costs. Furthermore, interest costs are deductible as an expense in estimating corporate profits for tax purposes, so an important part of any higher interest rates are paid for in effect by lower corporate profits taxes.²

Questioning the Department of Finance view

In light of the limited influence of interest rates on business investment decisions, it is surprising the emphasis that was put on this point in the November 8th, 1984 paper by the Department of Finance. There were more than twenty references to high nominal and real interest rates in the first twenty pages of that study.³ The emphasis in that study on the need to reduce the size of the federal deficits in both the United States and Canada was critically dependent on the view that lower interest rates were essential to encourage the private sector to increase investment and thereby economic growth.

There are three important problems in practice with such an emphasis. For one thing, the more comprehensive empirical work on economic growth indicates that a wide range of factors were important in the early high rates of growth, and that single-factor theories of economic growth or the slowdown since 1973 are inadequate.⁴

Secondly, evidence from the historical experience of the United States with large budget deficits was that this had not led to high interest rates. After a careful recent study, Paul Evans concludes that large deficits had

never been associated with high interest rates in over a century of U.S. history. There is precious little evidence that federal budget deficits are an important factor in the determination of interest rates, capital accumulation and economic growth.⁵ Thirdly, the evidence summarized in the previous paragraph indicates that changes in interest rates only have a very limited influence on business capital spending even when changes in interest rates do take place.

An alternative real-wage explanation of investment behaviour

An alternative theory implied in the recent work on real wage unemployment by Edmond Malinvaud and others would emphasize the importance of real wages and real productivity as a basic determinant of business investment. Certainly this theory has some promise of being on the right track, when labour income is such a large part of national income. Labour income for example, was slightly less than 80 percent of net national income in 1929 and had increased to about 83 percent by late in the 1970s.⁶ In Canadian manufacturing, labour income was 64 percent of GDP in manufacturing in the early 1980s (the figure is lower than for the U.S. because Canadian national income includes depreciation and depletion).⁷

Real wages and the marginal physical product would be equal in equilibrium in the rarified world of the economist's competitive model, although imperfections or disequilibrium conditions could exist that could prevent the long-run stability that the theory implies.

Under conditions of "perfect" competition where all business conditions had been correctly anticipated and, in particular, the markets for labour were functioning freely, real wages would equal real marginal productivity. (The last workers hired would be paid exactly their contribution to the output of the firm that hired them.) However, even in theory and especially in the "real world," imperfections in information and reaction as well as other factors can be expected to create divergences between real wages and real productivity. If these divergences persist then other adjustments in behaviour also can be expected — in particular, an unwillingness of firms to expand their production levels and/or employment. This in turn would be reflected in the amount of investment undertaken.

What evidence is there that such a real wage disequilibrium could exist in Canada in the early 1980s? Table 3-1 and the related discussion in Chapter 3 pointed out that real wages in Canadian manufacturing had essentially caught up to real wages in the United States. There, real hourly compensation increased only 0.44 percent per year from 1973 to 1984, compared to 2.44 from 1950 to 1973 a drop of 2.0 percent per year or only one-fifth

the rate of the previous period. On the other hand, the gap in output per hour was still 28 percent in 1984, so the gap in real wages had essentially disappeared, while the gap in productivity has persisted. Such a large difference in real wages compared to real productivity is bound to contribute to a squeeze on corporate profit margins in manufacturing, especially when international competition in manufactured products was vigorous.

The contrasts with Japan were even more dramatic, as real output per hour had increased far more rapidly than real wages. By 1984 real compensation per hour in Japanese manufacturing was roughly 55 percent of the North American level, while output per hour was about 20 percent higher than in Canada and only about 15 percent below the U.S.

The wages-profit-investment linkage

In an open economy the greater increases in real wages than in real output per hour would tend to lead to a squeeze on corporate profits. This has happened in fact in Canada. As a measure of this, we have prepared estimates of the total return to capital in manufacturing. Reported corporate profits have been adjusted to put profits on a replacement cost basis to allow for the fact that depreciation allowances as reported for tax purposes are well below the current replacement costs of physical assets. The total returns to capital include interest costs as well as profits. The corporate balance sheets have been adjusted also to put physical assets such as plant, equipment and inventories on a replacement cost basis.

Such adjustments show the total rate of return to manufacturing assets in 1981 and 1982 at the lowest level since the 1930s. On the other hand, interest rates (both nominal and adjusted for higher price levels) had moved to all time highs. In the 1960s and 1970s, rates of return on physical assets in manufacturing were above the interest rate on long-term corporate bonds, but by the early 1980s, declines in rates of return in manufacturing and increases in market interest rates had changed the picture radically.

For the 1983 to 1986 period, the total rate of return in manufacturing is estimated at only 6.6 on an inflation adjusted basis before tax, well below the return of 12.1 on the same basis in the 1973 to 1976 period. On the other hand, the long-term corporate bond rate in Canada had increased from about 9.7 percent in 1973 to 12.5 percent in 1983 to 1986. When capacity utilization rates are lower, and rates of future growth have been revised downward from a decade ago, there is just not the same incentive for expansion in manufacturing as a decade ago.

Table 4-1

**Return on Total Capital Before Tax,
Canadian Manufacturing
1966 — 1986**

Year	Return on total capital		Long-term Corporate Bond Rate
	Historical Cost	Inflation Adjusted	
1966	14.9%	13.6%	6.9%
1967	13.7%	11.6%	7.7%
1968	14.1%	11.7%	8.2%
1969	15.2%	12.1%	9.7%
1970	11.2%	8.7%	8.8%
1971	12.0%	9.2%	8.2%
1972	13.6%	9.7%	8.2%
1973	19.9%	13.7%	8.6%
1974	23.3%	15.2%	10.2%
1975	18.5%	10.3%	10.8%
1976	16.5%	9.3%	9.4%
1977	15.5%	8.1%	9.7%
1978	18.3%	9.4%	10.3%
1979	22.2%	11.9%	12.2%
1980	20.8%	10.5%	13.3%
1981	18.1%	7.9%	16.3%
1982	9.9%	1.9%	15.9%
1983 P	13.0%	5.0%	12.7%
1984 P	16.2%	7.4%	13.5%
1985 E	16.3%	7.2%	11.7%
1986 E	16.4%	6.8%	12.2%

P = Preliminary Data

E = Estimated

By the 1980s, companies in manufacturing could be better off financially by investing in government bonds (or by repaying corporate indebtedness) rather than by investing funds in durable physical assets.⁸ This shift in the financial rates of return helps explain the dramatic drop in business investment and also the increased financial activity in the area of mergers and acquisitions. Paper entrepreneurialism is replacing priority on plant and

equipment as a source of corporate profits and growth. The greater weakness in real business investment in Canada than in the U.S. from 1981 to 1985 can be seen in Chart 5.

Part of this decline in corporate profits and rates of return in Canadian manufacturing reflect the severity of the 1981-82 recession, of course. However, an important part of the problem is high real wages, lower real productivity and consequently high unit costs of labour. In so far as these longer-term factors are also present, they would operate to increase the vulnerability of the economy to such external shocks as the recession, and in turn lead to a more severe recession and a slower subsequent recovery. All of these other symptoms are apparent in the developments since 1979 in Canada, in spite of a U.S. recovery in line with past U.S. expansions, a stronger international trade and balance of payments position in Canada, a larger fiscal deficit and lower real interest rates, as pointed out in Chapter 1.

The theme that high real wages are a factor in the greater severity of the Canadian recession in 1981-82 and the sluggish performance in business investment and total output in the subsequent recovery is well supported by the available evidence for Canada.

II. EFFECTS ON INTERNATIONAL INVESTMENT FLOWS

In light of the evidence on high real wages and high unit labour and other costs in Canada, one would expect that Canada would become a less attractive location for international direct investment in manufacturing, and that Canadian firms would consider making more investment in other countries rather than in Canada. Both of these developments are already clearly under way.

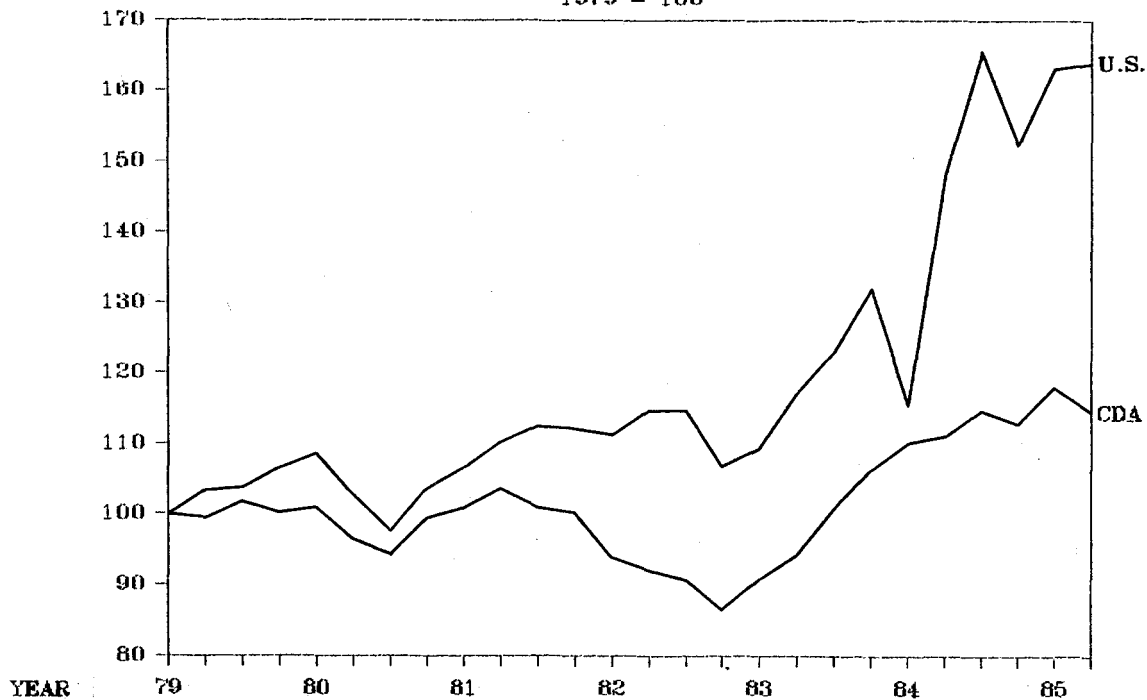
Increases in Canadian foreign investment

Foreign direct investment in Canada has been an important part of total investment in manufacturing and other industries since the 1920s and even earlier. Direct investment has also been an important part of direct investment from the developed market economies. The Canadian share of the stock of inward direct investment from the developed market economies was in excess of 25 percent in the late 1960s, but this had fallen to less than 18 percent in the late 1970s. The Canadian share of inward direct investment flows was down to only 3 percent for the 1974-79 period.⁹

Some changes in the screening process for new foreign direct investment have been made with the replacement of the Foreign Investment Review

CHART 5
IMPORT VOLUME

1979 = 100



Act by Investment Canada in 1985, to raise the size limits for screening and to streamline the review process somewhat. This reflects a shift in attitudes of the new government, but there are other economic factors that continue to be very important in limiting foreign direct investment, especially in Canadian manufacturing.

A further striking development is the growth of foreign direct investment by Canadian companies. The rate of increase in Canadian equity investment in United States manufacturing was about 25 percent per year from 1975 to 1980. Canadian equity investment in manufacturing abroad is now approaching half of foreign equity investment in Canada.¹⁰ The extent of this shift has not been widely recognized or discussed in Canada.

Two recent studies indicate that the interest in foreign direct investment by Canadian manufacturing firms has continued, or even increased, and that it is quite important for small and medium-sized firms and is not limited to large Canadian firms. Company interviews of a number of small Canadian-owned firms (usually with less than 400 employees) were conducted in 1982. A number of the more dynamic and entrepreneurial firms had found some particular niche in the world market so attractive and profitable (even in the depths of the 1981-82 recession), that they were considering future expansion. However, a high proportion of them were considering making their next round of expansion outside of Canada. Many were considering the United States, but Ireland and some of the countries in the Pacific Rim were also being considered by a few. Their primary concerns about expansion in Canada and exporting were concerns about the longer-term environment that contributed to high costs, high wages, high taxes, and problems in labour management relations in Canada. It was also significant that these factors were given much more emphasis by the business executives in their planning than the current or future changes in tariffs.¹¹ Similar conclusions were reached in a survey of 300 Ontario manufacturers conducted by the Canadian Federation of Independent Business in late 1983 and early 1984. The survey covered firms employing more than 20 employees. About one-sixth of the respondents currently have a plant in the U.S. and an additional one-fourth of respondents have recently investigated the possibility of moving to an American location. The primary concerns of the responding companies related to higher labour costs (both wages and benefits), high municipal and business taxes, and the costs of meeting legislated labour standards.¹²

III. EFFECTS ON UNEMPLOYMENT LEVELS

A major contention of this study is that disequilibrium at the macro level in manufacturing in real wages, real productivity and a variety of measures of costs is contributing to serious adjustment problems in manufacturing. This section will consider whether other broad industries may develop sufficiently rapidly that they can offset any continuing adjustments in manufacturing and contribute to a reasonably satisfactory growth and eventually a reduction in unemployment levels. The risky nature of such speculations about the medium-term is recognized,¹³ but it is put forth to indicate that the scenario being sketched deserves consideration as a basis of planning for public policy purposes.

Historically, natural resources have been a major factor in the growth of the Canadian economy, and there is no doubt that natural resources continue to be an area of comparative advantage. However, there are a number of well-established trends that suggest caution in counting too heavily on this sector continuing to be as important in the future as it has been in the past. A number of factors have contributed to lessened requirements of natural resources relative to world real incomes, including new materials (such as plastics, ceramics, and fiber optics) and more effective reclamation of scrap, etc. This has been reflected in relative declines in employment and output in such natural resource sectors as agriculture and mining since before the First World War, and international trade in natural resources have been a falling share of world trade since early in the present century. These trends reflect a widespread tendency for many of these natural resource products to have very low income elasticities of demand. In addition, new sources of supply have been developed and Australia, Brazil and some of the developing countries have expanded production and their share of world exports. Canadian reserves of some products have declined and the costs of developing new mineral sites have increased appreciably over the last two decades. Canada no longer has the superiority on reserves and costs that it had three decades ago, with nickel being an obvious example. Under these circumstances, it seems unlikely that the employment growth in the natural resource sector can be sufficiently great to offset any employment declines in the much larger manufacturing sector.

The service sector is a very large and diverse group of industries, that are usually defined to include transportation; storage; communications; electricity; gas and water; wholesale and retail trade; finance insurance and real estate; public administration and defence; business and personal services; education and related services; and health and welfare services. The relative importance of these industries in the industrial composition of GDP can be seen in Table 4-2.

Table 4-2

**Services and Goods — Producing Industries,
Percent of GDP at Factor Cost, 1980**

Services:	
Transportation	5.4
Storage	0.3
Communications	2.8
Electricity, gas and water	3.5
Wholesale trade	4.7
Retail trade	6.3
Finance, insurance and real estate	10.6
Public administration and defence	7.5
Business and personal services	9.8
Education and related services	5.3
Health and welfare services	<u>5.5</u>
Total services	62.0
Goods-producing industries:	
Agriculture	3.3
Forestry, fishing and trapping	1.1
Mines, quarries, and oil wells	6.5
Manufacturing	21.6
Construction	<u>5.8</u>
	38.0

Source: Economic Council of Canada, *The Bottom Line: Technology, Trade and Income Growth* (Ottawa: Supply and Services, 1983), p. 12.

Although it seems likely that these service sectors will continue to be a high and growing share of total employment and GDP, it seems unlikely that they can provide a large growth in employment with high real incomes if many of the commodity producing industries continue to experience problems. For one thing, many of the sales in many service sectors are closely tied to incomes in and demands from the goods industries. In addition, changed demographic trends and increased budget constraints at all three levels of government are being reflected in much smaller employment growth in such service sectors as public administration, education, and health and welfare services. In many of these sectors, production and consump-

tion are heavily localized, and many of them would be included in the “non-traded goods” categorization used in much of the international trade literature.

In recent years there has been a significant increase in international trade in services on a world basis, and interest in this area has been increased by strong pressures from the United States Administration to put the freeing up of restrictions on trade in services as an important agenda item on any future multilateral trade negotiations. From 1977 to 1984, receipts from services by all industrial countries increased by about 150 percent, while the increase in export of goods was about 70 percent. In Canada, on the other hand, the percentage increase in receipts on services was smaller than for all industrial countries, and less than the increase in Canadian merchandise exports. In 1984, receipts on service transactions in Canada were about 15 percent of all receipts on current transactions in the balance of payments, while the comparable percentage in the United States was about 40 percent. For Canada, receipts from exports of services are only a small share of total receipts for balance of payments purposes, while services are a large part of domestic GDP by industry. Most services are produced and consumed locally and exports of services are less than 10 percent of domestic production of services.

Merchandise exports, on the other hand, are almost equal to GDP in the commodity producing industries in 1984.¹⁴ These data suggest that service exports are not an area of comparative advantage for Canada, although there may be some selective areas for potential growth, but we are not aware of any careful studies of past or potential exports of services by Canada.

This broad comparison suggests that the areas of rapid growth in world trade are in manufacturing and in services, while neither of these areas are apparently areas of comparative advantage for Canada. On the other hand, the natural resource sector, which is an area of comparative advantage for Canada, has been a slow growth area in world trade since before the First World War. The recent cost and productivity performance and the present structure of Canadian industries relative to past trends in the world economy suggest that the high unemployment levels could be more than short term and cyclical in nature. It appears unlikely that developments in either the natural resource or service sectors can be sufficiently vigorous on their own to offset the persisting structural problems that appear to be continuing in Canadian manufacturing. In the next chapter we examine the policy options open to deal with these problems.

Notes

1. For a convenient summary of the theory see Dale W. Jorgensen, "Capital Theory and Investment Behaviour," *American Economic Review Papers and Proceedings* (1963), pp. 247-59. This paragraph emphasizes the effects of interest rates on the level of final demand in the investment area, while other parts of the theory discuss the determinants of interest rates in financial markets.
2. Statistics Canada, *Corporations and Labour Unions Returns Act Report for 1979* (Ottawa: Supply and Services, 1979), pp. 187-188; D.J. Daly, "The Scope for Monetary Policy — A Synthesis," in Economic Council of Canada, *Conference on Stabilization Policies* (Ottawa: Supply and Services, 1979), pp. 187-188 and D.J. Daly, "Interest Rates and Real Expenditure Decisions," in Klaus Weiermair, et al. *Contributions in Macroeconomic Theory and Policy* (Lexington, Mass: Ginn, 1984), pp. 1-7. However the above references all indicate a significant response of housing investment both for owner-occupied housing and apartments to changes in interest rates. Interest costs are typically much higher in relation to income for homeowners than for business firms, and interest costs for housing are not deductible from income for homeowners in Canada.
3. Department of Finance, *A New Direction for Canada: An Agenda for Economic Renewal* (Ottawa: Nov. 8, 1984).
4. The most comprehensive framework applied to economic growth over time and to inter-country differences in levels is that by Edward F. Denison. The major studies are Edward F. Denison, assisted by Jean-Pierre Poulhier, *Why Growth Rates Differ: Postwar Experience in Nine Western Countries* (Washington: The Brookings Institution, 1967); Edward F. Denison, *Accounting for United States Economic Growth 1929-1969* (Washington: The Brookings Institution, 1974); and Edward F. Denison, *Accounting for Slower Economic Growth: The United States in the 1970's* (Washington: The Brookings Institution, 1979). For an application of the methods used in the 1967 study to Canada see Dorothy Walters, *Canadian Income Levels and Growth: An International Perspective* (Ottawa: The Queen's Printer, 1968) and Dorothy Walters, *Canadian Growth Revisited, 1950-1967*, (Ottawa: Economic Council of Canada, 1970).
5. Paul Evans. "Do Large Deficits Produce High Interest Rates?," *American Economic Review*, March 1985, pp. 68-87.
6. Edward F. Denison, *Accounting for Slower Economic Growth*, pp. 170-171.
7. Statistics Canada, *National Income and Expenditure Accounts, 1967-1981* (Ottawa: December 1982), pp. 36-37. Depreciation is a higher share of GNP than in the U.S.
8. For a fuller discussion of the methods and results see the studies referred to in footnote 10 Chapter 3. It is recognized that the rate of return is an average for all manufacturing, while the marginal rate of return on particular investments

by individual firms could still be sufficiently attractive for companies to invest, but such examples would be more selective than in earlier periods of more demand pressure and greater profitability.

9. A.E. Safarian, *Governments and Multinationals: Policies in the Developed Countries* (Washington, D.C.: British-North America Committee, 1983), pp. 94-96; U.S. Department of Commerce, *International Direct Investment: Global Trends and the U.S. Role* (Washington: U.S. G.P.O., August 1984, and Statistics Canada, *Canada's International Investment Position, 1979 and 1980* (Ottawa: Supply and Services, 1984), pp. 21, 48 and 55. Some of these sources cover the economy as a whole, but the Statistics Canada publication has data separately for manufacturing as well.
10. See the references in footnote 9 above.
11. D.J. Daly and D.C. MacCharles, *Canadian Manufactured Exports*.
12. Judith McDonald, *Manufacturing Migration Study* (Toronto: Canadian Federation of Independent Business, March 8, 1984).
13. William R. Cline, "Long-Term Forecasts in International Economics," *A.E.R.*, May 1985, pp. 120-126. His example of longer-term forecasts that had gone awry included the secular terms of trade, the dollar shortage, raw materials shortages, balance of payments and oil prices.
14. The comparisons of exports of services and goods for the industrial countries, U.S.A., and Canada are based on data in International Monetary Fund, *World Economic Outlook* (Washington: April 1984), Occasional Paper No. 27, Table 18, p. 188; Department of Commerce, *Business Conditions Digest*, April 1985 (Washington: U.S. G.P.O.), p. 83; and *Bank of Canada Review* (Ottawa: May 1985), Table J2, p. S 134.

CHAPTER 5

PUBLIC POLICY RESPONSES TO REAL WAGE UNEMPLOYMENT

I. PRIORITIES FOR PUBLIC POLICY

The purpose of this chapter is to review the broad policy options open to government, and to sketch some areas of policy that seem particularly promising in dealing with real wage unemployment. In some cases some of the policies are already in operation, and few of them will be new to those readers who have been following these issues closely.

A major theme throughout previous chapters of this volume is that Canada's persisting problems of high cost and low productivity in manufacturing are acting as an important constraint on exports of manufactured products, and contributing to increased import penetration in domestic markets. When real wages have increased more rapidly than real output in manufacturing, corporate profits and total rates of return in manufacturing have been squeezed. These developments in turn have led to an increase in plant closures, corporate bankruptcies and a high level of unemployment that has persisted well beyond the start of the expansion in December 1982.

Historically, Canada has managed to have a fairly high level of economic growth and a viable balance of payments partly from its traditional emphasis on exports of natural resources, and the associated investment and employment in those sectors, and the related processing, manufacturing, transportation and related industries in the service sector. These industries continue to be necessary, but no longer sufficient, partly because the long-term growth in the world market for these products is low, but also because new sources of supply have been developed that provide high quality materials at competitive prices.

Although some areas of manufacturing are internationally competitive, and some important success stories exist, secondary manufacturing has not been an area of comparative advantage historically. Evidence on Canada's high cost and low productivity levels in manufacturing compared to the United States goes back to the 1950s and 1960s, and even to the 1930s. When this pattern has been present for so long, why is it being given this high degree of emphasis in the 1980s?

Three changes have taken place that make the problems more acute in the 1980s than they had been in the 1950s. Firstly, Canadian tariff rates have been reduced significantly, so that by the time the last of the reductions under the Tokyo Round have been implemented, nominal tariffs will be about 15 percent of the rates present three decades ago. Reductions in the effective tariff rates (based on rates on the value-added portion of manufacturing costs) have been even greater. Secondly, there was still significant pressure of demand against capacity in the world market for manufactured products in the 1950s, and this permitted exports by Canadian firms under certain conditions. These two changes since the 1950s required Canada to bring its costs down closer to the costs and prices of its closest competitors. In addition, the rebuilding of Europe and Japan and the development of the manufacturing capacity in the newly industrialized countries has increased the extent of competition in manufacturing. Costs in Canada continue to be above its closest competitors. However, the cost differences are not as great as they had been in some earlier years, as can be seen in Table A-4 in Appendix A, which shows cost comparisons for Canadian manufacturing in relation to the United States, Japan and some of the major European currencies for selected years from 1950 to 1984.

Unit labour costs in U.S. dollars continued to be higher in Canada than the United States in spite of a drop in the value of the Canadian dollar of more than 25 percent from 1974 to 1984, of which 10 percent took place between 1980 and 1984. Unit labour costs in Japan continued well below North American levels in 1984 to a greater extent than for any year since 1970. The Japanese experience was unique, based on a number of favourable developments. Macro policies of restraint led to moderate increases in compensation per hour, especially since 1975. The increases in output per hour in Japanese manufacturing have been more rapid than in the other industrialized countries since 1973 (as shown in Table 1-1). In addition, a major part of these large productivity increases were passed along to the buyers of manufactured products internationally. These developments permitted Japan to attain and maintain a large and growing share of the growing volume of world trade in manufactured products.

When Canadian manufactured costs had started off at a high level in relation to its closest competitors in the 1950s and 1960s, the reduction in tariffs and the increased world capacity in manufactured products relative to demand have intensified international competition both in the world export market and in the Canadian domestic market.

These developments in the Canadian manufacturing sector, the most rapidly growing area of world trade, have an important impact on the national aggregates of profits, investment, employment, international capital flows and unemployment, as discussed in previous chapters. The current mix of monetary, fiscal and exchange rate policies are not working effectively to achieve the broad goals of economic growth, rising real incomes and low or moderate rates of unemployment and no increase in the rate of inflation. The following pages will review some of the broad options that are available to see how effective they are in dealing with the problems that have been outlined.

II. SOME POLICY OPTIONS FOR CANADA

What are the policy options for the Progressive Conservative Government in Canada? They have a large majority in the House of Commons and may be able to make hard choices if the nature of the longer-term problems have been correctly identified and explained. It seems clear that the existing package of policies — fiscal, monetary, exchange rate, tariffs, taxes, subsidies, transfer payments, etc. — is not working effectively to achieve the broad social and economic goals that many Canadians want. This section will discuss measures that would permit both a longer-term reduction in unemployment and increased real incomes for the future, but avoid any longer-term increase in the balance of payments deficit or further reductions in the Canadian exchange rate. Four broad alternative strategies will be outlined, namely: a general policy of macro demand stimulation; monetary and exchange rate policies that would permit and/or encourage an exchange rate depreciation; an industrial strategy of active government initiative; and a broader emphasis on policies to emphasize and encourage supply-side adjustment and productivity improvement. Each of these four policy options will be reviewed in turn. The effects, if any, of each option on the competitive position of Canadian manufacturing will be assessed.

1. Demand stimulus

One policy option is a more stimulative fiscal policy via increased government expenditures and/or tax reductions. This is the policy route that most

closely follows the Keynesian model, with an emphasis on discretionary changes in government policy to offset weakness in demand in the private sector.

There are two basic problems with this approach for Canada in the mid-1980s. For one thing, the federal budget deficit is already roughly \$35 billion, and will stay high for the balance of the decade. Furthermore, the federal debt outstanding is going up very rapidly, and more rapidly than GNP. Federal interest costs were about 25 percent of federal revenues in 1983 and will grow in relative importance compared to both government revenues and expenditures.¹ The deficit is already fairly large and when it is being mainly financed by sales of bonds to the general public in a period of monetary restraint it contributes to high nominal and real rates of interest and some crowding out of private investment, primarily housing investment which is extremely sensitive to high interest rates.

A second problem with this approach is that this policy emphasis tends to regard the demand weakness and high unemployment as demand deficiency and ignores the role of high costs and supply-side problems in manufacturing as central factors contributing to low profits, low investment, plant closures and high unemployment associated with high manufacturing costs.

Such stimulative fiscal policies would provide no solution in the foreseeable future to the lack of international competitiveness and the disequilibrium between real wages and real productivity in manufacturing that this volume has emphasized.

2. Exchange depreciation

A second policy option is a more stimulative monetary policy that would lead to lower nominal interest rates. If such a policy led to lower nominal and real interest rates in Canada and a narrowing in the interest rate differentials in relation to the United States, this could lead to a decline in the value of the Canadian dollar internationally. This would clearly lead to an improvement in profits in the natural resource exporting industries, and the extent of the profits increases in those industries could be large and their onset quick. When prices are largely determined in foreign markets and contracts are quoted in foreign currencies, an exchange rate depreciation increases sales in Canadian dollars. When most costs are incurred in domestic currencies, the increases in profits can be dramatic.

The situation is different for manufacturing, however. Many of the costs of materials and components at the level of the firm are associated with imported materials, so an exchange depreciation will increase all such costs.

However, revenues do not increase correspondingly as exports of manufactured products are still smaller than imports, although growing. In other words, the initial impact of an exchange rate depreciation would have a negative effect on corporate profits in manufacturing — the sector that is already under profit pressure from high costs in a more competitive world market for manufactured products. An exchange rate depreciation would have a *negative* effect on profits, with plausible assumptions about pricing, costs and quantities produced and traded internationally.² It would not provide any longer-term solution to the disequilibrium in the levels of real output per hour and real wages per hour discussed in previous chapters. Some of those who advocate more expansionary fiscal and monetary policy feel that modifications in macro policy are sufficient, and that the market system can be relied on to allocate labour and capital resources between industries and firms, although some would recognize that such shifts are sometimes slow and could involve some costs of adjustment.

A major theme of this monograph is that the Canadian problems of international competitiveness arise at the micro level of manufacturing, rather than balance of payments problems at the macro level. During the 1980s the surplus on trade has been sufficiently larger to cover the large deficit on invisibles and permit some capital outflows.

The U.S. situation in the mid-1980s is quite different. The United States has had a large current account deficit in its balance of payments and has needed large capital inflows to finance their international deficit. The extent of their international borrowing has shifted their international investment position to a net debtor country, and the extent of their international indebtedness is growing rapidly. They also have some problems of international competitiveness in manufacturing, but the extent of their problems are not as widespread by country or industry as the Canadian situation. Their situation in 1984 and 1985 was more clearly a macro problem of a high value of the U.S. dollar for which an exchange rate depreciation would help, and such a diagnosis would be widely accepted as a partial solution in the United States, Europe and Japan. The U.S. dollar has declined from earlier highs.

The European situation in the late 1970s was also one where an exchange rate depreciation would help. At that time, compensation per hour was about 25 percent or more higher in Germany and Sweden than in the U.S., while output per hour was below U.S. levels. In 1980, unit labour costs in Germany and Italy were one-third higher than in the U.S., two-thirds higher in Germany and Sweden and the U.K. was roughly double the U.S. level. Large international capital inflows had been necessary to maintain their exchange rate levels, and when such capital inflows slowed down, many of

the European exchange rates have declined sharply, bringing their unit labour costs closer to U.S. levels once again (some a bit above and some a bit below U.S. levels, as can be seen in Appendix Table A-4).

It should also be noted that a decline in the value of the Canadian dollar need not have any significant effect on the real-wage-real-productivity disequilibrium that has been emphasized for Canada in Chapters 3 and 4. An exchange rate depreciation would put upward pressure on prices of imported products and components in Canadian dollars, but the Canadian price level is more a result of domestic monetary policy easiness than exchange rate changes. Real wages in Canadian manufacturing are closer to U.S. levels in recent years than at any time in history in spite of an exchange rate depreciation of the Canadian dollar since 1975 that is in excess of 25 percent in relation to the U.S. dollar.

Exchange rate depreciations of the European currencies in 1980 or the U.S. dollar in 1984 seem appropriate for the problems they were then experiencing, but that does not seem a satisfactory solution to the rather different Canadian problems of the 1980s. The Canadian problems in the mid-1980s are more at the micro level in manufacturing rather than fundamental disequilibrium in the exchange rate, balance of payments situation in aggregate.

3. An industrial strategy of active government initiatives

A third policy option might arise from the judgement that macro policies are *insufficient* and a much more active set of industrial policies would be necessary. Authors of such policy suggestions sometimes have serious doubts that the price system and the profit motive would lead to a result in line with social needs. They advocate the active encouragement of firms, products and industries that have been growing rapidly in world trade, while encouraging the withdrawal of resources from sectors that are growing slowly or are subject to international competition from low cost suppliers such as the non-industrialized countries (NICs) in the Pacific Rim. This sometimes involves an encouragement of high-tech industries, and the associated research and development expenditures on natural science and engineering functions and personnel. Views along these lines have been put forth by the Science Council of Canada and its staff over the years.³

This policy option has a number of problems, however. For one thing, some of the more dynamic and promising developments in exports of manufactured products are taking place in firms of 100 to 300 employees who have specialized in a narrow range of products that have been overlooked by the large firms in large countries. They have identified a "niche"

in the world market that matches the skills and aptitudes of existing management and senior employees. Civil servants do not have the information to identify these potential winners ahead of time. Furthermore, politicians are more likely to follow policies that would prop up the losers by subsidies, financial bail-outs, or non-tariff barriers rather than identifying and helping the potential winners. Such selective industrial policies could very well slow or prevent change and adjustment and maintain the status quo and the existing elites rather than encourage the change and specialization that the earlier analysis suggested was necessary.

4. Environmental or generic supply policies

A major theme in a recent volume about U.S. competitiveness in world trade, edited by Bruce Scott and George Lodge is that an important part of the success of the Japanese and the NICs is the high priority that these societies and governments put on growth and efficiency relative to the emphasis on security and income redistribution that has been an important aspect of economic and social policies of the North American and European economies. Their recommendations to the United States (and Canada and the European economies for that matter) is to put more emphasis on policies that will increase investment in human capital (education for the young and continuing training and retraining for older workers and women reentering the labour force), high savings, high investment, improved corporate taxation, better labour market policies and adjustment assistance to shift resources out of declining firms and industries as identified by the market.⁴ They are not trying to identify individual firms and industries with growth potential. Rather these policies would be relatively neutral between different firms and industries. The theme is more to unleash the Schumpeterian forces that redistribution have thwarted, and let the market sort out the winners from the losers.

Although the Scott-Lodge analysis was directed at meeting the challenge of import competition in the U.S. from Japan and the NICs, the same analysis is broadly applicable to Canada. However, for Canada the problem of import competition is not limited to competition from a few countries providing a small share of Canadian imports, but is a widespread problem in trade with the other industrialized countries as well. It is thus a much more widespread and serious problem for Canada than it is for the United States. However, to date the topic has had less attention from academics and civil servants in Canada even though the problem is more serious.⁵

5. The route to reform — supply-side policies

The most promising route to get unemployment down, achieve increased real incomes and restrain inflation is by increased emphasis on supply policies. When an efficient country like the United States is having to reassess the historic tradeoffs between growth on the one hand and stability and income redistribution on the other, it is time for a high cost and high real wage country like Canada to get its priorities straight and get back to basics like competitive costs in an increasingly interdependent and competitive world economy. This is crucial for an open economy of the size of Canada.

In recent decades the federal government in Canada had put a very high priority on policies which would lead to a redistribution of income. Some of the major developments would include family allowances, health insurance, old age pensions, payments by the federal government to the provinces, and other payments for income redistribution. In 1983, for example, the federal government was spending about \$28 billion on transfers to persons, \$17 billion on interest on the public debt, and \$17 billion on payments to provinces. These payments reflected the government's heavy emphasis on income redistribution, and these relatively large expenditures were reflected in higher ratios of taxes to GNP than in the United States and Japan, although still less than in some of the countries in northwest Europe such as Sweden.

On the other hand, measures to encourage increased productivity have not been given high priority nor has there been a sufficient degree of support for business. A better balance between policies to increase productivity and levels of real income per person employed and policies to redistribute income are long overdue in Canada. What is needed is more emphasis on the quantity and quality of the pies being produced rather than the past preoccupation with the division of the pie — in this case the national income.

III. EXAMPLES OF POLICY STEPS TO BE TAKEN

Examples of concrete steps which should be given increased emphasis in the longer-term for consideration by the government would include the following major suggestions. None of these proposals are new, but they take on new importance and relevance in light of the discussion in earlier parts of this study.

1. Commercial policy

A theme in this study is that many of Canada's historic problems of high cost and low productivity levels are a heritage of the policies of protectionism which Canada introduced in the latter part of the 19th century. Since the 1930s Canada has begun an extended period of reduction in tariff barriers, partly in co-operation with the international reductions that have taken place under GATT. It is important that these policies be continued and Canada should resist the continuing pressure for non-tariff barriers against imports, particularly against imports from Japan and the LDCs. The freeing up of trade and capital flows in the world economy over the last three decades has contributed to the major increase in world trade which has taken place and has helped to increase living standards in both the industrialized and developing countries. Renewed protectionist measures, of either the tariff or non-tariff variety, would have adverse effects. Over the past three decades it has been the smaller countries that have achieved the biggest increases in real income and international trade and a reversal of this increased international interdependence would have serious adverse effects on countries with small populations heavily tied into the rest of the world economy, such as Canada.⁶ In the earlier post-war years, Canada had provided important leadership and initiatives in such international agencies as the I.M.F. and GATT, but that same active leadership was not present to the same degree in the later years of the Trudeau administration when such issues as bilingualism and the Bill of Rights received a great deal of attention from governments at both the federal and provincial levels. In recent years, Canada has had quantitative controls on the imports of clothing, textiles, and boots and shoes, has pressured the Japanese to limit exports of autos to Canada, has had special incentives on government purchases for local suppliers, and has moved to a much more protectionist agricultural policy. Canada can be in a vulnerable position to complain about non-tariff barriers in other countries when it has been using them itself to such a significant extent.

The extent to which Canada is a high cost producer of manufactured products in relation to so many industrialized countries in 1984, for example, is likely to lead to continued pressure for non-tariff barriers in Canada, especially if unemployment persists at higher rates than in the United States and Japan. It would be unfortunate if the government was to respond to such increased protectionist pressures. Canada and other small industrialized countries have the most to lose if the complex system of an interdependent world economy that has been built up over three decades of international negotiations were to begin to come apart. The present world economy is

based on relatively free flows of capital and significant reductions in tariff and non-tariff barriers to trade in all the industrialized countries over that period. However, this system has been buffeted by shocks and disturbances in interest rates and exchange rates to a greater degree in the late 1970s and 1980s than it has at any time since the 1930s.

It would be unfortunate if Canada were to move in a protectionist and interventionist direction at such a time as this, as it would be bound to have adverse effects in other countries that have been experiencing reduced employment in manufacturing for a much longer period and to a greater extent than anything that has occurred in Canada. When Canada's living standards are high by world standards, it would be an unfortunate example to other countries and Canada itself could lose seriously by deterioration in the world economic climate for free flows of trade and financial capital.

We should, therefore, press with all haste to conclude a free-trade agreement with the United States.

2. Adjustment assistance

It has been recognized for years that some transitional assistance will be necessary to help both firms and workers to adjust to lower tariff and non-tariff barriers in Canada. Such adjustment assistance programs have been in operation in the United States, the United Kingdom, Canada and other countries during the post-war years, and it is widely recognized that such policies should be continued during the 1980s.

Such policies are more important for Canada in the 1980s than for other countries. One reason is that nominal tariff rates are higher in Canada than in the United States and will continue to be higher when the Tokyo Round reductions have been implemented, and there are still significant variations in nominal and effective rates from one sector to another. A second reason is that Canada has greater problems because of the differences between real wages and real productivity and high unit labour costs in manufacturing than our closest competitors. Furthermore, Canada has higher ratios of merchandise exports and imports to GNP than most other countries.

It is not clear, however, how severe any adjustments from one industry to another may be in the future. For one thing, the extent of adjustment associated with tariff reductions compared to other major changes over the past decade would be relatively modest. The tariff reductions under the Tokyo Round amounted to about 4 percentage points and the nominal rate remaining after the Tokyo Round reductions would amount to an average of about 5 percentage points. These tariff changes are quite minor compared to the change in the Canadian exchange rate in relation to the U.S.

dollar of more than 30 percent between 1974 and 1985. Other factors have been and will continue to be even more important than tariff changes in the profitability and employment performance in Canadian manufacturing.

The extent of any inter-industry adjustments would also be much less if the managements in Canadian manufacturing firms moved aggressively by specialization and increased exports to get costs down to competitive levels. A significant number of companies are already doing this and the more that do this, the less likely and less necessary will it be for significant employment reductions to take place. On the other hand, if managements continue the historic pattern of high costs, low productivity and product diversity, this will increase the risks of employment cutbacks, corporate bankruptcy, etc. Problems would also persist if the union leadership were to continue to actively oppose technological change and tariff reductions on the assumption that such changes would increase unemployment.

It would be useful, however, if a variety of broad safety nets were available to facilitate any necessary and desirable shifts from declining industries to expanding industries and provide a minimum degree of financial assistance when new jobs are not found. A variety of measures have been proposed and a number of these are already in place in Canada. The proposals include more information to management and workers on the nature of adjustments under way and more information on the success stories that are emerging in Canadian manufacturing; more training and retraining of workers; some financial assistance to workers to cover the costs of moving to localities where jobs are available, etc. The basic approach is to encourage, rather than prevent, the shift of resources out of declining to expanding industries, so the topic of adjustment assistance is closely related to discussions of declining industries.⁷

3. Inflation and the corporate profits tax

The existing corporate profits tax regulations require corporations to report corporate profits on the basis of historic costs for capital assets. However, in a period of rising prices, depreciation allowances at historic cost become an increasingly small proportion of the cost of replacing assets purchased in earlier periods at lower prices. This means that corporate profits taxes are based on overstated levels of profits based on current and more realistic costs of replacing physical assets. This problem would continue until all the existing physical assets have been written off, even if no further inflation took place. Very few Canadian companies are apparently using inflation accounting for either public or internal purposes, and thus may not be fully aware that the real value of the company could be declining and

that profits at replacement costs are even lower than they realized. Accountants and tax authorities in both the United Kingdom and the United States have been encouraging the use of inflation accounting for reporting and tax purposes. The lack of such adjustments for Canada combined with a very acute squeeze on corporate profit margins in manufacturing could leave companies with an inadequate amount of internal funds for investment in the years ahead, and rates of return on total assets so low that external financing of future expansion would not appear attractive to either the companies or the capital market.⁸ This whole topic needs much more serious consideration in Canada.

4. Science policy and management

In recent years, the primary attention of public discussion and government policy has dealt with the topic of basic research and development in the science and engineering areas. It has been uncritically assumed that this is the key area for economic growth and development. However, if this topic was really as important as some of the discussion has suggested, the private sector would be spending substantially more than the two or three percentage points of GNP that is normally spent in the major industrialized countries. Canada has in the past been able to get access to many of these new technological developments by purchasing technology in the market, or through the parent companies in the case of Canadian subsidiaries. When allowance is made for payments abroad for purchased R and D and the technology available to Canadian subsidiaries, the availability of science and technology to Canadian industry is much higher in relation to other countries than one would gather from just looking at domestic expenditures on research and development. The primary problem is much more the *slow adoption* of new technology rather than the actual doing of basic research in Canada.⁹

5. The diffusion of technology and openness to change

Previous research has indicated that Canada has been slower in adopting new technology in a variety of fields than other countries, such as the United States, Japan, and some of the European countries. It is very rare that Canadian companies are not familiar in a general way with what has been done elsewhere, but they clearly are much slower in incorporating what is currently "best practice." To some degree this reflects the age and education level of managers in Canada. Many existing Canadian managers received their initial exposure to management practice in one of the services in the

Second World War. Such managerial styles may be less appropriate for the rapidly changing international influences, enlarged role of government, and more highly educated employees of the 1980s. The lack of openness to change and new ideas on the part of managers probably reflects more conservative tendencies and resistance to change in Canadian society as a whole.¹⁰ Less competitive pressure is also an important factor in slow adoption of new technology.

The amount of study of these topics within Canada has been limited in the past, and the whole area of social science research in Canada has traditionally been seriously underfunded compared to research financing in the natural sciences and engineering fields. This is reflected in the current public discussion to achieve a certain percentage of GNP in natural science and engineering, but that definition and the associated policies provide only limited attention to reasons for the slow adoption of new technology and what could be done in public policy in Canada to accelerate this whole process.

6. Labour-management relations

During the 1970s and the early part of the 1980s, Canada had the dubious distinction of having one of the highest time lost due to strikes of the industrialized countries, second only to Italy (as measured by the annual working days lost per 1,000 employees). For the 1972 to 1981 period this was still only four-tenths of one percent of total time worked.¹¹ It is likely that the effects of adverse labour-management relations on productivity while employees were at work is likely to be an even greater social cost from decreased output than the time lost due to work stoppages. This can occur while employees are discussing labour-management issues during working time, and the effects of low morale and absenteeism on performance and output.

A new factor that can contribute to increased conflict during the 1980s in manufacturing is the degree to which real wages have increased in Canada without comparable increases in real output per hour. These contrasts are particularly dramatic in comparison to the United States and Japan — the two most important countries in Canada's trade in manufactured products. These developments have been an important contributing factor in the weakness in corporate rates of return in manufacturing as highlighted in previous chapters and Appendix B. These problems seem likely to persist during a period of tariff reductions when lower cost producers are actively

looking for markets when they have been operating below capacity. This should be an important item on the agenda for the new Canadian Labour Market and Productivity Centre.

The Canadian Labour Market and Productivity Centre was set up in 1984 with an annual budget of \$7 million a year after the first year of operation. The Centre as designed would encourage productive practices to make Canadian industry fully competitive on domestic and world markets and encourage the planning and implementation of technological change with minimum adverse effects. The Productivity and Employment Growth Branch will examine productivity at all levels from the shop floor to the boardroom, in both the public and private sectors, and will have a responsibility to inform, educate and increase awareness of the benefits from higher real productivity growth. The Centre will also have a responsibility to advise governments on their policy-making responsibilities in these areas.

The Executive Committee of the Centre will consist entirely of business and labour representatives and the larger Board of Directors is to have ex-officio non-voting members from the federal and provincial governments, and two educators. The Centre will thus be dominated by business and labour representatives.¹²

The size of the budget would make it a larger organization than such other groups as the C.D. Howe Research Institute, The Fraser Institute, and the Conference Board of Canada, but smaller and more focused than the Economic Council of Canada. Its budget will be many times the size of funding that has been available previously for the study, information and improvement of productivity at all levels of private and public activity in Canada.

The performance of the Centre will be critically dependent on the qualifications, expertise and management abilities of the senior full-time staff. It is also important that there be some agreement between the labour and management representatives that dominate the Executive Committee and the Board of Directors on key thrusts of the Centre. The problems are likely to be more in the area of recruiting these key staff rather than financial limitations for some years ahead.

7. Environmental uncertainty

Appendix B describes the role of environmental uncertainty in increasing the problems of business decision-making. Some of the sources of this uncertainty grow out of world economic developments, and increased international interdependence makes this more apparent for a smaller country like Canada. However, part of this uncertainty also comes from uncertainty about

government economic policy within Canada, especially when the previous Liberal administration was regarded as being more interventionist and not too sympathetic to business viewpoints. The Progressive Conservative government has already introduced changes in the Foreign Investment Review Act (changed to Investment Canada) and in the National Energy Program which have been viewed as positive. Recent proposals to overhaul the corporate tax structure serve to increase anxiety once again but the government seems to have a reservoir of good will on which it can rely in getting these changes accomplished.

It may turn out to be significant that Chapter One in Brian Mulroney's book *Where I Stand* was on productivity. There are also a number of experienced business backgrounds in some of the key Cabinet ministers in the new government. There may be more deep-seated reassessments of new policy options than Canada has seen in years. The new government has found that the cupboard was bare on the fiscal side. It has also inherited a series of economic problems, some of which are a heritage of high costs in manufacturing. However, there are a large range of policy options available to correct some of these longer-term economic problems, and some of them have been outlined in this chapter.

In conclusion, Canadian manufacturing continues to face major problems in international competitiveness, but there are also indications that small Canadian-based companies can compete and export internationally if they specialize and move into export markets building on current or potential areas of strength. If the continuing re-examination of public policy identifies the topic of international competitiveness and high real wages as key areas and focuses new policy initiatives on them, the performance of the Canadian economy can be better than some of the experience since 1973. In light of the deep-seated nature of some of the problems, however, the changes in both public policies and private performance cannot be quick.

However, the longer it takes for changes in public policies and the associated responses in the private sector to be initiated, the longer the high social and economic costs of high unemployment will persist. Low profits and rates of return on investment in plant and equipment, plant closures, corporate bankruptcies and sluggish growth in government revenues are all a reflection of those persisting problems. The recognition of these problems and appropriate policies to deal with them is long overdue in Canada. A continuation of these problems will increase the pressures on governments to turn to more protectionist and interventionist policies which could check and even reverse the moves to more specialized and competitive trends that have become apparent during the 1970s and 1980s.

Notes

1. See Neil Bruce and Douglas D. Purvis, *Evaluating the Deficit: The Case for Budget Costs, Policy Commentary No. 4* (Toronto: C.D. Howe Institute, 1984); Edward A. Carmichael, *Tackling the Federal Deficit* Observation No. 26 (Toronto: C.D. Howe Institute, 1984); and Department of Finance, *A New Direction for Canada: An Agenda for Economic Renewal* (Ottawa: Nov. 8, 1984), esp. pp. 15-21.
2. D.J. Daly and D.C. MacCharles, "Corporate Responses to Exchange Rate Depreciation," in H. Etemad ed., *A.S.A.C. Proceedings, International Business*, 1983, pp. 52-62. This article sets out those interrelations more fully and provides a guide to help any company identify roughly the impact on profits of an exchange rate change, depending on a few simple ratios from corporate operating statements.
3. For an earlier discussion of these issues see A. Rotstein, ed., *An Industrial Strategy for Canada* (Toronto: New Press, 1972). The fullest statement of the Science Council views is in John N.H. Britton, James G. Gilmour, assisted by Mark G. Murphy, *The Weakest Link — A Technological Perspective on Canadian Industrial Development* (Ottawa: Science Council of Canada, 1978). For a critical assessment of these views see D.J. Daly, "Weak Links in 'The Weakest Link,'" *Canadian Public Policy*, 1979, pp. 307-317 and Kristian S. Palda, *The Science Council's Weakest Link: A Critique of the Science Council's Technocratic Industrial Strategy for Canada* (Vancouver: The Fraser Institute, 1979).
4. Bruce Scott and George C. Lodge, eds. *U.S. Competitiveness in the World Economy* (Boston: Harvard Business School University Areas, 1984), esp. Chapters 1, 2 and 14. For an earlier statement of the possible conflicts of growth and security see A.G.B. Fisher, *The Clash of Progress and Security* (New York: Kelley, 1966, reprint of 1935 edition). For a thoughtful assessment of the issues and potential conflicts between income equality and efficiency see Arthur M. Okun, *Equality and Efficiency: The Big Tradeoff* (Washington: The Brookings Institution, 1975).
5. For a recent survey of social science research on productivity in Canada see D.J. Daly, ed., *Research on Productivity of Relevance to Canada: Current Problems and Perspectives* (Ottawa: Social Science Federation of Canada, 1983) and D.J. Daly, "North American Productivity and International Competitiveness: Implications for Canadian Business and Business Schools" (Downsview: York University, mimeo, June 1983).
6. There is a large Canadian literature that discusses the size of the costs of tariffs to Canada, and why these costs are higher than for other countries when the estimates do not allow for the effects of tariffs on productivity. See Ronald J. Wonnacott and Paul Wonnacott, *Free Trade Between the United States and Canada, The Potential Economic Effects* (Cambridge: Harvard University Press, 1967); Ronald J. Wonnacott, *Canada's Trade Options* (Ottawa: Information Canada for the Economic Council of Canada, 1975); Economic Council of Canada, *Looking Outward, A New Trade Strategy for Canada* (Ottawa: Infor-

mation Canada, 1975); D. J. Daly and S. Globerman, *Tariff and Science Policies: Applications of a Model of Nationalism* (Toronto: University of Toronto Press, 1976); R.G. Harris, *Trade, Industrial Policy and Canadian Manufacturing* (Toronto: Ontario Economic Council, 1984) and Richard G. Lipsey and Murray Smith, *Taking the Initiative: Canada's Trade Options in a Turbulent World*, (Toronto: C.D. Howe Institute, 1985).

7. For an earlier discussion of these issues see Roy A. Matthews, *Industrial Viability in a Free Trade Economy: A Program of Adjustment Policies for Canada* (Toronto: University of Toronto for the Private Planning Association of Canada, 1971). See also Charles Pearson and Gerry Salembier, *Trade, Employment and Adjustment* (Montreal: Institute for Research on Public Policy, 1983); Ronald S. Saunders, *Aid to Workers in Declining Industries* (Toronto: Ontario Economic Council, 1984); Glenn P. Jenkins and John Evans, *Worker Adjustment Policies: An Alternative to Protectionism* (Ottawa: The North-South Institute, 1981); and Glenn P. Jenkins "Options for Dealing with Declining Industries," (Ottawa: National Economics Conference, 1985). Some discussion of the need for adjustment assistance is included in all the major studies of Canadian tariffs of the post-war period such as those by Ron and Paul Wonnacott, Daly and Globerman, Lipsey and Smith, and the Economic Council reports *Looking Outward* and *The Bottom Line*.
8. For a discussion of these estimates and the related developments in corporate profits and their economic effects see D.J. Daly, D.C. MacCharles and Wendy Altwasser, "Corporate Profit Drop Is Worst Since 1930's," *The Canadian Business Review*, Autumn 1982, pp. 6-12; D.J. Daly, "High Costs and Low Productivity Erode Profits," *The Canadian Business Review*, Spring 1984, pp. 6-10; and D.J. Daly, "Inflation, Inflation Accounting, and Its Effect, Canadian Manufacturing, 1966-1982," *Review of Income and Wealth*.
9. D.J. Daly and S. Globerman, op. cit., D.J. Daly, "Weak Links in 'The Weakest Link,'" *Canadian Public Policy*, Summer 1979, pp. 307-317; D.J. Daly, "Natural Science and Human Science Research — Does Research Funding Match Canada's Problem Areas?" in Social Science Federation of Canada, *Cahiers No. 9* (Ottawa: 1983); and D.J. Daly, "Technology Transfer and Canada's Productivity Performance," in Robert M. Stern, eds., *Current Issues in Trade and Investment in Service Industries: U.S. Canadian Bilateral and Multinational Perspectives* (Toronto: University of Toronto Press, forthcoming).
10. D.J. Daly, "Canadian Management: Past Recruitment Practices and Future Training Needs," in Max von Zur-Muehlen, ed., *Highlights and Background Studies* (Ottawa: Canadian Federation of Deans of Management and Administrative Studies, 1979), pp. 178-200.
11. Department of Finance, *A New Direction for Canada: An Agenda for Economic Renewal*, (Ottawa: Nov. 8, 1984), p. 47. The estimate of four-tenths of one percent of total time worked was based on an average 240 days a year worked.
12. Government of Canada News Release, "Canadian Labour Market and Productivity Centre announced," Ottawa, January 27, 1984. Dr. Arthur J.R. Smith was appointed Chief Executive Officer of the Centre in December 1984.

APPENDIX A

ESTIMATING INTERNATIONAL PRODUCTIVITY, REAL WAGES AND UNIT LABOUR COST COMPARISONS IN MANUFACTURING

This study makes a number of comparisons based on inter-country comparisons of real output per hour, real wages per hour, nominal compensation per hour and unit labour costs. This discussion is based on the first comprehensive set of data for manufacturing for the major industrialized countries for a number of years. The annual data permit inter-country comparisons of levels and trends on a broadly comparable basis, concentrating on a key sector of tradeable goods. Manufactured products have been the most rapidly growing area of world trade since the Second World War, and for most of these countries, total exports and imports have also been growing in relation to GNP since the Second World War. In light of the importance of this data to developments in international trade and domestic performance in both manufacturing and the economy as a whole, it was regarded as important to provide a full description of the sources and methods. This Appendix summarizes these main sources and methods used in these comparisons. It also makes comparisons with some other recent estimates.

The effects of cost and real wage differences in Canadian manufacturing in relation to the United States have been a major theme in this volume. The study has emphasized the United States, but on a number of occasions the changing relative position of North America in relation to Japan and some of the European countries has been introduced. In broad terms, the much higher levels in output per hour in the United States than in Japan and the European countries in the 1950s and 1960s had been considerably reduced by the 1980s (although the United Kingdom had only improved

marginally over that period in relation to the United States). On the other hand, by 1980 much greater inflationary pressures had occurred in all the other countries than in the United States. By 1980, unit labour costs in six of the major European countries were between 30 percent, and double levels in the United States at the prevailing exchange rates. Such cost disparities began to affect the trade and unemployment levels of the six European countries adversely, and significant exchange rate realignments have occurred on a piecemeal basis since then. By 1984 marked declines in their exchange rates relative to the U.S. dollar for most of the European currencies had brought unit labour costs for most of them close to where they had been in the early part of the 1970s before the widespread subsequent inflationary developments had taken place. These data put the North American competitive position into the broader perspective of the other major industrialized countries, and this Appendix discusses the sources.

In some cases, the basic comparisons of output per hour are partial, or not too current, but some of the comparisons of levels and changes are so dramatic that it is unlikely that they can be seriously misleading. They have been put together from a variety of different sources for the initial comparisons of levels, and then extended forward and backwards with annual data on output per hour and compensation per hour in manufacturing from the United States Department of Labor. Data on levels of real compensation per hour in manufacturing have also been developed for the same countries and time span.

Sources on output per hour

What one would ideally like in measures of output per hour in manufacturing between countries would be built up from actual data on output prices and quantities, with allowances for purchased materials and supplies, based on actual prices and quantities. This ideal situation is really only present for one comparison with the United States, namely the Canada-United States comparison based on the study by the Conference Board of Canada.¹ Most of the European comparisons are based on work by A.D. Roy and published in the *National Institute Economic Review*.² A special study had been made of industrial productivity for Britain, Germany and the United States, with overall comparisons based on the International Comparison Project by Kravis et al., where the purchasing power parity price comparisons are based on final expenditures, rather than by industry. The full details of the methods used are not clear, but the methods allow for differences in the relative prices for broad industry groups for the individual industries compared to the United States. This has been done directly for agriculture, fuel

and power and construction. Manufacturing itself was divided into six sub-sectors and then aggregated. The international dollar prices of the services sector (which amounts to about 50 or 60 percent of real product in eight countries) was derived as a residual so as to make each country's set of prices consistent with Kravis's figure for total gross domestic product. Any differences in distribution margins between final products emerging at manufacturing and prices of final expenditures could heavily influence the industrial distribution of the results, however.

The data in Roy for Japan illustrate the problem. For 1973, manufactured goods prices are shown as about 10 percent above the U.S. level for GDP, while service prices are shown as about 12 percent below.³ For 1973, however, hourly compensation in manufacturing in Japan was about two-fifths of the U.S. level, which would be lower than the difference in productivity levels. Unit labour costs in Japan have been consistently lower than in the United States as shown later in Appendix A Table A-4. Transportation and distribution costs tend to be higher in Japan than in the United States. This evidence suggests that prices of manufactured products for Japan are too high and the productivity levels too low for Japan in the National Institute study. Table A-1 uses data from the recent Kurosawa-Norsworthy paper for the U.S.-Japan comparison. The comparison in Appendix Table A-1 for Japan is about 7 percent higher than shown in Roy for 1980.

Sweden had not been covered in the International Comparisons Project, so the estimate is based on productivity comparisons for a smaller range of products that had been covered in two separate studies, one by C.F. Pratten, and the international comparisons study by F. M. Scherer, et al.⁴ The estimates for United States, Canada and Japan are shown in Table A-1 for 1955 to 1984. The estimates from Frank and Kurosawa-Norsworthy have been extended backwards to 1955 and forwards to 1984 with the annual indexes of output per man hour prepared by the U.S. Department of Labor.⁵ Table A-2 shows the data for selected European countries for selected years, based on the U.S. for 1977=100.

Sources on total compensation per hour

The estimates of compensation per hour are based on production workers in manufacturing, from the U.S. Department of Labor for 1977. These are more comprehensive than earnings statistics, as they include all direct payments made to the worker (pay for time worked, pay for vacations, holidays and other leave, all bonuses, and the cost of payments in kind) before payroll deductions of any kind, plus employer expenditures or legally required insurance programs and contractual and private plans for the benefit

of employees. In addition, compensation includes other taxes on payrolls or employment, even if they are not for the direct benefit of employees, because such taxes are regarded as labour costs. Hourly compensation is converted to U.S. dollars using the average daily exchange rate for 1977.⁶

Estimates for selected other years were carried backwards and forwards from 1977 using the estimates of hourly compensation in manufacturing on a U.S. dollar basis. The indices for nine countries for selected years from 1950 to 1984 are shown in Table A-3.⁷

Derivation of labour costs per unit

Estimates of labour costs per unit of manufacturing output can be prepared for individual countries over time by dividing indices of labour income for the country concerned by indices of the volume of manufacturing production. In effect, this measures the degree to which the increases in total compensation per hour equal or exceed the increases in output per hour.

Similar concepts underlie the derivation of unit labour costs between countries. The indices of compensation per hour on a U.S. dollar basis (1977=100) are divided by the indices of output per hour (U.S. 1977=100). The measures of total labour compensation are such a large proportion of gross domestic product (or net product) in manufacturing that this provides a good proxy measure for international competitiveness in manufacturing. Allowances for differences in the cost and use of energy and capital could modify these magnitudes somewhat but the effects are likely to be small when their share in costs are small compared to labour costs.

The rationale for the results can be seen for the two extreme countries for 1984. In that year, the United Kingdom had the lowest level of output per hour of the nine industrialized countries, with a level that was less than 40 percent of the U.S. level for the same year, and a gap of something like that magnitude had persisted for decades as shown in Table A-2. Japan and Italy, which had been below the United Kingdom in the 1950s, are now ahead. However, compensation per hour in the United Kingdom was a bit less than half the U.S. level, so compensation per hour was higher than could be justified on the basis of physical output per hour, and unit labour costs were almost 20 percent above the United States, in spite of the drop in the sterling-dollar exchange rate. Profits, depreciation and other costs are too small a share of total costs to be able to offset or modify the conclusions from the unit labour cost comparison. Even then, the unit cost comparison was less extreme for the United Kingdom than in 1980, as the sterling exchange rate had dropped by 43 percent in relation to the U.S. dollar between 1980 and 1984.

Table A-1

**Output Per Hour in Total Manufacturing
United States, Canada and Japan
Selected Years, 1955-1984, (U.S., 1977=100)**

Year	United States	Canada	Japan
1955	56.4	31.7	9.1
1956	56.0	33.0	9.6
1957	57.2	33.2	10.5
1958	56.9	34.4	9.9
1959	59.6	36.3	11.5
1960	60.0	37.5	13.2
1961	61.6	39.6	15.0
1962	64.3	41.6	15.7
1963	68.9	43.2	16.9
1964	72.3	45.1	19.1
1965	74.6	47.8	19.9
1966	75.4	48.4	22.0
1967	75.3	49.9	25.2
1968	78.0	53.4	28.4
1969	79.3	56.5	32.8
1970	79.2	57.3	37.0
1971	84.0	61.4	39.3
1972	88.2	64.1	43.8
1973	93.0	68.1	48.3
1974	90.8	69.7	49.4
1975	93.4	67.9	51.4
1976	97.6	71.8	56.2
1977	100.0	74.6	60.2
1978	100.9	75.7	65.0
1979	101.6	77.8	70.7
1980	101.7	76.0	77.4
1981	104.9	77.6	81.7
1982	107.1	75.4	87.5
1983	111.6	80.3	92.0
1984	115.6	83.5	100.8

Sources: The U.S.-Canada level comparison for 1974 is based on James G. Frank, *Assessing Trends in Canada's Competitive Position: The Case of Canada and the United States* (Ottawa: The Conference Board in Canada, Nov. 1977), Table 9, p. 66 based on Canadian price weights. U.S. annual estimates carried forward and back by indexes of output per hour in U.S. Department of Labor News, "International Comparisons of Manufacturing Productivity and Labor Cost Trends, Preliminary Measures for 1984," June 10, 1985.

The U.S.-Japanese level comparison for 1977 is based on Kazoukiyo Kurosawa and John R. Norsworthy, "Methods in the Construction of Japanese and U.S. Manufacturing Statistics and Their Implications for Productivity Comparisons," in C. Hulten and J.R. Norsworthy, eds., *Productivity in the U.S. and Japan* (Conference on Research on Income and Wealth, forthcoming).

In 1980, unit labour costs in the United Kingdom had been almost double the U.S. level and the highest of the nine countries covered in these tables. The export of North Sea oil had provided the United Kingdom with a major new source of export earnings that contributed to more strength in exports and the sterling exchange rate than one would expect from the manufacturing cost position alone and contributed to the extent of the downward adjustment in production, employment and man hours in U.K. manufacturing.⁸

Japan, on the other hand, has tended to have one of the lowest levels of unit labour costs of the nine countries being compared here over the last three decades. In 1984, compensation per hour was slightly higher than in the United Kingdom but only about half the levels in the United States for the same year. Rapid increases in output per hour had brought levels of output per hour in Japan above those in Belgium, Canada, France, Italy and Sweden and roughly double the level in the United Kingdom in 1984, while Japan had been below all those countries as recently as 1960. By 1984, unit labour costs were about half the United States level. However, an important part of the Japanese exports of manufactured products were used to finance their large level of imports of primary products, so one cannot draw conclusions about the basic balance of payments positions from unit labour costs data in isolation. One cannot draw conclusions about exchange rates from cost data alone, as international capital flows have also been an important consideration in recent years.

Table A-2

**Output Per Hour, Manufacturing
Major European Countries
Selected Years, 1950-1984, (U.S., 1977=100)**

Year	U.S.	Canada	Japan	Belgium	France	Germany	Italy	Sweden	United Kingdom
1950	49.4	25.8	5.4	NA	14.4	17.0	11.5	20.4	16.4
1955	56.4	31.7	9.1	NA	17.9	24.3	16.1	22.3	17.7
1960	60.0	37.5	13.2	21.1	23.2	34.9	20.1	28.5	20.1
1965	74.6	47.8	19.9	26.1	31.3	47.2	29.1	39.4	23.9
1970	79.2	57.3	37.0	38.6	44.3	62.1	40.1	54.4	29.0
1973	93.0	68.1	48.3	50.4	52.5	73.1	50.1	63.9	34.8
1975	93.4	67.9	51.4	55.4	56.5	87.7	50.2	67.6	35.3
1977	100.0	74.6	60.2	64.4	64.0	87.6	55.1	67.4	37.3
1980	101.7	76.0	77.4	77.1	71.9	95.0	64.4	76.0	37.3
1984	115.6	83.5	100.8	88.2 ('83)	86.5	107.2	74.0	91.0	45.9

Sources: See Sources in Table A-1 for U.S., Canada and Japan. 1980 estimates for all other countries but Sweden are based on A.D. Roy, "Labour Productivity in 1980: An International Comparison," *National Institute Economic Review* August 1982, p. 35. Sweden-U.K. comparison is based on C.F. Pratten, *Labour Productivity Differentials Within International Companies* (Cambridge: Cambridge University Press, 1976), p. 6, weighted average and F.M. Scherer et al., *The Economics of Multi-Plant Operation — An International Comparisons Study* (Cambridge: Harvard University Press, 1975), p. 73, mean for eight industries. The results for these years were then extended backwards to 1950 and forwards to 1984 based on changes over time from U.S. Department of Labor News, "International Comparisons of Manufacturing Productivity and Labor Cost Trends, Preliminary Measures for 1985," June 10, 1985.

Table A-3

**Total Compensation Per Hour, Manufacturing
Major Industrialized Countries
Selected Years, 1950-1984, (U.S., 1977=100)**

Year	U.S.	Canada	Japan	Belgium	France	Germany	Italy	Sweden	United Kingdom
1950	21.5	13.6	1.4	NA	5.6	4.5	4.2	6.8	5.5
1955	28.8	21.4	2.5	NA	9.9	6.6	6.0	10.8	7.8
1960	36.7	28.2	3.5	10.9	10.6	10.9	8.0	14.9	10.5
1965	42.8	30.2	6.6	17.0	16.6	18.3	14.6	24.2	14.4
1970	57.6	45.5	13.5	27.3	22.7	31.7	24.7	38.8	18.7
1973	69.0	59.6	29.2	54.1	40.4	61.5	44.6	65.1	27.8
1975	85.5	75.5	40.9	84.3	61.5	83.2	63.8	97.5	42.1
1977	100.0	94.9	53.0	109.2	70.0	103.7	67.2	117.0	44.0
1980	132.7	112.6	76.2	174.5	120.8	165.7	111.1	165.1	95.5
1984	169.4	141.2	87.3	126.2 ('83)	97.5	128.7	103.4	123.1	78.6

Sources: 1977 estimates for all countries from Bureau of Labor Statistics, *Hourly Compensation Costs for Production Workers in Manufacturing, 34 Countries, 1975-1983* (Washington: April 1984). These level comparisons for 1977 were then extended backwards to 1950 and forwards to 1983 based on changes over time in hourly compensation in manufacturing, U.S. dollar basis in U.S. Department of Labor *News*, "International Comparisons of Manufacturing Productivity and Labor Cost Trends, Preliminary Measures for 1984," June 10, 1985.

Canada in 1984 was the next highest country after the United Kingdom in terms of unit labour costs, but only slightly lower for the reasons discussed elsewhere in this volume. Many of the European countries had higher levels of unit labour costs in 1980 than in Canada, but the drastic depreciation in most of the European exchange rates had brought them closer to U.S. levels than they had been for almost a decade, and all the European countries except the United Kingdom had lower unit labour costs than both the United States and Canada. The results for all nine countries for selected years can be seen in Table A-4.

Sources on real compensation per hour

Estimates of real wages per hour have been prepared for individual countries over time by dividing indices of money compensation per hour for the country concerned by the index of consumer prices for the corresponding years.

The same procedures underlie the comparisons of real wages per hour in manufacturing for different countries. For many of the countries, a comparison of the expenditures in domestic currencies to buy the same (or comparable) basket of consumption goods and services as in the United States in 1973 can be obtained from the International Comparison Project.⁹ The hourly compensation data are based on production workers in manufacturing for 1973 (including additional compensation as discussed earlier on compensation per hour from the same survey used in Table A-3).¹⁰ These provide a benchmark comparison of real compensation per hour in 1973 for the United States, Belgium, France, Germany, Italy, Sweden, United Kingdom and Japan. These are shown in Table A-5.

As Canada had not been included in the International Comparison Project, a similar price comparison for consumption between Canada and the United States was used. This was based on methods developed by Summers, Kravis and Heston.¹¹ In 1983, prices in Canada were 8.5 percent higher than in the United States, while in 1965 they had been seven-tenths of a percent lower (using U.S. weights). This price level comparison put real wages in manufacturing in Canada roughly equal to the United States in 1984 — more than one-third higher than the 72.2 comparison of real output per hour in the two countries shown in Table A-1.

Once a benchmark comparison of real compensation per hour in manufacturing for the individual countries had been made, these could be carried forwards and backwards for individual years, using data on compensation

Table A-4

**Unit Labour Costs, Manufacturing
Major Industrialized Countries
Selected Years, 1950-1984, (U.S., 1977=100)**

Year	U.S.	Canada	Japan	Belgium	France	Germany	Italy	Sweden	United Kingdom
1950	43.4	52.8	26.8	NA	39.1	25.9	36.6	33.2	33.7
1955	51.0	67.7	28.3	NA	55.0	27.2	37.5	47.9	44.6
1960	61.1	75.0	26.6	51.6	45.6	31.1	39.7	52.3	52.7
1965	57.5	64.6	33.0	65.3	52.9	38.7	50.3	61.5	60.8
1970	72.7	78.5	36.4	70.9	51.2	51.1	61.7	71.3	64.7
1973	74.2	87.5	60.5	107.2	77.0	83.9	89.2	101.9	80.5
1975	91.5	114.2	79.7	152.3	108.8	105.4	127.2	144.4	119.8
1977	100.0	127.2	88.2	169.6	109.4	118.2	122.0	173.6	118.5
1980	130.5	148.1	98.2	226.6	167.8	174.3	172.5	217.5	257.4
1984	146.5	169.2	86.8	143.1 ('83)	112.7	119.9	139.7	135.4	172.3

Sources: Derived from Appendix Tables A-1 and A-3. Indices of total compensation per hour (in U.S. dollars converted at prevailing exchange rates) are divided by indices of output per hour (or per person for Sweden) to obtain the indices of labour costs per unit of output in the table above.

Table A-5

**Real Compensation per Hour, Manufacturing
Major Industrialized Countries
Selected Years, 1950-1984, (U.S., 1973=100)**

Year	U.S.	Canada	Japan	Belgium	France	Germany	Italy	Sweden	United Kingdom
1950	57.4	41.3	9.8	NA	18.0	14.4	17.8	29.2	24.6
1955	69.3	51.9	12.7	NA	24.3	19.6	20.7	35.3	26.8
1960	79.7	60.9	16.1	33.7	27.3	29.2	23.8	40.9	31.5
1965	87.5	67.0	27.3	46.3	35.8	40.9	34.2	55.7	36.4
1970	95.4	79.9	34.7	62.2	46.2	57.9	50.7	71.5	44.5
1973	100.0	87.7	45.7	82.2	54.8	68.8	69.3	80.8	50.4
1975	102.2	94.4	51.0	95.3	63.3	76.1	79.6	95.7	58.5
1977	106.3	103.9	50.4	103.1	68.8	83.1	81.4	99.8	57.3
1980	103.7	103.6	52.5	115.4	74.1	92.7	82.7	101.5	64.2
1984	105.04	104.06	56.3	116.0 ('83)	82.6	95.3	90.0	100.08	69.0

Sources: The comparisons for the price level comparisons for consumption are based on Kravis, Heston and Summers, *International Comparisons of Real Product and Purchasing Power* (Baltimore: Johns Hopkins, 1978) p. 21 for 1973 for U.S., Japan, and most of the European countries. For Sweden and Canada, the price level comparisons are based on Summers, Kravis and Heston, "International Comparison of Real Product and Its Composition: 1950-77," *Review of Income and Wealth*, March 1980, p. 59. See sources on Table A-3 for compensation per hour. The level comparisons of real compensation per hour were carried backwards and forwards by Bureau of Labor Statistics, "Real Hourly Compensation in Manufacturing, CPI Basis, Twelve Countries, 1950-1984," (Washington: U.S. Department of Labor, May 1985).

per hour in manufacturing for the individual countries for individual years, and the corresponding price indices for consumption for individual years for each country.

Comparisons of the movements in real wages per hour and real output per hour for manufacturing in the individual countries can now be made. For the United States, the increases from 1973 to 1984 were less in real compensation per hour than in real output per hour, especially after 1981. For the United Kingdom, Italy, and Canada, the increases in real wages were greater than in real output per hour. *Only* Japan experienced a markedly different pattern, with the increases in real hourly wages being significantly less than the increases in real output per hour. In Japan, an important part of the increase in output per hour was passed to the buyers of manufactured products in Japan and internationally. This differential performance on real wages and real output per hour was consistent with the drop in the terms of trade for Japan (when export prices dropped significantly relative to import prices from the early 1970s to the late 1970s and early 1980s). This result is also consistent with a drop in unit labour costs in Japan, relative to the United States in 1984 compared to the mid-1970s and earlier years.

Alternative estimates of unit labour costs

While this study was being revised for publication, some alternative inter-country comparisons of output per hour and unit labour costs in manufacturing became available and can be compared with those included in this study and written up in this Appendix.

Volume Two of the Macdonald Royal Commission refers to estimates of unit labour costs in the United States, Japan, Canada and the four major European countries.¹² These had been published in *Data Resources Review* for October 1983. Since these estimates differed so markedly from those provided in this study, the estimating procedure has been followed up. The source identified there is Phase II of the International Comparisons Project and the study assumes that the foreign producers operate with the average costs and efficiencies of their respective countries.¹³ Their estimates on hourly compensation in manufacturing are broadly similar to those published by the Bureau of Labor Statistics and used here for the same countries and years, but the differences in output per hour differ significantly. One problem with understanding their estimates is that the 1978 study by Kravis et al. (and the other books and articles in that large project) provides data on prices and quantities at the level of *final* expenditures, but *not* for individual industries such as manufacturing. Furthermore, Canada has *not* been included in the U.N. studies. A further Data Resources Inc. (DRI) study has

modified these results drastically for most of these countries, to reduce their levels of output per hour in manufacturing relative to the U.S. This has also meant that the estimates of unit labour costs have been increased significantly for the same years.¹⁴ Roger Brinner had advised the staff of the Royal Commission *against* the use of the earlier results, but they had proceeded to use them *against* his advice. The extent of the revisions for 1982 can be seen in Table A-6 below. The later study revised the estimates of unit labour costs for manufacturing for the same year up by amounts that range between 27 and 44 percent.

One can also compare the DRI results on output per hour in manufacturing for six countries with those published previously by Roy for 1980. These are shown in Table A-7. Most of the results from DRI are higher than Roy has shown, but the contrast between France and Germany is marked. Roy shows Germany 30 percent higher than France in 1980, while DRI shows Germany 4 percent below France for the same year. Roger Brinner of U.S. Data Resources had not been aware of Roy's earlier work.

Table A-6

**Unit Labour Costs Manufacturing, Major Industrialized Countries
1982, U.S. = 100**

	DRI Oct. 1983	DRI April 1985	% Revision
United States	100	100	—
Germany	78	114	+38
United Kingdom	96	132	+38
France	63	80	+27
Italy	62	89	+44
Japan	49	62	+27

Sources: *Data Resources U.S. Review* Oct. 1983, p. 1.15 and *Data Resources U.S. Review* April 1985, p. 23

Table A-7

Output per Hour, Major Industrialized Countries
1980, U.S. = 100

	Roy	DRI April 1985
United States	100	100
France	71	82
Germany	93	79
Italy	63	70
Japan	71	72
United Kingdom	37	42

Sources: A.D. Roy, *'Labour Productivity in 1980: An International Comparison, National Institute Economic Review*, August 1982 pp. 34 and 35 and Data Resources *U.S. Review*, April 1985, p. 23.

Canada had been included in the October 1983 DRI study, but was not included in the April 1985 revision. However, Tom McCormack of Data Resources of Canada has been making more recent comparisons for Canada and the United States. Those are built up from 11 broad sectors within manufacturing. For total manufacturing, the relative levels of output per worker for Canada in 1976 were 72.4 percent of the U.S., while the ratio in Table A-1 for the same year was 73.6 on a man-hour basis. Bearing in mind that one data set is based on a per employee basis, while the other is on a per hour basis, I would regard the results as essentially similar. Both these estimates of output per hour are appreciably lower than the DRI October 1983 study for output per hour. One can also make a comparison of unit labour costs in manufacturing for 1984. The Data Resources of Canada relative for 1984 is 1.156, while the comparable result in Table A-4 is 1.155, which is essentially equivalent.¹⁵ The work by Tom McCormack indicates an appreciably lower level for Canada/U.S. productivity ratio and higher estimates of unit labour costs than the October 1983 results from DRI and his results are essentially similar to those developed independently in this Appendix. Both would show unit labour costs about 25 percent higher than the U.S. in 1977, rather than being about the same as shown in the October 1983 DRI study. Both studies have used estimates of hourly compensation that include additional compensation for legally required unemployment insurance, pensions, and other fringe benefits.

Thus, later data by Data Resources Inc. in the U.S. and Data Resources of Canada have modified significantly the earlier results on productivity and unit labour costs from those published in the October 1983 DRI study for Canada, Japan and the major European countries.

It is unfortunate that the earlier DRI estimates were used by Lester Thurow of M.I.T. in a major special report on "America, Europe and Japan" in *The Economist* of November 9, 1985 (p. 22). He had apparently updated the earlier DRI estimates to 1983, but was evidently unaware that these estimates for all the countries he covered had been revised drastically by the same organization later. The estimates of output per hour used by Thurow average about 30 percent higher relative to the United States than those developed by Roy, by the second set of estimates published by DRI, and those developed in this Appendix. The estimates he used significantly overstate the extent to which the other industrialized countries had caught up to the United States in terms of output per hour in manufacturing by the 1980s.

The results in this Appendix are consistent with the conclusions that large economic gains to Canada can be achieved from reductions in tariff and non-tariff barriers in Canada and elsewhere, both on a bilateral Canada-U.S. basis and on a multilateral basis. The gains would be much larger on a percentage basis in manufacturing than in GNP. The section on pages 189-190 of Volume Two of the Macdonald Royal Commission had not been integrated with their assessment of the gains from freer Canada-U.S. trade in Volume One. It is clear that an improvement in performance in the cost and productivity side will be necessary in Canadian manufacturing to take full advantage of increased exports from lower tariff and non-tariff barriers elsewhere.

The results are also consistent with the data on Canadian trade. Canada has a comparative advantage in the natural resource sector, and traditionally has large trade surpluses in natural resource products. On the other hand, manufacturing has some competitive sectors, but these are more than offset by those with higher cost and lower productivity levels than the U.S., and this is reflected in the large net trade deficit in manufactured products. This trade deficit in manufactured products persist in spite of large increases in exports of manufactured products as there have also been large increases in imports of manufactured products. The concurrent increases in both exports and imports of manufactured products reflects the increase in intra-industry trade, one of the important developments in trade for most of the industrialized countries and not just Canada.¹⁶

Notes

The issues in this Appendix, have been clarified over the years by conversations and correspondence with Roger Brinner, Ed Denison, Jim Frank, Irving Kravis, K. Kurosawa, Bob Lawrence, J. Mark, Tom McCormack, Arthur Neef, Randy Norsworthy, A.D. Roy, Andrew Sharpe, Dorothy Walters, Craig West, and the late Kenzo Yukizawa.

1. James G. Frank, *Assessing Trends in Canada's Competitive Position: The Case of Canada and the United States* (Ottawa: The Conference Board in Canada, Nov. 1977). These comparisons are now being revised and updated by the Conference Board, and they hope to have this completed in 1986.
2. A.D. Roy, "Labour Productivity in 1980: An International Comparison," *National Institute Economic Review*, August 1982, pp. 26-37. Correspondence from A.D. Roy has clarified some points on the methods used.
3. *Ibid.*, Table 1, p. 27.
4. C.F. Pratten, *Labour Productivity Differentials Within International Companies* (Cambridge: Cambridge University Press, 1976), p. 6 based on the weighted averages and F.M. Scherer et al., *The Economics of Multi-Plant-Operation: An International Comparison Study* (Cambridge: Harvard University Press, 1975), p. 73, mean for eight industries.
5. U.S. Department of Labour News, "International Comparisons of Manufacturing Productivity and Labor Cost Trends, Preliminary Measures for 1984," June 10, 1985.
6. U.S. Department of Labor, *Estimated Hourly Compensation of Production Workers in Manufacturing, Ten Countries, 1960, 1965, 1970, 1980* (Washington: Bureau of Labor Statistics, March 1981).
7. U.S. Department of Labor News, "International Comparisons of Manufacturing Productivity and Labor Cost Trends, Preliminary Measures for 1984," June 10, 1985.
8. K. Alec Chrystal, "Dutch Disease or Monetarist Medicine?: The British Economy Under Mrs. Thatcher," *Federal Reserve of St. Louis Review*, May 1984, pp. 27-37.
9. Irving B. Kravis, et al., *International Comparisons of Real Product and Purchasing Power* (Baltimore: John Hopkins University Press, 1978), pp. 20 and 21, using purchasing power parities for consumption based on currency units per U.S. dollar for 1973.
10. U.S. Department of Labor, *Hourly Compensation of Production Workers in Manufacturing, Ten Countries, 1960, 1965, 1970-1981* (Washington: April 1982).

11. Robert Summers, Irving B. Kravis and Alan Heston, "International Comparisons of Real Product and Its Composition: 1950-77," *Review of Income and Wealth*, March 1980, pp. 19-66. The price comparison for Sweden and Canada was based on consumption prices relative to the United States in 1973 on page 59. For the price and real GNP comparisons, these results for Canada were quite close to those obtained by extrapolating the price comparisons prepared by Craig West and Dorothy Walters for 1965. Dorothy Walters, *Canadian Income Levels and Growth: An International Perspective* (Ottawa: Economic Council of Canada, 1968), p. 260. A more recent comparison of price levels in the two countries would be desirable, but we have not received enough information on the sources used by Peter Hill, *Real Gross Product in OECD Countries and Associated Purchasing Power Parities* (Paris: OECD Working Paper no. 17, December 1984) to consider using them.
12. Royal Commission on The Economic Union and Development Prospects for Canada, *Report, Volume Two* (Ottawa: Supply and Services, 1985), pp. 189-190.
13. *Data Resources U.S. Review*, October 1983, pp. 1.16-1.17. The full title for the study by Kravis et al. is in Note 9 above.
14. Roger Brinner, "The United States as an International Competitor," *Data Resources U.S. Review*, April 1985, p. 23.
15. T.W. McCormack, "Canada/U.S. Trade Policy: A Special Report," *Canadian Review PrePrint* (Toronto: Data Resources of Canada, November 1985), p. 4.
16. For further discussion of intra-industry trade in manufactured products see D.J. Daly and D.C. MacCharles, *Canadian Manufactured Exports: Constraints and Opportunities* (Montreal: IRPP, forthcoming.)

APPENDIX B

THE ENVIRONMENT FOR CANADIAN MANUFACTURING

The main text discussion has pointed out how high real wages and compensation per hour relative to real output per hour have contributed to low profits, low investment, a shift in international capital flows and thus contributed to persisting higher unemployment levels in Canada. A recent survey of Canadian firms indicates that a significant number of the most successful and dynamic, small, export-oriented manufacturing companies were seriously considering making their next round of expansion outside of Canada rather than inside. A variety of concerns were expressed frequently and sincerely by senior Canadian managers.

The central purpose of this Appendix is to outline the major concerns about the Canadian economy that were expressed in a series of interviews with Canadian firms and to see if their concerns seemed justified in the light of independent evidence. The two main sources of evidence that will be examined are published statistical data, and discussions of these topics in Canada by independent and responsible authors. An exhaustive discussion of each topic is not intended here. Rather, the aim is the more modest one of outlining the evidence related to the major issues and indicating how these factors might affect the performance of Canadian manufacturing in the second half of the 1980s.

This topic is given a fairly full discussion as essentially all of the concerns raised initially by businessmen could be fairly fully confirmed by comprehensive, independent data and other studies.

Environmental uncertainty

An important theme in recent literature on business policy and strategic management is the need for business to adjust its longer-term planning and objectives to take account of changes in the environment. Examples of environmental changes are developments in the domestic and world economy, variation in government policy, technological change, or changes in the age, sex, and educational backgrounds of employees.¹ The purpose of this Appendix is to identify and summarize some of the most important developments that have been affecting Canadian manufacturing over the last decade and that are expected to persist during the 1980s. Most of these have been raised by the companies during the interviews, usually by the managers in the context of how these developments were affecting their decisions relating to some of the questions in the questionnaire.

It might be mentioned initially that some of these developments are having a positive effect on Canadian manufacturing, while others are having a negative effect. Very few of the developments are static, but are changing or in a state of flux, and some are difficult to predict — such as developments in interest rates and exchange rates. In other words, there is a degree of environmental uncertainty. In these circumstances it is not always clear to business managers in Canadian manufacturing how to respond to these environmental changes. There has always been some degree of risk in business or any decision in a world of uncertainty, but there is a general acceptance of the view that there is a greater degree of environmental uncertainty now than in previous decades.

In the balance of this Appendix, nine major environmental changes affecting Canadian manufacturing will be outlined, one at a time. For some of them one could write a book, and a number of books on Canadian developments have already been written about some of these changes. For each major topic, a few pages will outline the issues, and the implications for Canadian manufacturing will be briefly spelled out. For each issue, we will try to identify whether the environmental factors are positive or negative, and whether the extent of influence is judged to be large or small. Some factors are similar to developments in other countries, while others are of greater importance to Canada. To provide perspective on the following discussion of the nine individual topics, a summary of the classification is shown in Table B-1. As a basis of classifying the factors into “large” and “small,” large was any factor that could contribute roughly five percentage points or more to either revenues or costs. The basis of comparison was the late 1970s and 1980s, compared to the 1950s and 1960s. For a

number of the factors one could also make comparisons with the current situation in the United States, and such comparisons are made wherever possible.

The striking thing about Table B-1 is that six of the nine environmental factors can be fairly clearly categorized as large negative factors. Exchange rate changes are the only large positive factor, and that is clearest for companies who are heavily engaged in exporting. Each of these factors will be considered one at a time, with references to some interrelations between the various factors as appropriate. At the end of the Appendix, a number of implications for business decision-making will be outlined.

The discussion will start with factors that are broadly international in scope, and consider later some of the factors that are either relatively more important or unique to Canada.

Table B-1

**Summary Classification of Environmental Factors,
Canadian Manufacturing, 1980s**

Direction	Negative	Positive
Size		
	Terms of trade (natural resources and energy prices) Slower economic growth	Exchange rates
Large	Inflation Rates of return Interest rates Labour — management relations	
Small	Business — government Freer trade	Freer trade relations

Sources: See discussion in text. For factors that could be quantified, "large" was any factor that could contribute five percentage points or more to either revenues or costs.

Terms of trade between raw material and manufactured products

The terms of trade refer to any differences in price change, for example, those between raw materials and manufactured products. It has sometimes been alleged by some of the developing countries that the prices of manufactured products (which they import) have tended to increase compared to the prices of raw materials (which they export). This view had been put forth by Raoul Prebisch, for example, in a 1950 U.N. study.² The prices of manufactured products did increase relative to primary product prices during the latter part of the 1950s, but primary product prices have gone up much more rapidly than manufactured goods prices since 1970. Kravis and Lipsey have been engaged in developing new and better export price indices for manufactured products for the industrialized countries, and have also experimented with quality adjustments for manufactured goods prices. These measures show sharp drops in the terms of trade of manufactured goods prices relative to primary commodities since 1970, and by 1977 these measures were well below the 1953 level. The authors estimated the decline in the terms of trade of manufactures relative to primary products from 1953 to 1976 was 45 percent, considerably more than the decline of 28 percent in the more readily available measures of prices based on unit values.³

This decline in the terms of trade for manufactured products relative to primary products over the 1970s internationally is bound to have an influence on the relative position of Canadian manufacturing. This operates two ways. For one thing, primary products are an important input cost for manufacturing. Manufacturers experience a cost squeeze when primary product prices have gone up more than selling prices of manufactured products from 1971 to date. In addition, the higher price increases for primary products than manufactured products permit higher wages and profits in the primary products area to help the shift in resources between sectors that the shifts in relative prices are signalling as appropriate. A clear example is the higher incomes in the natural gas and petroleum sector in Alberta and the relative shifts in population and labour force between Ontario and Alberta. Such higher incomes in the natural resource export sector can put upward pressure on earnings in manufacturing. Some examples of the relatively greater price increases in the primary sector than the manufacturing sector are shown in Table B-2 below. From 1971 to 1983, the average price increase in four manufactured price indices was 144 percent or 7.7 percent per year. However, for the five primary products, the average price increase was substantially greater, namely 452 percent higher at the end of the period or 15.3 percent per year. Furthermore, almost every single

measure of price increases for primary products had gone up more rapidly than the most rapidly increasing group of manufactured products prices. When the prices of energy and other primary products prices (which are an important area of input costs to manufacturing) have gone up more rapidly than the prices of manufactured outputs, an important squeeze on profit margins in manufacturing has to occur. This is reflected in lower rates of return to the manufacturing sector. This interpretation is consistent with a recent U.S. study which has emphasized the role of supply shocks from higher energy prices as a factor in the lower pre-tax profit rate in U.S. manufacturing.⁴

This more rapid increase in the prices of primary products than in the prices of manufactured products has been world wide, and not unique to Canadian manufacturing. If anything, the change may have been less pronounced in Canada than in some other countries as the increases in energy prices to domestic users were less than elsewhere. In Japan, for example, they moved to world energy prices very quickly, and gave early attention to energy conservation in both private and public decisions.

It is recognized that some reversals in the price strengths in primary products prices have taken place since 1983, but data are not yet available to permit a full updating of Table B-2. Crude oil prices by early 1986, for example, have dropped to about half their earlier levels. However, data on other primary products available in early 1986 do not suggest any major modifications to the general conclusions suggested by Table B-2. However, the terms of trade (the ratio of export prices to import prices) have dropped by 1985 from earlier high levels.

Slower increases in output and productivity

There has been a slowdown in economic growth in Canada and the other major industrialized countries during the 1970s. Some of the major changes for Canada are illustrated in Table B-3. To some extent the slowdown in aggregate economic growth reflects the slowdown in the rate of increase in the population 15 years and over, and this slowdown will become more pronounced over the balance of the decade. The slowdown in productivity, however, is a much more important factor in the slower economic growth in aggregate since 1973. The rate of increase in productivity has been slower in Canada over this period than in most of the other industrialized countries.⁵

One factor that stands out as an important factor in the decline in productivity in North America and internationally is the impairment of efficiency by inflation. Rational decisions by businessmen about production, investment, borrowing, cash management, wage settlements, and international

Table B-2

Primary and Manufactured Products
Selected Price and Cost Measures
Canada, 1971 = 1.00

Manufactured Products	1983
Industry selling price index, non-food	2.97
Labour cost per unit of output, Canadian dollars	1.94
Motor vehicles and parts, U.S. export price index	2.30
Other manufactured goods, ex motor vehicles and parts, export price index	<u>2.54</u>
Unweighted average above manufactured products price indices	2.44
Primary Products	
Crude oil prices, imported, CIF Montreal	12.36
Crude oil prices, Wellhead, Alberta	10.44
Farm and fish products, export price index	2.95
Lumber, export price index	2.84
Other forest products, export price index	3.19
Metals and minerals, export price index	<u>3.34</u>
Unweighted average above primary products price indices	5.52

Sources: Department of Finance, *Economic Review*, April 1984, pp. 177-178; *Bank of Canada Review*, October 1984, pp. S143-144; and Bureau of Labor Statistics *News* (Washington: U.S. Department of Labor, May 31, 1984) Table 9.

trade all require the use of information from the price system to make longer-term decisions. It is easier to detect emerging changes in relative prices on both input and output prices when the general price level is stable than when all prices are going up. Furthermore, a high average rate of inflation normally involves greater variations in individual price changes. Higher rates of inflation in goods prices eventually end up in higher interest rates normally. There are also larger differences in the rates of price changes internationally, and the differential experiences in prices and interest rates

among countries are reflected in exchange rate changes. Market prices become less effective in decision-making and in the coordination of economic activity during inflation, so senior business leaders spend more time trying to find out what is going on in the economy with increased environmental uncertainty and thus have less time to manage and coordinate internal decision-making within their organizations effectively.

Peter Clark has published a recent study on inflation and the productivity decline in the United States. He finds a close connection between the deviations in the levels of prices and the levels of productivity from their longer-term trends and presents some evidence that the causal direction is from high price level deviations to low productivity level deviations.⁶ A comparable chart prepared for Canada showed very similar results.

Most projections of economic growth in Canada are based on a slower economic growth in the medium term than had been experienced in the two decades preceding 1973. For example, the Economic Council of Canada projects economic growth from 1983 to 1990 at 2.5 percent per year and the Department of Finance at 3.4 percent over the same period, and both of these projections are well below the 5.0 for the 1955 to 1973 period shown in Table B-3.⁷ These lower projections primarily reflect the productivity slowdown that has already taken place and is expected to persist.

Such slower economic growth in the future would have several important effects on Canadian manufacturing. For one thing, it would affect capital expansion plans adversely, both in manufacturing and elsewhere. At 5.0 percent per year, capacity would have to double in 14 years to match the average growth in output. At 2.49 percent per year (the 1984-90 rate of growth in real GNE estimated by the Economic Council), it would take 28 years before a doubling in output would be required. The effects of this longer-term slower growth on investment will be further intensified by the lower rates of capacity utilization and the low rates of return to capital that emerged in the early 1980s.

This slower economic growth since 1973 and its expected continuation over the balance of the decade will provide a large negative influence on the Canadian manufacturing environment.

Differential inflation

Although inflation can have an important influence on debtor-creditor relationships, on the forms of holding assets, and on wage negotiations, etc., our interest here is primarily on the effect that differential rates of inflation between Canada and other countries have had on the competitive position of Canadian manufacturing.

Table B-3

**Changes in Aggregate Real Output and Productivity
1955-1973 and 1973-1984**

	1955- 1973	1973- 1984
Real gross domestic product	5.14	2.62
Real GDP per employed person	2.36	0.54
Total manufacturing production	5.60	1.43
Output per hour, manufacturing industries	4.34	1.87
Output per hour, commercial non-agricultural industries	(1973-82)	

Sources: Department of Finance, *Economic Review*, April 1984 (Ottawa: Supply and Services, 1984), pp. 126 and 157, and U.S. Department of Labour, *Comparative Real Gross Domestic Product, 1950-1983* (Washington: Bureau of Labor Statistics, January 1986) Statistics Canada, *Aggregate Productivity Measures 1981* (Ottawa: November 1982), pp. 27 and 32 and U.S. Department of Labor *News*, June 10, 1986 (Washington: Office of Productivity and Technology).

The first point to make is that inflation has been a key development in the major industrialized countries since the late 1960s or early 1970s. This period of inflation has been the most widespread by country and pervasive in terms of the range of goods and services that has been experienced in peace time in more than a century.

A second important point is that there have been some significant differences in the experience from one country to another. Most of the countries in northwest Europe, for example, have had more pronounced increases in prices and costs than in North America. However, it is significant that the increases in Canadian costs have been more rapid than in the United States since 1971, and more rapid than in Japan since 1975.

(Both of these comparisons are in domestic currencies. The effects of exchange rate changes are considered later.) Since these are the two most important countries in Canadian trade in manufactured products, they merit further consideration.

It is clear from Table B-4 below that all three measures of inflation show larger increases in Canada than in the United States over the 1970s — almost two percentage points per year over the ten-year period in domestic currencies. The measures of hourly compensation and unit labour costs are particularly significant as labour costs amounted to 63 percent of GDP in manufacturing in 1980. Unit labour costs are a measure of the degree to which the increase in hourly compensation has exceeded the increase in output per hour. These are used as convenient measures of domestic inflation (or monetary phenomenon), rather than attributing the increases to labour in a causal sense, whether unionized or not. These two measures also exclude the direct effects of price increases in food and energy over this period, and the direct effects of international price changes or the depreciation of the Canadian dollar in the latter part of the 1970s. It is significant that the United States has been showing clearer signs of a moderation in price and cost pressures between the middle of 1981 and the end of 1983 than had been experienced in Canada.

Table B-4

**Measures of Domestic Inflation
United States and Canada, Ratios, 1983/1971**

	Canada	U.S.A.	Canada U.S.A.
Hourly compensation in manufacturing	3.62	2.73	1.33
Unit labour costs in manufacturing	2.74	2.03	1.35
GNP deflator	2.90	2.25	1.29

Sources: U.S. Department of Labor, *News*, May 31, 1984 (Washington: Office of Productivity and Technology), *Bank of Canada Review*, Oct. 1984, p. S115 and OECD *Main Economic Indicators, Historical Statistics, 1964-1983* (Paris: 1984), p. 50.

Japan is also an important country to compare with Canada. For one thing, Japan emerged as Canada's second largest market during the 1970s (surpassing the United Kingdom and each of the European countries individually), and has achieved a major increase in its share of world trade in manufactured products during the 1970s. In the early 1970s, Japan experienced significant price increases, but after the Bank of Japan shifted to a monetarist position about the middle of the 1970s, the increases in costs and prices have been modest. The differences between Japan and Canada can be seen in Table B-5 for the period 1975-1982. The increases in costs and prices have been much more marked in Canada than Japan. It is significant that the levels of unit labour costs in manufacturing in Japan are lower in 1983 than seven years earlier, made possible by the continued high increases in output per hour — well above the increases in the other major industrialized countries. It is also significant that an important part of the increases in productivity in Japanese manufacturing have been passed along to the buyers (both in Japan and internationally) rather than largely accruing to the manufacturing workers as in the other industrialized countries.

Table B-5
Measures of Domestic Inflation
Japan and Canada, Ratios, 1983/1975

	Canada	Japan	Canada Japan
Hourly compensation in manufacturing	2.32	1.66	1.40
Unit labour cost in manufacturing	1.94	0.91	2.13
GNP deflator	1.99	1.31	1.52

Sources: United States Department of Labor, *News*, May 31, 1984, (Washington: Office of Productivity and Technology); *Bank of Canada Review*, Oct. 1984, p. S115; OECD *Main Economic Indicators, Historical Statistics, 1964-1983* (Paris: 1984), p. 91.

This is not the time or place to discuss the reasons for the more rapid increases in prices and costs in Canada than in the United States and Japan, or what should have been done to prevent it. Our purpose is the more limited one of discussing the effects on Canadian manufacturing over this period. For our purposes, the major effect from this one factor in isolation is to reduce the range of products in which Canadian producers can be competitive in these foreign markets, and to increase the extent of import competition domestically.

This is an important factor with the increased degree of openness in international trade in manufactured products with the reduction in tariff barriers in Canada and elsewhere over the post-war period. These developments are reflected in the larger current account deficit in the Canadian balance of payments from 1975 to 1981, the large net trade deficit in manufactured end products, the depreciation in the value of the Canadian dollar after 1976, and were a contributing factor in the falling share of Canadian exports in world trade during the 1970s.

The extent of domestic and world inflation was also a factor in high interest rates and the falling share of depreciation allowances at historic cost to the costs of replacing comparable capital facilities, and was a contributing influence in frequent conflicts in labour management relations. All of these points will be discussed briefly again later in this Appendix.

The effects of this higher rate of domestic inflation in Canada than elsewhere clearly have to be identified as a large negative influence on domestic manufacturing, especially when labour costs are such a large part of both total costs and value added (which excludes the costs of purchased materials). More rapid increases in costs in Canada than in the two major markets will lead to an erosion in profit margins in both export industries and in import competing industries. However, the decline in the value of the Canadian dollar since 1975 in relation to both the United States and Japan can partially offset this differential inflation, and some aspects of the exchange rate change will be examined in the next section.

Exchange rates

During the first half of the 1970s, the Canadian dollar was at a slight premium in relation to the U.S. dollar in spite of the more rapid increases in prices and costs in Canada that began in the late 1960s. After 1976 the Canadian dollar dropped in relation to the U.S. dollar and by early 1986 it had been trading at a discount of about \$0.35-\$0.40, a lower value than anything experienced since the 1930s. The Bank of Canada has acted at times to limit the speed and extent of the decline and has borrowed abroad

to support the dollar. In addition, the official foreign exchange reserves in U.S. dollars have declined from about \$6 billion in 1972 to under \$3.0 billion by October 1986, which is a significant drop relative to the flows of trade. This would also be a significant drop in official exchange reserves relative to the large increases in foreign currency assets and liabilities in Canadian chartered banks.⁸

This drop in the value of the Canadian dollar has had a contributing influence to price increases domestically, as almost all internationally traded commodities go up in price in Canada when the exchange rate drops, even if no changes were taking place in prices internationally. Such a change in the exchange rate in isolation would increase the prices of imported products compared to the same products produced domestically and thus ease the extent of competition from imports. This seemed to have happened, and may have contributed to an easing of the pressures to increase manufacturing productivity in Canada, at least temporarily.

One sub-theme of this study is whether exchange rate changes could stimulate manufacturing exports and thus domestic employment. When the Canadian exporter is only a small part of the U.S. supply of that product (normally a reasonable approximation of the situation), it can be assumed that exporters would take the U.S. price as a given (at least as an initial working approximation). A lower value of the Canadian dollar would mean that the receipts in U.S. dollars from exports would be larger when converted into Canadian dollars. If a significant part of the costs of production (both for labour and purchased materials) were incurred domestically and were unaffected by the depreciation of the Canadian dollar, the effects on corporate profits could be quite dramatic. The relative impact on profits would be greater if exports were a large share of domestic production, if costs of imported materials were a small share of domestic costs, and if profit margins were narrow initially.⁹ Some examples have been encountered where corporate profits declined with a depreciation of the Canadian dollar. This occurred when costs of imported materials were a very high proportion of costs, and domestic value-added was very low, and this situation can be fairly typical for secondary manufacturing.

One might expect that the increased profitability from exporting rather than selling the comparable items domestically would have led to major new company initiatives to expand capacity and increase their share of the U.S. market, at least in adjacent states. Some of this has happened. However, when the interviews were being conducted in 1982, most companies, both subsidiaries and Canadian-owned, were tending to regard the current depreciation of the Canadian dollar as a temporary and short-term situation which they welcomed, but they considered it risky to base a longer-

term strategy of expansion into the U.S. market on the basis of anything close to the exchange rate then prevailing. In fact, exchange rates have moved even farther away from parity since 1982, which was not what their planning was based on at that time.

On the basis of the work for this study, the current discount in the value of the Canadian dollar is a large positive factor on potential exports of manufactured products, but only if exports are a large share of domestic output.

As a matter of fact, it is the only large positive factor in the environment for Canadian manufactured exports, current and potential, that has turned up in this research.

Corporate rates of return in manufacturing

The period of inflation has affected the levels of reported profits in manufacturing, if one assumes that the long-term goal of the firm is to maintain the real value of capital intact in the company as an ongoing entity. For example, depreciation allowances are reported for tax purposes at historic costs, and most companies continue to report on that basis to the public and their shareholders. However, the increasing costs of construction and machinery and equipment with inflation mean that those depreciation allowances would only partially cover the replacement cost of those assets. By the early 1980s, depreciation allowances at historic costs for manufacturing only amounted to about 60 percent of the costs of replacing those assets at current prices.

However, corporate profits taxes would have been paid on reported profits, appreciably reducing corporate cash flow after dividends had been paid. These changes were becoming increasingly apparent after the mid-1970s, but the drops in corporate profits in 1981 and 1982 have made the problem even more acute, and even alarming. A slowing in the rate of inflation does not solve this problem, as it will persist until all capital purchased at lower prices is fully written off.

In light of the importance of this development, one article written for the business community and a more technical paper have been published.¹⁰ See Table 4-1 in the text for this data.

That report shows reported profits for total manufacturing and adjustments which would put both inventories and depreciation allowances at current prices, using the GNP implicit price index. This approach uses the General Price Level Adjustment Model. To permit an assessment of the total rate of return to capital (on both debt and equity), that paper shows corporate profits (adjusted) after taxes, plus interest paid. In estimating total assets,

inventories, construction, and machinery (all “real” assets) are valued at current prices, while financial assets do not require such adjustments.

A number of important implications emerge from those adjustments that are relevant for decisions by management and investors. For one thing, the rate of return (on equity and debt) drops significantly during the later 1970s, and the extent of the drops are even greater based on incomplete extrapolations to 1981 and 1982. By the last half of the 1970s, the rates of return in Canada are lower than similarly adjusted rates of return in the United States, and “effective” corporate tax rates in Canada are higher than in the United States.

Furthermore, with the lower rates of adjusted return on capital occurring with new all time highs in interest costs on new corporate long-term debt, it is clear that a growing proportion of manufacturing companies would not be able to do as well in investing in “real” corporate assets in an ongoing organization as they would in investing in financial assets in medium and long-term maturities, of either governments or corporations. (This would be so after allowing for the tax implications from the manufacturing firms’ point of view.) Internal funds (depreciation allowances and corporate undistributed profits) have declined in relation to business investment since the 1950s, but the sharp drops in internal cash flows during the 1980s suggest that further investments in capital assets would have to be entirely financed by long-term debt issues or by bank borrowings. After payments of dividends and corporate profits taxes, these results suggest that the remaining internal flow of funds would not be adequate to maintain the real assets of that sector intact.

The continuing use of historical cost accounting procedures during a period of inflation will widen the gulf between reported and inflation adjusted profit, the extent of the gap depending on the duration of the inflationary time period and the rate of inflation. If the inflation adjusted corporate cash flow (i.e. retained earnings plus replacement cost depreciation) is stated in constant 1979 dollars, it is estimated to be less than one-half of its peak level in 1974 and down to the level of the late 1960s in 1981 and 1982. This is a drastic decline in real terms in light of the large increase in the real stock of capital in manufacturing over that period. The 1981-82 rates of return were depressed by the business cycle recession, and some recovery had taken place by early 1986.

The implications of these preliminary calculations are disturbing, but the results seem to be in line with those made by others and the discussions at a conference held in 1981 by the Economic Council of Canada.¹¹ These conclusions need not correspond with the experience of all manufacturing companies, of course, but they seem likely to correspond with the experience

of many manufacturing firms. The adverse effects of inflation on profits are greater in manufacturing, where physical assets (plant, equipment and inventories) are a high proportion of total assets and the ratio of debt to equity are lower than in some other industries.

The low corporate rates of return in Canadian manufacturing have been classed as a large negative factor especially when returns are lower in Canada than in the U.S. and in light of the extent of the declines in 1981 and 1982. The subsequent increases leave rates of return still well below earlier levels.

Higher interest rates

It has been widely recognized that periods of high rates of price increases are normally reflected in higher interest rates.¹² It may take some years of experience of appreciable price increases before interest rates begin to reflect these forces, and governmental policies or special institutional arrangements may moderate or delay the period of interest rate increases. Complete convertability of international currency and capital transactions and large private balances of foreign currencies in domestic commercial banks in most industrialized countries has contributed to an increased degree of coordination and integration of international capital markets. This has reduced the possibility of persisting interest rate differentials between countries, although some countries have deviated from the general tendency for higher interest rates.

During the earlier post-war years, a significant amount of the investment programme in Canadian manufacturing could be financed by internal funds (undistributed corporate profits and depreciation reserves). During this period, interest costs were just a fraction of one percent of total costs (including purchased material) for both manufacturing and the non-financial corporate sector. By the last half of the 1970s, a growing share of new investment in manufacturing was being financed by external funds. In addition, bond yield averages on corporate long-term bonds had gone up from about 10 percent in 1978 to a range of 16 to 19 percent in late 1981 and early 1982, but had declined again by 1986. Much of the corporate long-term debt outstanding had been incurred at earlier and lower rates. By the early 1980s, higher interest rates and more external debt issues had been reflected in interest costs moving up to about 1.9 percent of sales. This ratio is likely to increase further in the 1980s, but interest rates are not a large direct cost factor in manufacturing. For example, for total manufacturing in 1980, salaries and wages were nine times interest costs, and material costs were about thirty times interest costs. Interest costs were only \$3.9 billion or 2.1 percent of total expenses of \$187.3 billion in manufacturing.¹³

The influence of interest rates on business investment and economic growth is sometimes over-exaggerated. For example, the Department of Finance study *A New Direction for Canada* has eighteen references to high nominal and real rates of interest in relation to their potential role as an obstacle to growth.¹⁴

Although there were several incidental references to competitiveness, there was no serious discussion of price competitiveness in manufacturing and the tendency for real wages in manufacturing to get out of line with real productivity levels in manufacturing in an international perspective. When salaries and wages payments are almost ten times the size of interest payments in manufacturing, the emphasis on interest rates and the absence of discussion of wage cost and international productivity comparisons is a serious imbalance. Such an overemphasis on interest rates tends to divert attention to the United States federal deficit and its effect on interest rates both in the United States and Canada, and away from the domestic wage and unit cost levels that are primarily a result of domestic economic policy and corporate responses within Canada.

Interest rates are a much more important influence on expenditures on housing investment and purchases of consumer durables and can thus have an important indirect effect on sales and output in manufacturing, even though the direct effects on costs are normally small.

It is important to recognize the factors that contribute to the high degree of responsiveness in the housing sector. For individual home buyers, a house and its financing are a major factor in the balance sheet of most families, and the interest and mortgage amortization costs are an important expense in family financing. Owner's equity has provided only a small proportion of the funds for new housing over the post-war period and the proportion of owner's equity had fallen from over 20 percent of the source of funds in the 1960s to just over 10 percent in 1981.¹⁵ The lending institutions and CMHC provide a major source for new residential construction. This heavy reliance on mortgage debt is reflected in large mortgage amortization payments in relation to family income, although there is considerable diversity depending on the age of the household head and the asset position of the family (see Table B-6.) For example, older couples with a large existing equity in housing are in a radically different financial position than a young couple considering buying a home for the first time. If a family has undertaken a mortgage with a heavy debt servicing charge in relation to income, it can be in an acute financial position if the mortgage comes up for renewal in a period in which mortgage rates have gone up appreciably.

Table B-6

**Ratio of Gross Debt Service to Income
New Housing Loans Approved under the National Housing Act,
1981**

Percentages		
	0.0 – 15.0	9.8
	15.1 – 18.0	8.9
	18.1 – 20.0	9.9
	20.1 – 23.0	19.1
	23.1 – 27.0	25.1
	27.1 – 30.0	15.2
	30.1 +	12.0
		100.0

Source: Canada Mortgage and Housing Corporation, *Canadian Housing Statistics* (Ottawa: March 1982), p. 75.

The construction of apartments and multiple units for rent can also be significantly affected by changing mortgage interest rates. Interest costs and amortization can be an important element in costs, normally far more than in the manufacturing and the commodity-producing industries. In a period of rising interest rates, new apartment construction falls sharply. This is intensified in Ontario when a form of rent control limits the extent to which rising costs can be passed along to the potential tenants. This can occur in spite of strong demand and low vacancy rates occurring at the same time.

Consumer credit charges can also be important for sales of new passenger cars, both through new car dealers, chartered banks, and sales finance and consumer loan companies. During the late 1970s, passenger car paper purchased alone was about 17 percent of new car sales, down from a decade ago. The use of credit is an important factor in sales, bearing in mind the extent of trade-ins of used cars. The effects of interest rate changes on some of the key expenditure areas in the national accounts can be seen in Table B-7. This shows the expenditure levels for the three main areas of final expenditures, namely business capital expenditures, residential construction, and consumer durables. The earlier Canadian estimates of interest elasticities are shown (the percentage change in expenditures for a given

one percentage point change in interest rates).¹⁶ The effects of a change in interest rates of 10 percent are shown. (For an initial interest rate of 20 percent, for example, this would imply an alternative rate of 22 percent.) An aggregate effect on expenditures is also shown. An interesting point is that the absolute size of the effects on housing is almost six times as large as on business capital expenditures, even though housing investment expenditures were less than one-third the size of business capital expenditures that year. Similarly, the effects of higher interest rates on consumer durable spending was about twice the size of the effect on business capital spending even though it was initially only half the size. In total for these three expenditures areas the aggregate elasticity of interest rates was about 0.5. This would have been quite a bit less in total in 1981 than it would have been in 1976. Housing, which is highly interest rate sensitive, had dropped about one-fourth in constant prices over that period, while business capital spending had gone up more than one-third in constant prices over that same five-year period.

It may be useful to recapitulate some of the environmental considerations with respect to the rate of return on capital invested in Canadian manufacturing that have been raised in earlier parts of this Appendix and this discussion of interest rates. The corporate rate of return on assets in manufacturing (using the GPL model on both income flows and balance sheet items to revalue at current prices) shows a sharp drop between the late 1960s and the late 1970s, which has been intensified in 1981 and 1982. At the same time, nominal interest rates on corporate bonds had moved to new highs, reflecting high interest rates generally, partly reflecting the persistence of inflation. The levels of internal funds within corporate manufacturing had dropped to half the levels of the mid-1970s in constant dollars, while the stock of capital in manufacturing has increased. Between 1970 and 1981 business investment in non-residential construction and plant and equipment roughly doubled, the stock of capital in manufacturing increased by 50 percent, while real GNE went up only one-third in real terms. Anything close to the 1981 level of real business capital spending could only be maintained by dramatic increases in borrowing from the capital market and financial institutions. Even if the shorter-term under-utilization of capacity utilization recovers somewhat in the latter part of the 1980s, financial institutions are unlikely to be willing lenders when corporate rates of return are at new lows and below the costs of new long-term borrowing. In light of the slower increase in growth that has already taken place since 1973 compared to the previous quarter century, investment will shift from

Table B-7

**Impacts of Interest Rate Changes,
Based on 1981 Expenditure Levels
(Billions of Dollars)**

Expenditures	1981 Levels	Interest Elasticities	Effects 10% Change in Interest Rates
Business capital expenditures on non-residential construction and equipment	\$55.1	-0.1	-0.55
Residential	\$16.1	-2.0	-3.22
Personal expenditure on durables	\$22.4	-0.4	-1.06
	\$97.6		-4.83

Source: Elasticities are developed from data and studies in D.J. Daly, "The Impact of Monetary Policy: A Synthesis" in *Conference on Stabilization Policies* (Ottawa: The Queen's Printer, 1966), pp. 1- 51, updated with expenditures from *Bank of Canada Review*, May 1982, pp. s116-117.

the significant expansions in capacity of the past towards a primary emphasis on modernization and cost reduction, productivity-increasing investment on a much more selective basis.

The extent of this shift has been greater since 1981 in Canada than in the United States, as illustrated in Chapter 1. These changes reflect a significant decline in the attractiveness of investing in plant and equipment in manufacturing, and a dramatic increase in the attractiveness of investing in financial assets, such as bonds.

Labour-management relations

The whole topic of labour-management relations is quite critical for a number of reasons. For one thing, labour costs amounted to about 63 percent of GDP in manufacturing, and this is inevitably reflected in the distribution of costs at the level of the individual firm (once purchases of materials are excluded). Levels of basic pay and fringe benefits are important topics for the employees, and rising prices and incomes elsewhere have made them all very much aware of these issues. The effectiveness with which people are used in organizations is also important, as reflected in levels of output per man hour. It has been widely recognized that the levels of output per man hour in Canadian manufacturing have been about 25 percent below the United States during most of the 1970s. It is less well known that the larger plants in Japan and a number of countries in Europe (France, Germany and Sweden, for example) also began to exceed Canadian productivity levels during the 1970s for the first time.

One measure of the low level of labour-management relations is the time lost through strikes. In several years over the last decade this measure was higher in Canada than almost any industrialized country — exceeded only by Italy on several occasions. For most countries, the number of working days lost through industrial disputes is well below one percent of man hours worked per year.¹⁷ However, a further important effect occurs when frictions in labour-management relations can have a much bigger impact on productivity while employees are actually at work than the direct and indirect effects on output while they are on strike.

During the 1970s, union membership in Canadian manufacturing increased and in recent years the proportion in Canada exceeded the comparable data for the United States, as discussed in Chapter 3. Chapter 3 pointed out that by 1983 output per hour in Canadian manufacturing was lower than in the United States, Japan and some of the countries in North West Europe, while unit labour costs were higher than in most of the major industrialized countries that Canada competes with. Real compensation per hour in manufacturing (total compensation per hour divided by the consumer price index) has continued to increase more rapidly in Canada relative to the United States since 1973, without a comparable narrowing in real output per hour. Japan on the other hand has achieved a significant catch up to the United States in terms of output per hour, without comparable increases in real wages. An important part of their productivity increase has been passed along to the buyers of manufactured products internationally, which has further strengthened their competitive position. A full description of the data sources is provided in Appendix A to this study.

Some empirical work has been published on the relationships between real wages, and unemployment over the business cycle, with some comparisons between countries. Thus far the studies have tended to conclude that the wage responses in Japan and the United States have tended to be greater, while the responses in the United Kingdom and Italy have been smaller. Canada has tended to be covered less frequently in the studies than the larger industrialized countries, but several have concluded that the response in Canada is less pronounced than in the United States and Japan.¹⁸ One Canadian study indicates that the proportion of two and three year contracts has become more common in Canada than in the United States in recent years and that the extent of unionization has increased in Canada while it has declined in the United States.¹⁹ However, these studies have emphasized the topic of real wage rigidity in relation to business cycles and unemployment for the economy as a whole, while this study has emphasized the possibility of a real wage disequilibrium in relation to international competition in manufactured products and its relationship to unemployment.

What are some of the factors that have contributed to this more rapid increase in wage rates and total compensation than in output per hour? One key factor is excessively expansionary monetary and fiscal policy over many years. Canada has had large increases in federal government expenditures on goods and services, transfer payments to persons and provinces and municipalities, and interest on the public debt during the 1970s. The monetary aggregates (especially M2 — the more comprehensive measure) went up more rapidly in Canada than in the United States. In addition, the significant increase in unionization in the public service (initiated when Lester B. Pearson was Prime Minister) and several large public sector wage increases made important precedent setting settlements. Increases in relative wages in the primary industries (encouraged by the improvement in the terms of trade of primary products and manufactured products shown in Table B-2 in this Appendix), construction and transportation industries also put upward pressure on manufacturing wages.²¹

If high real wages are important in low profits and high unemployment, an appropriate solution that would reduce hardship for individuals would include a combination of increases in productivity and passing along to the buyers an important part of the productivity gains in manufacturing. This would put the whole area of labour-management relations front and centre in a resolution of Canada's unemployment problems. There has not been much serious research or public discussion on this range of issues. For an open economy with high money and real wages and high costs, discussion of these issues is overdue.

This increase in union membership and a high degree of friction in labour-management relations is classed as a negative factor in the environment of business in Canadian manufacturing. For one thing, frictions in labour-management relations can lead to increased time lost due to industrial disputes, but even more importantly to lowered levels of productivity while workers are being paid and at work. Secondly, the effect of union negotiations on wage settlements can contribute to increases in wage demands even when demand for output of that firm can be low and corporate profits are falling, reflecting the tendency for wage rate changes to lag at turning points.²¹ This has sometimes been used to illustrate cost push inflation. However, such cost push inflation normally only occurs after an earlier period of demand pull inflation, but these tendencies can intensify a squeeze on corporate profits during a period of monetary restraint and declining corporate profits. Such a period can become even more acute for a sector like Canadian manufacturing when international competition from producers in other countries can be significant if their unit labour costs are below the levels in Canada, as they have been in the mid-1980s.

In the light of these various considerations, it was decided to treat labour-management relations as a large negative influence on Canadian manufacturing.

Freer Canada-U.S. trade

A significant reduction in tariff barriers in relation to the two-way flow of trade in manufactured products between Canada and the United States has taken place since 1935, and further reductions are being implemented under the Tokyo Round during the 1980s. Some of these reductions have taken place as part of the successive multilateral tariff reductions under the GATT, but the effects of the Canada-U.S. automotive agreement have also been important for cars and parts as new equipment. By 1988, almost one-half of Canadian imports of manufactured products from the U.S. will be duty-free and the average Canadian tariff on dutiable items will have fallen to about 8.5 percent. Eighty percent of current Canadian exports to the United States of products will be on a duty-free basis and over 90 percent will have duties of 5 percent or less. The average tariffs on manufactured products will be in the area of 4 percent, although some products will continue to enter at much higher rates. Similar large reductions will have taken place in Japan and the enlarged European Economic Community. Canada's average tariff rates on finished manufacturers are 1.5 times the rates in the EEC and Canadian tariffs for all imported goods are nearly 1.7 times those prevailing in the United States. However, it should be remembered that

effective tariff rates are normally higher than these nominal rates when the tariff rates on imported primary products and components have lower rates than on finished products. Effective tariff rates relate to the rates on the value-added portion of domestic costs.

There have been some new shifts in emphasis towards contingency protection in the United States. Examples of these are the U.S. countervailing duty system, continuing questions on customs valuation, and government procurement.²² On the Canadian side, non-tariff barriers exist in the clothing and textile area in relation to developing countries, and most governments provide incentives for local suppliers on government purchases. There have also been pressures on the Japanese government to limit exports of cars and trucks to Canada. Continued discussions and negotiations are taking place under GATT on some of these issues, such as government procurement.

There has been an increased resort to non-tariff barriers on imports of manufactured products. For example, there had been an increase in the proportion of U.S. imports of manufactured products subject to restrictions from 20 percent in 1980 to 35 percent in 1983. The comparable proportion was 28 percent for the European Common Market.²³ However, an important part of those U.S. non-tariff import restrictions were directed against imports from Japan and labour intensive products from the newly industrialized and developing countries, and Canadian exports have not thus far been affected to any significant degree. Certainly the Canadian manufacturers interviewed in 1982 put much greater emphasis on problems of cost competitiveness domestically than non-tariff barriers elsewhere as the key factor limiting manufactured exports.

The effects of these further reductions in tariff barriers will have both positive and negative influences on Canadian manufacturing. On the positive side, the tariff reductions will further extend the range of products in which Canadian manufacturers can export profitably to the U.S. market, especially with a value of the Canadian dollar anywhere close to that prevailing in the early 1980s. On the negative side, the tariff reductions being implemented by Canada in relation to the U.S., the EEC, Japan and the developing countries could increase the degree of import competition for domestic producers who have not yet worked themselves out of the high cost — low productivity position that had developed during the more protectionist period both in Canada and elsewhere. However, the magnitude of the changes in tariff rates that will be implemented during the 1980s will be small compared to the magnitude of the depreciation of the Canadian dollar that has taken place from 1976 to date, and the companies will have had a number of years to make any necessary adjustments. The exchange rate change has increas-

ed the prices of imports in Canadian dollars since 1976 by much more than the effects of tariff reductions over the balance of the decade. The tariff reductions are thus classified as having a small effect on the environment for manufacturing, with both positive and negative influences.

Government-business relations

A recent study of business-government relations concluded that a significant decline in mutual trust and confidence had occurred from the early post-World War II period to the end of the 1970s. In the summer of 1980, almost half the chief executive officers of Canada's largest corporations believed that the climate for doing business in Canada would deteriorate further in the first half of the 1980s.

There were a number of basic reasons for the increased conflict between business and government. First, many businessmen felt this was a result of a fundamental lack of understanding and sympathy for the business enterprise system by senior government officials. Second, was the feeling that the businessmen were putting forth a vested interest position in representations to government and their views were frequently dismissed as lacking credibility. Third, many chief executive officers recognized that they did not have sufficient understanding of the political process and the nature of compromises involved in the decision-making processes in governments. Fourthly, many felt that business does not have a sufficient understanding of where power actually exists, or the degree to which it has shifted in recent decades. Finally, many businessmen feel that the government has become less effective in decision-making, a problem intensified by the growth of government activities and the increased number of persons involved in the government.²⁴

Some earlier government measures provide some examples of a lack of sensitivity and concern for business. Some of the budget changes proposed in the November 1981 budget illustrate this. On the international side, the Foreign Investment Review Act and the National Energy Policy have discouraged some new investment, and foreign investment has begun to look less attractive with the weakening in the North American economy that was apparent in the middle of 1982. Such examples do not provide a strong basis to class it as anything but a small negative factor. There were frequent comments that classed the previous Liberal government in 1981 and 1982 as the most nationalistic and most interventionist in history. It will be interesting to see how the new federal government responds to the evidence of a sharp decline in the real rate of return in Canadian manufacturing and a sharp drop in the internal flow of corporate funds in constant

dollars. Corporation profits have experienced sharp declines in the rates of return since the early 1970s, and some but not all of these changes have reflected the use of historic cost accounting during a protracted period of inflation. Corporation taxes and business investment incentives in the 1980s may provide a clearer basis of the federal government's policies to business.

The new Progressive Conservative government under the Honourable Brian Mulroney has been committed to a significant increase in dialogue with business, labour, provincial governments and the public before making new decisions. The Department of Finance *A New Direction for Canada* suggests a willingness to reexamine many aspects of economic policy and government expenditures to achieve increased economic growth and reduced budget deficits simultaneously.

It was eventually decided to class business-government relations as a negative influence, but probably small even though there is no clear basis for quantification.

Summary

Earlier pages have identified nine factors in the environment affecting Canadian manufacturing. On the basis of the rough division between negative and positive factors and between large and small influences, this classification ends up with six of the nine factors being classed as large negative factors, as pointed out at the beginning. The factors classed as large negatives would include: terms of trade (prices of natural resources and energy-important input costs to the manufacturing sector); slower economic growth (both in Canada and in major industrial markets but slower growth in Canada); inflation (i.e. more rapid increases in costs than main competitors); low rates of return after taxes in Canadian manufacturing; high interest rates; and labour-management relations. The only large positive influence has been the decline in the value of the Canadian dollar, but the extent of the exchange rate decline has partly been a reflection of the number and strength of the large negative influences in the environment already discussed. The reductions in tariff and non-tariff barriers in Canada and elsewhere that are being implemented during the 1980s have some conflicting influences. On the one hand, the reductions will make it easier for Canadian manufacturers to sell abroad, especially if costs can be brought into line with costs elsewhere. On the other hand, the reductions will make it easier for producers elsewhere to sell manufactured products in Canada. In any case, the extent of the changes being introduced would be small compared to the extent of the change in the Canadian exchange rate since 1975. Furthermore, the reductions will be phased in over a number of years, so there

is ample time to make the adjustment, providing managements are willing to make needed changes and such changes are incorporated into planning ahead of time. Freer trade is thus classed as both a small negative and a small positive factor. Business-government relations is classed as a negative factor. It is not possible to quantify it as large or small, and the qualitative factors and informal advice have been conflicting.

A number of these changes are not unique to Canadian manufacturing, but reflect a common international tendency. For example, it is likely that the greater increases in raw material costs than in the selling prices of manufactured products have taken place to a greater or lesser degree in all the industrialized countries. For some of the developments one can make comparisons of the Canadian experience with other countries, and some of these comparisons have been referred to in the appropriate earlier sections of this Appendix. For example, the increases in unit labour costs in Canadian manufacturing (a key one for international competitiveness) were greater than in the United States and Japan. For Japan, the levels of unit labour costs in domestic currency were actually lower in 1985 than in 1975, a dramatic contrast. In addition, the productivity increases since 1973 have been smaller in Canada for both manufacturing and GNP than any of the other OECD countries. If changes in unit labour costs are measured in U.S. dollars the story is somewhat different, as the greater increases in unit costs would be partly offset by the decline in the value of the Canadian dollar since 1975. The positive effects of that exchange rate change are much greater for the active exporting companies, such as in the natural resource products. In the case of manufacturing, however, the decline in the value of the Canadian dollar would be reflected in higher prices of materials, both imported and locally supplied, and these higher costs would put further pressure on profit margins for domestic manufacturing firms. The net effect of higher wage and material costs and slower increases in productivity have all combined to lead to a drastic decline in corporate profits in manufacturing, that has been more severe in Canada than in the United States and Japan.

The assessment of the environmental factors in Canada affecting manufacturing largely confirm the concerns raised by many business executives in the earlier company interviews. If a majority of these factors continue to be persistently negative, an important proportion of the smaller successful Canadian companies would shift to direct investment elsewhere rather than producing and exporting entirely from a Canadian base. But if the environment looks that unattractive to companies with Canadian roots and background, it is also likely to appear less attractive for companies in other countries to make significant direct investments in Canada. These concerns

were only associated with tariff reductions in a minor way, and other factors were much more important as sources of concern. We have emphasized the longer-term areas of concern, which would persist through the 1980s. It is significant that the data from the balance of payments and international investment indicate a dramatic drop in the share of direct investment in Canada and an increase in direct investment by Canadian companies in manufacturing abroad.

This summary has a number of important implications for Canadian manufacturing management. For example, there are a number of important influences in the environment, some of which are operating in conflicting directions. It would be very difficult for an operating manager whose training and experience has been on the internal operations of the firm to diagnose the signals through the market of these environmental forces. It illustrates the theme of environmental uncertainty for the firm very well.

When so many environmental factors have become large negative influences about the same time during the 1970s, it seems likely that manufacturing firms will have to reassess previous strategies that worked successfully in a more positive environment, but may not work as effectively in the more negative environment of the 1980s. One route could lead to increased profitability and growth, another to retrenchment, reduced profitability and perhaps closures and bankruptcy. Significant changes may have to be made.

However, it may be more difficult to make the necessary changes than in an earlier more positive environment. It was relatively easy to make adjustments when demand was pressing against capacity in many industries, and corporate profits were buoyant. Now, however, there is an environment of slower growth, lower operating rates in relation to capacity, and corporate returns on assets have fallen to the lowest levels in decades. The environmental factors have made changes in Canadian manufacturing both more necessary and more difficult at the same time.

Many of the environmental symptoms outlined here for Canadian manufacturing are present to some degree in many other countries in the industrialized world. One of the dangers in this situation is that these forces will increase the degree of pressures in individual countries to move in a more protectionist direction in relation to tariff and non-tariff barriers and the relatively free flow of capital with complete currency convertibility internationally.

The freeing up of trade barriers and capital flows has been an important part of the dramatic increases in living standards, productivity and international trade over the last three decades. A greater degree of economic interdependence in both trade and capital markets has taken place through this process. The gains have been relatively greater in the smaller coun-

tries, as the freeing up of trading barriers has permitted them to take advantage of the economies of scale only possible in large markets. A move back towards increased protection in response to the pressures in that direction would entail greater costs and threats to small economies than large ones.²⁵

These developments in manufacturing are longer-term in nature and a number of environmental changes have intensified the need for adjustment. They are already having an impact on shorter-term more aggregative developments, but the aggregative changes are symptomatic of the problems at the level of the industry and firm. Aggregative policy changes may not be sufficient to resolve these longer-term and more deep seated problems, and their use could defer or prevent changes that would be more appropriate. These public policy issues have been explored in Chapter 5.

Notes

1. Dan E. Schendel and Charles W. Hofer, *Strategic Management: A New View of Business Policy and Planning* (Boston: Little, Brown and Company Inc., 1979); Michael E. Porter, *Competitive Strategy: Techniques for Analyzing Industries and Competitors* (New York: The Free Press, A Division of Macmillan Publishing Co. Inc., 1980); Richard E. Caves, Michael E. Porter, A. Michael Spence and John T. Scott, *Competition in the Open Economy: A Model Applied to Canada* (Cambridge, Massachusetts: Harvard University Press, 1980); R. Normann, *Management for Growth* (Lund, Sweden: Scandinavian Institute for Administrative Research, 1977); H. Igor Ansoff, *Strategic Management* (London: Macmillan Publishing Co., 1979); D. Horvath and C.J. McMillan, *Strategy, Structure, and Performance: A Contingency Model* (Toronto: York University, 1980); D. Horvath and C.J. McMillan, "Strategic Choice and the Structure of Decision Processes," *International Studies of Management and Organization*, Vol. IX, No. 3, Fall 1979, pp. 87-112; Current later articles in *The Journal of Business Strategy and Strategic Management Journal*.
2. Raoul D. Prebisch, *The Economic Development of Latin America and Its Principal Problems* (New York: United Nations, Economic Commission for Latin America, 1950).
3. Irving B. Kravis and Robert E. Lipsey, "Prices and Terms of Trade for Developed-Country Exports of Manufactured Products," (Cambridge: NBER Working Paper No. 774, Sept. 1981).
4. James A. Wilcox, "Why Real Interest Rates Were So Low in the 1970's," *American Economic Review*, March 1983. pp. 44-53.

5. D.J. Daly, "Declining Productivity Growth: An International Perspective," *Canadian Business Review*, Winter 1981, pp. 2-6, esp. Tables 1 and 2 and other articles in the same issue on productivity.
6. Peter K. Clark, "Inflation and the Productivity Decline," *The American Economic Review*, May 1982, pp. 149-154, J. Peter Jarrett and Jack G. Selody, "The Productivity-Inflation Nexus in Canada, 1963-1979," *Review of Economics and Statistics*, August 1982, pp. 361-366, and Yoshi Horui Oritoni, "The Negative Effects of Inflation on the Economic Growth in Japan," Discussion Paper Series No. 5 (Tokyo: The Bank of Japan, April, 1981).
7. Economic Council of Canada, *Steering the Course*, (Ottawa: Supply and Services, 1984), p. 3 and Department of Finance, *A New Direction for Canada: An Agenda for Economic Renewal* (Ottawa: Nov. 8, 1984), p. 6.
8. For a fuller discussion of these developments in the context of changes in the domestic and world economy see D.J. Daly, *Canada in an Uncertain World Economic Environment* (Montreal: Institute for Research on Public Policy, 1982).
9. D.J. Daly and D.C. MacCharles, "Corporate Responses to Exchange Rate Depreciation," in H. Etemad ed., *A.S.A.C. Proceedings, International Business*, 1983, pp. 52-62. That article sets out these interrelations more fully and provides a guide to help any company identify roughly the impact on profits of an exchange rate change, depending on a few simple ratios from corporate operating statements.
10. D.J. Daly, D.C. MacCharles, and W. Altwasser, "Corporate Profit Drop Is Worst Since 1930's," *Canadian Business Review*, Autumn 1982, pp. 6-12, and D.J. Daly, "Inflation, Inflation Accounting and Its Effect, Canadian Manufacturing, 1966-1982," *Review of Income and Wealth* December 1985, pp. 355 to 374.
11. See the references in the studies in Footnote 3-10 and Stuart C. Gilson, *The Inflation-Adjusted Rate of Return on Corporate Debt and Equity: 1966-1980* (Ottawa: Bank of Canada, Technical Report No. 39, April 1984).
12. Knut Wicksell, *Interest and Prices*, Translated from the German by R.F. Kahn (London: Macmillan, 1936, first published in 1898) and Irving Fisher, *The Theory of Interest* (New York: Macmillan, 1930) are the classical economic statements of this theme.
13. Statistics Canada, *Corporation Financial Statistics 1980* (Ottawa: Supply and Services, March 1983), pp. 122-123.
14. Department of Finance, *A New Direction for Canada: An Agenda for Economic Renewal*, (Ottawa: Supply and Services, November 8, 1984).
15. D.J. Daly, "The Scope for Monetary Policy—A Synthesis," in Economic Council of Canada, *Conference on Stabilization Policies* (Ottawa: Queen's Printer, 1966), pp. 1-25; C.M.H.C., *Canadian Housing Statistics* (Ottawa: 1982). p. 75.
16. D.J. Daly, *ibid*.

17. See U.S. Department of Labor, *Report of the President on U.S. Competitiveness* (Washington: U.S. Government Printing Office, September 1980), Table V-27 and related pages. See also the chart on working days lost due to work stoppages with Canada as the second highest of seven countries for the 1972 to 1981 period in Department of Finance, *A New Direction for Canada*, p. 47.
18. Robert J. Gordon, "Why U.S. Wage and Employment Behaviour Differs from that in Britain and Japan," *Economic Journal*, March 1982, pp. 13-44; Jeffrey Sachs, "Wages, Profits and Macroeconomic Adjustment: A Comparative Study," *Brookings Papers on Economic Activity*, 1983, pp. 255-289; George A. Kahn, "International Differences in Wage Behaviour: Real, Nominal, or Exaggerated?" *American Economic Review*, May 1984, pp. 15-65.
19. W. Craig Riddell, "The Responsiveness of Wage Settlements in Canada and Economic Policy," *Canadian Public Policy*, March, 1983, pp. 9-23.
20. Economic Council of Canada, *Steering the Course*, (Ottawa: Supply and Services, 1984), p. 3 and Department of Finance, *A New Direction for Canada: An Agenda for Economic Renewal* (Ottawa: Nov. 8, 1984), p. 6. Economic Council of Canada, *Steering the Course* (Ottawa: Supply and Services, 1984), p. 73 shows the relative wages in various industries in 1962 and 1982 and illustrates the greater gains over that two decade period in primary industries, construction, and the transportation, storage and communications industries.
21. W. Craig Riddell, "The Responsiveness of Wage Settlements in Canada and Economic Policy," *Canadian Public Policy*, March 1983, pp. 9-23. This study emphasizes the institutional effects of two- and three-year overlapping contracts. The National Bureau's research on business cycles has always emphasized wage rates and unit labour costs as lagging indicators. A lengthening of these lags relative to historical experience would tend to further intensify the volatility in corporate profits. It is surprising that the recent renewed interest in wage contracts, and the stickiness of money and real wages over cycles has not incorporated the earlier related theoretical and empirical work on business cycles.
22. For additional information and discussion see Rodney de C. Grey, *Trade Policy in the 1980s: An Agenda for Canadian-U.S. Relations* (Montreal: C.D. Howe Institute, 1981) and *United States Trade Policy Legislation: A Canadian View* (Montreal: Institute for Research on Public Policy, 1982).
23. Robert Z. Laurence, *Can America Compete?* (Washington: The Brookings Institution, 1984), pp. 120-121.
24. See James Gillies, *Where Business Fails* (Montreal: Institute for Research on Public Policy, 1981), esp. pp. 29-33. Similar concerns were expressed in a number of articles in *Business Quarterly*. See Isaiah A. Litvak, "The Ottawa Syndrome: Improving Business/Government Relations," *Business Quarterly*, 44 (Summer 1979), pp. 22-29; Donald H. Thain and Mark Baetz, "Increasing Trouble Ahead for Business-Government Relations in Canada?" *Business Quarterly*, 44 (Summer 1979), pp. 56-65; Donald H. Thain, "The Mistakes

of Business in Dealing with Politics and Government," *Business Quarterly* (Autumn 1979), pp. 46-54; Donald H. Thain, "Canada's Management Crisis," *Business Quarterly* (Winter 1981), pp. 61-75; and J. Patrick Boyer, "The Corporation in Politics," *Business Quarterly* (Winter 1981), pp. 77-86. See also two articles from an address by W.A. MacDonald in *The Globe and Mail*, Tuesday, April 20 and Wednesday April 21, 1982, on p. 7 in each issue. The Business Council on National Issues also issued a statement of concern about relations with government in April 1982.

25. See D.J. Daly, "The Exporting Environment," in Christopher C. Beckman, ed., *Developing New Export Markets* (Ottawa: The Conference Board in Canada, Dec. 1981), pp. 1-14 and other parts of that study; and D.J. Daly, *Canada in an Uncertain World Economic Environment*.

BIBLIOGRAPHY

- Abramovitz, Moses, "Welfare Quandaries and Productivity Concerns," *American Economic Review*, March 1981, pp. 1-17.
- Albert, Michel and James Ball, "Towards European Economic Recovery in the 1980s," (Brussels: Report for the European Parliament, mimeo., 1984).
- Ansoff, H. Igor, *Strategic Management*, (London: Macmillan Publishing Co., 1979).
- Bank of Canada Review*, (Ottawa: May 1985).
- Brinner, Roger, "The United States as an International Competitor," *Data Resources U.S. Review*, April 1985.
- Britton, John N.H., James G. Gilmour, assisted by Mark G. Murphy, *The Weakest Link — a Technological Perspective on Canadian Industrial Development*, (Ottawa: Science Council of Canada, 1978).
- Bruce, Neil and Douglas D. Purvis, *Evaluating the Deficit: The Case for Budget Cuts*, Policy Commentary No. 4 (Toronto: C.D. Howe Institute, 1984).
- Boyer, J. Patrick, "The Corporation in Politics," *Business Quarterly*, (Winter 1981), pp. 77-86.
- Carmichael, Edward A., *Tackling the Federal Deficit*, Observation No. 26, (Toronto: C.D. Howe Institute, 1984).
- Caves, Richard E., Michael E. Porter, A. Michael Spence and John T. Scott, *Competition in the Open Economy: A Model Applied to Canada*, (Cambridge, Mass.: Harvard University Press, 1980).
- Central Mortgage and Housing Corporation, *Canadian Housing Statistics*, (Ottawa: 1982).
- Chrystal, K. Alec, "Dutch Disease or Monetarist Medicine?: The British Economy under Mrs. Thatcher," *Federal Reserve of St. Louis Review*, May, 1984, pp. 27-37.
- Clark, Peter K., "Inflation and the Productivity Decline," *The American Economic Review*, May 1982, pp. 149-154.

- Cline, William R., "Long Term Forecasts in International Economics," *American Economic Review*, May 1985, pp. 120-126.
- Conference Board, "Long-run Trends in Economic Growth, Five Countries," *International Economic Scoreboard*, (New York: Feb. 1985).
- Daly, D.J., "Long Cycles and Recent Canadian Experience," in Royal Commission on Banking and Finance, *Appendix Volume*, (Ottawa: The Queen's Printer, 1964), Appendix K, pp. 281-301.
- Daly, D.J., "The Scope for Monetary Policy: A Synthesis," in *Conference on Stabilization Policies*, (Ottawa: The Queen's Printer, 1966), pp. 1-51.
- Daly, D.J., "Business Cycles in Canada: Their Postwar Persistence," in M. Bronfenbrenner, *Is the Business Cycle Obsolete?*, (New York: Wiley Interscience, 1969), pp. 45-65.
- Daly, D.J., "Weak Links in 'The Weakest Link,'" *Canadian Public Policy*, 1979, pp. 307-317.
- Daly, D.J., "Canadian Management: Past Recruitment Practices and Future Training Needs," in Max von Zur-Muehlen, ed., *Highlights and Background Studies*, (Ottawa: Canadian Federation of Deans of Management and Administrative Studies, 1979), pp. 178-200.
- Daly, D.J., "Declining Productivity Growth: An International Perspective," *Canadian Business Review*, Winter 1981, pp. 2-6.
- Daly, D.J., "The Exporting Environment," in Christopher C. Beckman, ed., *Developing New Export Markets*, (Ottawa: The Conference Board in Canada, Dec. 1981), pp. 1-14.
- Daly, D.J., *Canada in an Uncertain World Economic Environment*, (Montreal: Institute for Research in Public Policy, 1982).
- Daly, D.J., "Cost Competitiveness in Canadian Manufacturing: The Challenge and Some Policy Options," *Productivity*, 1985, Vol. 2. No. 1.
- Daly, D.J., D.C. MacCharles and Wendy Altwasser, "Corporate Profit Drop Is Worst Since 1930s," *Canadian Business Review*, Autumn 1982, pp. 6-12.
- Daly, D.J. and D.C. MacCharles, "Corporate Responses to Exchange Rate Depreciation," in H. Etemad, ed., *A.S.A.C. Proceedings, International Business*, 1983, pp. 52-62.
- Daly, D.J., ed. *Research on Productivity of Relevance to Canada: Current Problems and Perspectives*, (Ottawa: Social Science Federation of Canada, 1983).
- Daly, D.J., "North American Productivity and International Competitiveness: Implications for Canadian Business and Business Schools," (Downsview: York University, mimeo., June 1983).
- Daly, D.J., "Natural Science and Human Science Research — Does Research Funding Match Canada's Problem Areas?," in Social Science Federation of Canada, *Cahiers No. 9*, (Ottawa: 1983).

- Daly D.J., "Interest Rates and Real Expenditure Decisions," in Klaus Weiermair, et al., *Contributions in Macro Economic Theory and Policy*, (Lexington, Mass.: Ginn, 1984), pp. 1-7.
- Daly, D.J., "Inflation, Inflation Accounting and Its Effect, Canadian Manufacturing, 1966-1982," *Review of Income and Wealth*, Dec. 1985, pp. 355-374.
- Daly, D.J., "Technology Transfer and Canada's Productivity Performance," in Robert M. Stern, ed., *Current Issues in Trade and Investment in Service Industries: U.S. Bilateral and Multinational Perspectives*, (Toronto: University of Toronto Press, forthcoming).
- Daly, D.J. and D.C. MacCharles, *Canadian Manufactured Exports: Constraints and Opportunities*, (Montreal: Institute for Research on Public Policy, forthcoming).
- Daly, D.J. and S. Globerman, *Tariff and Science Policies: Applications of a Model of Nationalism*, (Toronto: University of Toronto Press, 1976).
- Data Resources U.S. Review*, Oct. 1983.
- Denison, Edward F., *Trends in American Economic Growth, 1929-1982*, (Washington: The Brookings Institution, 1985).
- Department of Commerce, *Business Conditions Digest*, (Washington: U.S. Government Printing Office, various dates).
- Department of Commerce, *International Direct Investment: Global Trends and the U.S. Role*, (Washington: U.S. Government Printing Office, Aug. 1984).
- Department of Finance, *A New Direction for Canada: An Agenda for Economic Renewal*, (Ottawa: Nov. 8, 1984).
- Department of Labour, *Report of the President on U.S. Competitiveness*, (Washington: U.S. Government Printing Office, Sept. 1980).
- Economic Council of Canada, *Looking Outward, A New Trade Strategy for Canada*, (Ottawa: Information Canada, 1975).
- Economic Council of Canada, *Steering the Course*, (Ottawa: Supply and Services, 1984).
- Evans, Paul, "Do Large Deficits Produce High Interest Rates?," *American Economic Review*, Mar. 1985, pp. 68-87.
- Farber, Henry S., "Right-to-work Laws and the Extent of Unionization," *Journal of Labor Economics*, July 1984, pp. 319-352.
- Frank, James G., *Assessing Trends in Canada's Competitive Position: The Case of Canada and the United States*, (Ottawa: The Conference Board in Canada, Nov. 1977).
- Fisher, Irving, *The Theory of Interest*, (New York: Macmillan, 1930).
- Fisher, A.G.B., *The Clash of Progress and Security*, (New York: Kelley, 1966).

- Gillies, James, *Where Business Fails*, (Montreal: Institute for Research on Public Policy, 1981).
- Government of Canada, *New Release*, "Canadian Labour Market and Productivity Centre Announced" (Ottawa: Jan. 27, 1984).
- Grey, Rodney de C., *Trade Policy in the 1980s: An Agenda for Canadian-U.S. Relations*, (Montreal: C.D. Howe Institute, 1981).
- Grey, Rodney de C., *United States Trade Policy Legislation: A Canadian View*, (Montreal: Institute for Research on Public Policy, 1982).
- Gilson, Stuart C., *The Inflation-Adjusted Rate of Return on Corporate Debt and Equity: 1966-1980*, (Ottawa: Bank of Canada, Technical Report No. 39, April 1984).
- Gordon, Robert J., "Why U.S. Wage and Employment Behaviour Differs from that in Britain and Japan," *Economic Journal*, March 1982, pp. 13-44.
- Grubel, Herbert G. and Josef Bonnici, "Focus: Why is Canada's Unemployment Rate So High?," (Vancouver: The Fraser Institute, forthcoming 1986).
- Harris, R.G., *Trade, Industrial Policy and Canadian Manufacturing*, (Toronto: Ontario Economic Council, 1984).
- Hill, Peter, *Real Gross Domestic Product in OECD Countries and Associated Purchasing Power Parities*, (Paris: OECD Working Paper No. 17, Dec. 1984).
- Horvath, D. and C.J. McMillan, *Strategy, Structure, and Performance: A Contingency Model*, (Toronto: York University, 1980).
- Horvath, D. and C.J. McMillan, "Strategic Choice and the Structure of Decision Process," *International Studies of Management and Organization*, Vol. IX, No. 3, Fall 1979, pp. 87-112.
- International Monetary Fund, *World Economic Outlook*, (Washington: April 1984), Occasional Paper No. 27.
- Jarrett, J. Peter and Jack G. Selody, "The Productivity-Inflation Nexus in Canada, 1963-1979," *Review of Economics and Statistics*, Aug. 1982, pp. 361-367.
- Jenkins, Glenn P. and John Evans, *Worker Adjustment Policies: An Alternative to Protectionism*, (Ottawa: The North-South Institute, 1981).
- Jenkins, Glenn P., "Options for Dealing with Declining Industries," (Ottawa: National Economic Conference, 1985).
- Jorgensen, Dale W., "Capital Theory and Investment Behaviour," *American Economic Review, Papers and Proceedings*, (1963), pp. 247-259.
- Kahn, George A., "International Differences in Wage Behaviour: Real, Nominal, or Exaggerated?" *American Economic Review*, May 1984, pp. 155-165.
- Kravis, Irving B. and Robert E. Lipsey, "Prices and Terms of Trade for Developed-Country Exports of Manufactured Products," (Cambridge: NBER Working Paper No. 774, Sept. 1981).

- Kravis, Irving B. et al., *International Comparisons of Real Product and Purchasing Power*, Baltimore: Johns Hopkins University Press, 1978).
- Lawrence, Robert Z., *Can America Compete?* (Washington: The Brookings Institutions, 1984).
- Lewis, H.G., "Union Relative Wage Effects: A Survey of Macro Estimates," *Journal of Labor Economics*, Jan. 1983, pp. 1-27.
- Lipsey, Richard G. and Murray G. Smith, *Taking the Initiative: Canada's Trade Options in a Turbulent World*, (Toronto: C.D. Howe Institute, 1985).
- Litvak, Isaiah A., "The Ottawa Syndrome: Improving Business/Government Relations," *Business Quarterly*, 44 (Summer 1979), pp. 22-29.
- MacDonald, Glenn M. and John C. Evans, "The Size and Structure of Union-Non-Union Wage Differentials in Canadian Industry," *Canadian Journal of Economics*, May 1981, pp. 216-231.
- Malinvaud, Edmond, *Theory of Unemployment Reconsidered*, (Oxford: Basil Blackwell, 1977).
- Malinvaud, Edmond, *Profitability and Unemployment*, (Cambridge: Cambridge University Press, 1980).
- Malinvaud, Edmond, "Wages and Unemployment," *Economic Journal*, March 1982, pp. 1-12.
- Matthews, Roy A., *Industrial Viability in a Free Trade Economy: A Program of Adjustment Policies for Canada*, (Toronto: University of Toronto Press for the Private Planning Association of Canada, 1971).
- McCormack, T.W., "Canada/U.S. Trade Policy: A Special Report," *Canadian Review Preprint*, (Toronto: Data Resources of Canada, Nov. 1985).
- McDonald, Judith, *Manufacturing Migration Study*, (Toronto: Canadian Federation of Independent Business, March 8, 1984).
- Moore, Geoffrey H., *Business Cycles, Inflation and Forecasting*, (Cambridge: Ballinger, 1980).
- Normann, R., *Management for Growth*, (Lund, Sweden: Scandinavian Institute for Administrative Research, 1977).
- Okun, Arthur M., *Equality and Efficiency: The Big Trade-off*, (Washington: The Brookings Institution, 1975).
- Oritoni, Yoshi Horui, "The Negative Effects of Inflation on the Economic Growth in Japan," Discussion Paper Series No. 5 (Tokyo: The Bank of Japan, April 1981).
- Palda, Kristian S., *The Science Council's Weakest Link: A Critique of the Science Council's Technocratic Industrial Strategy for Canada*, (Vancouver: The Fraser Institute, 1979).

- Parsley, C.J., "Labor Union Effects on Wage Gains: A Survey of Recent Literature," *Journal of Economic Literature*, March 1980, pp. 1-31.
- Pearson, Charles and Gerry Salembier, *Trade, Employment and Adjustment*, (Montreal: Institute for Research on Public Policy, 1983).
- Porter, Michael E., *Competitive Strategy: Techniques for Analyzing Industries and Competitors*, (New York: The Free Press, 1980).
- Pratten, C.F., *Labour Productivity Differentials Within International Companies*, (Cambridge: Cambridge University Press, 1976).
- Prebisch, Raoul, *The Economic Development of Latin America and Its Principal Problems*, (New York: United Nations Economic Commission for Latin America, 1950.)
- Riddell, W. Craig, "The Responsiveness of Wage Settlements in Canada and Economic Policy," *Canadian Public Policy*, March 1983, pp. 9-23.
- Rotstein, A., ed., *An Industrial Strategy for Canada*, (Toronto: New Press, 1972).
- Roy, A.D., "Labour Productivity in 1980: An International Comparison," *National Institute Economic Review*, Aug. 1982, pp. 26- 37.
- Royal Commission on the Economic Union and Development Prospects for Canada, *Report, Vol. Two*, (Ottawa: Supply and Services, 1985).
- Sachs, Jeffrey, "Wages, Profits and Macroeconomic Adjustment: A Comparative Study," *Brookings Papers on Economic Activity*, 1983, pp. 255-289.
- Safarian, A.E., *Governments and Multinationals: Policies in the Developed Countries*, (Washington, D.C.: British-North American Committee, 1983).
- Saunders, Ronald S., *Aid to Workers in Declining Industries*, (Toronto: Ontario Economic Council, 1984).
- Schendel, Dan E. and Charles W. Hofer, *Strategic Management: A New View of Business Policy and Planning*, (Boston: Little, Brown and Company, 1979).
- Scherer, F.M., et al., *The Economics of Multi-Plant-Operation: An International Comparison Study*, (Cambridge: Harvard University Press, 1975).
- Scott, Bruce and George C. Lodge, eds., *U.S. Competitiveness in the World Economy*, (Boston: Harvard Business School University Press, 1984).
- Statistics Canada, *National Income and Expenditure Accounts, Vol. 1*, (Ottawa: Information Canada, 1976).
- Statistics Canada, *Corporations and Labour Unions Returns Act Report for 1979*, (Ottawa: Supply and Services, 1979).
- Statistics Canada, *National Income and Expenditure Accounts, 1967-1981*, (Ottawa: Supply and Services, Dec. 1982).
- Statistics Canada, *Canada's International Investment Position, 1979 and 1980*, (Ottawa: Supply and Services, 1984).

- Statistics Canada, *Corporation Financial Statistics 1980*, (Ottawa: Supply and Services, March 1983).
- Summers, Robert, Irving B. Kravis and Alan Heston, "International Comparisons of Real Product and Its Composition: 1950-77," *Review of Income and Wealth*, March 1980, pp. 19-66.
- Tannenwald, Robert, "Why the Jobless Rate Has Fallen," *Economic Impact*, (Washington: U.S. Information Agency, 1985/2, pp. 38-41.
- Thain, Donald H., "The Mistakes of Business in Dealing with Politics and Government," *Business Quarterly*, (Autumn 1979), pp. 46-54.
- Thain, Donald H., "Canada's Management Crisis," *Business Quarterly*, Winter, 1981, pp. 61-75.
- Urquhart, M.C. and K.A.H. Buckley, *Historical Statistics of Canada*, (Toronto: Macmillan, 1965).
- U.S. Department of Labor, *Labor Compensation of Production Workers in Manufacturing, Ten Countries, 1960, 1965, 1970-81*, (Washington: April 1982).
- U.S. Department of Labor News, "International Comparisons of Manufacturing Productivity and Labor Cost Trends, Preliminary Measures for 1984," June 10, 1985.
- U.S. Department of Labor, *Comparative Real Gross Domestic Product, Real GDP per Capita and Real GDP per Employed Person, 1950-1984*, (Washington: Jan. 1986).
- Walters, Dorothy, *Canadian Income Levels and Growth: An International Perspective*, (Ottawa: The Queen's Printer, 1968).
- Walters, Dorothy, *Canadian Growth Revisited, 1950-1967*, (Ottawa: Economic Council of Canada, 1970).
- White, Derek, A., *Business Cycles in Canada*, (Ottawa: Economic Council of Canada, 1967).
- Wicksell, Knut, *Interest and Prices*, (London: Macmillan, 1936).
- Wilcox, James A., "Why Real Interest Rates Were So Low in the 1970s," *American Economic Review*, March 1983, pp. 44-53.
- Wonnacott, Ronald J. and Paul Wonnacott, *Free Trade Between the United States and Canada, The Potential Economic Effects*, (Cambridge: Harvard University Press, 1967).
- Wonnacott, Ronald J., *Canada's Trade Options*, (Ottawa: Information Canada for the Economic Council of Canada, 1975).
- Wood, W.D. and Pradeep Kumar, *The Current Industrial Relations Scene in Canada, 1984*, (Kingston: Industrial Relations Centre at Queen's University, 1984).