Economic Council of Canada

Eighteenth Annual Review 1981

Manoeuvre Room for Manoeuvre

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Eighteenth Annual Review of Canada's Economic Council

1981

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Contents

This report reflects a consensus of the Economic Council of Canada. However, dissenting comments by Mr. Kaplansky and Mr. Vogt, and reservations by Mr. Bryce appear after Chapter 4.

Members of the Economic Council of Canada

Preface

The final draft of this Review was completed before the Minister of Finance presented the federal budget on November 12, 1981.

The Council as a whole takes responsibility for the Review. Carrying out the directives and suggestions formulated by its members at their mid-September meeting and securing their final approval normally takes about a month after that meeting. This year, the time required was a little longer than usual, because of the need to recalculate the base case and all the other simulations, in order to take into account the impact of the energy pricing agreement reached by the federal government and the government of Alberta in early September. The final editing, printing, and distribution of the Review in both official languages require more time after the Council members' approval. These elements account for the fact that this Review, although published a few weeks after the budget, does not reflect the measures contained in that document. Any attempt to to so would have delayed publication further.

1 The Legacy of the 1970s

Obstacles and disappointments have been the rule rather than the exception in Canada's economic performance during the last five or six years. Growth and productivity have performed poorly, and the inflation rate is much higher than even a few years ago. Real incomes have shown little or no gain for several years, and, not surprisingly, there are now signs of renewed pressures for higher money (nominal) wages. The federal government's deficit has increased substantially, and debt servicing charges have mushroomed. Despite considerable strength in the trade balance, the country's overall balance of payments on current account has deteriorated severely, with a corresponding increase in external indebtedness. Moreover, Canada remains very dependent on imported petroleum.

Among the roots of this lacklustre performance is the fact that our economy, like many others, has undergone severe shocks and extensive changes in the last decade. Some of these – the two very large jumps in the international price of oil, for example – have been readily apparent. Others, such as longer-term structural changes in the domestic labour, capital, and product markets, may have been less visible to the average citizen, but they have affected the country's ability to adjust to changing circumstances and diminished the effectiveness of traditional policies when used in isolation.

Recently, however, some of the obstacles to improved economic performance have been removed. In October 1980, the federal government released its National Energy Program, and in September of this year it reached agreement with the government of Alberta on oil pricing and revenue sharing. Negotiations with the governments of British Columbia and Saskatchewan have also been completed, and talks with the government of Newfoundland are in the offing. Many of these developments could eventually give the federal authorities more room for manoeuvre during the next few years, and it now appears that the problems that have beset us might be less intractable to policy measures than had been feared.

While the National Energy Program and the September 1981 agreement give us cause for moderate optimism about the future prospects of the Canadian economy, they will not wipe out the legacy of the 1970s overnight.

The Dilemmas of Macroeconomic Policy

As Canada entered the 1970s, there was a good deal of optimism about the efficacy of policies designed to bring aggregate demand into line with growth in potential output. The emphasis on such policies continued throughout the decade, although the mix of fiscal and monetary measures shifted very much in favour of the latter as a means of controlling inflation. Inflation continued, however; indeed, it accelerated, even in the face of slow growth and relatively high unemployment, as it was aggravated by the delayed response of the economy to the monetary expansion that had taken place in the early 1970s. In addition, demand management policies ran up against some very significant institutional changes in the economy – changes which had brought increasing rigidity to prices and wages and reduced the effectiveness of these policies. To use a now-popular term, this country was faced with "stagflation."

A new source of inflationary pressure appeared during the decade, however, originating from the supply side of the economy – that is, from changes that affect production efficiency by way of both market and nonmarket forces. For example, market forces such as the commodity price shock of 1973-74 and the hikes in the price of oil in 1973 and again in 1979 led, in each case, to increases in both inflation and unemployment. Similar effects have been attributed to the spectacular increases in interest rates in 1980-81, although in this case the effects are more debatable. Even in the short run, interest rates cut two ways. Over the longer term, their demand-depressing effects dominate. Nonmarket forces include, among other things, the regulatory environment.[1]

The demand management policies used in the 1970s were based on the notion that prices follow unit costs closely, that wages and prices are based on past rates of inflation, and that strict monetary and fiscal control could bring business and labour to lower their expectations, with a resulting slowdown in the upward movement of wages and prices. In brief, the success of this approach largely depended upon wage demands being sensitive to the unemployment situation and upon the assumption that expectations would be revised quickly. Those of monetarist leanings went further. They argued that, in a competitive world where money supply is fixed, an increase in the price of one commodity should lead to increases in the demand for money, in interest rates, and in the unemployment rate – because of the reduced demand for that

commodity – and eventually to a realignment of prices as competitive forces exert downward pressure on nominal wage rates. In the area of energy, for example, higher fuel prices would lead to a decrease in all other prices, and no inflation would occur.

The outcome in the 1970s was different, however. Given the institutional structure and policy settings built into the Canadian economic system, changes in relative prices were themselves inflationary and led to increases in the general price level. Because of the rigidity induced by factors such as managed or mark-up pricing, long-term indexed wage contracts, and the tendency of small bargaining units to emulate larger ones, an increase in the price of one product – especially one as important as fuel – easily leads to increases in the prices of a wide variety of other products, even with the money supply unchanged. Moreover, if wage and price formation is insensitive to excess supply, at least in the short run, a deep and prolonged period of slow growth – with costly increases in unemployment and heavy losses in output and income – may be necessary to break the wage-and-price expectations link. Worse still, such a situation results in a permanent loss of productive capacity, since it severely reduces growth in investment, productivity, and potential output itself.

Among the measures that have been proposed to compensate for the stickiness of price and labour costs in these circumstances are supply-oriented policies – for example, direct changes in taxation to stimulate output and encourage a realignment of relative prices. Under this type of policy, incentives are modified as rates of return and the real cost of labour are altered; in addition, market efficiency is enhanced, and productivity increases in the long run.

The other major solution that has been suggested in recent years is the use of incomes policies – specifically, wage and price controls. Proponents of this approach argue that such policies can avoid the high social costs of demand management measures, while dealing more immediately and effectively with an acute inflationary situation. Incomes policies are extremely difficult to implement, however. No matter how carefully thought out, they can affect the distribution of income and change the relative real gains accruing to various sectors of the economy, when compared to a situation where controls are absent. Moreover, wage and price controls do not attack the root of the problem. They may work quickly to reduce expectations and force a realignment of relative prices, but the question remains whether the imposition of such restrictions will facilitate the structural change required to encourage growth. At the very least, they must be accompanied by a policy mix that efficiently uses both monetary and fiscal measures in a supply and demand management context. The recent record of fiscal and monetary policy needs to be examined in the light of these requirements.

The Policy Record

Three concerns have dominated Canadian economic policy in recent years: to restrain inflation; to maintain or raise output and employment growth; and to move towards self-sufficiency in petroleum supplies and greater Canadian participation in the ownership of energy resources. The second of these was reflected in the expansionary fiscal policies pursued by Canadian governments – especially the federal government in the mid-1970s – that included both tax concessions and increased expenditures. More recently, with rising rates of inflation, fiscal policy has tended to become more restrictive, with emphasis on reducing the growth rate of expenditures and with new measures aimed largely at raising revenues from the energy sector. In the latter part of the decade, the major weapon against inflation has been monetary policy. With the October 1980 federal budget and the subsequent agreement between the governments of Canada and Alberta, efforts to increase petroleum self-sufficiency and Canadian ownership of energy resources were accelerated.

Fiscal Policy

During the 1970s, the federal government introduced a number of discretionary tax measures aimed at stimulating growth in output and employment (Table A-1) by lowering tax burdens on personal incomes. Other measures were introduced to increase the supply potential of the economy by favouring investment over consumption. There was a degree of inconsistency in these measures, however, as policies designed to slow down consumption and encourage saving came in conflict with policies designed to stimulate aggregate demand through diminished personal tax burdens.

Among the measures aimed at reducing the burden of taxes on personal incomes, indexation was particularly important, as it prevented the upward drift of effective personal tax rates during periods of rapid price increases. Other measures included cuts in personal tax rates, mainly for low-income groups; higher basic exemptions; and increases in the child tax credit. The lowering of the federal manufacturers' sales tax rate also contributed indirectly to the reduction of the tax burden on personal incomes.

The $1,000 deduction for interest and dividend income, the enrichment of the dividend tax credit, and the introduction of "registered home ownership savings plans" were designed to shift expenditures away from consumption towards investment. Inflation, however, has had a dual effect on the saving incentives associated with contributions to RHOSPs as well as to "registered retirement savings plans." First, the real value of

tax-deductible contributions to these plans had declined, because the ceiling on the amount that can be deducted is not indexed. This has tended to diminish their use as saving instruments. On the other hand, inflation-induced increases in interest rates have made these plans more attractive vehicles for saving, since interest earnings are sheltered from taxation. The net effect of inflation appears to have been an increase in saving through these plans, although perhaps only at the cost of changing the composition of savings towards sheltered forms.

On the investment side, three kinds of incentives were involved. During the early part of the decade, changing the structure of capital cost allowances was favoured, by reducing the write-off time for new equipment in order to stimulate investment in manufacturing and processing. In addition, the basic corporate profits tax rate in these industries was reduced. Later in the decade, investment tax credits were introduced and later enriched. As we shall see later, the National Energy Program and the September 1981 agreement sought to increase federal revenues from the energy sector, leaving unchanged most personal, nonenergy indirect and corporate tax rates.

Monetary Policy

The stimulative fiscal policies that were being pursued in Canada and most of the other OECD countries in the early 1970s were accompanied by generally expansionary monetary policies. Even before the first oil price shock in 1973, however, concern about the rapidly rising prices of industrial materials and demand pressures on food products brought some tightening of monetary policy in this country. This stance was accentuated after the explosion in the international price of oil, although monetary expansion remained high compared with the 1960s.

Since 1975 Canada's monetary policy has been characterized by a deliberate, gradual decline in the targeted rate of growth of the narrowly defined money supply (M1)[2] – from a band of between 10 and 15 per cent a year to the current 4 to 8 per cent band announced in February 1981 – which was aimed at slowing growth in aggregate demand and reducing expectations of future inflation. The Bank of Canada's objective has been "the creation of monetary conditions that will encourage the economy to achieve growth within a framework of increasing stability in the value of money."[3] An additional concern has been the maintenance of order in Canada's foreign exchange market, both when U.S./Canadian interest rate differentials have widened and when the dollar has been subjected to speculative pressures.

The effect of this slower growth of M1 has been offset in part by an increased velocity of circulation, as changes in banking practice have

reduced the volume of demand deposits required to support any given level of spending. Moreover, the growth of the broadly defined monetary aggregates (M2 and M3) has remained reasonably stable over the 1970s, reflecting the increase in the cost of noninterest-bearing assets relative to that of interest-bearing assets.[4]

Despite velocity changes and portfolio reorganization, the reduced growth in M1 has contributed to sharp increases in short-term interest rates (such as the three-month Treasury bill rate), from an average of 5.6 per cent in 1970-75 to 9.9 per cent in 1976-80. More recently, they have surged to much higher levels, averaging 17.5 per cent in the first six months of 1981. And, by contrast with the situation as recently as 1976, a positive real rate of return has emerged on savings, as interest rates moved substantially above the rate of inflation.

The Bank of Canada's aim of gradually reducing the growth in Canadian money supply has paralleled a similar concern on the part of the U.S. Federal Reserve System. Yet the volatility of U.S. interest rates, particularly in 1980-81, has created problems for Canadian policy makers. Given the sensitivity of Canada/U.S. capital flows to interest rate differentials, the very sharp movements in U.S. rates in the past 18 months could have affected either Canadian rates or the foreign exchange value of the Canadian dollar, or both. The impact of this volatility on expectations in both the international and domestic arenas has resulted in a movement towards shorter-term financial instruments within the composition of the portfolios of households and of financial intermediaries. In order to provide the flexibility needed in its response to the changes in U.S. rates and to emphasize its belief that interest rates, including the bank rate, are essentially determined by market forces, the Bank of Canada adopted a floating bank rate policy in March 1980.

In spite of the reduction of M1 growth between 1976 and 1980, inflation rates as measured by the growth in the consumer price index have not declined at all. This has led some to question the monetary explanation for inflation and to favour a more structural explanation. According to this view, the primary causes of inflation in Canada are associated more directly with the movements in world prices for raw materials, especially energy and food; the movements in prices of imported manufactured products; productivity performance; and wage and price expectations. The central bank takes the position that the reduction of expectations is the prime reason for maintaining focus on the need to constrain money supply growth. Indeed, it is reasonable to assume, in the light of these structural influences, that had the Bank not acted as it did, inflation rates today would be even higher.

Nevertheless, the Bank has noted that, although control over the money supply is an essential element of an anti-inflationary policy, it is

not the sole weapon and that, if it is left to monetary policy to carry the whole load, the resulting high interest rates can be very disruptive.[5] Indeed, their effects are aggravated because the burden of adjustment tends to concentrate on particular groups. Using a multi-policy approach might make it possible to spread the burden more evenly among different groups in the society.

Energy Policy

A formal energy policy – the National Oil Policy – was first established in Canada in 1961. That policy was designed to provide a domestic market for oil from the western provinces and to stimulate development in that region. As determined in the National Oil Policy, the market for Canadian oil was bounded by the Ottawa Valley, with Canadians east of that area drawing on lower-priced imports for their petroleum consumption.

Following the decision in 1973 by the members of the Organisation of Petroleum Exporting Countries to tighten control over international oil supplies and the first price shock that resulted, a new policy was proposed, focusing on the need to achieve self-sufficiency in petroleum and petroleum products, while easing the burden on Canadian consumers of the transition from low- to high-cost energy sources. To this end, a uniform domestic oil price was adopted, and the government stated its intent of adjusting it slowly towards world prices. Between 1976 and 1980, the wellhead price of crude petroleum increased at six-month intervals by $1 per barrel, so that by August 1980 it had reached $16.75 per barrel.

At the same time, the government subsidized imports for the eastern provinces with revenues from oil export taxes and, later, refinery levies (Table A-2). These taxes and levies captured the difference between the international and domestic prices for the federal treasury. A federal excise tax on gasoline was added later. In 1978, a levy on all oil refined in Canada was introduced to finance the subsidy paid to the producers of synthetic crude petroleum, who had been guaranteed world prices.

During the 1970s, crude petroleum produced in the western provinces was sold to the United States at a price that approximated that paid for oil imported by eastern Canada. International price variations were of no consequence in these transactions with the United States, as long as export and import volumes remained similar. If the volume of exports exceeded that of imports, as happened in the early and mid-1970s, the federal treasury benefited.

These arrangements worked reasonably well during much of the second half of the decade. In particular, the system of taxes and levies balanced

the subsidies on imported oil and synthetic crude production, so that the latter exerted little pressure on the federal government's fiscal resources. In 1979-80, however, the OPEC cartel again raised the international price of crude petroleum, and total federal subsidy payments rose to $3.9 billion in 1980. In the meantime, oil exports have been gradually phased down to much lower levels.[6] The ability of the federal government to finance subsidy payments from the combination of export taxes, excise taxes on gasoline, and the synthetic crude levy was thus reduced. The uniform pricing policy required the government to make large budget outlays from general revenues to cover the subsidy payments in order to maintain the domestic price below international levels.

There were also three new considerations. Because of the large differential between domestic and international prices, there was some question whether oil consumption in Canada would be reduced or domestic energy resources would be developed at a rate that would insure reduced dependence on foreign supplies in the future. There was also growing disagreement over how the additional revenues resulting from higher domestic crude petroleum prices should be shared between producers and governments. And, finally, the federal government was concerned that Canadians should not only benefit directly from the development of Canadian energy resources through secure future supplies, but also participate more directly in the ownership of these newly developed resources.

These concerns led to the introduction of the National Energy Program in October 1980.[7] After a period of protracted negotiations, the NEP was followed, in September 1981, by the signing of a "Memorandum of Agreement between the Government of Canada and the Government of Alberta Relating to Energy Pricing and Taxation." The NEP and the Memorandum of Agreement contain new policy initiatives in four areas. These include a new uniform pricing policy for the domestic market, new initiatives in the taxation of oil and gas revenues, increased conservation and exploration incentives, and a statement of intent by the federal government to increase Canadian participation in the oil and gas industry.

Pricing

The NEP pricing system assures that Canadian consumers pay neither the wellhead price nor the international price but a uniform domestic price, called the "blended price" (also termed a "made-in-Canada" price). The blended price averages the cost of domestically consumed petroleum products, whether purchased on world markets or produced in Canada from conventional or other sources. In addition, there is a new system of refinery levies added to the wellhead price of domestic crude

petroleum produced from established reserves. The proceeds from the new levies will serve to balance the subsidies on oil imports and on "new oil"[8] and thus gradually eliminate the federal government's contribution to these subsidies from general revenues. This new oil pricing policy is designed to encourage both conservation and conversion to other energy sources, while natural gas pricing policies are designed to favour greater use of that fuel source.

Taxation

Four levels of energy taxation were introduced in the NEP as modified by the Memorandum of Agreement. These include the oil compensation and Canadian-ownership charges to be placed between the wellhead and the city gate prices; the tax on both domestic consumption and exports of natural gas; a 16 per cent tax on the operating income of oil producers – effectively 12 per cent by virtue of certain concessions; and the incremental oil revenue tax. The new tax measures imply that the federal government receives a larger incremental share of new oil and gas revenues, with royalties to the provinces and revenues to producers receding.

Consumer and Producer Incentives

The NEP as modified by the September 1981 agreement contains new and revised producer and consumer nonprice incentives totaling $12 billion during the 1981-85 period, as well as the price incentive resulting from the slower growth of natural gas prices and the higher growth of crude petroleum prices. These incentives are designed, among other things, to encourage substitution of other energy sources for oil (the "off-oil conversion" objective) and exploration on Canada Lands. The incentive programs include expenditures on capital assistance and subsidies, some of which are shared by both the federal and Alberta governments. These include incentives associated with the distribution and transmission of natural gas, funding of energy research and development, conversion grants and loans for the consumer sector, the Canadian Home Insulation Program (CHIP), and the Western Development Fund. There are also several programs that fall under the heading of "industry incentives." These include a new set of incentives to increase exploration and development of Canada Lands, to encourage the production of nonconventional oil, to assist in the development of capabilities to upgrade heavy oil, and to establish pilot programs in propane-vehicle fleet development and housing insulation design. In addition, funds are included to establish Petro-Canada International, a subsidy of Petro-Canada. This new firm will seek joint venture opportunities with other state-owned oil companies.

Canadian Ownership

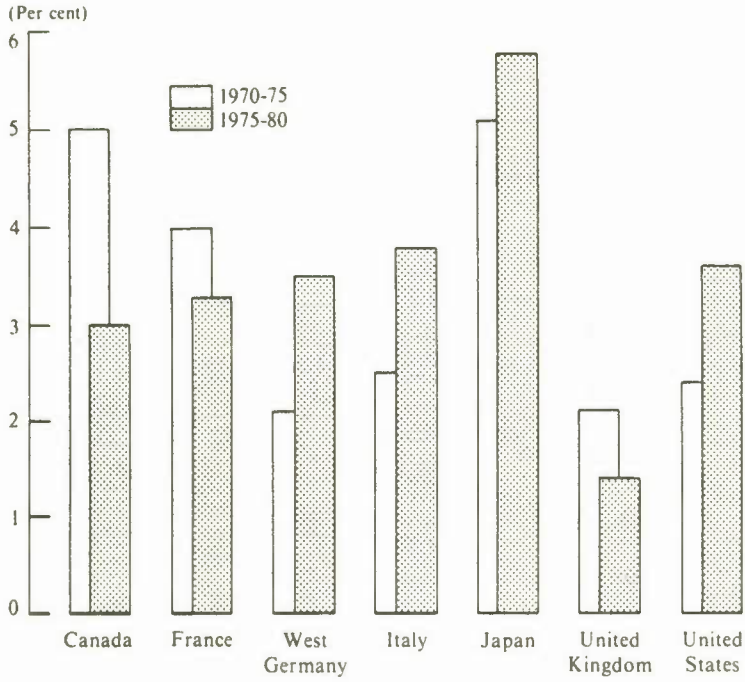
The incentive programs for exploration and development favour firms with high Canadian content, and the National Energy Program states that there will be new initiatives to increase Canadian ownership in the energy resource sector. To this end, Petro-Canada has recently purchased Petrofina.

The Performance Record

Despite this record of policy initiatives during the last decade, Canada's recent growth performance has been disappointing, both by comparison with that of several of its trading partners and with its own experience of the 1960s and early 1970s. Most of the usual indicators of economic health have tended to falter – especially during the second half

Chart 1-1

Average Annual Change in Real Gross Domestic Product, Major OECD Countries, 1970-80



SOURCE Stanford Research Institute and Wharton Econometric Forecasting Associates, World Economic Model Project.

of the 1970s, as shown in a comparison between the two quinquennia of the past decade.

Real Growth and Final Demand

Growth in total real output declined after the first oil price shock in 1973, rebounded temporarily, and then resumed at lower levels in the second half of the decade. Real growth was particularly slow during the last years of the decade, with only a minute advance in total output in 1979-80 so that, on balance, Canada's performance was considerably worse than that of most other OECD countries from 1975 to 1980 (Chart 1-1).

The rapid growth recorded in the first half of the decade was supported by particularly strong increases in expenditures on consumer durables and business and residential capital formation (Table 1-1). However, government current expenditures on goods and services rose more slowly than total gross national expenditure, as did exports. Imports, on the other hand, grew more rapidly than total GNE, reflecting the general strength in consumption and business investment.

Table 1-1

Average Annual Change in Components of
Real Gross National Expenditure, Canada, 1970-80

	1970-75	1975-80
	(Per cent)	
Gross national expenditure	5.1	2.9
Personal expenditure on consumer goods and services	6.5	3.0
Durable goods	12.7	2.9
Semidurable goods	7.6	2.8
Nondurable goods	4.8	1.9
Services	5.1	4.0
Government current expenditure on goods and services	3.9	1.3
Gross fixed capital formation	7.2	2.3
Government	4.5	-2.9
Business	7.7	3.2
Residential construction	8.9	-1.7
Nonresidential construction	6.6	5.1
Machinery and equipment	8.7	4.5
Exports of goods and services	2.7	6.0
Imports of goods and services	7.7	3.8

SOURCE Based on data from Statistics Canada.

In the second half of the decade, growth in consumer durable purchases, especially automobiles, declined substantially; business capital

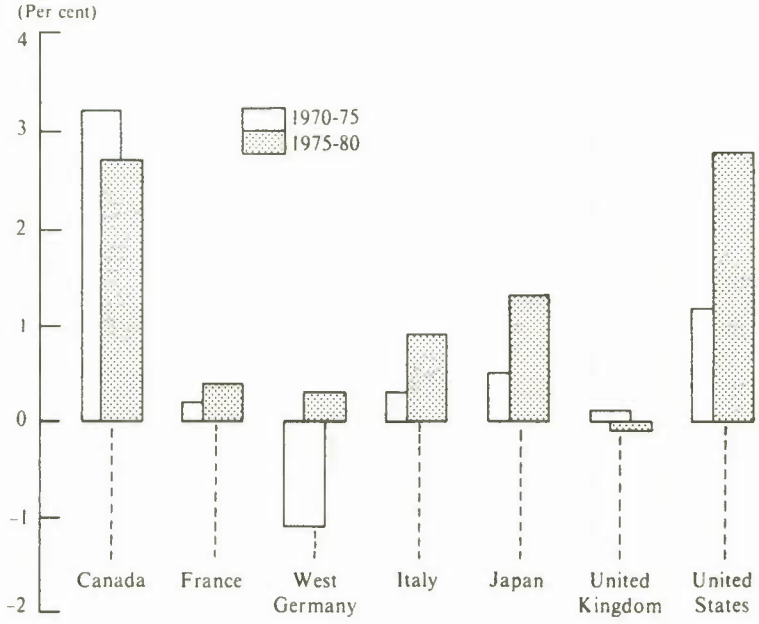
formation eased somewhat; government spending on current goods and services grew even more slowly; and government capital formation declined absolutely. At the same time, export growth doubled, while import growth was halved. The net effect of these factors was a substantial reduction in the growth of GNE.

Labour Force and Employment

Employment growth remained strong in Canada in the late 1970s. Indeed, in contrast with its poor performance in other respects, this country had an extraordinary record as a job provider through the whole decade, with the increase in the number of jobs available averaging 273,000 annually. Again, however, the performance was better in the first than in the second half of the decade: between 1975 and 1980

Chart 1-2

Average Annual Change in Employment, Major OECD Countries, 1970-80



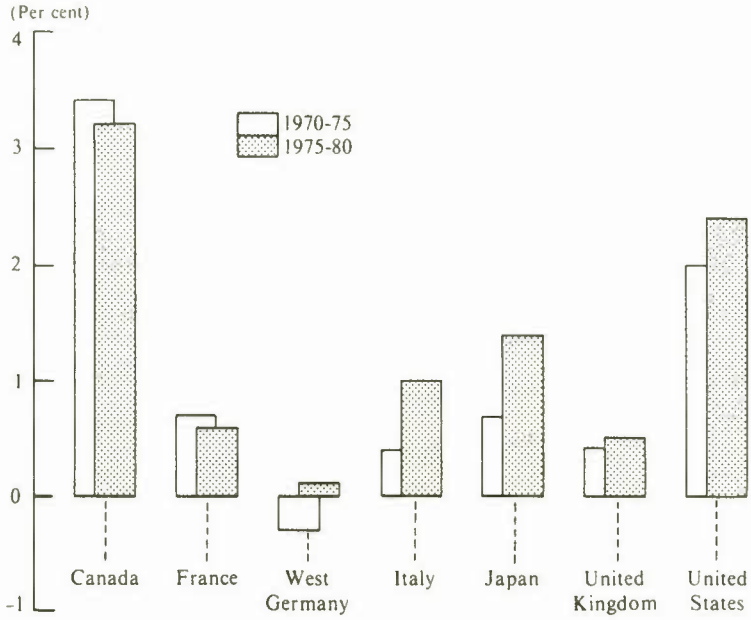
SOURCE Stanford Research Institute and Wharton Econometric Forecasting Associates, World Economic Model Project.

employment opportunities expanded at an annual rate of 2.8 per cent, compared with 3.2 per cent in the 1970-75 period. Nevertheless, Canada outperformed all other OECD economies through the decade (Chart 1-2). The United States, the country whose experience was closest to Canada's, also showed considerable improvement in job opportunities over the decade, but the other OECD countries were far behind.

The provision of new job opportunities was particularly important for this country, since its labour force growth was well above that of its OECD partners (Chart 1-3). This was due largely to the increase in female participation rates throughout the decade. Except in the case of the younger groups, male participation rates increased only slightly in 1970-75, with little change thereafter. Growth in the working age population (men and women above the age of 14), slowed from an annual average of 2.4 per cent during the early period to 2.0 per cent in 1975-80 (Table 1-2).

Chart 1-3

Average Annual Change in the Labour Force, Major OECD Countries, 1970-80



SOURCE Stanford Research Institute and Wharton Econometric Forecasting Associates, World Economic Model Project.

Table 1-2

Average Annual Change in Major Labour Market Indicators, Canada, 1970-80

	1970-75	1975-80
	(Per cent)	
Labour force	3.5	2.9
Participation rate	1.1	0.9
Male	0.2	--
Female	3.0	2.5
Working-age population	2.4	2.0
Employment	3.2	2.8
Unemployment rate[1]	6.0	7.7

1 Average rate as a proportion of labour force over the period.
SOURCE Based on data from Statistics Canada.

Even with the record increase in the number of new jobs created each year, however, unemployment rates trended upward in the 1970s. This can be attributed largely to the continued rapid growth of labour supply in the face of sluggish international and domestic demand conditions. Ironically, poor productivity performance may, in the short run at least, have helped to keep unemployment rates lower than would otherwise have been the case.

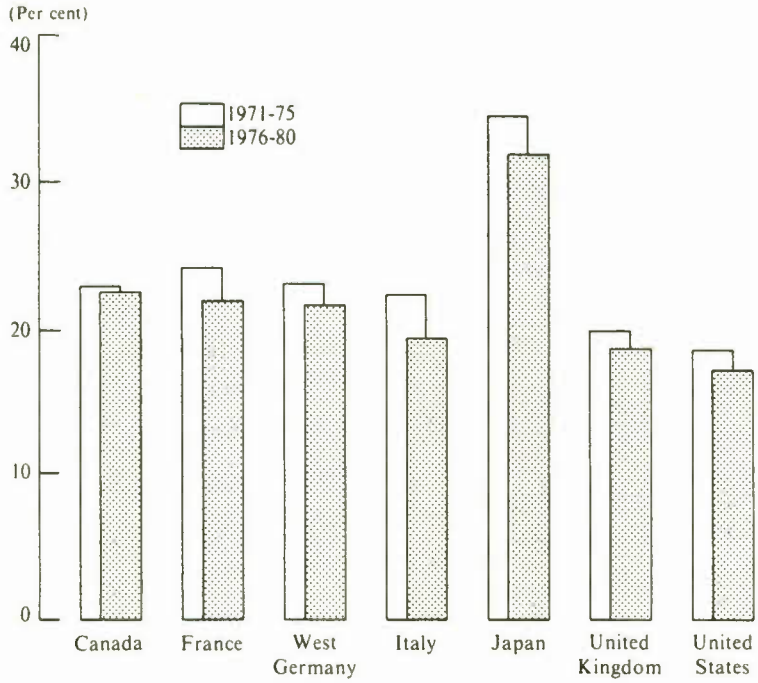
Investment and Saving

Canada's investment performance during the 1970s also stood up reasonably well by comparison with other countries, at least so far as broad aggregates were concerned. While the share of real gross domestic product devoted to capital formation fell in all of the OECD countries in the second half of the 1970s, it hardly changed at all in this country (Chart 1-4). The increase in the share of the private sector (including government-owned business enterprises, especially public utilities), which was centred largely in the energy and service industries, was roughly offset by the reduction in the share of the government sector.

It may well be, however, that the trend in gross capital formation masked underlying changes – including changes in the composition of the capital stock – that have reduced the contribution of capital inputs to growth in productivity and real output. The concentration of recent investment in large projects with very long payout periods (especially in the energy sector), the more rapid obsolescence of energy-intensive forms of capital, and the considerable investment devoted to pollution abatement (which is not reflected in increased real output) – all may have

Chart 1-4

Gross Fixed Capital Formation as a Proportion of Real Gross Domestic Product, Major OECD Countries, 1971-80



SOURCE Stanford Research Institute and Wharton Econometric Forecasting Associates, World Economic Model Project.

acted in this direction. The Council has undertaken more detailed examination of these possibilities as part of an ongoing research project.

The increase in private sector investment from 1971-75 to 1976-80 was more than matched by the rise in personal and business saving over the same period (Table 1-3). Moreover, saving in the provincial/local government sector remained almost unchanged between the two periods, whereas the federal government, with its large deficits over the latter period, was in fact a heavy net user of savings. On balance, it was necessary to draw more heavily than before on foreign savings to meet the total saving requirements in the country.

Table 1-3

Savings and Investment as a Proportion of Gross National Expenditure, Canada, 1971-80

	1971-75	1976-80
	(Per cent)	
Total investment	23.6	23.5
Government	3.8	3.1
Business		
Residential	5.6	5.7
Nonresidential	13.4	14.4
Inventories[1]	0.8	0.3
Total savings	23.6	23.5
Personal	5.7	6.8
Federal government	--	-3.2
Other government	2.5	2.6
Business	14.3	15.2
Foreign	1.1	2.1

1 Including residual error of estimate.
SOURCE Based on data from Statistics Canada.

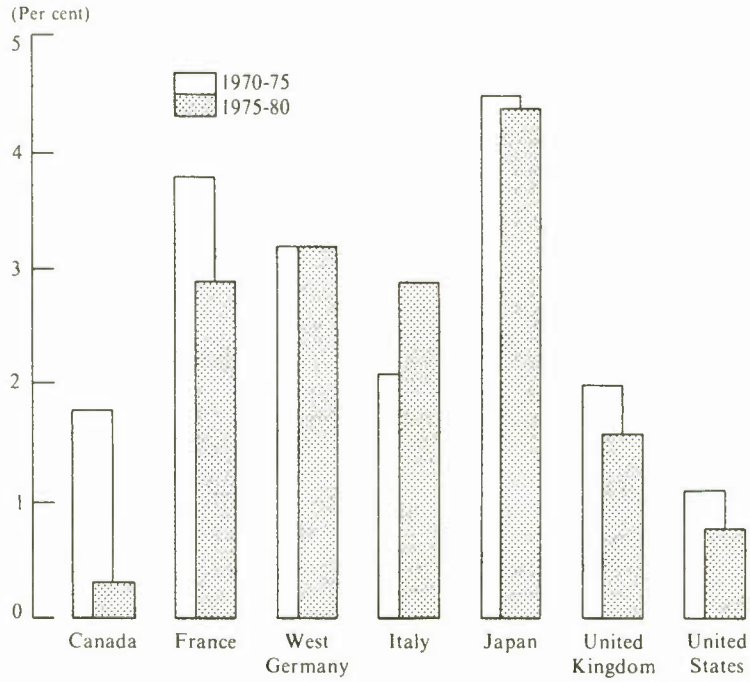
Productivity

In earlier periods, one might have expected substantial real growth to be associated with the type of employment and capital formation performance outlined above. The slight decline in employment growth in Canada in the second half of the 1970s was far outweighed, however, by the slowdown in the growth of total output. During the 1970-75 period, real output rose by about 28 per cent, while employment was up by 17 per cent. By contrast, from 1975 to 1980, although employment rose by a further 15 per cent, the increase in total output was only about 15 per cent also. In brief, growth in output per person employed – i.e., labour productivity – declined sharply between the two periods, to almost nothing during the second half of the decade. And the fact that inputs of capital did not decline much either suggests that total factor productivity – the efficiency with which all productive resources are combined to produce output – declined too.

Canada's experience in this respect was not unique, since growth in labour productivity also flattened out or declined in several of the OECD countries during the 1970s (Chart 1-5). Some of our major trading

Chart 1-5

Average Annual Change in Real Gross Domestic Product per Employed Person, Major OECD Countries, 1970-80



SOURCE Stanford Research Institute and Wharton Econometric Forecasting Associates, World Economic Model Project.

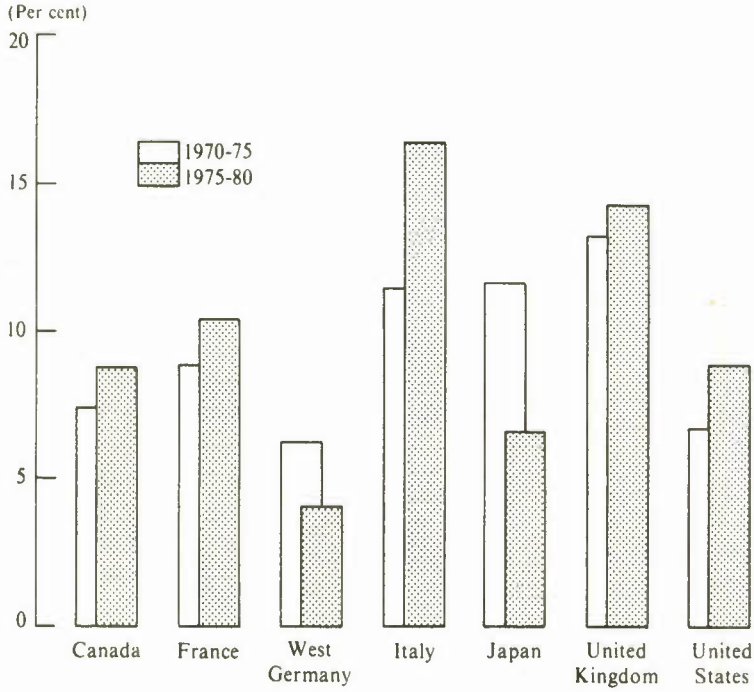
partners have recently recorded increases in output per person employed, however, whereas labour productivity in Canada actually declined in 1980.

Prices and Incomes

Perhaps the most disturbing feature of recent economic performance is that, in Canada as in several of its trading partners, lower rates of output growth in the second half of the 1970s were accompanied by even higher rates of inflation than had been recorded earlier (Chart 1-6). Moreover,

Chart 1-6

Average Annual Change in the Consumer Price Index, Major OECD Countries, 1970-80



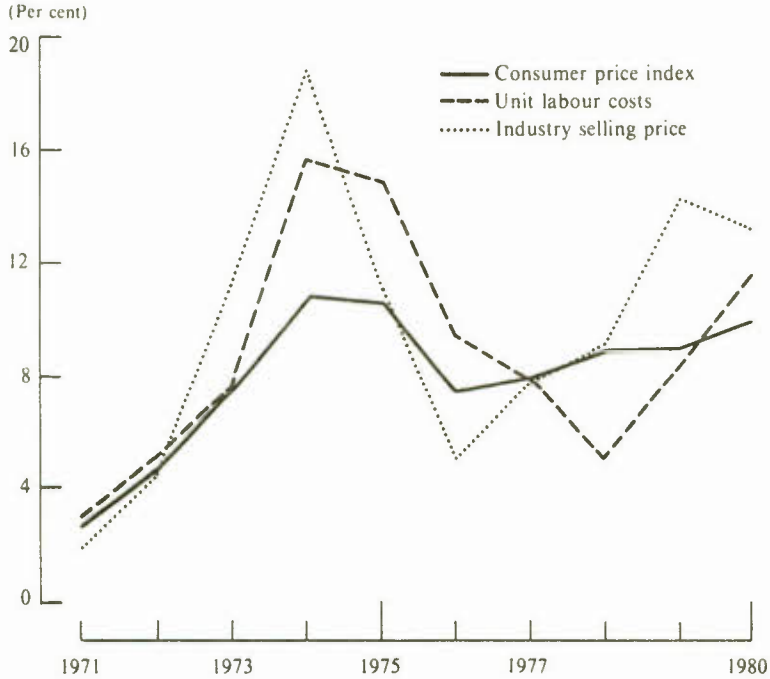
SOURCE Stanford Research Institute and Wharton Econometric Forecasting Associates, World Economic Model Project.

Canadian prices have risen even more sharply in the last year, while inflation in several other OECD countries, and in particular the United States, has been easing.

The large increase in Canadian prices over the last decade is apparent, no matter which price measure is used (Chart 1-7). Industry selling prices, a measure of manufactured goods prices, rose even more rapidly, and with greater volatility, than the consumer price index. In addition, unit labour costs, which combine the effects of changes in labour income per person employed and productivity per worker and are regarded as a possible measure of the underlying rate of inflation, moved up quite

Chart 1-7

Annual Change in Selected Price Indexes, Canada, 1971-80



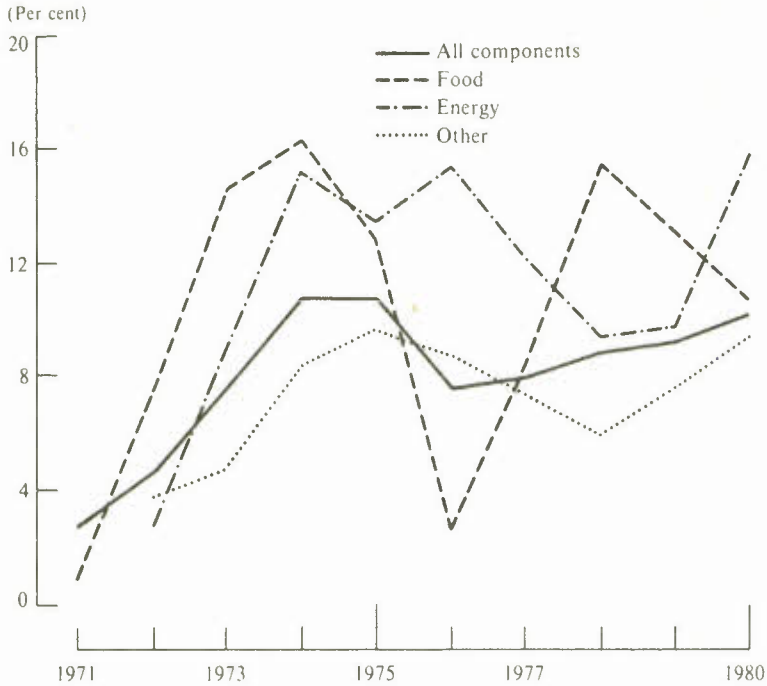
SOURCE Based on data from Statistics Canada.

sharply in 1979 and 1980. Though wage costs have not risen as rapidly as earlier in the decade, the dramatic decline in labour productivity growth led to this increase in unit labour costs.

Of course, the upward movements in prices were uneven. The annual increases in the CPI were above average in 1974, 1975, and 1980 – largely a reflection, albeit somewhat muted, of the oil price shocks in those years – and below average in 1976 and 1977, the first two years of wage and price controls. Within the CPI, food and energy prices increased faster than the average over the decade, while all other components taken together rose less rapidly (Chart 1-8).

Chart 1-8

Annual Change in Components of the Consumer Price Index, Canada, 1971-80



SOURCE Based on data from Statistics Canada.

During this period of rising prices and low productivity growth, the growth of real incomes was reduced, particularly during the second half of the decade. In fact, the gain in real income in Canada over the last decade was generally disappointing. Money wages per employed person rose from $6,012 in 1970 to $15,392 in 1980 – an average annual increase of almost 10 per cent (Table 1-4). In terms of 1971 dollars, however (i.e., after allowing for price changes), the increase was from $6,138 in 1970 to only $7,308 in 1980 – an average increase of only 1.7 per cent annually. Moreover, real wages per employed person actually declined from 1975 to 1980.

On average, real disposable income – a broader measure that includes not only wage compensation and supplementary labour income, but also income from investment, from pension and social programs, and from

Table 1-4

Average Compensation and Output per Employed Person, Canada, 1970-80

	Level		Average annual change		
	1970	1980	1970-75	1975-80	1970-80
	(Dollars)		(Per cent)		
Nominal wages	6,012	15,392	11.2	8.6	9.9
Real wages[1]	6,183	7,308	3.5	-0.1	1.7
Output[1]	11,160	12,215	1.8	0.1	0.9

1 In 1971 dollars.
SOURCE Based on data from Statistics Canada.

abroad – rose at a faster rate during the 1970s than in the preceding decade, primarily because of favourable terms-of-trade effects and of the introduction of indexation of personal income taxes. Real disposable income per capita for Canadians aged 15 years or over amounted to $3,822 in 1970; in 1980 it was $5,076 – an average annual increase of 2.8 per cent. During the second half of the decade, however, the rate of growth slowed to only 0.7 per cent per year.

The share of wages and salaries in national income rose only slightly over the decade, from 72.9 per cent in 1971-75 to 73.1 per cent in 1976-80 (Table 1-5). The increase in the share of profits during the first half of the decade reflects the strong terms-of-trade gains accruing to the exporting industries in the 1974-75 period, while its later decline reflected the reduced demand and lower returns that coincided with the period of controls. An increase in the share of retained earnings was offset by declines in the shares of dividends and corporate tax payments.

Table 1-5

Selected Factor Shares of Net National Income, Canada, 1971-80

	1971-75	1976-80
	(Per cent)	
Wages and salaries	72.7	73.1
Profits	15.0	14.8
Retained earnings	6.1	7.1
Dividends	3.3	2.8
Corporate taxes	5.4	4.7

SOURCE Based on data from Statistics Canada.

The Government Sector

Since the mid-1970s the federal government has recorded large deficits on a National Accounts basis each year.[9] Over the same period, the other levels of government as a whole (i.e. the provinces, local governments, and hospitals) have moved into a surplus position. As we have noted often, however, that overall surplus masks a great deal of asymmetry among the provinces. Alberta, British Columbia, and Saskatchewan, with large resource revenues, have been in strong surplus positions, while the other provinces have, like the federal government, tended to run deficits.

During the 1971-75 period, federal government revenues from all sources amounted to 18.7 per cent of GNE, as did expenditures. By contrast, in the 1976-80 period, federal expenditures amounted to 20.2 per cent of GNE while the share of revenues declined to 17.0 per cent – an annual average gap of 3.2 percentage points. Both revenues and expenditures of the provincial governments increased as a proportion of GNE between the two periods (Table 1-6).

Table 1-6

Government Revenue and Expenditure as a Proportion of Gross National Expenditure, Canada, 1971-80

	1971-75	1976-80
	(Per cent)	
Expenditure		
Federal	18.7	20.2
Provincial	16.2	18.3
Local	7.3	7.5
Canada Pension Plan	0.2	0.6
Quebec Pension Plan	0.1	0.2
Hospitals	2.6	2.7
Revenue		
Federal	18.7	17.0
Provincial	16.7	18.9
Local	7.9	8.2
Canada Pension Plan	1.2	1.3
Quebec Pension Plan	0.4	0.5
Hospitals	2.7	2.9

SOURCE Based on data from Statistics Canada.

On the revenue side, the 1976-80 period saw a marked change in the effective tax rates of the different levels of government. The average effective rate of taxation on personal income for all governments taken together remained just under 19 per cent, as a result of the indexation implemented by both levels of government (this indexation was only

partial, in the case of Quebec). The effective rate declined by 1 percentage point at the federal level, while at the provincial level it increased by slightly more, primarily as a result of the transfer of tax points under the Fiscal Arrangements Act of 1977. All of the 3.2 percentage point reduction in the average effective rate of taxation of corporate income occurred at the federal level, while the provincial rate increased marginally. Most of the reduction in effective indirect tax rates also occurred at the federal level (Table 1-7).

Table 1-7

Personal, Corporate, and Indirect Taxation, by Level of Government, Canada, 1971-80

	1971-75	1976-80
	(Per cent)	
Personal tax rates[1]		
All governments	18.8	18.9
Federal	11.2	10.2
Provincial	6.1	7.2
Local	0.1	0.1
Canada and Quebec Pension Plans	1.4	1.4
Corporate tax rates[2]		
All governments	42.1	38.9
Federal	30.5	27.2
Provincial	11.6	11.7
Indirect tax rates[3]		
All governments	13.7	12.7
Federal	5.0	4.3
Provincial	4.9	4.6
Local	3.9	3.8

1 As a proportion of personal income.
2 As a proportion of corporate profits, adjusted for inventory valuation.
3 As a proportion of gross national expenditure.
SOURCE Based on data from Statistics Canada.

The impact of these changes in effective tax rates shows up vividly in terms of revenues forgone in the 1976-80 period.[10] Quite apart from the repercussions of indexation of personal income taxes, the federal government gave up $9.5 billion in personal income taxes, $3.8 billion in corporate income taxes, and $8.0 billion in indirect taxes as a result of reduced average rates of taxation. Over the same period, the provinces gained approximately $10.5 billion in additional revenues, primarily as a result of the transfer of tax points.

In spite of the reduction in federal revenues, some categories of federal expenditures continued to show substantial growth in the 1976-80 period. The growth in spending on goods and services grew less than GNE per

capita, and transfers to provinces rose only slightly more rapidly (Table 1-8). Subsidies and interest payments grew much more rapidly than GNE per capita, however, reflecting rapid increases in oil subsidy payments and the growing burden of servicing the federal debt.

Table 1-8

Federal Government Expenditure Per Capita,[1] Canada, 1971-80

	Annual average		
	1971-75	1976-80	Increase[2]
	(Dollars)		(Per cent)
Gross national expenditure per capita	8,126	13,567	67.0
Total federal expenditure per capita	1,534	2,748	79.1
Goods and services	412	681	65.2
Personal transfers	474	810	70.8
Subsidies	89	179	100.4
Capital assistance	14	31	125.9
Transfers to nonresidents	23	43	83.9
Interest	171	386	125.5
Transfers to other levels of government	351	619	76.2

1 "Per capita" refers to population 15 years of age and over.
2 Calculated from unrounded figures.
SOURCE Based on data from Statistics Canada.

At the provincial level, total expenditures grew substantially more between 1970-75 and 1976-80 than nominal GNE or federal spending.

Table 1-9

Provincial Government Expenditure Per Capita,[1] Canada, 1971-80

	Annual average		
	1971-75	1976-80	Increase[2]
	(Dollars)		(Per cent)
Gross national expenditure per capita	8,126	13,567	67.0
Total provincial expenditure per capita	1,321	2,483	88.0
Goods and services	424	794	87.0
Personal transfers	254	489	92.3
Subsidies	27	69	156.5
Capital assistance	7	11	60.3
Interest	87	185	112.6
Transfers to other levels of government	521	935	79.4

1 "Per capita" refers to population 15 years of age and over.
2 Calculated from the unrounded figures.
SOURCE Based on data from Statistics Canada.

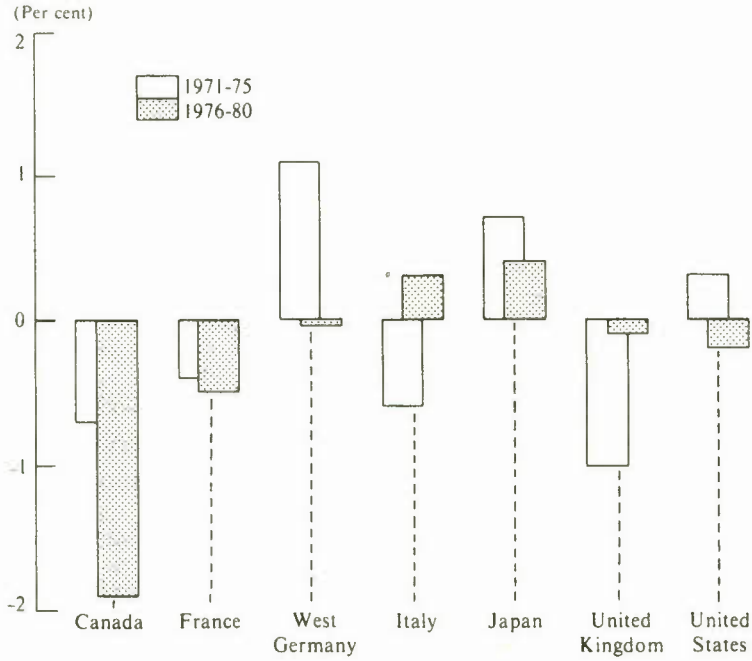
Both provincial subsidies and interest payments on debt more than doubled. Housing subsidies were the chief cause in the former case, while the growth in debt service charges reflected higher levels of domestic and international borrowing, as well as higher interest rates (Table 1-9). The revenue base for financing these expenditures also increased, however.

Trade and the Balance of Payments

Canada's recent trade performance has also been disappointing. Despite improvement since the mid-1970s in the balance of trade, the balance of payments on current account has worsened, relative to the level of total output, with a corresponding increase in the level of the country's net international indebtedness from $28 billion to $73 billion

Chart 1-9

Current Account Balance as a Proportion of Nominal Gross Domestic Product, Major OECD Countries, 1971-80



SOURCE Stanford Research Institute and Wharton Econometric Forecasting Associates, World Economic Model Project.

over the decade. And as we shall see, there has been a sharp change in the composition of long-term capital flows, as well as a reduction in such inflows. In these circumstances, the value of the Canadian dollar has fallen substantially in terms of U.S. currency – a change that carries with it both advantages and disadvantages.

Canada's deficit of international payments on current account increased from 0.7 per cent of GDP in 1970-75 to 1.9 per cent in 1976-80 – a worse experience than that of any of our major trading partners (Chart 1-9). The improvement in the merchandise balance as a proportion of GNE between the two periods was heavily outweighed by the growing deficits on debt servicing and business service transactions.

The merchandise trade balance had weakened towards the middle of the 1970s, because Canada's competitive position had deteriorated somewhat and expansionary policies had been adopted here in the face of major adjustments to the initial oil price shock by our trading partners. The favourable energy supply situation helped to limit the required adjustment in Canada, and the very favourable terms of trade at that time also assisted in maintaining the value of exports.

During the 1976-80 period, the terms of trade remained strong, though below their 1974 peak, and many new export opportunities emerged

Table 1-10

Selected Trade Performance Indicators, Canada, 1971-80

	1971-75	1976-80
	(Per cent)	
Trade volume[1]		
Merchandise imports	50.2	59.5
Merchandise exports	49.4	58.3
Canadian merchandise exports, as a proportion of world exports[2]	4.8	3.9
Primary	6.3	4.5
Manufactured	4.1	3.5
Canadian merchandise exports, as a proportion of OECD exports[2]	6.7	5.8
Primary	12.8	11.2
Manufactured	4.8	4.1

1 As a proportion of real spending on goods in Canada. It includes the government spending component, which is calculated by subtracting government wages and salaries (deflated by the CPI) from total government spending in real terms.

2 Primary exports are SITC sectors 0-4; manufactured exports are SITC sectors 5-9.

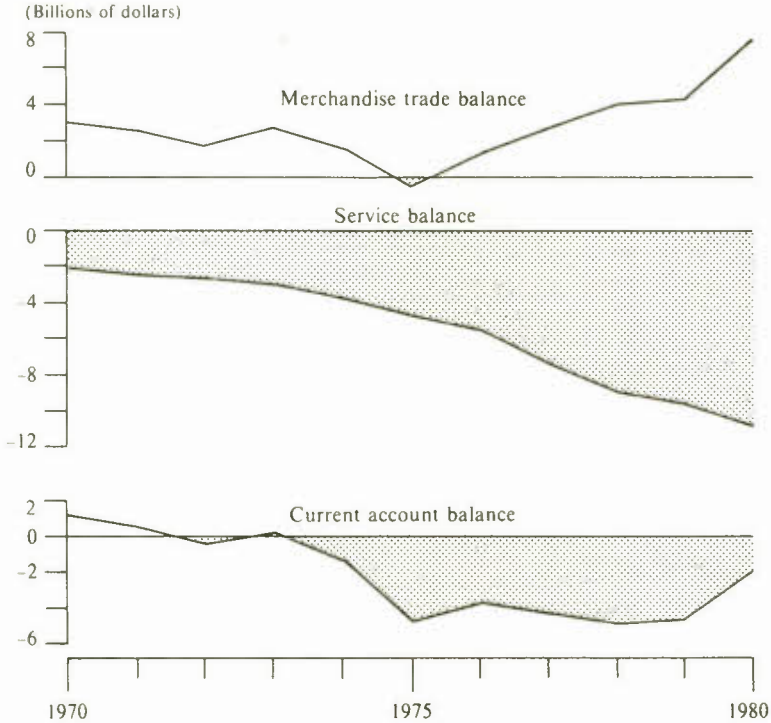
SOURCE Based on data from Statistics Canada and from Stanford Research Institute and Wharton Econometric Forecasting Associates, World Economic Model Project.

because of the lower value of the Canadian dollar and the upswing in economic activity in our trading partners. While Canada's share of world exports and nominal exports to OECD countries declined somewhat further, export sales were diversified into a broader range of markets – especially the new industrializing countries (Table 1-10).

Imports rose slightly less than exports as a share of GNE between 1970-75 and 1976-80. On the other hand, import penetration of the Canadian market increased; imports of goods rose from the equivalent of 50 per cent of the output of Canada's goods-producing industries in 1970-75 to just over 58 per cent in 1976-80. Naturally, the changed

Chart 1-10

Current Account of the Balance of International Payments, Canada, 1970-80



SOURCE Based on data from Statistics Canada.

composition of imports reflected trends in domestic consumption and investment. Imports of crude and processed raw materials, aircraft, and communications equipment all showed increased rates of growth, while sharp declines were experienced in imports of autos and automotive products from the United States and in industrial and agricultural machinery imports.

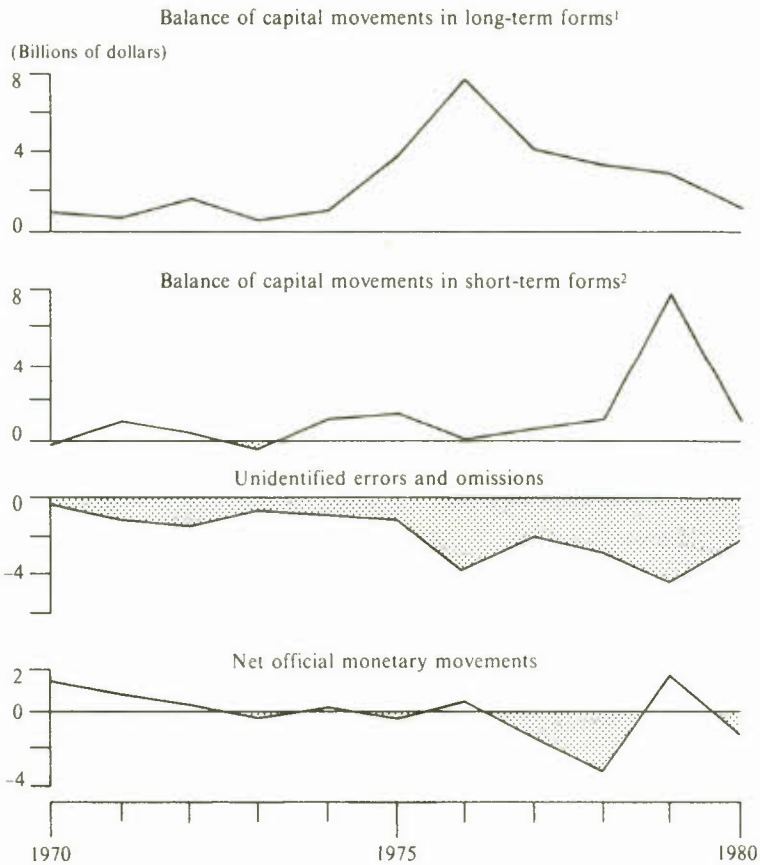
The dramatic increase in international indebtedness reflects the growing deficit on the services accounts. The net outflow of income payments from debt servicing transactions increased from 1.6 to 2.4 per cent of GNE between 1971-75 and 1976-80. This was augmented by an increasing deficit on business service transactions. It is only in the freight and shipping account where any movement towards a surplus position has been recorded over the decade. Thus the services component of the current account balance shows a much different profile over the decade than the merchandise component (Chart 1-10).

Frequently, in the past, deterioration in Canada's current account balance has been compensated by large inflows of long-term capital. In the latter half of the 1970s, however, these inflows have tended to fall off (Chart 1-11). The balance on direct investment has swung to a net outflow: there have been substantial reductions in direct investment inflows, especially from the United States, and increasingly large outflows to both the United States and overseas, partly as a result of the acquisitions by Canadians (including governments), particularly in 1976 and 1978, of several foreign-controlled enterprises. By contrast, the net inflow of capital for portfolio investment increased from an annual average of less than $1 billion in 1970-75 to more than $5 billion in 1976-80. There were large borrowings abroad by Canadian public utilities and businesses in 1975-77, reflecting the lower interest rates then available in other countries. More recently, the federal government has undertaken substantial borrowing abroad, mainly to relieve downward pressure on the Canadian dollar. In the longer term, this will have negative consequences for the current account balance.

In the circumstances described above, it is not surprising that the Canadian dollar fell in terms of its U.S. counterpart. Indeed, the whole of the last decade was marked by considerable volatility in the exchange rates of the OECD countries. The West German mark and Japanese yen both appreciated relative to the U.S. dollar, while the British pound and the Canadian dollar depreciated (Chart 1-12). This left Canada in a stronger competitive position with respect to the United States, West Germany, and Japan, but it also led to further upward pressure on price

Chart 1-11

Capital Account of the Balance of International Payments, Canada, 1970-80



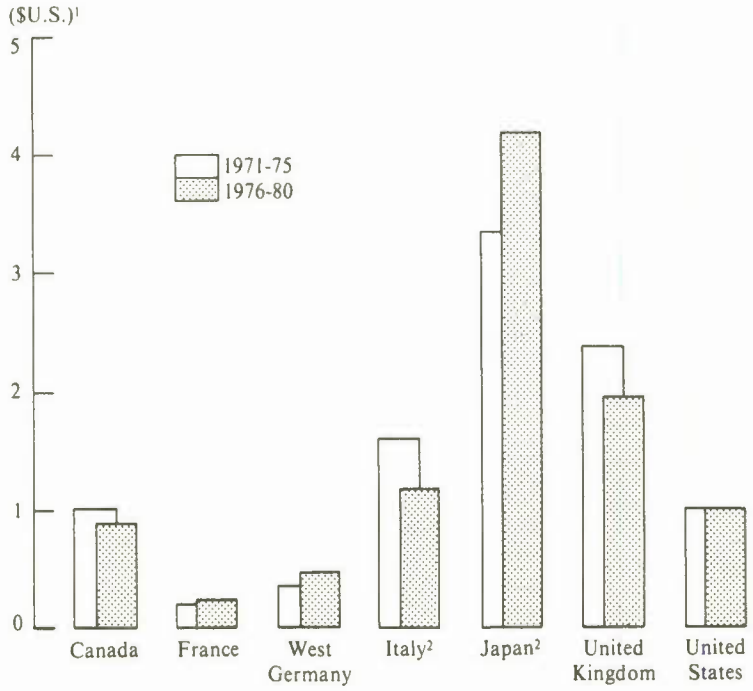
1 Includes direct investment, portfolio transactions in Canadian and foreign securities, and miscellaneous long-term transactions.
2 Includes resident holdings of foreign currencies, nonresident holdings of Canadian assets, foreign-currency bank borrowing by Canadians, chartered bank claims on nonresidents in Canadian dollars, and accounts receivable and payable.

SOURCE Based on data from Statistics Canada.

levels here. These effects were minimized through 1976-78 by the presence of domestic price and income controls, but they have become of greater concern recently.

Chart 1-12

Average Annual Exchange Rate, Major OECD Countries, 1971-80



1 Per unit of local currency.
2 Per thousand units of local currency.
SOURCE Stanford Research Institute and Wharton Econometric Forecasting Associates, World Economic Model Project.

Energy Performance

Canada is an intensive consumer of energy. Many factors contribute to this situation, including geography and climate; the industrial structure, which has evolved on the basis of cheap and plentiful energy; and, some might add, a propensity towards excessive use of energy resources. Thus it is not surprising that the traumatic pricing and supply shocks experienced by energy consuming nations in the 1970s have had their impact on Canada. We have become more aware of the composition and geographical disposition of our total energy resources, and of the situation of dependency upon foreign sources that this leaves us in, at least during the early 1980s. We also have become more keenly aware of the need to share in the development of the resources that will reduce our dependency on these foreign sources in the future.

The second half of the 1970s has seen some decline in the use of crude petroleum, as well as in most other fuel sources (measured in terms of total energy requirements). The reduction in consumption has been particularly evident in some industrial sectors, where there have been successful efforts to move towards much more energy-efficient production processes, as well as to recycle waste effluents for additional energy potential. Although little progress was achieved in the commercial and residential sectors, conversion to other fuel sources, such as natural gas and electricity, is expected to accelerate, now that the oil pricing issue has been settled.

Notwithstanding these positive developments, there has been continued dependence on imported oil. With the decision in 1973 to gradually phase out crude petroleum exports, Canada's position as a net exporter of oil quickly reversed (Table 1-11). Although some reduction in our reliance on foreign crude has been observed recently, nearly one out of five barrels of oil available for domestic requirements (net of exports) was imported, and our vulnerability to the vicissitudes of the pricing policies of the oil-producing nations remained considerable at the end of the decade.

Table 1-11

Dependency on Crude Petroleum Imports, Canada, 1970-79

	Proportion of total availability[1]	
	Imports	Net Imports or exports[2]
	(Per cent)	
1970	44.6	- 7.7
1971	47.9	- 5.6
1972	51.6	-10.7
1973	51.0	-16.3
1974	46.6	- 4.9
1975	48.3	7.1
1976	42.8	14.8
1977	37.3	19.1
1978	34.3	19.4
1979	31.7	16.7

1 "Availability" is defined as production less exports plus imports plus interregional transfers less stock change plus interproduct transfers plus other adjustments.
2 A minus sign indicates net exports.
SOURCE Based on data from Statistics Canada.

Throughout the 1970s, the degree of foreign ownership in the petroleum industry was of concern both to the federal government and to many individuals. Historically, in the 1950s and 1960s, over 90 per cent of production revenues in the oil and gas industry were controlled by foreign interests. With the increased involvement of Canadian-owned oil and gas companies in the 1970s, coupled with the formation of several public-sector and para-public participants (such as Petro-Canada, the Alberta Energy Corporation, and the Saskatchewan Oil and Gas Corporation), the nonresident share of industry revenues declined to just over 80 per cent by 1979. The involvement of foreign-owned firms has been highest in the integrated companies that tend to have greater concentration in refining and marketing operations, while Canadian participation has been centred more on exploration and development activities.

The 32 largest companies in the oil and gas industry over the 1971-79 period experienced much more rapid growth in capital expenditures abroad and in activities unrelated to petroleum than in petroleum-related expenditures. This diversification appears to be somewhat greater in the segment under Canadian control, which has allocated an increased share of funds to applications such as takeovers and acquisitions, particularly in the latter part of the decade. The foreign-controlled companies have maintained a more constant share in petroleum-related capital expenditures, with greater emphasis on distribution of income to shareholders. These companies have also pursued a strategy aimed at generating a much greater share of funds from internal cash flows, while the Canadian companies have made more extensive use of external financing.

Conclusions

What this review of policy and performance suggests very strongly is that, if this country is to improve much on its recent economic performance, it will have to move towards more vigorous use of a broader array of policy measures. And it will have to use them in a way that recognizes, more than ever before, that we are dealing with a system whose operation over time is affected by individual policy levers in different, sometimes conflicting, ways.

These concerns have prompted us to examine a new "base case" that suggests how the economy might move in the absence of major changes in existing policies (Chapter 2), and to draw upon newly developed techniques to illustrate how better performance can be achieved by a different ordering of both objectives and policy levers (Chapter 3).

2 An Extension of the Present*

In our Seventeenth Annual Review,[1] published in the fall of 1980, Canadian economic performance was seen to have been less than satisfactory during the late 1970s, and the prospects for improvement appeared to be shaky at best. Since we wrote the Seventeenth Review, however, a number of developments have occurred – most prominently the launching of the federal government's National Energy Program, described in the preceding chapter, and the signing of the Memorandum of Agreement on energy pricing and taxation by the governments of Canada and Alberta – and we have taken these into account in our assessment of Canada's economic outlook for the current decade.

The National Energy Program and the subsequent Memorandum of Agreement contained explicit policy measures on pricing, taxation, revenue sharing, production and conservation incentives, and Canadian ownership in the energy sector. Before the September 1981 agreement was reached, Alberta had announced and implemented phased cutbacks in the production of crude petroleum (these have now been rescinded), and the Cold Lake tar sands project was subject to delay.

In February 1981, the Bank of Canada announced a lower target band for the rate of growth of the narrowly defined money supply (M1), reaffirming the need to fight against inflation through the use of strong doses of tight money. In addition, during the past year there have been discussions concerning the use of a tax-based incomes policy designed to control inflation by imposing corporate tax penalties on those who exceed set guidelines. Also under consideration have been the form and scope of the revisions to the present Federal-Provincial Fiscal Arrangements Act, which expires in March 1982.

*Mr. Bryce expresses some reservations about the nature of the analysis in this Chapter. See pp. 95-98.

In the United States, President Reagan set a new course for economic policy immediately upon assuming office. The goal of the Reagan administration's budget is to gradually reduce the profile of government in the economic life of the country, with substantial tax cuts aimed at stimulating productive investment. Although there has been increased emphasis on defence spending, there also has been accelerated movement towards budget trimming in other areas.

Some of these developments led us to update our Seventeenth Review projections in the spring of 1981.[2] Inflation prospects for the 1980s were found to have worsened, but the projections associated with real growth and the federal deficit showed improvement. Our latest assessment – the "base case" prepared for this Review – indicates moderate prospects for real growth and employment during the 1980s; continued near-term deterioration on the inflation front, with some improvement in longer-term prospects by mid-decade; and a significant change in the outlook for the federal budget position when compared to our assessment in the Seventeenth Review.

Our current base case provides a framework for policy choice in the 1980s. It includes our assessment of the impact of current monetary, fiscal, and energy policies (including the September 1981 agreement between Ottawa and Edmonton), as well as the impact on Canada of many facets of President Reagan's supply-side economics. It also includes an up-to-date reading of the prospects of our major trading partners.

The outlook provided by the base case reflects prospects – both domestic and foreign – that could change. While the base case projection is our most recent assessment of what lies ahead for Canadians if no major changes in policy are effected, we also intend to use it to test alternative external environment assumptions – areas where the evaluation of risk is important – and alternative policy options that could lead to improvement. For example, the NEP and the September 1981 agreement were very important policy events; they changed the prospects for many key economic indicators, and we need to understand these impacts in isolation. This is done by examining what Canada's economic prospects in the 1980s would be if the NEP and the other measures announced in the October 1980 budget, as well as the September 1981 agreement, were not in effect. The changing world economic situation, including that of the United States, can also have an important bearing on Canada's future prospects, and we draw a comparison between the external assumptions in the Seventeenth Review and those in our current base case. In addition, understanding the anatomy of inflation is a prerequisite for recommending possible action, and so we alter our assumptions to see

what impact changes in economic conditions might have on the rate of inflation in the 1980s. And, finally, we analyse the relationship between our base case projection and the potential output of the Canadian economy.

The Base Case

The decade of the 1980s as a whole could be one of opportunity for Canadians, but during the early years we must deal with the legacy of the 1970s. The impact of world events and domestic policy choices that characterized that decade will follow us part way into the 1980s. The salient elements of that outlook, as shown in Table 2-1, are summarized here.

The Results

- The higher rate of real growth during the first half of the decade results, in part, from our assumption about the phasing of the large energy projects. The slower growth in the latter part of the 1980s is partly attributable to the fact that we expect the major portion of the construction on these "mega-projects" to be finished by then and that we assume no further projects at the moment. Should the presently scheduled projects be delayed, this could change the pattern of growth, shifting some of it to the second half of the decade. In any event, the latter half of this decade is a period when there will be room for real growth. A number of other large projects – ones that we have not considered in our base case – could improve performance during this period. Compared with the 1960s and early 1970s, however, growth prospects are expected to be lower by about 1.2 percentage points per year.

- As measured by the consumer price index (CPI), inflation is expected to be in the double-digit range during the 1981-84 period and just below that range during the second half of the decade. Higher domestic oil prices (as scheduled in the September 1981 agreement), poor growth in total factor productivity, wage and price expectations, and external inflation are only a few of the factors that will hold the inflation rate high in the early years.

- The concave pattern projected for the unemployment rate during the decade will be influenced by the strong real growth experienced during the earlier years and continuing strong labour force growth in the latter period.

- Productivity growth during the 1980s will remain substantially below the Canadian experience of the late 1960s and early 1970s. This poor

Table 2-1

Selected Indicators, 1981-90 (Base Case Projection)

	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
					(Percentage change)					
Real gross national expenditure	3.5	2.6	3.3	2.9	2.5	3.1	3.4	2.0	2.6	2.7
Consumer price index	12.5	12.2	12.2	10.6	9.9	8.7	8.5	8.4	8.0	8.4
Labour force	2.6	2.3	2.1	2.2	1.8	2.1	2.0	2.0	1.8	1.6
Employment	3.1	3.1	3.1	2.4	1.8	1.9	2.0	1.4	1.4	1.5
Productivity[1]	0.4	-0.2	0.3	0.8	0.9	1.6	1.7	0.9	1.5	1.4
Real wage rate	-2.4	0.2	-0.5	0.9	0.8	1.6	1.3	1.2	1.5	0.8
Nominal wage rate	9.8	12.5	11.6	11.6	10.8	10.4	9.8	9.7	9.6	9.3
					(Per cent)					
Saving rate[2]	9.7	9.5	9.0	8.8	8.4	8.2	8.0	7.8	7.5	7.3
Participation rate[3]	62.9	63.5	64.0	64.7	65.2	65.9	66.6	67.2	67.8	68.3
Unemployment rate	7.1	6.4	5.5	5.3	5.3	5.5	5.5	6.0	6.3	6.4
					(Percentage of GNE)					
Real investment	23.2	23.5	24.4	25.0	25.6	26.2	26.8	26.7	26.7	27.0
Federal surplus or deficit	-2.0	-1.7	-1.0	-0.3	--	0.4	0.8	1.0	1.2	1.6
Provincial surplus or deficit	0.9	1.0	1.0	1.1	0.8	0.7	0.7	0.7	0.7	0.8
Balance of international payments										
Current account	-1.1	-1.1	-1.7	-1.9	-2.1	-2.4	-2.6	-2.1	-1.7	-1.7
Energy	0.6	1.2	1.1	1.1	0.9	0.7	0.4	0.2	0.2	-0.1
Nonenergy	-1.7	-2.3	-2.8	-3.0	-3.0	-3.1	-3.0	-2.3	-2.0	-1.7

1 Output per person-hour.
2 Personal saving as a proportion of personal disposable income.
3 Labour force as a proportion of population 15 years of age and over (1971 revision).
SOURCE Economic Council of Canada, CANDIDE Model 2.0, September 1981.

Domestic Policy Assumptions in the Base Case

Energy pricing	Crude petroleum and natural gas pricing schedules and policies from the 1981 energy pricing agreement, with revenues split between producing provinces, federal government, and producers.
Tax policy	All post-Budget (October 1980) tax schedules in place and schedules incorporating the 1981 energy pricing agreement where applicable. This includes the petroleum compensation charge, Canadian-ownership charge, special levy resulting from Alberta cutbacks, incremental oil revenue tax, natural gas and gas liquids tax on domestic production, and 12 per cent effective tax on the operating income of petroleum and gas producers. No other changes in personal, corporate, or indirect taxation.
Expenditure policy	Restraint on government spending, with annual increases in real expenditures held to the following rates: Federal government – nondefence, 1.5 per cent; total defence, 2.2 per cent; Provincial governments – wages and salaries, 2.0 per cent; other spending, 1.5 per cent; Municipal government – wages and salaries, 0.7 per cent; other spending, 0.4 per cent. Established program financing (including equalization payments) in step with nominal GNE. Government wages indexed to increase according to CPI. Indexation of transfer payments as legislated.
Monetary policy	Canadian interest rates in line with U.S. rates. Money supply targeted at 6 per cent.

performance is expected to improve somewhat during the second half of the decade.

- We expect real wages in the second half of the decade to grow in line with productivity. While we anticipate a continuation of poor performance in real wage growth during the first half of the decade – another important aspect of the legacy of the 1970s – growth in the 1986-90 period will fare slightly better.
- The projected decline in the saving rate over the decade reflects in part the erosion of savings incentives (RRSPs, RHOSPs, etc.) by inflation, as these are not indexed at present. A change in current policy to maintain the real value of these incentives would offset this effect.
- As more women join the labour force, participation rates will continue their upward trend.
- The large energy projects will contribute to an increase in the percentage of gross national expenditure devoted to investment. We expect

this proportion to trend upward during the first half of the decade and then to level off during the second half. If some of the energy projects are delayed, the pattern for this important indicator could be altered.

- Given continued restraint in federal expenditures, implementation of the National Energy Program and the September 1981 agreement will contribute significantly to a decline in the federal deficit.
- Provincial governments as a whole are expected to remain in surplus throughout the decade. Most of this surplus will accrue to the western provinces from energy rents. The performance at the provincial level depends upon a key assumption: that the renegotiated fiscal arrangements will not differ substantially in scope and funding levels from the current agreement.
- The energy trade balance is expected to remain strongly in Canada's favour during the first half of the decade, with gas and electricity exports being a major contributing factor. There will be a decline during the latter half of the decade, however. We have not assumed the high levels of substitution of natural gas for oil that are projected in the National Energy Program. Furthermore, even though the large energy projects are expected to be well advanced by the end of the decade, in some cases peak production levels will not occur until the early 1990s. As a result, crude petroleum imports will still be required in large quantities throughout the decade.
- The balance of international payments on current account will likely remain in deficit during the early years of the decade and deteriorate further in the latter years. Among the major reasons for this deterioration are a weaker energy trade balance and the increased cost of servicing the stock of foreign debt.

The Assumptions

The External Environment

Real growth in the United States declined by 0.2 per cent in 1980. We expect the U.S. economy to expand at an annual rate of 2.7 per cent in 1981, with rates ranging between 3.0 and 4.0 per cent during the 1982-84 period (Table 2-2). This moderate recovery of the U.S. economy accounts for some of the strength in the Canadian growth rate during the first half of the decade. Longer-term prospects for real growth in the United States centre around 3.0 per cent – a rate considered to be near the current potential but below that of the 1960s and early 1970s.

During the past 18 months, the rate of inflation in the United States has moved into the double-digit range, having risen to 13.5 per cent in

Table 2-2

External Environment Assumptions, 1980-90 (Base Case Projection)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
						(Percentage change)					
Industrial production											
OECD countries	-1.8	2.0	5.7	4.9	5.7	5.4	5.0	4.9	4.7	5.0	4.8
Selected countries[1]	1.5	-2.0	3.3	4.6	4.5	4.5	4.6	4.6	4.6	4.6	4.6
International price of crude petroleum (f.o.b., $Cdn.)	63.5	16.8	7.4	9.8	10.6	10.9	11.0	11.2	11.6	11.5	11.9
United States											
Real gross national expenditure	-0.2	2.7	3.1	3.5	3.8	2.2	2.7	2.9	3.2	2.8	2.8
Industrial production	-3.3	4.0	6.8	5.0	6.3	5.8	5.2	5.0	4.7	5.1	4.8
Consumer price index	13.5	10.4	9.7	8.6	8.1	8.3	9.1	8.9	7.8	7.7	7.9
						(Per cent)					
Unemployment rate	7.2	7.4	7.3	7.2	6.5	6.4	6.1	6.0	5.6	5.5	5.3
Short-term interest rate[2]	12.3	14.1	16.1	14.2	13.0	11.9	11.8	11.5	10.4	9.5	9.0

1 France, Italy, West Germany, the United Kingdom, and Japan.
2 Short-term prime commercial paper.
SOURCE Wharton Econometric Forecasting Associates, *The Wharton Annual Model Post-Meeting Forecast* (June 1981); and estimates by the Economic Council of Canada.

1980. This upward movement of prices has been buttressed by the Reagan administration's decision to decontrol oil prices immediately, rather than follow the phased plan of the Carter administration. A similar bubble in the U.S. inflation rate is expected to occur at mid-decade, when controls over the price of natural gas sold across state lines are to be removed. For 1981 the annual average U.S. rate of inflation will likely fall below that of 1980. It is expected to fall further in 1982, averaging 9.0 per cent during the first half of the decade and 8.3 per cent during the second half. The inflation experience in the United States during the first half of the decade will thus be about 2 percentage points less, on average, than that anticipated for Canada. The poorer Canadian performance can be explained, in part, by the fact that upward pressure on the CPI from domestic oil prices will be greater than in the United States, since that country's adjustment to world prices is now complete, whereas Canada is still undergoing phased adjustment in that respect.

The supply-side policies supported by the Reagan administration follow on the heels of the decline in total factor productivity observed in almost all industrialized nations. It has long been recognized that the availability of factor inputs and the way they are combined in the production of goods and services play a key role in determining the long-run growth potential of an economy. These factors change slowly over time since they are closely linked to the country's endowment in natural resources, the characteristics of its labour force, and the technology of production. Over the long term, however, such changes have a cumulative effect and can result in substantial shifts in the growth potential of an economy.

Aside from improving the growth potential of the U.S. economy by way of better productivity performance, the major objectives of the Reagan program include reducing the size of the federal budget relative to the total economy and balancing it by 1984, as well as changing the composition of the budget in favour of defence spending.

Many independent assessments of President Reagan's program have concluded that the proposed tax cuts could result in a continuation of the U.S. federal deficit far into the 1980s. The Congress has now approved a proposal that entails personal tax cuts totaling 25 per cent over three years, beginning in October 1981. In our base case, we have assumed tax cuts similar to those recently put in place by the U.S. Congress (based on the June 1981 Wharton Projection).[3]

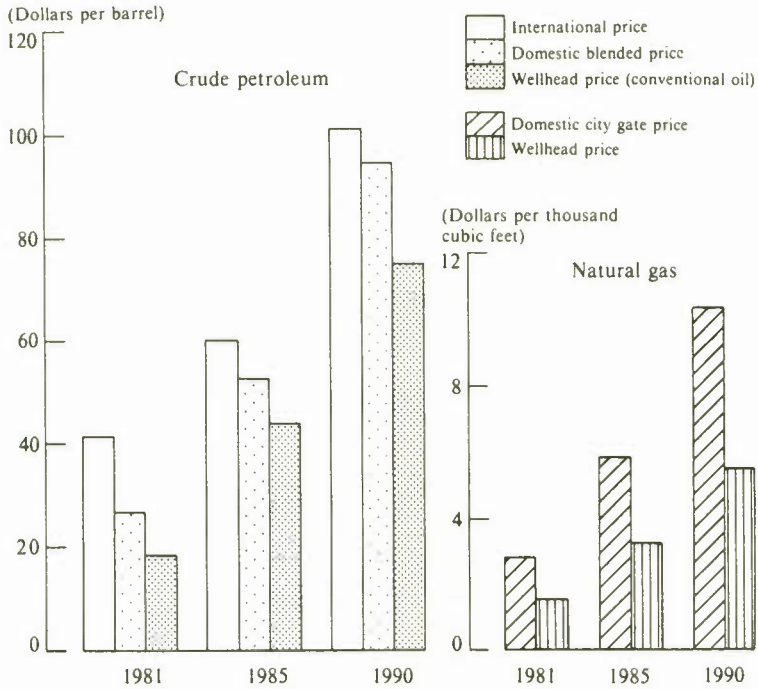
Monetary policy in the United States is expected to remain very tight until the end of 1983, resulting in a period of unprecedented high short-term interest rates. During the latter part of the decade, we anticipate that short-term interest rates will return to the 10.5 per cent range.

The other OECD economies (in Western Europe and Japan) will fare less well than that of the United States in 1981. We anticipate that the weighted average of the indexes of industrial production for these countries will decline by 2.0 per cent in 1981, recovering in 1982 and 1983 to an increase of about 4.0 per cent. For the second half of the decade, growth in industrial production will average 4.6 per cent per year. This unspectacular performance does not approach the high rates recorded during the 1960s and early 1970s but is more in line with the figures recorded since the mid-1970s.

The international price of crude petroleum rose by extraordinary amounts in 1980. In Canadian dollars, the increase was 63.5 per cent. The recent glut on world oil markets has resulted in a slight weakening of the world price, however. There is now less likelihood that oil price

Chart 2-1

Crude Petroleum and Natural Gas Prices, 1981, 1985, 1990 (Base Case Projection)



SOURCE Appendix Table B-1.

increases will exceed the rate of inflation, over the next 18 months at least. For this reason we anticipate no increase in the real international price of oil during 1982-83. For the whole of the decade, however, we anticipate increases in the nominal price of oil to average 2.0 percentage points higher than the rate of change in the U.S. wholesale price index, representing a 2.0 per cent real gain on average over the decade. The international price is expected to reach around $102 per barrel (in Canadian dollars) by 1990 (Chart 2-1).

Domestic Energy Policy

The National Energy Program and the Memorandum of Agreement signed in September 1981 by the federal government and the government of Alberta contained new policy initiatives in four areas. These included domestic pricing, new initiatives in the taxation of oil and gas revenues, increased conservation and exploration incentives, and a statement of intent by the federal government to increase Canadian participation in the oil and gas industry. These measures, which we have described in broad terms in Chapter 1, alter the medium-term outlook for Canada in a substantial way. We have incorporated them into our base case.

Pricing and Taxation — The NEP and the September 1981 accord established a new system of refinery levies added to the wellhead price of domestic crude petroleum produced from established reserves (Table 2-3). The proceeds from the new levies will serve to balance the subsidies on oil imports and on new-oil production, as defined in the September 1981 agreement. This is assumed to occur as early as 1983, thus enabling the federal government to phase out its contribution to the subsidy payments from general revenues.

The NEP, as modified by the September 1981 agreement, calls for staged wellhead price increases for conventional old oil in the range of $2.25 to $2.50 per barrel during the period October 1, 1981 to December 31, 1982 for a total of $7 per barrel (Table B-1). Beginning in 1983 larger increments in the wellhead price are scheduled, annually averaging $8 per barrel until the agreement expires on December 31, 1986. In the latter part of the decade, producers are assumed to receive annual increases in the wellhead price of conventional old oil that start at just over $5 a barrel in 1987 and rise to $8 a barrel in 1990. The wellhead price will then be $75 a barrel. During the course of the agreement, and for the remainder of the decade, the wellhead price for old oil plus the cost of transporting it to Montreal does not exceed 75 per cent of the international price at Montreal, as stipulated in the September 1981 agreement. The uniform domestic price, or blended price – which includes wellhead charges, transportation costs, and the petroleum compensation charge (the refinery levies) – will reach about $94 per barrel by

Table 2-3

Components of the Domestic Crude Petroleum Price to Consumers, 1981-90 (Base Case Projection)

	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
					(Dollars per barrel)					
Domestic price at Toronto	27.23	32.43	40.02	47.39	53.04	59.35	66.45	74.69	83.81	94.39
Petroleum ownership charge[1]	0.77	1.15	0.48	–	–	–	–	–	–	–
Special compensation charge[2]	0.83	–	–	–	–	–	–	–	–	–
Petroleum compensation charge[3]	5.70	5.56	6.65	6.45	8.04	9.49	11.14	13.09	15.26	17.81
Transportation charges	1.05	1.09	1.14	1.19	1.25	1.31	1.37	1.43	1.50	1.57
Wellhead price for conventional oil	18.88	24.63	31.75	39.75	43.75	48.55	53.94	60.17	67.05	75.01
International price at Montreal	41.85	44.88	49.16	54.24	60.01	66.46	73.75	82.13	91.40	102.10
Ratio of wellhead price to international price	0.451	0.549	0.646	0.733	0.729	0.731	0.731	0.733	0.734	0.735

1 Assessed at $1.15 per barrel for 25-month period from May 1981 to May 1983.
2 Charge levied to compensate for special imports made necessary by Alberta cutbacks in 1981. Assessed at $1.10 per barrel from March to May; at $1.85 from June to August; and at $1.10 for September only.
3 The petroleum compensation charge reflects a gradual supply shift to what is now classified as "new" oil, as well as to imported volumes that increase in mid-decade.
SOURCE Estimates by the Economic Council of Canada.

1990. Thus the price to Canadian consumers will still be lower than the world price of $102 a barrel, but it will have undergone a fivefold increase over the decade.

The NEP and the September 1981 agreement also affect the pricing of "new oil" as defined in the agreement. A new-oil reference wellhead price is set at $46 per barrel for 1982, with the rate of increase linked to a schedule that is not to exceed the world price at Montreal during the course of the decade. The new-oil reference price will also influence the price received by the oil sands producers, who will receive world price, but in some instances after a lag of one or two years.

In addition to oil prices, the National Energy Program, as modified by the September 1981 agreement, contains a schedule for wellhead and "city gate" prices for natural gas. This pricing schedule includes a tax initially levied on both domestic and export consumption of natural gas at a rate of 30¢ per thousand cubic feet (MCF). In the September 1981 agreement, this tax is set at 0 on natural gas exports for the remainder of the decade, and we have assumed in our base case that this tax level is extended to all provinces. On domestic gas consumption, the rate at which the tax will increase is such that the resulting domestic price to the consumer will approach and remain at 65 per cent of the B.T.U. parity between natural gas and crude oil prices. Except for a hiatus in 1981, the wellhead price of natural gas will increase by 25¢ per MCF at the Alberta border every six months during the course of the agreement and thereafter. Even with this scheduled path for wellhead and city gate natural gas prices, the rate of increase is much lower than that of domestic oil prices, resulting in a substantial price differential between the two. These and the other tax measures associated with the NEP and the September 1981 agreement (see Chapter 1) have been incorporated into our base case.

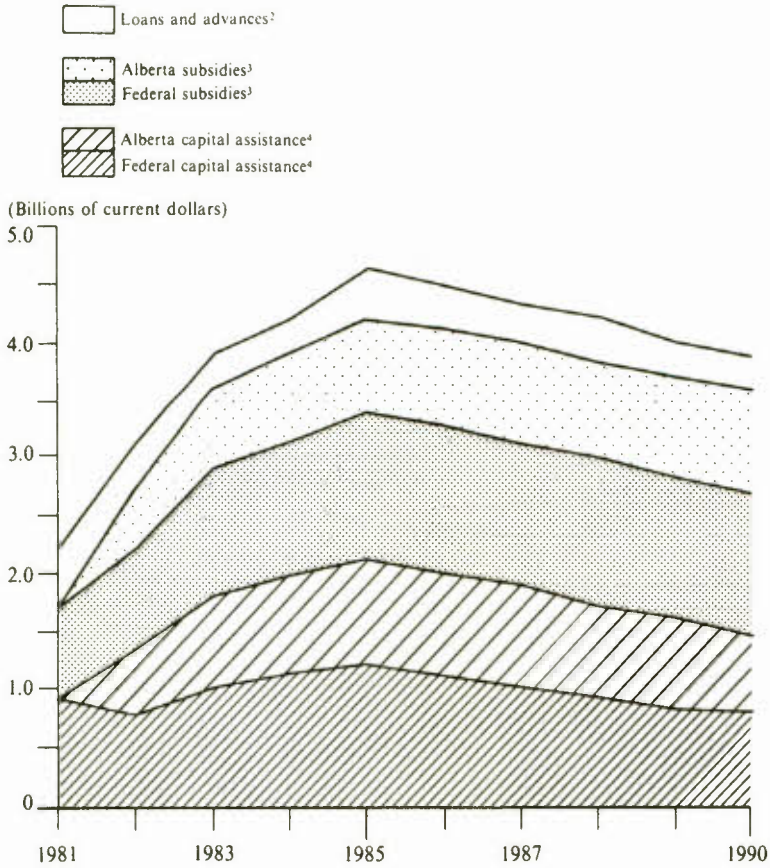
Consumer and Producer Incentives — We have described in Chapter 1 the new producer and consumer nonprice incentives contained in the NEP and the Memorandum of Agreement, which total $12 billion over the 1981-85 period. They have also been incorporated into the base case (Chart 2-2).

Canadian Ownership — The National Energy Program stated that there would be new initiatives to increase Canadian ownership in the energy resource sector. In the base case projection, we have included a levy – the Canadian-ownership charge – at the refinery gate on both oil and gas for 25 months in the 1981-83 period, to cover 85 per cent of the cost of the purchase of Petrofina by Petro-Canada.

Oil Imports and Energy Project Phasing — The success of the "off-oil conversion" objective of the NEP depends on the rate at which natural gas and electricity will be substituted for oil in the residential, commercial,

Chart 2-2

New Energy Initiatives,[1] 1981-90 (Base Case Projection)



1 Including those in the National Energy Program and in the September 1981 energy pricing agreement.
2 Including gas bank, upgraders, and Third World initiatives.
3 Funds allocated to the current costs of specific programs; namely, industry incentives, western initiatives, and future initiatives.
4 Includes funds to acquire capital goods for the following programs: research and development, future initiatives, western initiatives, distribution and transmission system assistance, conversion grants and loans, and the CHIP program.

SOURCE Estimates by the Economic Council of Canada.

and industrial sectors and on the rate at which production from nonconventional sources will increase as we move into the decade. It is in this

area that our assumptions differ from those of the National Energy Program.

A few days after the NEP was released, the government of Alberta announced cutbacks in the production of conventional oil, to be implemented in three stages, stating that this phased reduction was to remain in force until an agreement was reached between the federal government and the producing provinces in the area of oil pricing and revenue sharing. Although these cutbacks have now been rescinded, we have accounted for their effects during the period in which they were enacted. In addition, we have deferred the assumed start-up date for the Cold Lake project and the Alsands plant until 1983 – a two-year delay relative to the pattern reported in our Seventeenth Annual Review. We have assumed no delay for the TQM (Trans Quebec and Maritime) pipeline and only a slight deferment in the case of the Alaska Highway natural gas pipeline. The pre-build section of the latter project is assumed to go ahead as scheduled (Table 2-4).

Table 2-4

Phasing of Large-Scale Energy Investment Projects, 1981-90 (Base Case Projection)

	Phase-in	Peak	Phase-out
Oil sands			
Syncrude extended	1983	1984-86	1990
Alsands	1983	1985-87	1989
Cold Lake	1983	1986-88	1991
Pipelines			
TQM pipeline	1981	1982-83	1985
Alaska Highway Gas pipeline	1981	1983-84	1987
East Coast Gas pipeline	1988	1989-90	1992

SOURCE Estimates by the Economic Council of Canada.

There are other areas where our outlook differs from that of the National Energy Program. For example, the NEP assumes an absolute annual decline of 2.6 per cent in the domestic consumption of oil during the decade, thus eliminating the need for imported crude petroleum (excluding swap imports from the United States) by 1990. Although we have lowered the projected demand for oil in the base case relative to our 1980 assessment, we do not share the NEP's optimism with respect to import substitution, anticipating a reduction in demand of only 0.35 per cent annually. As a result, despite the revised oil supply assumptions recently released by the National Energy Board, imported crude

petroleum accounts for close to 35 per cent of total domestic consumption in 1985 and 21 per cent in 1990.

Fiscal and Monetary Policy

All the fiscal measures in effect at the end of August 1981 have been incorporated into our assumption set. An important policy direction under consideration is that associated with the renegotiation of the Federal-Provincial Established Program Financing Agreement in 1982. In our base case projection we anticipate that the new agreement will not be substantially different from the current one. Health care, postsecondary education, equalization payments, and other intergovernmental programs are all assumed to increase at a rate consistent with the nominal growth in GNE. The transfer of tax points is maintained as established in the 1977 agreement.

In the October 1980 budget it was stated that defence spending would increase at an annual growth rate of nearly 3 per cent in real terms. In the base case we have assumed that the nonwage component of defence spending will grow at that rate to the end of the decade. Federal government purchases of goods and services other than for defence are anticipated to grow, in real terms, at an annual rate of 1.5 per cent during the period 1981-90 – half the rate for GNE. Government wage payments at the federal, provincial, local, and hospital levels are all indexed in line with the rate of growth of the CPI. As a result, the government sector shows little gain in real wages during the decade.

In our base case we do not anticipate any change in corporate or indirect taxes other than those associated with the energy program, nor do we assume any changes in personal tax rates or in the indexation of the personal tax system. We incorporate the change recommended in the October 1980 budget concerning the 1981 contribution rate for unemployment insurance, but we recognize that our projections of future contributions do contain subjective elements. All indexed transfer programs are maintained intact – unemployment insurance, pension, and family allowance benefits, among others.

In the field of monetary policy, the Bank of Canada this year revised its target for money supply growth downward to a band between 4 and 8 per cent. In the base case we have chosen to constrain money supply growth to the mid-point of this band – 6 per cent per year. At the same time we permit Canadian interest rates to follow those in the United States in order to relieve pressure on the dollar as the decade unfolds.

The Impact of the New Energy Policy and External Developments

To assess the impact of the National Energy Program and the September 1981 agreement, we have carried out simulations in which these two events are abstracted, and this tells us what would have happened if they had not taken place. First, we remove from our base case assumptions the September 1981 agreement but retain the NEP and the other measures contained in the October 1980 budget. In a second case, we remove not only the assumptions based on the September 1981 agreement, but also those deriving from the NEP and other budget measures, substituting the assumptions used in our Seventeenth Review base case. By so doing, we can see the differences between the three sets of projections and thus the effect of the new energy policy developments on Canada's economic prospects for the rest of the 1980s. By carrying out a similar exercise with the external environment assumptions, we can also perceive how changes abroad are likely to influence Canada's medium-run prospects.

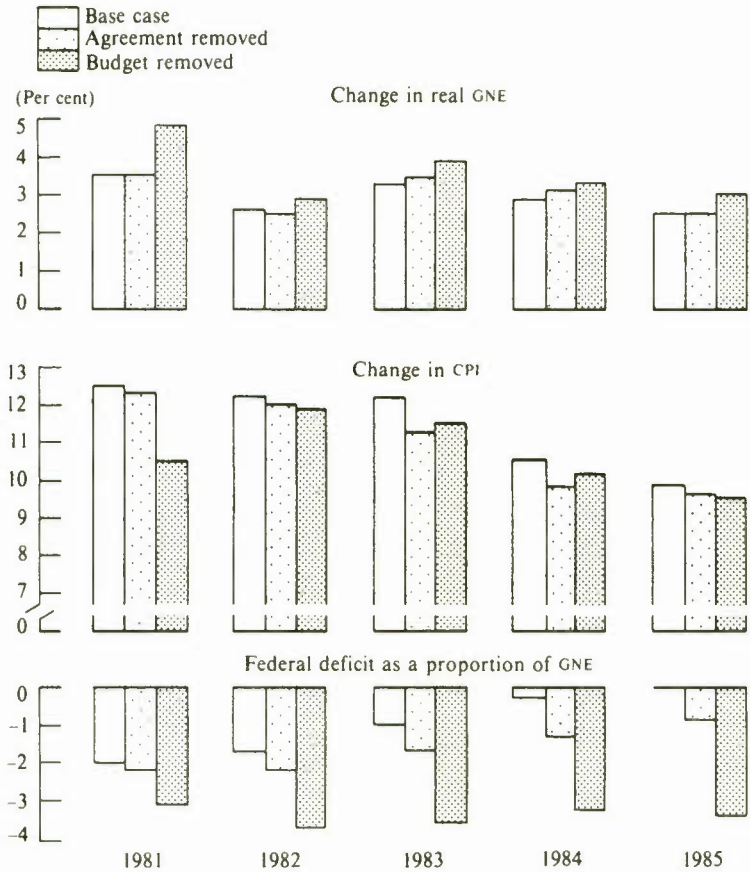
The Impact of Energy Policy

We first remove the assumptions associated with the September 1981 Agreement, thereby returning to a simulation that includes only the assumptions of the National Energy Program and other aspects of the October 1980 Budget. As a result, we revert to a lower old-oil wellhead pricing schedule, particularly in the early years of the decade. In addition, the proportion of oil production whose price comes anywhere near the international level is smaller. Thus the blended domestic price to the consumer is lower, and its impact on inflation is less, particularly in the 1982-84 period (Chart 2-3 and Table B-2). Whereas inflation averages 9.9 per cent in the base case, with the agreement removed it is marginally lower over the decade, the agreement having effectively shifted larger domestic oil price increases to the beginning of the decade. The federal government budget moves to a surplus position later than in the base case, with revenues from various taxes offsetting expenditures and the provinces no longer sharing incentive expenditures.

When we take the second step and revert to the energy assumptions used in our 1980 base case, the crude petroleum subsidy payments must now be financed from general revenues, rather than from the oil compensation charge, as provided for in the NEP. When we remove the NEP, we not only delete the petroleum compensation charge, but also the additional taxes on oil and gas revenues. As a result, the rate of increase in domestic petroleum prices to consumers in 1981 is substantially lower than that suggested by the NEP and the September 1981 agreement. In

Chart 2-3

Effect on Selected Indicators of Excluding the 1981 Energy Pricing Agreement and the October 1980 Budget[1] Measures from the Base Case Assumptions, 1981-85



1 Including National Energy Program.
SOURCE Appendix Table B-2.

other words, when the wellhead price increases and the compensation charges are included, the rise in the blended price as projected by the NEP and the Memorandum of Agreement exceeds the $4 per barrel increase assumed in the Seventeenth Review. The increase in natural gas prices, however, is somewhat less rapid.

What results from these changes is a substantially altered federal budget position. Even when allowance is made for the fact that rather

small percentage shifts in total revenues or total expenditures can result in a large percentage movement in the year-to-year balance, the trend resulting from this alternative over the medium term is clear. In our current base case, the federal budget improves to a surplus position in the middle of the decade, but when the October 1980 budget (including its NEP component) and the September 1981 agreement are removed, the federal deficit averages 3.3 per cent of GNE over the decade, and the provincial budget position improves from an average surplus of 0.8 per cent of GNE (in our present base case) to an average of 2.0 per cent of GNE. There is also substantial improvement in the volume of retained earnings in the private sector. This gain can be attributed not only to a different distribution of resource revenues, but also to the higher activity levels that are obtained when the October 1980 budget is removed.

In this alternative, higher levels of activity throughout the decade combine with an average rate of inflation that is somewhat lower than in the base case (9.5 per cent versus 9.9 per cent) – particularly in 1981, when it is lower by 2.0 percentage points. The current account deficit, which averages 1.8 per cent of GNE in our base case, deteriorates to 3.0 per cent of GNE when the NEP is removed, as a result of the larger import leakages arising from higher activity levels and increased crude petroleum purchases abroad. Although we have not reduced demand for crude petroleum in our current base case to the extent assumed in the NEP, our current outlook does have an improved energy trade balance, relative to one that excludes the NEP assumptions. If Canada were to abandon this partial movement towards oil self-sufficiency, as reflected in the reduced petroleum demand assumptions of the current base case, its balance-of-payments position would tend to weaken because of the additional oil import requirements, and its dollar would also be affected.

The Impact of External Developments

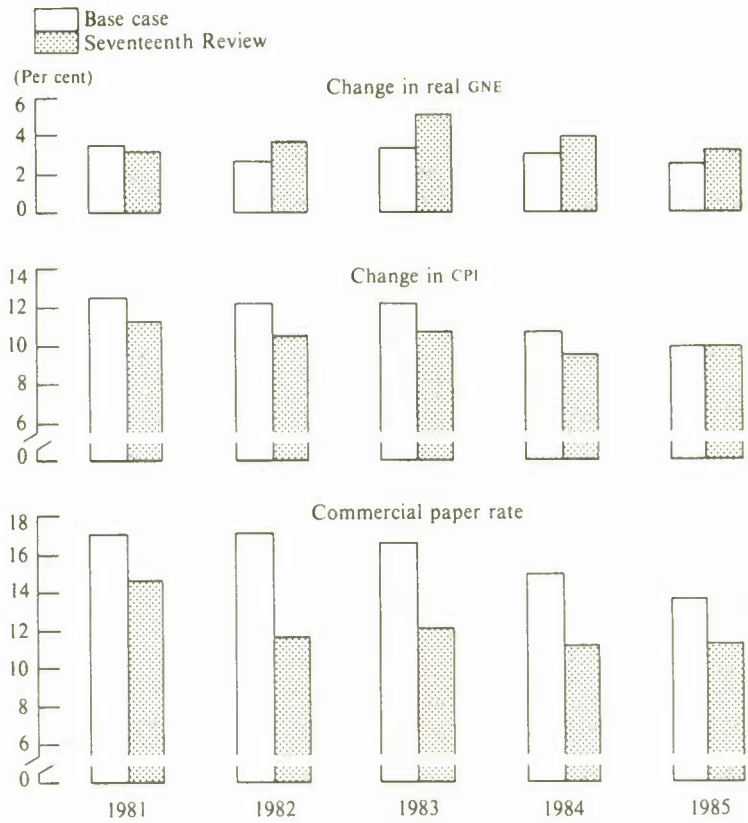
A major difference between the assumptions used in the Seventeenth Review and those contained in the current base case is that associated with U.S. monetary policy (Table B-3). By comparing this year's base case with the alternative using last year's assumptions, we can see clearly what impact a tight money policy in the United States has had on Canada in the medium run.

Our Seventeenth Review assumptions about the U.S. economy, overseas activity, and commodity trade prices contained an outlook for inflation and an interest rate path that did not reflect the extremes in monetary policy that have evolved since November 1980. In our current U.S. outlook, interest rates are much higher, reflecting the considerable tightness in the Reagan administration's current monetary policy. Also, the assumed U.S. inflation rates are lower than those in the Seventeenth

Review. In addition, our outlook in 1980 called for a much weaker recovery of the U.S. economy this year, with a stronger picture in 1982; the pattern is reversed in our present base case. Moreover, last year's assessment of overseas activity called for a stronger performance in 1981 than does our current outlook, with a somewhat weaker longer-term recovery. The net effect of these changes – whereby a weaker growth cycle overseas in the near term is offset by an improvement in the U.S. economy – is a different pattern for Canada's external demand, with the United States being a bit stronger in 1981 and the other OECD countries (Europe and Japan) being weaker than anticipated.

Chart 2-4

Effect on Selected Indicators of External Environment Assumptions in the Base Case and in the Seventeenth Annual Review, 1981-85



SOURCE Appendix Table B-4.

In the Seventeenth Review base case, we did not anticipate the weakening of world oil prices that was to result from the 1981 glut on world markets, and real price increases were expected to be in the range of 1.0 to 1.5 per cent. This year, however, our near-term assessment does not provide for any real gains in world prices. For the longer term our estimate has been revised to an average rate of increase of 2.0 per cent over the decade.

While we see little change in the Canadian growth rate for 1981 between our current base case and this alternative, real growth and the path for inflation in the latter differ substantially from the base case as we move into the medium term (Chart 2-4 and Table B-4). The external assumptions of the Seventeenth Review produce much lower inflation rates, especially during the 1981-84 period. In both the current base case and this alternative, Canadian short-term interest rates follow those assumed for the United States. The much lower interest rates anticipated in last year's base case lead to higher rates of real growth for the 1981-84 period. What results in our current base case is a cumulative slowdown of 3.2 percentage points in real growth in Canada over that period – a good deal of it associated with a reduction in investment activity.

Summary

In summary, the September 1981 Memorandum of Agreement will increase inflation, particularly in the near term; improve the budget position of the federal government; and reduce somewhat the surplus of the provincial governments. The October 1980 budget and the NEP tended to reduce growth, to increase inflation, and to substantially improve the fiscal position of the federal government. In addition, the burden of oil import subsidy financing was shifted from the federal government's general revenues to the oil consumer. Stringent credit conditions in the United States will also have a tendency to reduce activity levels in Canada, in particular the ratio of investment to GNE during the earlier part of the decade.

The New Pricing Policy and Future Oil Price Shocks

A crucial question for future policy is: How would the National Energy Program pricing policy handle an oil price shock in the 1980s? Based on the experience of the 1970s, there looms the possibility of two oil price shocks by 1990. How would the NEP's system of levies and subsidies move in response to a mid-decade jump in international oil prices if no cushioning action were undertaken by the federal government?

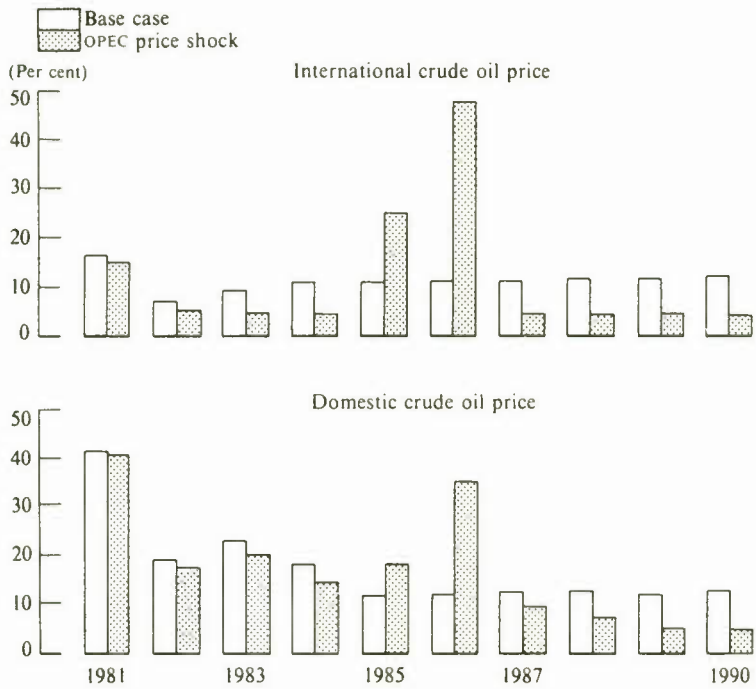
Because one of the objectives of the NEP is to achieve independence from the world oil market, in the long run – when oil imports are

negligible – Canada will be free of any direct impact of an OPEC price shock. This country is a trading nation, however: nearly 25 per cent of its production is exported, and it imports an even higher percentage of the goods and services it consumes. A high proportion of this trade is in motor vehicles and motor vehicle parts – products for which demand is affected by oil prices and supplies. Thus Canada will always feel the impact of an OPEC price shock indirectly, by way of export demand.

To explore this question further, we have simulated a mid-decade explosion of international oil prices that is similar to the 1979-80 shock (Chart 2-5 and Table B-5). In this alternative we set the real price of crude petroleum imports on a declining path during the 1982-85 period – somewhat similar, in this respect, to the 1975-78 period. We then introduce substantial increases in oil prices of 25 and 48 per cent

Chart 2-5

Comparison of Annual Change in Petroleum Prices in the Base Case with Those in the OPEC Price Shock Projection, 1981-90



SOURCE Appendix Table B-5.

(nominal) in 1985 and 1986, respectively, returning thereafter to a declining path for real prices. This pattern implies that by 1990 the international price of oil per barrel attains the same level as in the base case. What differs is the phasing of price increases during the decade. Under the NEP and the agreement between Ottawa and Edmonton, any increase in the import levy required to finance the higher subsidies made necessary by this shock directly influences consumer prices through the blended price system. Thus, the path of the petroleum compensation charge is as radically different from that of the base case as is the path for oil prices. This also results in revisions to energy-related royalties and export taxes.

The OPEC price shocks experienced in the 1970s were often accompanied by price explosions for other commodities. Accordingly, we have revised the movements in export and import prices to reflect this possibility. In addition, we have included in this alternative assumptions about the U.S. economy that are consistent with the oil price picture for the decade, including an easier monetary policy and reduced inflation. The mid-decade price increases result in large reductions in U.S. activity levels, with higher inflation and tighter monetary policy during the period in which the shock occurs. For the other OECD countries, no change in the growth of industrial production is assumed over the decade.

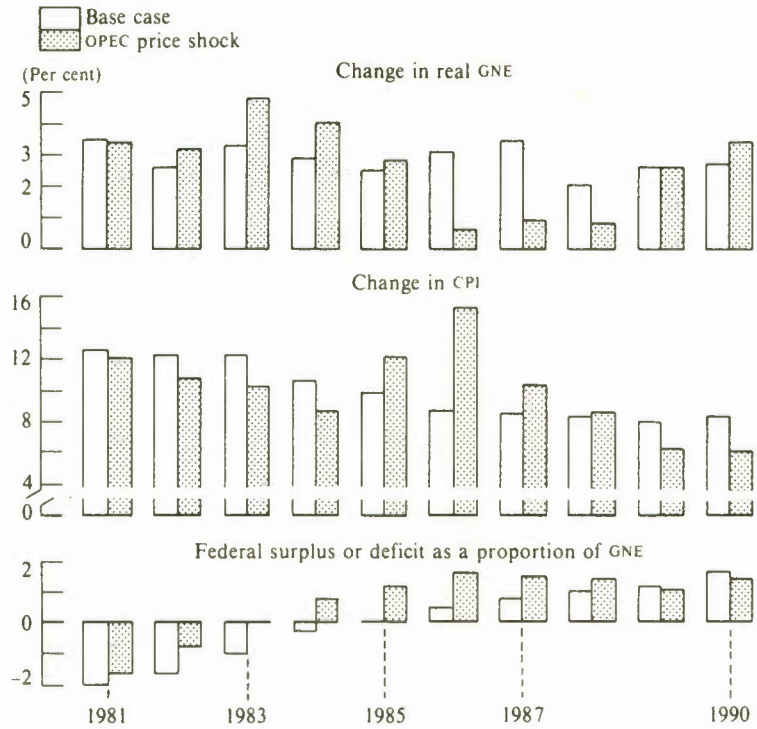
For Canada we see a familiar picture (Chart 2-6 and Table B-6). The slower increase in world oil prices during the 1982-85 period implies stronger activity levels. As the oil price shock takes effect, these activity gains turn to large losses. The rate of growth in real GNE falls to 0.7 per cent in 1986. This results not only from additional domestic inflation but also from the reduced activity in the economy of our major trading partner. There is some resumption of growth by the end of the decade, but real GNE is cumulatively lower by $1.4 billion by 1990.

Following the spirit of the NEP and the subsequent agreement, in this alternative we place the burden of financing the subsidies for higher-priced imports and for new oil on energy consumers directly, through the blended price mechanism. As a result, the pattern of Canadian inflation moves sharply to higher levels during the period of the shock. In 1982-84 we see a short-lived easing of inflation, as a result of lower international oil prices and lower U.S. inflation rates. By 1986 the rate of change in the CPI is more than 15 per cent, and it is not until 1988 that inflationary pressures begin to ease again.

In this alternative the federal government need not finance the higher oil import subsidy payments from general revenues, because its receipts from the petroleum compensation charge have increased. Thus the federal budget position does not change much as a result of the shock. It is

Chart 2-6

Effect on Selected Indicators of an OPEC Price Shock, 1981-90



SOURCE Appendix Table B-6.

clear that the NEP and the September 1981 agreement protect the federal government from OPEC shocks, while all consumers are eventually exposed directly to the range of problems resulting from such price initiatives by the producing countries. Price shocks might be muted by special programs directed at lower-income groups, but the unwanted effects of future shocks could only be eliminated if Canada were self-sufficient in crude petroleum.

The Anatomy of Inflation

Inflation in Canada can be related directly to changes in the stock of money in the long run. But the rise in the consumer price index can also be related to other factors in the short term: foreign prices, labour market developments, the path of domestic energy prices, wages and price expectations, and the use of COLA (cost of living allowance) clauses in

wage contracts. Total factor productivity improvement also has both short-term and permanent implications. Some of the factors just mentioned indirectly reflect changes in monetary conditions, as well as in other forces; for example, the prices of foreign goods in Canada reflect exchange rates, which in turn reflect monetary conditions; similarly, wage and price expectations and labour market developements are in part, a reflection of monetary conditions. In an econometric model, it is not always possible to incorporate fully all of the indirect and long-term effects. To the extent that this is so, the impact, particularly in the long term, of changes in monetary policy may not be fully reflected in our simulations. While we acknowledge this fact, we believe it is useful to assess, within our base case, the relative importance of monetary and other factors during the 1980s and to gain insights into the appropriate direction for policies aimed at achieving specific objectives. The results of the eight illustrative alternatives that we have developed are presented in Table B-7.

In the first alternative, we constrain the external rate of inflation for the 1981-90 period to about 2 percentage points below the rate in the base case. This enables us to assess the influence of foreign prices on domestic price formation in Canada.

In a second alternative we study the impact of the present restrictive monetary policy in the United States (as reflected in U.S. interest rates) on Canada. This is done by reducing U.S. interest rates by 3 percentage points (300 basis points) below the value of the base case.

In the base case we targeted the rate of growth of the domestic narrowly defined money supply (M1) at the mid-point of the Bank of Canada's target band. In a third alternative designed to show the impact of a restrictive domestic monetary policy on the Canadian inflation rate, we restrict the rate of growth of money supply to 4 per cent per year – 2 percentage points below that assumed in the base case.

During the 1970s labour productivity growth declined substantially. Our base case projection shows labour productivity increasing at an average of 0.93 per cent annually over the 1980s. In a fourth alternative we modify the growth in total factor productivity so as to produce an increase in labour productivity that is 0.55 percentage point above that contained in the base case, in order to evaluate the impact of this factor on the rate of inflation.

The base case projection has unemployment rates that average 5.9 per cent during the period 1981-90. A tightening of the labour market would put some additional upward pressure on wages and prices, while a widening of the gap between labour demand and supply would produce the opposite result. In a fifth alternative we modify the rate of growth of

labour supply to produce a path for the unemployment rate that remains in the range of 6 to 7 per cent, in order to see what effect a less tight labour market would have on inflation.

Domestic energy prices have been shown in both our Sixteenth and Seventeenth Reviews to be a factor in the inflation picture. Our historical analysis has also shown that since 1970 these prices have increased at rates in excess of the CPI (excluding the energy component). To isolate the impact of domestic energy prices during the projection period, in a sixth alternative we reduce their rate of growth during the 1981-90 period, with respect to both the consumer and the producer to a figure of 8.0 per cent – a rate not much different from that of the nonenergy component of the CPI over the 1970s.

Quite clearly, pressures affecting prices and expectations have arisen from sources outside the country as well as from domestic factors. In a seventh alternative in our technical exercise, we link the expectations process to domestic price pressures only by using the gross domestic product deflator instead of the consumer price index.

Each of these seven alternatives attempts to account for the direct and indirect effects of only a single factor in the inflation formula. Because the rate of inflation is, in fact, subject to the influence of *all* of these factors simultaneously, in a final alternative we combine all of the above factors. The net result is a reduction in the Canadian inflation rate by almost one-half, compared with our base case result.

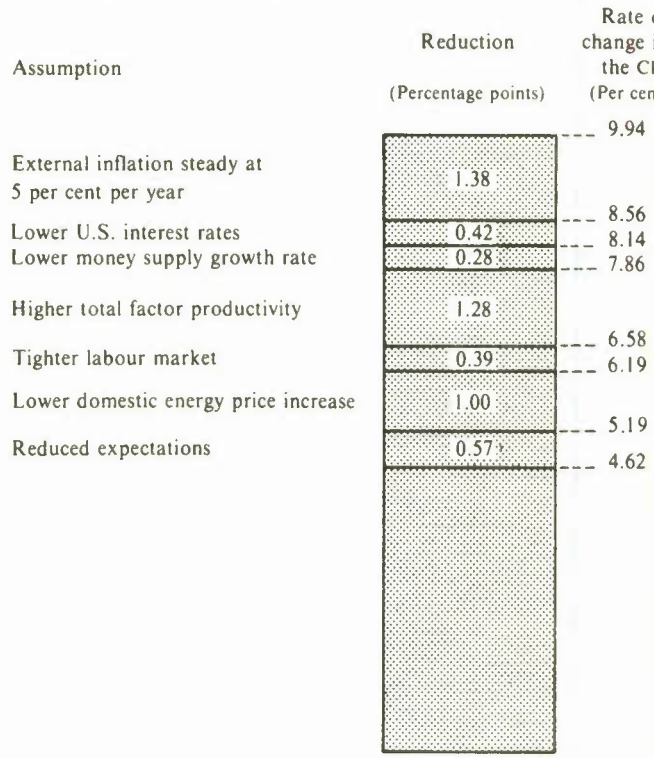
Although the current high rate of inflation in Canada is the result of a number of factors, foreign inflation, wage and price expectations, the decline in total factor productivity, and the path for energy prices appear to be the most important determinants during the 1981-90 period. Chart 2-7 shows an "accounting" of the average inflation rate projected in the base case. This accounting is developed from the alternatives discussed previously, using the responses obtained from the individual simulations. With this procedure we are able to reduce the internal rate of inflation (domestic) to between 4 and 5 per cent, consistent with an external rate of inflation of like magnitude. We caution again, however, that because of the difficulty faced by econometric models in capturing the interdependence of monetary and other factors, our analysis probably underestimates the significance of monetary policy in the control of inflation.

Based on the assumptions outlined above, a rate of inflation of 4 or 5 per cent can only be obtained if the following developments take place: U.S. interest rates must fall considerably in the long run; money supply growth in Canada must be held at the low end of the Bank of Canada target range; slack must be maintained in labour markets (i.e. with the unemployment rate higher than in the base case); the expectations

Chart 2-7

Reduction in the Average Annual Rate of Change in the Consumer Price Index under Selected Cumulative Assumptions, 1981-90 (Base Case Projection)[1]

Base case projection = 9.94 per cent



1 Assuming a nonaccommodating monetary policy. The changes in the assumptions are relative to the assumptions in the base case.

SOURCE: Appendix Table B-7.

process must be changed; growth in total factor productivity must be increased; and domestic energy prices must not be allowed to increase more rapidly than the nonenergy components of the CPI.

Many of these changes are beyond the scope of domestic control, as in the case of foreign prices and interest rates; they can also carry a high social cost by pushing up unemployment rates; and some are contrary to current policy directions in the area of energy pricing.

Certainly, a determined, persistent tight monetary policy will reduce inflation as demand conditions come to dominate any of its short-run,

cost-increasing elements. This process is widely recognized as entailing long delays, however, and its damaging effects on growth and employment opportunities in past periods of tight credit are well documented. Because inflation is the sum total of a variety of factors, what is needed is a broad approach to its solution, with less reliance upon a single policy.

The Gap Between Potential Growth and Actual Performance

Estimating potential growth – that is, growth in the level of output that could be produced without creating undue inflationary pressures in the economy – and the gap that exists between potential and actual performance is at best an uncertain activity. For example, the Conference Board in Canada recently revised downward its estimates of potential growth, as the result of a reassessment of the rate of growth of total factor productivity anticipated during the 1980-85 period. In the Seventeenth Review, our estimates of potential growth showed that the gap between actual and potential growth ranged between $7 billion and $10 billion (in 1971 dollars) – about 6 per cent of GNE – and all indications were that it would persist until and beyond the mid-1980s.

In 1980 the Canadian economy grew by less than 0.1 per cent, and we expect it to grow by 3.5 per cent in real terms this year. This near-term performance is not enough to close the gap between actual and potential growth. To obtain a new reading on the size of the gap and the rate of growth of potential that is consistent with the base case, we use the same techniques employed to develop the estimate published in the Seventeenth Review.

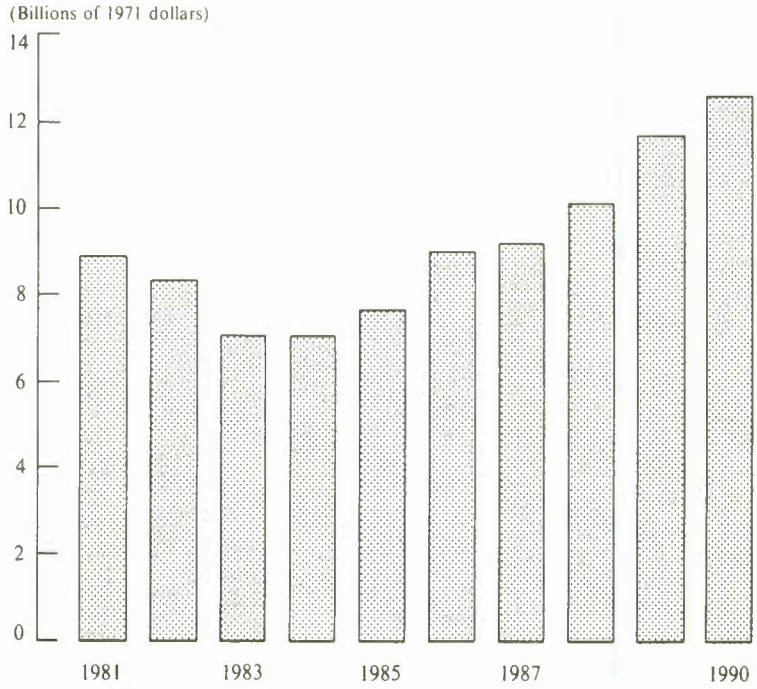
The current base case differs from that of the Seventeenth Review in one important respect: it contains higher unemployment rates for the 1985-90 period. This stems from a faster-growing labour force – now a feature built into the current base case rather than an alternative to it, as in the Seventeenth Review – that results from a reassessment of female participation rates and their future path.

Using the current base case, we have updated our estimates of the gap, partially correcting for cyclically low productivity performance but not for labour force growth since this is now a part of the current base case (Chart 2-8). The updated estimates are not much different from those recorded in the Seventeenth Review. We find that during the 1986-90 period, the gap averages $10.5 billion per year (in 1971 dollars) in our current estimate. During the period 1981-85 it averages $7.8 billion per year. Although the magnitude of the gap is informative, its persistence over time is of greater concern. If this gap endures, there will be a need

for policy action, and it also appears that there will be room for such action.

Chart 2-8

Gap between Actual and Potential Output, 1981-90 (Base Case Projection)



SOURCE Economic Council of Canada, CANDIDE Model 2.0, September 1981.

The Prognosis

Canada is in a favoured position. Consider its resource base, its proximity to large markets, its form of government, the skill level of its labour force, and its record of achievement in the assimilation of new technology. Even when these endowments are taken into account, however, our current base case projections and the alternatives together indicate a troubled picture for the decade, especially during the early years.

Of course, even without taking new policy initiatives, the general public, the business world, and governments would, during the latter part of the decade, benefit from a reduced rate of inflation and a lower

unemployment rate, as well as from modest gains in productivity and the real wage gains consistent with this productivity growth. The National Energy Program and the Memorandum of Agreement signed by the federal government and the government of Alberta will certainly improve the federal government's fiscal position; and they may make it possible for Ottawa and the provinces to renegotiate the current fiscal arrangements in such a way that the rate of growth of federal support for the various programs covered by these agreements would be in line with growth in nominal GNE.

We feel, however, that the cost of inaction is too high. One indication of this is the cumulative output loss that could occur between now and 1990 if we do not take action quickly. Canada stands to lose as much as $91 billion (in 1971 dollars) in potential incomes, business earnings, and public revenues, and price levels could be more than 50 per cent higher by 1985 when compared with current levels. Now is the time to implement policies dealing directly with these two economic ills – output forgone and continued high rates of inflation. What is needed is a blueprint for action.

3 A Matter of Preference*

Although some of the economic problems examined in the preceding chapters – inflation, government and trade deficits, slower growth in total factor productivity, and the persistent gap between potential output and actual performance – are likely to continue until the mid-1980s, it can safely be said that some things will improve, even if no new policy initiatives are taken by government to deal with these difficulties. As shown in our base case, the general pattern of real growth expected during the decade exhibits some strength during the 1981-84 period, and this medium-run prospect will be reinforced by the recovery anticipated in the other major industrialized countries. Thanks to the additional revenues produced by the implementation of the National Energy Program and the Memorandum of Agreement between the governments of Canada and Alberta, the federal fiscal position will also improve substantially.

There is some indication, however, that alternative policy directions could improve performance beyond the outlook projected in the base case, especially during the early part of the decade. Such improvement would require consideration of difficult tradeoffs – among objectives, among approaches, and among expected results – and in many cases the choices would be essentially political. Thus it is necessary to evaluate the nature of such choice and to look at the costs and benefits of achieving specified objectives through different combinations of policy levers. What can the federal government do with its potentially greater room for manoeuvre?

Targets, Tools and Tradeoffs

During the 1970s the federal government played an active role in fiscal, monetary, and energy policy areas. Whereas the major discretion-

*Mr. Bryce expresses some reservations about the nature of the analysis in this chapter. See pp. 95-98.

ary tax measures that it introduced during that decade had a downward impact on its revenues, the October 1980 budget (including the NEP) and the September 1981 agreement have reversed this trend, increasing the tax revenues from the energy sector while leaving unchanged most personal, as well as nonenergy indirect and corporate, tax rates. The improvement in the federal fiscal position in the years ahead will come mainly from this source, from a continuation of spending restraint, and from the funding of established programs – assuming that they will be renewed essentially on the same terms as at present – at a level not exceeding the nominal rate of growth in gross national expenditure.

In the latter part of the 1970s, public debate on economic policy heavily favoured the point of view that the traditional fiscal tools were of little value in bringing down the inflation rate, that monetary policy must be relied upon, that all decisions were subject to a great number of tradeoffs, and that these tradeoffs inhibited simultaneous improvement in all the objectives. We shall explore this point of view in detail, using recently developed techniques to examine the tradeoffs that must be made when considering simultaneously many objectives and many distinctive elements of general economic policy. These techniques permit us – indeed, they force us – to face explicitly and in consistent fashion the rewards or penalties for achieving or missing the objectives that have been set and for deviating widely from existing policies. We will show – with respect to possible choices about inflation control, economic growth, government deficit limitations, and so on – that significant improvement in Canada's economic performance can be achieved by changing the policy mix and making vigorous use of a variety of policy levers.

Our base case projection was based on the premise that the policy mix currently in effect would not change. The results showed an uneven outlook, with several economic indicators exhibiting an undesirable performance. Clearly, a more desirable outcome would include a combination of lower rates of inflation and unemployment, higher rates of real growth and productivity gains, and further improvement in the fiscal position of the federal government and several of the provinces. We believe that it is possible to achieve these goals without deviating from the money supply targets of the Bank of Canada, increasing either the federal government or the current account deficit, or reducing the funding of social programs. It should be clear, however, that the pursuit of these goals will require changes in the existing mix of policies.

To illustrate how this can be accomplished, we turn the traditional economic-projection exercise on its head. Instead of projecting future outcomes from the current policy mix (as we did in the base case), we select a broad strategy – for example, one in which the two main goals

are to control inflation and to reduce the federal deficit. We then choose five variables – the rate of inflation, the federal deficit, the rate of growth in real gross national expenditure, the unemployment rate, and the current account balance – and assign to them numerical values that are, in effect, quantitative targets corresponding to the major goals. In addition, we set a constraint in respect of the growth in the money supply – in effect, an interim target recognizing that the rate of money supply growth selected must be tempered by expectations concerning increases in the velocity of circulation.

A number of policy alternatives – i.e., combinations of fiscal and monetary measures – are then developed, each designed to bring us closer in some way to the desired targets, but always with the money supply growth constraint in mind. Finally, we examine, in turn, the implications that each of these policy mixes would have for selected policy levers (federal government expenditure, the federal manufacturers' sales tax rate, corporate tax rates, basic personal income tax marginal rates, and a short-term interest rate – that of 90-day commercial paper), for the target variables mentioned above, and for a number of other indicators. In most cases our simulation exercise never yields the desired targets, but it does show progress towards their achievement, subject to the condition that the policy levers are used with sufficient flexibility. Of course, the change required in a particular policy lever may turn out to be beyond the bounds of acceptability, either because of political considerations or because experience shows that there are factors which, at this time, cannot be taken into account fully by an econometric model.

The identification of the target variables and the policy levers is a traditional element of economic policy making. A third ingredient – the statement of preferences regarding an overall strategy and the policy mix used to implement it – plays an equally important role, although it is a less tangible component of the process. The statement of such preferences is essentially based on political judgments – that is, on the needs, desires, and capabilities of society, as expressed or perceived through the political process.

The focus of our interest, when examining policy options, is on medium-term strategies – that is, on the means by which the general shape of economic performance might be improved in the next few years. To illustrate these possibilities, we have chosen to deal with five-year periods. The analysis, carried out in early 1981 for the period 1981 to 1985, is based on the working assumption that the policy changes examined would be fully operational in 1981 and thereafter. While this working assumption gives our analysis a somewhat conditional bent, this detracts in no way from its strategic value. Our emphasis is on the disciplined analysis of how key elements of the economy may be

influenced in the medium term by an effective, integrated use of a number of policies. The timing of policy changes and the timing of their effects will, of course, have to reflect many other political and economic considerations. Indeed, the policy setting in 1981 has been different from those set out in our analytical work. The precise numbers given in our projections must not, therefore, be interpreted as forecasts of the actual course of the Canadian economy.

In carrying out the exercise described above, we have analysed two strategies that represent two sets of preferences with regard to broad socio-economic goals. In the first strategy, priority is given to the control of inflation and quick elimination of the federal government's deficit, whereas the second strategy focuses on fighting inflation and on stimulating economic growth (rather than reducing the federal deficit), as the preferred objectives. We recognize, of course, that no econometric model can encompass all of the subjective factors that have a bearing on the economy – particularly, perhaps, some of those affecting financial markets and expectations – but we believe that the results presented here give a reasonably accurate indication of the direction of the changes that are required.

Within each strategy, in order to identify the policy mix that could best improve economic performance over the base case projection, we have examined the potential impact of five alternative combinations of policy levers, labeled A to E. These policy levers are: government expenditure policy (nondefence purchases of goods); indirect, corporate, and personal taxation rates; and monetary policy (interest rates). The analysis is done in stepwise fashion: in each successive alternative, a change in one of these levers – relative to the base case assumptions – is introduced. As each new element is added to the policy mix, the measures that have been permitted to deviate from the base case assumptions in the preceding alternatives are adjusted to their most advantageous use in the new policy configuration. We are thus able to see which policies are responsible for the changes in economic outlook that are projected within each strategy (see Appendix C for detailed results).

Alternative A refrains from using a mix of tax or monetary measures that differs much from that in the base case, thus placing the burden of adjustment to the strategic objectives on federal nondefence expenditure policy (excluding personal and intergovernmental transfers). Alternative B shows a preference for the joint use of indirect taxation and spending policy, and both instruments assume values that differ substantially from those of the base case. In Alternative C, corporate tax policy is added to these preferred instruments, with a similar result. In Alternative D, priorities with respect to policy mix are rearranged, and personal taxation is also permitted to drift away from the base case in the direction

required to bring about progress towards achieving the strategic objectives.

In a technical paper on policy options prepared in October, we had included additional alternatives in which the money supply was allowed to grow somewhat faster than in Alternative E, particularly early in the 1981-85 period. We have excluded these from our current analysis, however, because they are open to misinterpretation in current world financial circumstances. Nevertheless, we do believe that it is important to consider the possibilities of a mix of policies that includes easier monetary policy in the medium term. Also, we recognize that putting monetary policy on an equal footing with other policy levers may be inappropriate, as constraints associated with its use – in particular, exchange rate management and medium-term consistency with the monetary policy of the U.S. Federal Reserve Board – must also be taken into account. In Alternative E, therefore, monetary policy is permitted to drift away from the base case, but it is constrained to remain within the present target range set by the Bank of Canada.

Inflation Control and Federal Deficit Reduction

Real economic growth, the unemployment conundrum, the trade balance, and money supply growth are important issues, but in the first strategy that we analyse, we assume that control of inflation and quick reduction of the federal deficit will be the two preferred objectives of the federal government. In this strategy, therefore, these two goals are given much more weight than the others.

For illustrative purposes, the two goals are given numerical values. For the rate of inflation, the "desired target" is 8.0 per cent per annum for the 1981-85 period. While this target may appear high if the 1960s are used as a standard for comparison, with the increase in the consumer price index currently running in the double-digit range, we think this rate of increase in the CPI is realistic, at least for the time being. For the federal fiscal position, we set a more difficult goal – that of balancing revenues and expenditures as the average outcome over the 1981-85 period, while retaining the base case assumption regarding social program expenditures. In other words, the objective is to eradicate the federal deficit quickly during that period.

We also set desired levels for the other economic objectives over the same period, although, in this specific case, they are not the prime focus of economic policy:

- Real growth: 3 per cent per year – a rate consistent with our estimate of Canadian potential growth.

- Unemployment: an average rate of 6 per cent per year.
- Current account balance: balance between imports and exports (in dollar terms) for the 1981-85 period.

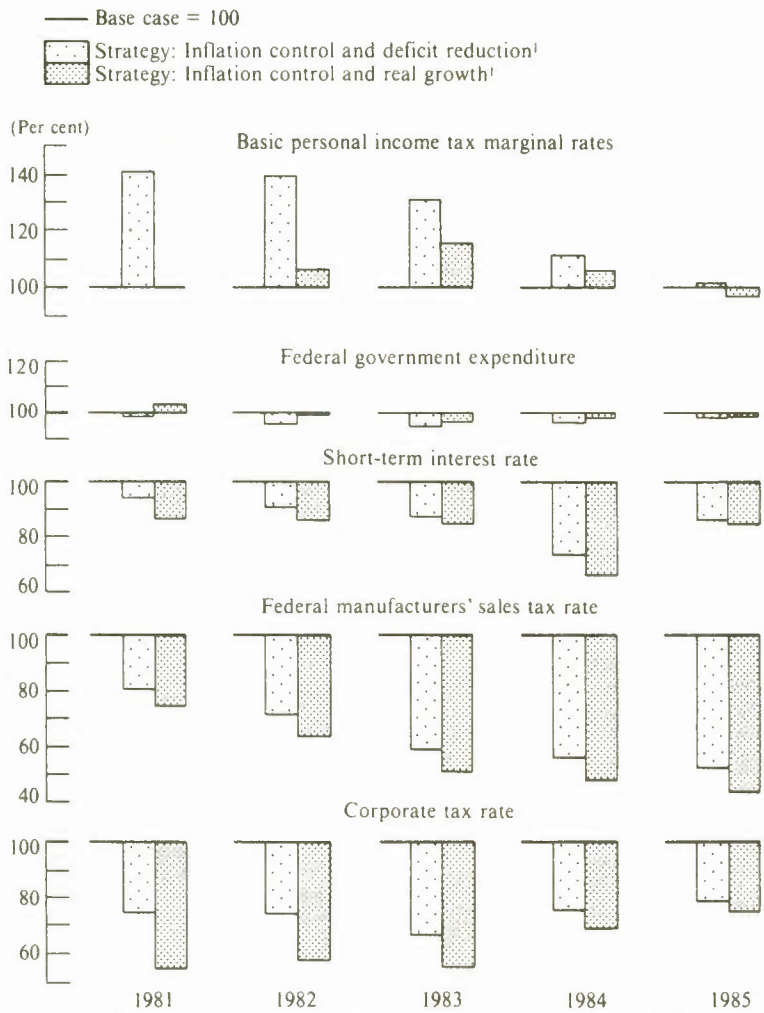
We also set a desired rate of money supply growth. If there were no upward trend in velocity, the desired rate should be consistent with the increase in nominal GNE (i.e. 8 per cent inflation plus 3 per cent real growth, or a maximum rate of money growth of 11 per cent per annum). To the extent that the trend increase in velocity is expected to continue, however, the monetary target must be lower. For this reason, actual rate of growth in the money supply should be constrained to remain within the target range of the Bank of Canada.

In a strategy where the priorities are inflation control and reduction of the federal deficit, the use of the alternatives outlined earlier leads to the following general observations when we compare Alternative E with our base case (Charts 3-1 to 3-3 and Tables C-1 to C-3).

- The policy mix used to implement such a strategy should – in reference to the base case – include reduced government spending on goods, reduced indirect and corporate taxation, lower interest rates, and higher taxes on personal income.
- It will be difficult to reduce domestic inflationary pressures dramatically. Medium-run pressure could be diminished, however, by improving productivity performance through greater capital formation. In the short term, improvement could be achieved by lowering the level of indirect taxation on nonenergy-related goods.
- The use of constrained monetary expansion along with the fiscal levers would lower the inflation rate by up to 2.3 percentage points by 1983 – i.e., from the base case level of 12.2 per cent to about 9.9 per cent; by 1985 the cumulative reduction would be 6.5 percentage points.
- To eradicate the deficit quickly and to maintain a balanced budget thereafter – keeping in mind other objectives – personal tax rates would have to increase by an average of 25 per cent during the 1981-85 period.
- The foregoing increase in personal tax rates would cumulatively reduce real GNE by $9.6 billion by 1985, and there would be a cumulative loss of 1,215,400 person-years in jobs and forgone employment opportunities between 1981 and 1985.
- The higher personal taxes needed to reduce the deficit quickly would be accompanied by a comparable reduction in the personal saving rate. During the early years, this could drop to 7.4 per cent, from an average of 9.5 per cent in the base case.

Chart 3-1

Levels of the Policy Levers in Two Alternative Strategies, 1981-85



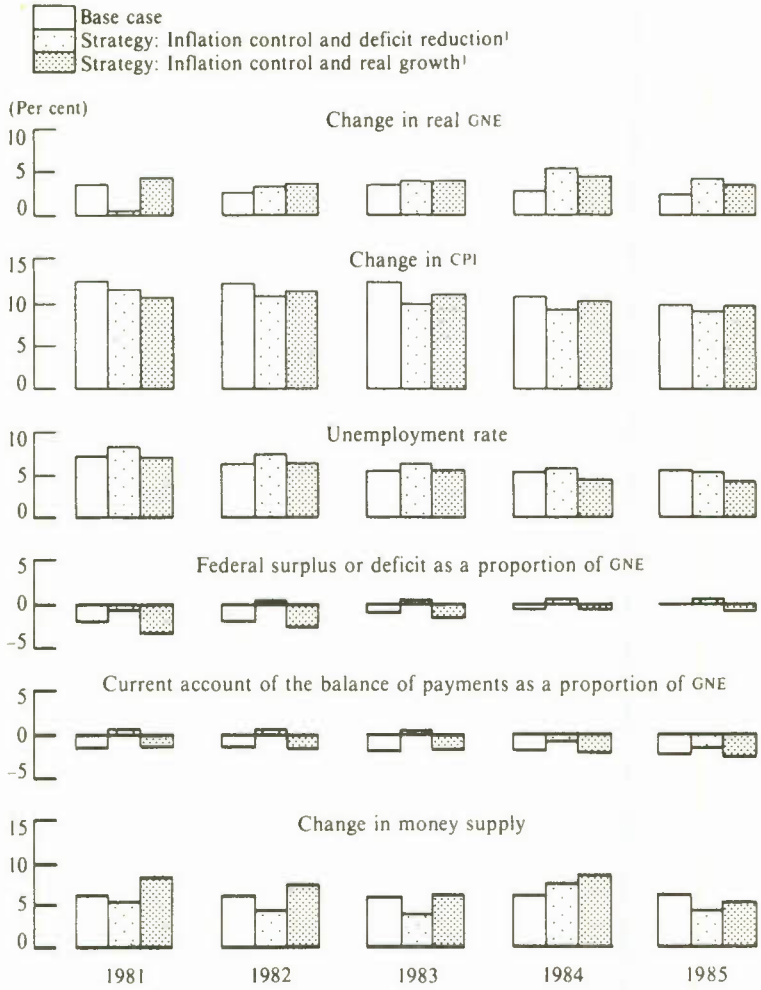
1 Assuming unconstrained use of policy levers except money supply, which is constrained to remain within the Bank of Canada's target band.

SOURCE Appendix Tables C-1 and C-4.

A number of other notable changes arise from this strategy. As policy levers are permitted to deviate from the base case policy mix, the tax structure changes in a way that encourages capital accumulation through reduced levels of indirect and corporate taxation and through lower interest rates. At the same time, the higher levels of personal taxation

Chart 3-2

Values of Targets in Two Alternative Strategies, 1981-85



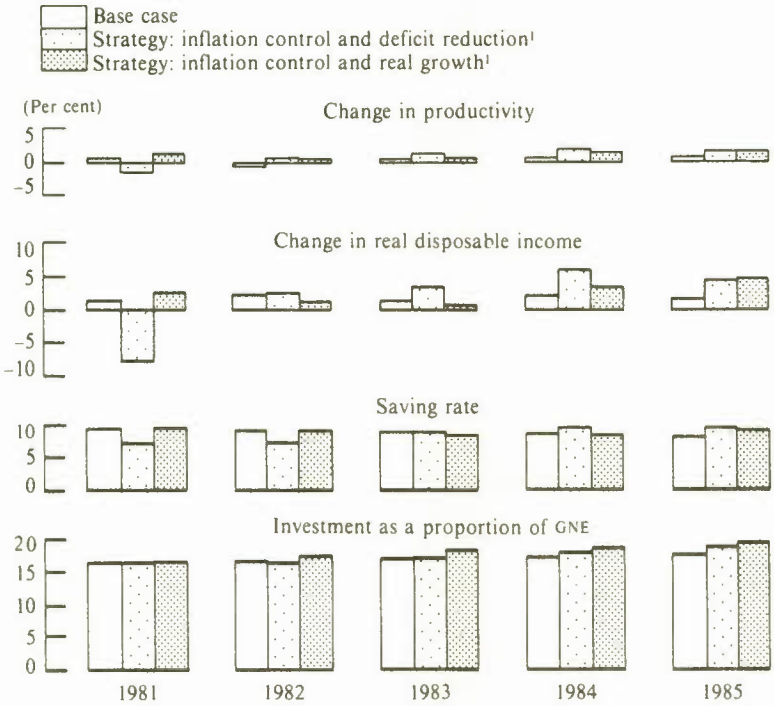
1 Assuming unconstrained use of policy levers except money supply, which is constrained to remain within the Bank of Canada's target band.

SOURCE Appendix Tables C-2 and C-5.

discourage current consumption. As for the inflation rate, it does decline somewhat, though not drastically. The cost of eliminating the federal deficit quickly is very high. For example, the unemployment rate could rise to 8.4 per cent in the early years (from 7.1 per cent in the base case); job loss could be considerable; personal tax rates would have to rise to what most people would consider politically unacceptable levels; and the gap between potential growth and actual performance might widen.

Chart 3-3

Values of Selected Indicators in Two Alternative Strategies, 1981-85



1 Assuming unconstrained use of policy levers except money supply, which is constrained to remain within the Bank of Canada's target band.

SOURCE Appendix Tables C-3 and C-6.

Using 1983 as the focal point of our discussion, it is useful to review in stepwise fashion how these changes in policy mix influence the strategic objectives: lowering the inflation rate and reducing the federal deficit.

The base case indicates that consumer prices are projected to grow by 12.2 per cent in 1983. If we rely solely on spending policy to bring about improvement (Alternative A), we find that expenditures on goods would have to be reduced to 89.5 per cent of their base case level in 1983, with relatively little variation in the other policy levers. The net results would not be much different from those of the base case, since the inflation rate and the federal deficit as a proportion of GNE would be lower in 1983 by only 0.3 percentage point each.

If we also permit variation in indirect taxation (Alternative B), our analysis suggests that the federal manufacturers' sales tax rate should be lowered in stages, to average 55 per cent of the base case level. This

would have an immediate impact on the inflation rate in 1981 and would lower it by almost a full percentage point by 1983. Of the 1.1 percentage point difference in the inflation rate between the base case and this alternative, about 0.3 can be attributed to spending policy and 0.8 to changes in the level of indirect taxation. As for the federal government, it would forgo some revenues, and its deficit would increase from 0.7 to 1.3 per cent of GNE.

Other results obtain. Reducing indirect taxation would stimulate demand, yielding higher growth rates for real GNE. As a result, some deterioration in the trade balance would occur, and the current account deficit would move back to the base case value of 1.7 per cent of GNE. Because of the increase in real growth rates, real wages and productivity performance would improve. Although the magnitudes would be small, the movement would be in the right direction.

If corporate taxation were added to indirect taxation and spending policy as a policy lever (Alternative C), the inflation rate would decline in 1983 to 10.8 per cent – again an improvement. The federal deficit would increase, however, because of the revenue loss associated with lower rates of corporate taxation. Nevertheless, this alternative would lead to more investment activity, thereby stimulating growth. This is where medium-term supply-side effects would help to reduce inflation. Higher real growth rates, along with a more favourable capital/labour ratio, would result in an improvement in productivity growth of 0.3 percentage point by 1983.

Most of the downward pressures on the inflation rate resulting from the policy mix changes examined so far would appear on the supply side. Inflation rates would be lowered either directly through lower indirect taxation or indirectly through better productivity performance deriving from higher rates of capital accumulation, an improved competitive position, and economies of scale. But this would be accomplished at the cost of a growing federal deficit.

When we also permit the use of personal taxation in concert with these supply-side initiatives (Alternative D), we see traditional demand-side effects appearing as well. There would be an immediate large reduction in the deficit in 1981 and an additional drop of 0.9 percentage point in the inflation rate by 1983. Personal tax rates would increase substantially, to compensate for the reduction in corporate and indirect taxation. In the early years, the rate of growth and level of GNE would be reduced below the figures shown in the base case, and in 1983 the level of GNE would remain $4.0 billion below the base case projection. During 1981-83, unemployment rates would average 1 percentage point higher than those of Alternative C. Thus we see that the use of restrictive demand-

side policies would move us close to the strategic objective of a balanced budget, but at the cost of forgone output and higher unemployment rates. The inflation picture would improve, because of the tradeoff between unemployment and inflation, in addition to the supply-side effects already discussed.

So far, this exercise has been conducted with little variation from the interest rates implied in the base case. The results indicate that the structure of taxation should be changed, but this could lead to job loss if monetary policy were not adjusted on a continuing basis. In Alternatives B, C, and D, interest rates and money supply growth rates, being in line with current policy, are very restrictive. However, since the new mix of tax policy that makes up Alternative D would result in a lower rate of inflation by 1983 and in substantial improvements in the fiscal position of the federal government, we would anticipate the possibility of some easing in monetary policy.

Alternative E yields money supply growth rates that, on average, would remain a little below the mid-range of the Bank of Canada's current target band of between 4 and 8 per cent during the 1981-83 period. The reduction of both the inflation rate and the federal deficit would allow monetary growth to remain in this range, but with lower interest rates. We also see some additional improvement in productivity performance resulting from a more favourable investment environment, as the ratio of investment to GNE improves when compared with that of Alternative D. While the restrictive effects of higher personal taxation rates would undo some of the positive effects resulting from reduced levels of indirect and corporate taxation, the less restrictive monetary policy would push the ratio of investment to GNE above base case levels by 1983. The tug-of-war movements of this indicator is probably one of the more important indirect effects that a changing policy mix would have on the future performance of the Canadian economy.

The interaction between various policies is illustrated by the behaviour of gross national expenditure in Alternative D, when compared with Alternative E. When personal tax rates rise, GNE is forced below the base case levels and remains there until 1984. When, in addition, monetary policy is somewhat relaxed in Alternative E, the improvement in GNE in 1985 amounts to $1.5 billion in real terms.

This result tends to reinforce the notion that policies designed to improve performance must give greater consideration to the simultaneous operation of both demand- and supply-side elements, or else distortions will result. Our results indicate that greater emphasis on a different mix of fiscal policy could relieve monetary policy of some of the burden in this area, provide for a better performance in the achievement of inflation

control and deficit reduction, and yet not deviate from the target band currently established for monetary aggregates by the Bank of Canada. The easing of constraints on monetary growth may well have to be delayed in the short run, as we have done in Alternative E, because of considerations related to Canada's balance-of-payments position and its possible impact on inflationary expectations.

If Canada were to opt for the policy mix analysed above, the current account balance as a percentage of GNE would turn from deficit to surplus, at least during 1981-83, because of the depressing effects that high personal tax rates would have on the level of imports and because of the same reduction in debt-servicing charges on international debt denominated in domestic currency. This would permit more flexibility in the actual application of monetary policy. All of this, however, is predicated on the assumption that inflation must be controlled, that the federal deficit must be eliminated quickly, and that we are willing to pay a high short-term cost – that is, an unemployment rate that could reach 8.4 per cent. The question is: Is there a better alternative?

Inflation Control and Improved Real Growth

The National Energy Program and the September 1981 agreement put in place new energy taxes designed to reduce substantially the use of general revenues in support of a uniform pricing policy for domestically consumed crude petroleum. In our analysis of the new energy policy developments, we demonstrated that these new taxes and shared incentive programs would assist in reducing the federal deficit during the 1981-85 period. On the other hand, real growth of less than 0.1 per cent in 1980 has left the gap between potential and actual performance near 6 percentage points, and our base case projection suggests that this gap will persist throughout the period if no action is taken. Given the contribution that the NEP and the September 1981 agreement will make to the reduction of the federal deficit, it may be appropriate to select a strategy that would give higher priority to the return of the economy towards its potential level of output and to the control of inflation.

In developing this second strategy, we change the numerical values for two of the desired targets used in the first strategy. There, we had targeted the rate of growth of real GNE at 3 per cent, approximately the same as the growth of potential; this would perpetuate the current shortfall in output with respect to the economy's potential. Under the set of preferences selected for the second strategy, we set a target of more rapid growth in actual output – ideally, one that would close the gap by 1985. That target may not be fully attainable simultaneously with the other goals, given the policy adjustments that are considered feasible. We

also adjust the target for the unemployment rate to be consistent with this new path for GNE.

A new set of alternatives is developed along the same lines as in the first strategy. Because we have adopted a different point of view, however, the results obtained with respect to this new policy mix differ from those obtained previously. They lead to the following observations, where comparisons using Alternative E are made with the base case results (Charts 3-1 to 3-3 and Tables C-4 to C-6).

- During the 1981-85 period, indirect and corporate taxation rates should be lowered, taking into account the constraints existing on capital markets; government spending should remain unchanged, relative to the base case; and personal taxation rates should be increased only moderately (about 6 per cent).
- Changing the structure of taxation in this manner could add about 1 percentage point to the real growth rate and, by 1985, close the gap between potential and actual performance by about 80 per cent.
- The inflation rate would not improve (from the base case) by more than 1 percentage point per year.
- The unemployment rate could be brought down to 4.1 per cent by 1985.
- Money supply growth rates would have to increase from the base case figure of 6 per cent to the upper end of the Bank's present target range (near 8 per cent).
- Lower interest rates could contribute to a stronger fiscal position; they could also encourage investment activity, thus leading to faster productivity growth. But reduced interest rates and higher activity levels would also tend to weaken the Canadian dollar and increase inflationary pressures in the economy. Thus, because of our constraint on the use of monetary policy in Alternative E, the federal deficit would initially increase, and would increase substantially in the longer run, even if short-term interest rates were lowered by between 2 to 3 percentage points, relative to the base case. This source of upward pressure on the federal deficit is one of the costs imposed by constrained monetary growth.
- Lower rates of corporate taxation would encourage investment activity, improve productivity, and thereby reduce inflationary pressures.
- If the preference were against the use of higher personal taxation rates, leaving them unchanged would not overly interfere with the achievement of inflation control and gap reduction, but government debt financing costs and the federal deficit would increase, relative to the base case results.

Given that inflation control is a common goal in both strategies, opting for gap reduction implies a policy mix that would differ in some respects from that used if the other priority were deficit eradication. The options can be examined in stepwise fashion, as for the first strategy.

If there were no significant variation in the existing policy mix other than with respect to federal expenditures on goods (Alternative A), the outcome would not differ substantially from that of the base case, as is evident when comparing the paths for inflation and real growth in Alternative A with those in the base case.

If resort were made to indirect taxation policy (Alternative B), the inflation rate would initially be reduced much further than in the first strategy, but by 1983 it would be running close to the figure recorded in that case. This would come about because indirect taxes in the current strategy would initially be reduced by a larger amount – a direct result of substituting gap reduction for deficit eradication as a priority target. In the second strategy, the deficit would rise to 2.5 per cent of GNE, compared with 2.0 per cent of GNE in the first case.

When we introduce corporate taxation as a policy tool (Alternative C), again we find that inflation would be further reduced by 1983; however, in the medium run inflationary pressures would return, mainly from the demand side. Reducing corporate tax rates would improve productivity performance by way of a more favourable capital/labour ratio, but the resulting higher activity levels would exert downward pressure on the unemployment rate in the medium run. By 1985 the unemployment rate would be lower by more than 1 percentage point, and gross national expenditure would be $5.9 billion (in 1971 dollars) above the base case level.

When recourse to personal taxation rates as a policy instrument is unconstrained (Alternative D), these rates do not rise, either initially or in the medium run, to levels as high as those suggested in the previous strategy. The higher rates that would result would help to reduce the federal deficit, and they would have a depressing effect on demand, though not enough to lower the path of GNE or to raise the unemployment rate, relative to the figures recorded in the base case. Inflationary pressures – although reduced in the earlier part of the decade as a result of supply-side initiatives – would not differ substantially from the base case in the medium run, because demand-side pressures would begin to build.

We argued previously that if the mix of fiscal policy were altered and this, by itself, improved the inflation performance, it would be reasonable to consider some relaxation in monetary policy. If gap reduction were accorded a much higher priority than in the base case, lower interest

rates might also be appropriate. In view of the exchange rate considerations discussed previously, it would also be possible to achieve the same end by accepting a higher federal deficit. In the long run, opting for gap reduction might bring about a deterioration in the balance of payments, however, because of the high sensitivity of imports to income increases.

In the early years, money supply growth rates would on average be at the upper end of the Bank of Canada's current target band. It is only when the economy approaches potential and the gap between the base case outcome and our estimate of potential is partially closed that money supply growth falls towards the lower end of the Bank's target band. Another interesting result obtains. The more monetary policy is allowed to deviate from the base case, the higher the personal taxation rates should be, if all objectives and policy levers are viewed in a tradeoff framework. Given identical objectives, looser monetary policy points in the direction of tighter fiscal policy.

In this second set of alternatives, the inflation rate would not decline below 10 per cent in 1983, as it would in the first strategy, because unemployment rates during 1981-82 would not be forced upward by a tight fiscal stance designed to eliminate the deficit quickly. In other words, the unemployment/inflation tradeoff would not be capitalized upon directly in order to bring about a reduction in inflation in the medium run. Supply-side policies would cause an improvement on the inflation front; personal taxation policy would be used to dampen real growth rates somewhat; and monetary policy would accommodate some of the expansion initially, while still remaining within the current target band of the Bank of Canada, but it would eventually tighten as the gap between potential and actual performance was reduced.

* * * * *

The two strategies examined do yield different perspectives. The levers of fiscal policy are used to attack directly the problems of inflation, slow growth, high deficits, poor productivity performance, trade deficits, and so on, by altering the composition of taxation, thus leading to supply-side expansion or demand-side dampening. Monetary policy is viewed as only one policy lever among many. There is no magic solution, but our results clearly reflect the likelihood that – with inflation control as a common objective in both strategies – a multi-policy approach either to deficit elimination or to gap closing could, in the medium term, yield more satisfactory results than a policy mix where monetary policy plays the leading role. The question remains whether, given the need to control inflation, we should opt for eradicating the federal deficit or for closing the gap between potential growth and actual performance.

4 New Directions*

In the environment of the 1980s, it may prove difficult to force the inflation rate down by using policies that act on aggregate demand alone. If wage and price formation remains insensitive to excess supply, a deep and prolonged period of slow growth, with costly increases in unemployment and loss of output and income, may be required for restrictive aggregate demand policy to break the expectations cycle. This could lead to reduced growth in investment, productivity, and potential output, resulting in a permanent loss in productive capacity. And, to further aggravate the situation, the burden of adjustment to these changes would tend to become concentrated on a few groups (for example, those who must borrow money regularly such as farmers, small businesses, the housing industry, and people with renewable mortgages), thus increasing public impatience and exasperation with economic policy.

These are potential dangers that loom in our base case projection, which is predicated upon a continuation of the current policy mix. What our analysis suggests is that this economic performance could be improved over the medium term by using policies that not only would explicitly recognize the economy as a system in which various policy actions affect both demand (consumption and investment patterns) and supply (efficiencies of production), but that would also spread any burdens and benefits more evenly among the various groups that make up Canadian society.

The Objectives

We firmly believe that Canadian economic policy must now focus on simultaneously reducing inflation and restoring real income growth. We recognize that these two objectives form only one combination among many that are possible. Our illustrations in Chapter 3 were, of necessity,

*Mr. Bryce expresses some reservations about the nature of the analysis in the chapter. See pp. 95-98.

limited with respect to the number of objectives and policy levers that could be considered at any one time. We did illustrate, however, some of the tradeoffs associated with two sets of broad objectives – inflation control and quick eradication of the federal deficit, and inflation control and stimulation of real economic growth. In addition, we showed that both of these strategies could lead to some improvement over our base case projection in the medium run, but that each also had its costs.

Our analysis suggests that attempts to achieve either of these two strategies would have many features in common: in both cases there would certainly be somewhat greater emphasis than at present on measures that would directly affect supply. In terms of lost jobs, higher unemployment, and forgone output, however, the costs of achieving the inflation-and-deficit reduction objective would be substantial. Given the fact that the federal deficit is now projected to come down in the next few years, we believe that the gains from eliminating it even more rapidly would be questionable. Moreover, stressing the inflation-and-growth objective would bring with it a number of additional benefits.

We are concerned that there should be no backing away from the distributional and social commitments made during the past two decades or so. These commitments were the outcome of intense negotiation and bargaining, and they have helped to make Canada one of the leading countries in the fields of health care, social assistance, and other programs designed to foster equity among groups in the society. But we recognize that many of the programs were established under conditions of reasonably rapid real economic growth. The "fiscal dividend" provided by such growth is needed to maintain these programs and, we would hope, to expand them eventually, where necessary. Restoration of growth in real output and incomes would provide a "fiscal dividend" for all levels of government in Canada, so that pursuit of this objective would provide a very direct incentive for co-operation by the provinces.

The National Energy Program set out Canada's objectives in the energy area – self-sufficiency, based on all forms of energy production and consumption, and increased participation by Canadians in the development of their energy resources. The increases in the price of domestic crude petroleum, as scheduled in the September 1981 Memorandum of Agreement between the governments of Canada and Alberta, will discourage inefficient use of petroleum and petroleum-based products, and encourage conversion to other fuel forms, thereby strengthening the self-sufficiency objective. This will take time, however, and there may be a real need to cushion lower-income groups temporarily from these rapid price increases. At the other end, because of the various taxes and levies on production, revenues to producers may still be insufficient to

ensure increased supplies, thus jeopardizing the self-sufficiency objective of the National Energy Program. Therefore, for this country to succeed in achieving its energy objectives, it will have to continue to focus its policy levers on these objectives, while maintaining compatibility between them and its overall economic interests and capabilities.

A Shift in Policy

We also believe that improvement in the real incomes of Canadians and a reduction in the rate of inflation cannot be achieved simultaneously without a shift in the present policy stance. Such a shift would in no way involve abandonment of the present monetary policy, which in recent years has borne much of the responsibility for inflation control. Rather, it would entail reinforcement of monetary policy with tax and expenditure measures bearing on supply as well as demand, while maintaining the emphasis on restraint in government spending policy. In brief, Canada must be prepared to use a wider range of policy instruments than at present, in order to move towards simultaneous attainment of the objectives suggested above.

At least some of the obstacles to such a shift in policy have been removed recently. Although many questions about energy policy remain, there is now more certainty about the course of Canadian energy prices and the sharing of energy revenues during the next five years. Moreover, it is also clear that, with the National Energy Program and the September 1981 agreement, there has been an improvement in the prospective budgetary position of the federal government. In brief, the federal government is entering a period during which its room for fiscal manoeuvre will be increased.

Nevertheless, for a change of this nature to be effective, there remain some difficult perceptions to overcome. There is still a great deal of public discussion about the problems created by the large federal deficit. Though there are difficulties in making precise projections of government balances, and differences of views exist in Canada, we believe that the trend points towards substantial reduction of federal government deficits, both absolutely and relative to the GNP. Many feel, also, that Canada has lagged behind the United States in the application of policies to get out of its apparent impasse. The fact is, however, that the general thrust of recent U.S. policies – such as cuts in personal income taxes, increased capital cost allowances, emphasis on saving incentives – in many ways is already present in Canadian policies that have been in place for some time, although specific differences remain. In Canada these policies may have been ineffective in the past, because of uncertainties in the energy policy and of the negative influence that lack of adjustment in the United

States until recently (see Chapter 2) has had on Canadian economic performance. To the extent that U.S. economic performance will show improvement resulting from policy actions taken recently in that country, Canada will benefit also. Finally, but perhaps more important, it is necessary to examine the total impact of fiscal and monetary measures, as well as their interdependencies, rather than concentrate on individual policies in isolation. We must focus our attention on the larger objectives, and we must recognize and debate the tradeoffs involved in the simultaneous use of a variety of policy levers in order to achieve those objectives.

The Broad Policy Levers

Our analysis in Chapter 3 suggests that, if a strategy aimed at reducing inflation and stimulating real growth is put into place, the major elements of the required policy package would include: reduced indirect taxation of nonenergy goods and services; reduced rates of corporate taxation; continued restraint on federal government spending, as outlined in the base case; and monetary growth at the upper end of the Bank of Canada's present target range of 4 to 8 per cent – a measure which suggests that the annual average of domestic short-term interest rates should be lowered by 2 or 3 percentage points, relative to the base case. All of this could be done without tampering with the social programs currently in place. Depending on the degree of importance attached to more rapid reduction in the federal deficit, such a strategy might also include slightly higher marginal rates of personal income tax.

When compared to the base case projection, this combination of policies would lead to increases in real output and real incomes, larger productivity gains, and improvement in the overall surplus of provincial governments taken together – mainly through a reduction in the deficits of those which currently continue in that state. At the same time, unemployment and inflation rates would be lower, while neither the federal deficit nor the current account balance would change much, when averaged over the next five or six years. Admittedly, the exchange rate of the Canadian dollar would drop slightly but not by as much as might be expected, both because the gap between U.S. and Canadian inflation rates would be reduced and because the current account balance would not deteriorate. The precise timing of changes of policy and the timing of the results will depend on many short-term economic and political conditions. In our technical analysis in Chapter 3, the projections of policy effects were for 1981-85, as if major changes in policy were operative for the whole of 1981 and the other years. Of course, this could not be done now. The results must therefore be interpreted as medium-term outcomes, for which the timing depends on the timing of the policy changes. For us, the medium-term strategy of policy and the medium-term shape of the outcomes are of the essence.

Our analysis of the sources of inflationary pressure indicated that many of the changes that could bring relief from such pressure were either beyond the scope of domestic control (for example, the influence of U.S. interest rates), likely to entail high social costs (by maintaining slack in labour markets, among other things), or in conflict with another policy objective (such as energy self-sufficiency). We have seen that this seemingly intractable conundrum could be resolved over the medium term with measures to increase the supply of goods and services in Canada.

The program that we suggest attacks inflation both directly and indirectly from the supply side – directly, by reducing nonenergy indirect taxes; and indirectly, by compensating for some of the undesirable effects of inflation on corporate income statements. Indirect taxes (such as sales taxes, excise taxes, and provincial fuel taxes) are reflected directly in the price of goods and services that consumers must pay. Lowering these taxes could, if the reductions were, in fact, passed on to consumers, lead directly to lower prices or at least, in an inflationary setting, to smaller increases; and it would help to compensate for the sharp increase in indirect taxes on energy. As for corporate income taxes, they have not been indexed against inflation, in contrast with personal income taxes. The before-tax income of many firms is overstated during inflationary periods, because conventional accounting methods treat both inventory valuation and depreciation on the basis of the cost at the time of purchase – that is, of the "historical cost." Valuing a large component, such as raw materials, at original rather than replacement cost contributes to an overstatement of before-tax income, as do depreciation allowances on buildings, machinery, and equipment. Some of these effects are offset by inflation-induced gains on debt – since debt is redeemed in inflated dollars – and higher interest deductions, but on balance the higher effective corporate tax rates that result lead to lower rates of return and eventually influence investment decisions, particularly if problems of inadequate cash flow arise. Long periods of persistent inflation may erode the incentive to invest, reduce the rate of growth of productivity, and affect efficiency, thereby causing inflationary pressures to emerge from the supply side as well. Reduction of corporate income tax rates would be one of the more effective ways of restoring the incentive to invest and of offsetting these pressures during a period when business investment requirements will be very high.

The resulting acceleration of growth in the supply of real goods and services would also be reflected in higher real wages and real income per person. This is the very type of growth that facilitates the support and improvement of public programs – such as health care, education, retirement income, child support, and unemployment insurance – that

have contributed so much to the quality of life in this country. Unless growth in real incomes is restored, governments will be hard pressed in the 1980s to maintain or increase the real resources devoted to such programs.

In this respect, it is worth emphasizing again that although our analysis did not lead us to proprose new major commitments to social programs – it suggests that increases in real federal revenues might be better devoted, for the time being, to the restoration of growth and the control of inflation – neither did it involve any reduction of the existing social programs. In brief, reduction of inflation and an increase in real growth can be achieved without abandoning present commitments in social policy.

Our analysis does not permit us to say much about the direct and indirect effects of these policy changes on the distribution of income. We note, however, that a reduction in indirect taxes would favour lower-income groups; that wage income would increase as a proportion of national income; and, again, that real personal disposable (that is, after-tax) income would be higher than in the base case, even if the package were to involve slightly higher personal income tax rates. As the major programs involving transfers to persons or to other governments would not have to be changed, all Canadians, regardless of their income or tax bracket, would benefit as individuals under this policy regime. The benefits of somewhat lower interest rates would also be widely spread among people as part of the package if high priority were accorded to growth and to inflation control. Therefore, in the interest of simultaneously reducing the rate of inflation and stimulating real growth, and bearing in mind the recent and prospective increases in energy prices,

1 **We recommend a) that the monetary policy currently in place be reinforced and complemented by a broad range of fiscal measures and that this multi-policy approach pay careful attention to the effects of individual policy levers on supply as well as demand; b) that this shift specifically involve an alteration in the federal government's present tax mix towards reduced corporate income taxes;* c) that it also involve reduced nonenergy indirect taxes, with careful monitoring to ensure that benefits from such reductions will be, in fact, passed on to consumers; and d) that the present restraint on total federal government expenditures on goods and services be maintained, in order to bring about a decline in their share of real gross national expenditure, but without any reduction in present commitments to social programs involving transfers to persons and to other levels of government.**

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*Mr. Kaplansky has registered a dissent with respect to this recommendation. See pp. 98 and 99.

(We would remind the reader that our recommendations were formulated before the budget of November 12, 1981 and that, in any case, they are primarily a matter of medium-term strategy rather than short-term policy.)

We are very much aware that other groups or individuals may express a strong preference in favour or against recourse to some of the tax policy changes that emerge from our analysis. Indeed, as we have stressed in Chapter 3, preferences have as great a bearing on the outcome as do the choice of objectives and the identification of the effects of particular policy levers.

Insofar as corporate taxes are concerned, the change suggested above is in part an attempt to remove distortions induced by inflation, and it is worth recalling that some of our previous work has indicated that reductions in these taxes appear to have a more stimulative effect on investment than, say, increases in investment tax credits or depreciation allowances. Unfortunately, our newly developed techniques do not yet permit us to compare the results of such changes within the cohesive framework used in Chapter 3, but a strong suggestion remains from our earlier work that some of the special investment incentives could be reduced or removed if corporate income tax rates were lowered, resulting in little or no net loss in federal revenue and greater incentive for investment. And, finally, a lowering of corporate income taxes would seem to be required to assist in maintaining the competitive position of Canadian industries vis-à-vis their U.S. counterparts.

The question of changes in the personal income tax is even more contentious in the present circumstances of slow growth and rapidly rising energy prices. These factors have already taken their toll on the real incomes of Canadians. It should be recognized, however, that without some slight increase in personal income tax rates, the federal deficit and the inflation rate would be somewhat higher than otherwise, especially by 1983-84. *And, we repeat that the analysis shows that, even with some increase in personal income taxes, real incomes would be higher than in the base case, given the other elements of the package we are suggesting, because indirect taxes and prices would be somewhat lower, and wages would be somewhat higher.* In addition, because of the "progressivity" of the present personal income tax structure – i.e., because tax rates rise as incomes rise – this method for raising government revenues is "the fairest of them all." Thus the question boils down to the need for an ongoing assessment of the relative importance of the three goals we have touched on – inflation control, deficit reduction, and growth acceleration. Therefore,

2 We recommend that if inflation control is seen to be the overwhelming objective of policy, as growth accelerates in response to the

measures we have suggested in Recommendation 1 the federal government consider moderate increases in personal income tax rates in 1983 and 1984, designed specifically to exclude any additional burden on lower-income groups.

If an increase in personal income tax rates were considered necessary, the Council thinks that it should be implemented directly by temporary changes in the marginal tax rates or by way of adjustment to the surcharge reduction rate. The latter method would have the advantage of not changing the provincial income tax base. Either method could be used in such a way that the burden would not fall on lower-income groups and the need to tamper with present indexation provisions would be avoided.

We believe that in the present context of high and stubborn inflation, the indexation of personal income taxes continues to offer distinct advantages. Certainly it imposes a discipline on governments, by forcing them to rely on discretionary tax increases rather than inflation in order to raise revenues, thus keeping the public more aware of government policy. Moreover, in the absence of indexation, the reduced gains in real income that have accompanied the decline in productivity growth in recent years would probably have been much more difficult to cope with. In this sense, personal income tax indexation helps to maintain work incentives – a matter of some importance in attempts to ensure continued growth in real income per person in the 1980s.

A Wider Range of Measures

There are many measures – other than those used specifically in our analysis – available at the federal, provincial, and local levels of government that could be drawn upon as part of the multi-policy approach that we are suggesting. They include not only tax measures that bear directly on prices, incomes, saving, or investment, but also expenditure and regulatory policies. Some of these policy levers – for example, payroll taxes associated with the unemployment insurance program – are under the direct control of the federal government. Some are under the direct control of provincial or municipal governments. Still others require co-ordination between the three levels of government.

In addition to the federal manufacturers' sales tax on consumer goods, there are a number of indirect taxes that add directly to the supply price of domestic and imported goods. These include provincial sales taxes, excise duties and taxes, customs duties, property taxes, and fuel taxes not associated with the National Energy Program. Many of these influence consumer prices directly. Property taxes and, in some cases, fuel taxes are levied indirectly on intermediate transactions and business assets. This adds to business costs and to the prices paid by consumers. The effect of

reducing these taxes, if passed forward to consumers, would be similar to that suggested above.

The effective rate of direct taxation on wages (other than the personal income tax) has doubled over the last decade. Such taxation includes contributions to the Canada and Quebec pension plans, to the unemployment insurance program, to the medical care programs in Ontario and Quebec, and to workmen's compensation programs. The increases in these taxes may have caused tax-push inflation. The evidence suggests that increases in the rate of direct taxation on wage rates is split between employers and employees, thus influencing business costs and exerting upward pressure on nominal wage rates, with attendant effects on work effort. Since the rates of employer and employee contributions to unemployment insurance have been raised substantially in the last year and since the cost of the program to the federal government's consolidated revenue fund has been reduced, no major action is required with respect to these contributions. On the other hand, even if the Canada and Quebec pension plans themselves are not altered, changes in contribution rates will be required soon. Such changes can – and should – be delayed for a year or two, however, pending revisions to this country's pension system.

Other than corporate income taxation, policy levers that have an impact on saving and investment include the investment tax credits, depreciation allowances, and various capital assistance programs. All are designed to increase rates of return and stimulate capital accumulation. We have already suggested, however, that some of these might well be replaced by a general reduction in federal corporate tax rates, in order to provide increased stimulus to investment without the associated revenue loss. At the same time, saving in the personal sector has been encouraged by the introduction of RRSPs and RHOSPs, but these have become less effective, as the maximum level of tax-deductible contributions has not kept pace with inflation.

Although set individually by each province, the provincial rates of taxation on sales, on business income, and on personal income have been altered before in co-operation with the federal government, in order to provide co-ordination and consistency with its taxation policy. In the current context, of course, there is considerable variation among the provinces with respect to their room for manoeuvre in the fiscal area, but our analysis suggests that under the present circumstances, measures directed towards control of inflation and stimulation of growth would provide all provincial governments with a "fiscal dividend." Co-operation between the two levels of government is therefore a key to increased flexibility and balance in the operation of fiscal policy in Canada. For this reason,

3 **We recommend that, if their anticipated fiscal position permits and in the light of the indirect effects resulting from federal action, provincial governments also consider altering their tax mix towards reduced indirect taxes and reduced corporate income taxes.***

Canada's import duties and quotas protect its domestic industry by raising the price of substitute products made elsewhere. Of course, if import duties and quotas were cut unilaterally by this country, the positive income effects resulting from a reduction in this indirect tax might well be offset, for some time at least, by the income losses experienced by Canadian workers in the industries competing with imports. On the other hand, the Tokyo Round of multilateral trade negotiations will result in lower tariff barriers to both Canadian exporters and importers over the next six years. The benefits from these reductions will include expanded foreign demand for Canadian-made goods, as well as an increased supply of foreign goods for Canadians. In brief, the Tokyo Round approach also tackles demand- and supply-side problems simultaneously. We recognize, however, that any trade policy action by government must allow for the fact that Canadian industry is already facing various shocks, including rapidly rising oil prices and more intensive resort to nontariff barriers by overseas countries, and that it must be paralleled by adequate adjustment assistance programs.

The available policy levers go well beyond changes in tax measures. Thus we have already recommended that federal government expenditures on goods and services be subject to continued restraint, and we would hope that restraint on provincial government expenditures would also take place. Within the current total, however, there could be useful redirection of expenditures that would contribute to both real growth and job creation – a matter to which the Council continues to attach very great importance. Therefore, to re-emphasize the spirit of our Seventeenth Review, published last year,

4 **We recommend that there be some reorientation of expenditure to accord higher priority to outlays in such areas as transportation, storage, and handling networks (especially those associated with the movement and export of western agricultural and nonagricultural products); to programs to upgrade labour skills more effectively and to improve the functioning of labour markets (including the development and dissemination of more comprehensive labour demand information); to programs that could assist in accelerating the large energy investment projects; and to programs designed to increase the pace and range of innovation.**

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*Mr. Kaplansky has registered a dissent with respect to this recommendation. See pp. 98 and 99.

Further work at the Council since the fall of 1980 confirms the importance of such measures. Many of them take on special significance because most of the large-scale developments in the energy sector will take place far from urban centres, where skills are more readily available. Our work on technological change has begun to reveal more specific examples of steps that could accelerate the innovation process, such as the design of smaller-scale computers for service industries. And, our report on public regulation in Canada has indicated a number of areas, in fields as diverse as airlines, trucking, telecommunications, the marketing of agricultural commodities, urban land development and the provision of taxi services, where modification of present arrangements could reduce prices.

Energy Policy

In the 1980s energy policy must continue to take its place as part of a broader strategy. Any program as powerful, wide-ranging, and path-breaking as the National Energy Program must remain flexible. In this respect, the September 1981 agreement between the governments of Canada and Alberta is an encouraging development. It suggests that energy policy in Canada is subject to adjustment when those involved find that the existing rules of the game unduly limit progress.

There remain areas where the need for still greater flexibility is apparent. For example, the blended pricing policy of the NEP places the burden of price and supply shocks directly on oil consumers. Foreign price increases, production cutbacks, or future imbalances of any kind between domestic production and consumption will influence the price to consumers directly, as subsidy payments are now financed by the petroleum compensation charge. Even poor guesses about the rate of substitution of natural gas for crude petroleum or delays in the oil sands projects could affect oil prices directly if they forced an upward adjustment in the petroleum compensation charge, in order to finance unforeseen oil subsidy payments for the additional imports required to compensate shortfalls. Should the burden of such developments fall directly on consumer prices through the blended pricing formula? Or should the consumer be sheltered from the full impact of these shocks?

Our analysis in Chapter 2 provided an example of this type of eventuality. The NEP pricing policy would funnel the full burden of a foreign price shock directly to energy consumers, with the indirect effects falling on all Canadians. As we have indicated before, this in itself points to the attraction of self-sufficiency as an objective of energy policy. While Canadians have been protected to some extent from the ravages of oil price shocks in the past, the NEP will offer them more protection in the

future only when self-sufficiency has been achieved. This will take time, however. According to recent estimates by the National Energy Board, self-sufficiency may be delayed until the mid 1990s, although it should be pointed out that these estimates were made before the details of the September 1981 Memorandum of Agreement became known. But what happens in the interim? Should we not have contingency plans that contain means to deal with this problem? Should Canadians be prepared to accept larger federal deficits, if new income support measures are required in the aftermath of a foreign price shock? Canadians should at least be aware of their exposed position, of the extent to which the NEP protects the federal government's fiscal position from the ravages of an oil price shock, and of the presence of some scepticism among experts with respect to the attainment of self-sufficiency by 1990. Policy makers have often guessed wrong about how events might evolve. Should this occur again, and should there be initial misunderstanding about how domestic prices would react to future foreign oil price shocks or domestic shortfalls, there would be a double failure in communication. Therefore,

5 **We recommend that the federal government develop contingency plans to deal with the possibility of at least one oil price shock between now and 1990, with a view to distributing the burden of such a shock to governments, the public at large, and the business sector more equally than is implied at present in the National Energy Program.**

The Council has, in the past, been quite specific about the need to move domestic oil prices closer to world levels. In our Seventeenth Review, we indicated that domestic wellhead prices should be raised by between $5 and $6 per barrel, so as to reach at least 75 per cent of the U.S. price by mid-decade. In 1980 the wellhead price of conventional oil averaged $15.58 per barrel. Our interpretation of the September 1981 agreement implies that this price will reach $48.55 in 1986. Thus the annual increase from 1980 to 1986 will average $5.50 per barrel – within the range of our recommendation of last year – bringing domestic wellhead prices plus transportation costs to within 75 per cent of the U.S. price by mid-decade.

Even in the absence of foreign price shocks, the increase to users of petroleum and petroleum-based products will be substantially higher than the average wellhead increase of $5.50 per barrel during this period, because of the blended pricing scheme and its major policy lever (the petroleum compensation charge), the proceeds of which are to balance the costs of subsidizing imported oil and new domestic supplies, which will be priced at, or near, world levels on January 1, 1982. In fact, in the base case, the blended price is projected to reach $59 per barrel by

1986 – only $7 below the anticipated world price of $66 per barrel. Furthermore, in 1981 Canadians have absorbed energy price increases that were much greater than originally anticipated in the October 1980 budget, and this will also be true in the 1982-86 period. Also, the federal government and the province of Alberta have not been timid in taking action that will result in higher energy prices to users. In these circumstances, there may be a real need to protect some groups in society. Therefore,

6 **We recommend that the federal government develop explicit programs to cushion temporarily from rapid rises in oil prices low-income groups or those who, because of location or inaccessibility to substitutes, must continue to depend upon petroleum products for their home-heating or transportation needs.**

The National Energy Program and the September 1981 agreement also include an array of incentives designed to encourage the development of the oil sands and heavy-oil projects, to encourage exploration and development on Canada Lands, and to promote the Canadianization of the oil and gas industry. As suggested previously, the response to these incentives may cause unwanted effects that could limit the use of a broader range of policy levers.

In particular, it might be wise to lengthen the period of time allowed for the Canadian ownership of oil and gas resources to reach the established targets. Slowing down the pace at which firms can rearrange their claims on financial assets in order to qualify for incentives and tax rebates might lessen the pressure on the Canadian dollar. Furthermore, depending upon its pace, the Canadianization program might require adjustments in the management of this country's internal and external debt. In addition, delays in the development of the Cold Lake and Alsands projects could have similar effects in 1987-90, as lack of onstream production would make it necessary to import greater volumes of foreign crude petroleum, thereby weakening the trade balance. For these reasons, the pace of Canadianization and of oil sands and heavy-oil development is a potential source of inflationary pressure that may limit the scope of policy choice in other areas.

Although, as a result of the National Energy Program and the September 1981 agreement, Canadians will pay substantially higher prices for energy, this country has not moved substantially closer to the goal of self-sufficiency – a key feature of the NEP – in part because supply developments that would bring it closer to that goal by mid-decade have been delayed. It must be emphasized that Canadians will benefit from the NEP only if substantial progress is made in the substitution of natural gas for crude petroleum, in the conservation of crude

petroleum, or in the increased domestic production of hydrocarbons, from either conventional or nonconventional sources.

The short-term benefits from a settled regime of higher oil and gas prices and revenue sharing are obvious, but the longer-term benefits are not yet as clear. Although production from established reserves has now returned to pre-cutback levels, there remains the question whether the September 1981 Memorandum of Agreement offered incentives sufficient to ensure development of new conventional oil and western tar sands resources. This question has more to do with increased producer revenues and reduced government revenues than with further price increases to users. Since the lead times involved are long (four to eight years), delays would cause the goal of self-sufficiency by 1990 to slip from our grasp. This is a situation that must be avoided, if only for the simple reason that it will constrain the use of traditional policy levers to manage our affairs to our best advantage.

The experience with energy policy in the United States during the 1970s provides an example. In the early part of that decade, a key goal of U.S. economic policy was the achievement of oil self-sufficiency by 1980. At that time, that goal was thought to be achievable under the circumstances as they were then perceived. The outcome was, of course, much different. Progress has been made towards self-sufficiency in the United States, but the goal was not attained, because opportunities were missed and assessments concerning supply and demand responses turned out to be incorrect. We must keep this experience in mind when considering the consequences of lost opportunities, incorrect assessment of market response, and prolonged delays associated with supply development.

For example, production from the Hibernia oil field could make a large contribution towards self-sufficiency in Canada. Should this source be brought into substantial use by the end of this decade, it would improve Canada's balance of payments and make Canadian consumers less vulnerable to the negative effects of an international oil price shock. The current controversy between the federal government and the governments of the Atlantic provinces, particularly Newfoundland, concerning the management of offshore resources is causing delay in the development of production facilities. Agreement in this area would benefit Canada, at both the regional and national levels. Regionally, income levels would increase, leading to a higher standard of living. Nationally, eastern Canada would be less dependent on imported crude petroleum. This would strengthen the country's balance-of-payments position.

Canada is already more than self-sufficient in the production of electricity. In fact, when electricity, natural gas, and domestic crude petroleum exports are balanced against the imports of foreign crude

petroleum by eastern Canada, the resulting energy balance is positive. This will not remain the case if the National Energy Board's self-sufficiency goal is not reached. The potential for future rapid increases in electricity exports is considerable. Power developments, particularly those in western Canada designed to utilize thermal coal, could easily supplement export markets to the United States. The NEB policy towards electricity export pricing, the environmental concerns implicit in the development of thermal electric power plants, and settlement of the present dispute between the governments of Quebec and Newfoundland regarding the pricing and export of electricity – these are all issues where agreement must be reached before Canada can benefit more from its southern markets for this abundant energy resource.

Conclusions

As it moves into the 1980s, the Canadian economy continues to face many of the problems that developed during the last decade – high inflation, slow growth, marginal improvement in productivity, relatively high unemployment, dependence on imported oil, and large deficits in the current account and the federal government budgetary position. It is hampered, also, by certain perceptions that have emerged in recent years: that Canadian economic policy lags far behind that of other countries, especially the United States; that the traditional instruments of economic management are no longer adequate to achieve healthy and balanced growth – a feeling that has been reinforced by the large federal deficits; that restraining inflation has almost become the exclusive goal of policy, and that restrictive growth in money supply is virtually the sole means of reaching that objective; and that the federal deficit will remain large, in the absence of draconian measures to reduce a broad range of federal expenditures.

The economic outlook projected in this Review over the medium-term suggests, however, that improvement could be expected in certain aspects of Canada's economic performance, even if there were no new policy initiatives. Problems – above all that of inflation – would remain in these circumstances, but real growth would be somewhat stronger, and unemployment would decline significantly. A major reason that a change in the policy mix can now be contemplated, however, is that some of the elements of uncertainty that we referred to last year as obstacles to economic progress – notably those relating to oil pricing and the federal deficit – have been removed. The change in the federal fiscal position takes on particular significance, because of the greater room for manoeuvre it provides the federal government in devising policies aimed at dealing with a wide range of economic challenges. In fact, the prospective

decline in the federal budget deficit over the next few years and its anticipated shift to a surplus position provide a unique opportunity for instituting a wide range of new policy measures aimed at achieving a significantly stronger and more balanced economic performance than that which would result from the mere continuation of the present policy mix.

We therefore believe that economic policy must now focus on simultaneously reducing inflation and restoring, indeed accelerating, real economic growth. These objectives can be achieved without renouncing the social program commitments of recent years. They can be achieved through the application of a broad range of instruments acting both on the supply and the demand sides – a mixture that will reinforce and complement the demand management policies of recent years, particularly monetary policy. Better economic performance over the medium term is attainable for Canada.

Statements by Individual Council Members

Reservations, by R. B. Bryce

I think that in general this review is an interesting and competent application of econometric analysis to the difficult problems ahead for Canada. It should be most helpful for experts. I have some reservations about the nature of the analysis in Chapters 2 and 3 and about several of the conclusions in Chapter 4.

In regard to the analysis, it is almost wholly dependent on a sophisticated use of CANDIDE Model 2.0 to reach conclusions about both problems and policies. Such econometric work has in the past been helpful in supplementing less precise methods, and in checking the consistency of conclusions reached by the application of informed judgment to the appraisal of problems and decisions on policies. CANDIDE Model 2.0 has been developed, improved and used by highly skilled staff at the Council, and the management of the Council has given us, the part-time members of the Council, to understand that we can trust the results of this work. I do not know enough about the model and how it is used to accept responsibility for endorsing its results to the general reader.

I do feel some concern for this exclusive reliance on the model in the present economic circumstances. Economists differ more than they used to do in regard to the nature and causes of economic behaviour. Many of them now have a becoming modesty about their understanding of the processes, especially the processes involved in the persistent inflation throughout the world. Models, as I understand them, are worked out on the basis of statistics of the past and relationships between those various figures which seem rational and yield a reasonable explanation of movements of the variables in the past. In the present, however, relationships have been changing. In particular, expectations of continuing or even accelerating inflation have come to influence strongly behaviour in the capital markets, the labour markets and the markets for goods. Expectations are not measurable. Econometricians use various "proxies" to represent them, like the wage demands of unions and the level of current

interest rates in relation to what is conceived of as a "real" rate. However these "proxies" are influenced by other factors as well as expectations. In addition to this general point there are many other factors influencing investment, saving and spending decisions in the present situation which it must be difficult indeed to capture in a model based on the past.

There is one important detail in the work that is of great public interest and importance. Canadian interest rates are well known to be strongly affected, and in practice constrained, by the levels and changes in U.S. interest rates chiefly by reason of the immense volume of liquid mobile capital that can flow back and forth. In Chapter 2 it is assumed, apparently on the basis of expert American opinion, that U.S. monetary policy will remain very tight until the end of 1983, and that short-term interest rates there will consequently remain at unprecendently high levels. In Chapter 3, however, the model brings out results of policy changes that involve reductions in short-term interest rates in Canada by one quarter or one third of the "base case" rates during this period of expected high U.S. rates (Tables C-1 and C-4). I do not think that this issue has been resolved.

My main point is simply this. These elegant calculations stretching to 1985 must be treated by the uninitiated with considerable scepticism and reserve. They should be tested against common sense and some real knowledge of the Canadian economy and its present state. The nature of the influences assumed in the key relationships should be probed more than we had time to do at the Council meeting – for example the manner in which the reduction suggested in the corporate tax rate is expected to affect the rate of growth in the economy, and whether this makes sense in the context we are looking at now.

I have one specific criticism of the "strategies" outlined and tested in Chapter 3. Strategy A, "inflation control and deficit reduction" is clearly a non-starter after the Alberta-Ottawa agreement of September 1, since the new oil and gas revenues will, apparently, bring a balanced budget in 3 or 4 years and Parliament cannot be expected to increase the personal income tax by 40 per cent or even 30 per cent in order to balance it 2 or 3 years earlier (see Table C-1). Consequently the real option is Strategy B "inflation control and real growth." Here, however, we find a collection of policy measures that would appear to have very little effect on the inflation rate in 1984 and 1985 after the temporary effects of the successive reductions in the sales tax have worn off. On the other hand the actions proposed would have an important effect in those years on growth as measured by the rate of increase in real gross national expenditure. I would think some change in the relative priorities of inflation control and real growth are called for and probably some change in the policy mix. The first priority in economic policy in Canada and in

other OECD countries is the restraint and ultimate reduction of inflation. For Canada this will be very difficult in the next five years, because of our delayed oil price increases. Somehow the government, and not just the central bank, must demonstrate by its actions that it is serious about it, even though the progress must now be only gradual.

Turning now to the recommendations, I will state briefly my own position on them.

I agree in general with Recommendation 1 concerning the shift in policy involved in backing up monetary policy with more fiscal policy measures. I would not want monetary policy downgraded. The Bank of Canada must be serious, and be seen to be serious, in imposing constraints on inflation. But fiscal policy can do more. Sales tax reduction is a gimmicky but acceptable temporary expedient. Expenditure policy should continue to be one of restraint, and applied visibly, even at the cost of less of the fashionable federal visibility in programs and projects in competition with the provinces. Corporate tax should be reformed to take inflation and the need for investment stimulus into account, rather than reduced generally, for in many cases a general reduction will have little beneficial effect, and it will make personal income tax increases much more difficult.

On Recommendation 2 concerning income tax we should clearly recommend as part of the anti-inflation effort that the personal income tax be increased. The increase should at least cover the cost of the reductions in other taxes. The increase should take the form of reversing the special reduction in the tax made in 1973 and 1974 for economic reasons. This reduction was made in a popular but ugly and short-sighted form that spoiled the carefully graduated rate structure introduced only the year before. It was short-sighted because its removal was bound to be highly criticized as burdening the lower paid workers relatively more than those further up the income scale. It is probably too much to expect Parliament to re-impose under present circumstances the tax on those whose whole tax was removed by this reduction, but at least the basic rate structure should be allowed to apply fully above that minimum by removing the percentage reduction where it applies. It is not sufficiently recognized that the income tax is the fairest tax at the bottom of the scale as well as higher up, and "vertical" equity is very important when incomes are down near what is needed for basic essentials.

I would support Recommendation 4 about the reorientation of expenditures. I would also support Recommendation 5 on contingency plans to deal with an "oil shock" during the middle or late 1980s, although I think the danger is less than it was.

I would not support Recommendation 6 to cushion the impact of oil prices on low-income groups, except for home heating in areas where gas,

electricity or firewood are not available for this purpose at reasonable cost. The really poor are covered by indexed incomes. Ottawa should not be subsidizing the use of automobiles if we are going to secure conservation and equity. If some automobile use is essential for work because of location and occupation, and the worker cannot pass the cost on to his employer or customers, it is essentially a local problem which the provinces should be able to handle from their gasoline taxes. It ties in, of course, with the availability and development of public transport such as buses. The serious danger is that these "cushions" will become permanent.

Dissenting Comments, by Kalmen Kaplansky

In its review of the economic performance of the Canadian economy, and its projections for the medium term, the Council has endeavoured to chart a path which will benefit Canadians by simultaneously reducing the rate of inflation and stimulating real growth. I certainly have no disagreement with these objectives. As the analysis shows, working Canadians have indeed exercised considerable restraint over the recent years in that real wages per employed person have actually fallen. Canadians have generally shown painful resilience in adapting to the higher cost energy situation and less favourable international economic circumstances; policies which can re-establish more vigorous overall economic growth and rising real incomes are surely desirable. However, I cannot support Recommendations 1(b) and 3 which call for an across-the-broad decrease in corporate taxes as the principal instrument in achieving the Council's objectives.

While the Council's econometric model on which the projections are based may be a useful instrument in identifying how changes in economic policies or activities impact throughout the economic system and affect the revenues and expenditures of governments, I agree with Robert Bryce that the model is mechanistic and therefore, in terms of economic behaviour, somewhat suspect. A major assumption in the model is that businesses and corporations will automatically pass through the savings on reductions in corporate income taxes to consumers in the form of lower prices. My readings of the economic situation and past experience with this device do not support that assumption. As the tables in Chapter 1 affirm, in the period 1976 to 1980 there was an effective drop in corporate tax rates of over 3 per cent, yet this was accompanied by increases in corporate retained earnings and price increases at record levels, with gross fixed capital formation as a percentage of real GDP lower than in the preceding five years. Indeed, while inflation has brought very heavy burdens on certain sectors of the economy, especially lower income wage-earners, farmers, small businessmen and pensioners on fixed

incomes, it has brought near-record profits to other corporate sectors such as the banks and the oil companies. A global reduction in corporate income tax, without any selectivity, would merely increase the profit position of many enterprises without providing any assurance that the tax reductions would be translated into increased production and jobs. Moreover, to suggest without presenting any evidence that the various taxes and production levies spelled out in the National Energy Program and the recent Canada-Alberta agreement may be so injurious to the oil companies as to jeopardize the 1990 self-sufficiency objective, is, to say the least, most questionable.

I am pleased that the Council has identified in the text high interest rates as a major factor contributing to individual hardship, higher production costs and thus, to my mind, continuing inflation. But while it could be argued that several of the measures proposed in this report would bring down interest rates by 1985, the problem is by the Council's own admission of such immediate urgency that rather than shy away, it should have addressed the issue with an explicit recommendation.

Dissent, by Roy Vogt

First, I do not share the report's approval of the recent Canadian monetary policy. I don't think it has helped to solve our inflation problem and it has added to our balance-of-payments problem. Even if one were to conclude, on balance, that the previous monetary policy should be continued, much more attention should be given to the negative consequences of such policy.

Secondly, the report acknowledges that demand management policies have failed to check the development of stagflation in the 1970s because they failed to take account of some very significant institutional changes in the economy. However, the report provides no examination of such institutional changes. What we have as a result is a fine econometric exercise without institutional analysis. I do not think this is good enough.

Appendixes

Table A-1

Impact on Federal Revenues of Major Discretionary Tax Measures[1] Introduced by the Federal Government, 1972-80

	Budget	Tax	Positive or negative impact on federal revenues[2]
Two-year write-off for manufacturing and processing equipment	May 1972	CIT	–
Reduction in basic rate for manufacturing and processing profits as of January 1, 1973	May 1972	CIT	–
Increase in basic personal and married income tax exemptions	Feb. 1973	PIT	–
Indexing of individual income tax	Feb. 1973	PIT	–
Individual income tax cut of 5 per cent – $100 minimum, $500 maximum	Feb. 1973	PIT	–
Sales tax exemption for near-foods and children's clothing	Feb. 1973	IT	–
Introduction of oil export charge	Oct. 1973	IT	+
Increase of 5 per cent tax cut minimum from $100 to $150 as of January 1, 1974	Nov. 1974	PIT	–
Increase in tax cut to 8 per cent – $200 minimum and $500 maximum	Nov. 1974 & June 1975	PIT	–
$1,000 deduction for interest income as of January 1, 1974, extended to include dividends as of 1975; $1,000 for pension income as of 1975	Nov. 1974	PIT	–
Registered Home Ownership Savings Plan (modified in March 1977)	Nov. 1974	PIT	–
Non-deductibility of royalties and taxes (net of resource allowance) for resource industries in the calculation of taxable income	Nov. 1974 & June 1975	CIT	+
Increase in taxable income limit for eligibility to claim a small business deduction (modified in May 1976)	Nov. 1974 & May 1976	CIT	–
Elimination of sales tax on clothing and footwear	Nov. 1974	IT	–
Reduction in sales tax rate for building materials from 11/12 to 5 per cent	Nov. 1974	IT	–
Sales tax exemption for transportation, construction, and water distribution equipment	Nov. 1974	IT	–
Increase in excise duties on liquor and tobacco	Nov. 1974	IT	+
Gasoline excise tax (modified in September 1978)	June 1975 & Sept. 1978	IT	+

Table A-1 (cont'd)

	Budget	Tax	Positive or negative impact on federal revenues[2]
Investment tax credit (extended in March 1977 and November 1978)	June 1975 & March 1977 & Nov. 1978	CIT	–
Increase in personal employment expense deduction (modified in November 1978)	March 1977 & Nov. 1978	PIT	–
Enrichment of dividend tax credit	March 1977	PIT	–
Tax relief in respect of business inventories	March 1977	CIT	–
Introduction of $50 child tax credit as of January 1, 1978	March 1977	PIT	–
Increase in minimum federal personal income tax credit for 1978	Oct. 1977	PIT	–
Federal compensation for provincial sales tax reduction	April 1978	PIT	–
Elimination of $50 child tax credit as of January 1, 1979	Sept. 1978	PIT	+
Introduction of refundable $200 child tax credit	Sept. 1978	PIT	–
3 per cent reduction in rate of federal sales tax	Nov. 1978	IT	–
Small business development loan	April 1980	CIT	–
Deductibility of spouse's salary by unincorporated businesses	April 1980	PIT	–
Reduced write-off for oil and gas properties	April 1980	CIT	+
Temporary corporate surtax	April 1980	CIT	+
Increased levies on tobacco	April 1980	IT	+
Change in levies on alcoholic beverages	April 1980	IT	+
Petroleum and gas revenue tax as of January 1, 1981	Oct. 1980	CIT	+
Natural gas and gas liquids tax	Oct. 1980	IT	+
Modifications to depletion, changes to taxation of heavy oil upgrading plants, and change in definition of exploration and development expenses as of January 1, 1981	Oct. 1980	CIT	+
Indefinite extension of provision allowing write-off of exploration expenses by individuals and non-resource corporations as of January 1, 1982	Oct. 1980	CIT/PIT	–
Extension of oil export charge to marine and aviation fuel used in international transport as of May 1, 1981	Oct. 1980	IT	+

Table A-1 (cont'd)

	Budget	Tax	Positive or negative impact on federal revenues[2]
Adjustment of excise taxes and duties on alcohol and tobacco as of April 1, 1981	Oct. 1980	IT	+

PIT – personal income tax.
CIT – corporate income tax.
IT – indirect tax (sales taxes, etc.).

1 Excluding: measures dealing with changes in the tax status of family allowance payments (1974); changes in the levels of taxable family allowance payments and unemployment insurance benefits; changes in unemployment insurance contribution rates; oil import payments; and changes in charges for various services such as postal rates.

2 The measures decreased (–) or increased (+) federal revenues.

SOURCE Budget Papers and Speeches, and Economic Reviews published by the Department of Finance.

Table A-2

A Chronology of Major Oil and Gas Policy Initiatives, Canada, 1973-81

1973—March	Controls established by federal government over Canadian petroleum exports.
—September	Canadian domestic wellhead prices frozen at $3.80/barrel. Export charge levied on crude petroleum exports to the United States.
1974—January	Single price policy for crude petroleum to consumers (except for transportation costs) across Canada. Revenues from export charge to finance subsidies (oil import compensation payments) to refiners for imported oil to allow single price policy.
—March	Canadian domestic wellhead price set at $6.50/barrel as of April 1, 1974.
—Spring	Movement by governments of oil-producing provinces to appropriate larger portion of future wellhead price increases.
—November	Federal disallowance of royalty payment deductibility by producers for taxation purposes.
1975—January	Gradual reduction in crude petroleum export levels authorized.
—January-November	Border prices of natural gas for export gradually rise to 1.60/MCF.
—June	Federal imposition of 10¢/gallon excise tax on gasoline; proceeds to help offset growing deficit on oil import compensation payments.
—July	Wellhead price of crude petroleum increased to $8.00/barrel for period of next 12 months.
—November	Domestic natural gas prices rise to $1.25/MCF; parity of 85 per cent of commodity value of crude petroleum.
1976—January	Petro-Canada begins operations.
—February	Energy conservation incentives and initiatives announced by federal government.
1977—January	Wellhead price raised to $9.75/barrel.
—June	Canadian Home Insulation Program (CHIP) introduced by federal government.
—July	Wellhead price raised to $10.75/barrel.
—December	Legislation introduced to establish oil sands levy of 35¢/barrel.
1978—January	Wellhead price raised to $11.75/barrel.
—July	Wellhead price raised to $12.75/barrel.
—November	Gasoline excise tax lowered to 7¢/gallon.
1979—July	Wellhead price raised to $13.75/barrel.
—November	Oil sands levy raised to 85¢/barrel.
1980—January	Wellhead price raised to $14.75/barrel.
—April	Force majeure clause invoked by federal government in oil sands pricing agreement.
—August	Wellhead price raised to $16.75/barrel – unilateral action by Alberta government.
—October	Announcement of National Energy Program.

Table A-2 (cont'd)

1981—January	Wellhead price raised to $17.75/barrel.
—July	Wellhead price raised to $18.75/barrel.
—September	Memorandum of Agreement between the Government of Canada and the Government of Alberta relating to Energy Pricing and Taxation.

Table B-1

Change in Crude Petroleum and Natural Gas Prices, 1980-90 (Base Case Projection)[1]

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
					(Dollars per barrel)						
Crude petroleum											
International price at Montreal	36.02	41.85	44.88	49.16	54.24	60.01	66.46	73.75	82.13	91.40	102.10
	(63.5)	*(16.2)*	*(7.2)*	*(9.5)*	*(10.3)*	*(10.6)*	*(10.7)*	*(11.0)*	*(11.4)*	*(11.3)*	*(11.7)*
Domestic price at Toronto	19.24	27.23	32.43	40.02	47.39	53.04	59.35	66.45	74.69	83.81	94.39
	(24.0)	*(41.5)*	*(19.1)*	*(23.4)*	*(18.4)*	*(11.9)*	*(11.9)*	*(12.0)*	*(12.4)*	*(12.2)*	*(12.6)*
Wellhead price for conventional oil	15.58	18.88	24.63	31.75	39.75	43.75	48.55	53.94	60.17	67.05	75.01
	(17.7)	*(21.2)*	*(30.5)*	*(28.9)*	*(25.2)*	*(10.1)*	*(11.0)*	*(11.1)*	*(11.5)*	*(11.4)*	*(11.9)*
					(Dollars per thousand cubic feet)						
Natural gas											
Domestic price	2.48	2.95	3.64	4.39	5.19	5.97	6.93	7.74	8.59	9.44	10.37
	(17.1)	*(19.0)*	*(23.4)*	*(20.6)*	*(18.2)*	*(15.0)*	*(16.1)*	*(11.7)*	*(11.0)*	*(9.9)*	*(9.9)*
Wellhead price	1.62	1.64	1.91	2.39	2.85	3.31	3.77	4.23	4.69	5.15	5.61
	(6.5)	*(1.2)*	*(16.5)*	*(25.1)*	*(19.2)*	*(16.1)*	*(13.9)*	*(12.2)*	*(10.9)*	*(9.8)*	*(8.9)*

1 Figures in parentheses are annual percentage changes.
SOURCE Estimates by the Economic Council of Canada.

Table B-2

Effect on Selected Indicators of Excluding the September 1981 Energy Pricing Agreement and the October 1980 Budget Measures[1] from the Base Case Assumptions, 1981-90

	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
					(Percentage change)					
Real gross national expenditure										
Base case	3.5	2.6	3.3	2.9	2.5	3.1	3.4	2.0	2.6	2.7
Removal of energy pricing agreement	3.5	2.5	3.5	3.1	2.5	3.0	3.3	2.1	2.3	2.5
Removal of October 1980 budget	4.9	2.9	3.9	3.3	3.0	3.7	3.8	2.3	2.7	2.8
Consumer price index										
Base case	12.5	12.2	12.2	10.6	9.9	8.7	8.5	8.4	8.0	8.4
Removal of energy pricing agreement	12.3	12.0	11.3	9.9	9.7	9.0	9.0	8.2	8.5	8.1
Removal of October 1980 budget	10.5	11.9	11.5	10.2	9.6	8.4	8.4	8.3	8.0	8.1
Real disposable income										
Base case	1.5	2.3	1.5	2.0	1.5	2.3	2.3	1.2	1.7	1.3
Removal of energy pricing agreement	1.6	2.5	2.3	2.4	1.5	2.1	2.0	1.8	1.2	1.8
Removal of October 1980 budget	4.0	2.5	2.9	2.9	2.6	3.4	3.2	2.3	2.5	2.5
					(Per cent)					
Unemployment rate										
Base case	7.1	6.4	5.5	5.3	5.3	5.5	5.5	6.0	6.3	6.4
Removal of energy pricing agreement	7.1	6.5	5.6	5.4	5.3	5.4	5.3	5.8	6.2	6.4
Removal of October 1980 budget	6.8	5.9	5.0	4.6	4.7	4.7	4.7	5.2	5.5	5.7
Commercial paper rate (90-day)										
Base case	17.0	17.1	16.5	14.9	13.7	13.0	12.1	10.6	9.2	8.1
Removal of energy pricing agreement	17.0	17.1	16.6	15.0	14.0	13.4	12.9	11.8	10.7	10.1
Removal of October 1980 budget	16.9	17.0	16.6	15.3	14.6	14.3	13.9	13.0	12.3	11.9

(Percentage of GNE)

Federal surplus or deficit										
Base case	-2.0	-1.7	-1.0	-0.3	--	0.4	0.8	1.0	1.2	1.6
Removal of energy pricing agreement	-2.2	-2.2	-1.7	-1.3	-0.9	-0.5	-0.2	-0.1	--	0.3
Removal of October 1980 budget	-3.1	-3.7	-3.6	-3.3	-3.4	-3.3	-3.2	-3.3	-3.3	-3.2

1 Including the National Energy Program.
SOURCE Economic Council of Canada. CANDIDE Model 2.0, September 1981.

Table B-3

External Environment Assumptions in the Base Case and in the Seventeenth Annual Review Outlook, 1981-90

	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
					(Percentage change)					
OECD industrial production										
Base case	2.0	5.7	4.9	5.7	5.4	5.0	4.9	4.7	5.0	4.8
17th Review outlook	1.2	5.1	5.0	4.4	3.6	3.6	3.4	3.8	3.5	3.5
U.S. real gross national expenditure										
Base case	2.7	3.1	3.5	3.8	2.2	2.7	2.9	3.2	2.8	2.8
17th Review outlook	0.5	3.6	2.7	3.0	2.0	2.4	2.4	2.9	2.2	2.2
U.S. consumer price index										
Base case	10.4	9.7	8.6	8.1	8.3	9.1	8.9	7.8	7.7	7.9
17th Review outlook	11.2	10.1	8.2	8.3	9.2	9.3	9.8	8.6	8.2	8.2
Industrial production in selected countries[1]										
Base case	-2.0	3.3	4.6	4.5	4.5	4.6	4.6	4.6	4.6	4.6
17th Review outlook	2.2	3.4	4.6	4.4	4.5	4.5	4.5	4.5	4.6	4.6
International price of crude petroleum (f.o.b.)										
Base case	16.8	7.4	9.8	10.6	10.9	11.0	11.2	11.6	11.5	11.9
17th Review outlook	11.1	9.7	10.6	9.4	9.2	9.0	8.8	8.8	8.7	8.8
Domestic price of crude petroleum										
Base case	41.5	19.1	23.4	18.4	11.9	11.9	12.0	12.4	12.2	12.6
17th Review outlook	24.1	19.4	16.3	14.0	12.3	10.9	9.9	9.0	8.2	7.6

	(Per cent)									
U.S. short-term interest rate[2]	14.1	16.1	14.2	13.0	11.9	11.8	11.5	10.4	9.5	9.0
17th Review outlook	10.4	8.9	8.7	8.6	9.0	9.1	9.4	8.7	8.6	8.6

1 Including France, Italy, West Germany, the United Kingdom, and Japan.

2 Short-term prime commercial paper.

SOURCE For 17th Review outlook: Economic Council of Canada, CANDIDE Model 2.0, August 1980, and Wharton Econometric Forecasting Associates, latest projections available as of August 1980. For the base case, Economic Council of Canada, CANDIDE Model 2.0, September 1981; and Wharton Econometric Forecasting Associates, latest projections as of June 1981.

Table B-4

Effect on Selected Indicators of External Environment Assumptions in the Base Case and in the Seventeenth Annual Review Outlook, 1981-90

	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
					(Percentage change)					
Real gross national expenditure										
Base case	3.5	2.6	3.3	2.9	2.5	3.1	3.4	2.0	2.6	2.7
17th Review outlook	3.2	3.6	4.9	3.9	3.2	2.8	2.8	1.2	2.0	2.2
Consumer price index										
Base case	12.5	12.2	12.2	10.6	9.9	8.7	8.5	8.4	8.0	8.4
17th Review outlook	11.2	10.5	10.7	9.5	9.9	8.9	8.7	8.1	7.7	7.9
Real disposable income										
Base case	1.5	2.3	1.5	2.0	1.5	2.3	2.3	1.2	1.7	1.3
17th Review outlook	0.9	1.9	2.6	2.7	1.9	2.4	2.1	1.1	1.5	1.3
					(Per cent)					
Unemployment rate										
Base case	7.1	6.4	5.5	5.3	5.3	5.5	5.5	6.0	6.3	6.4
17th Review outlook	7.5	6.7	5.5	5.1	4.6	4.7	4.7	5.6	6.2	6.6
Commercial paper rate (90-day)										
Base case	17.0	17.1	16.5	14.9	13.7	13.0	12.1	10.6	9.2	8.1
17th Review outlook	14.7	11.7	12.1	11.1	11.1	10.7	10.5	9.3	8.4	7.6
					(Percentage of GNE)					
Federal surplus or deficit										
Base case	-2.0	-1.7	-1.0	-0.3	--	0.4	0.8	1.0	1.2	1.6
17th Review outlook	-1.8	-1.0	-0.1	0.6	1.0	1.2	1.3	1.2	1.1	1.3

SOURCE Economic Council of Canada, CANDIDE Model 2.0, September 1981.

Table B-5

External Environment Assumptions in the Base Case and in the OPEC Price Shock Projection, 1981-90

	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
					(Percentage change)					
OECD industrial production										
Base case	2.0	5.7	4.9	5.7	5.4	5.0	4.9	4.7	5.0	4.8
OPEC price shock	0.8	4.5	6.0	4.6	2.4	2.5	3.8	4.1	4.4	3.9
U.S. real gross national expenditure										
Base rate	2.7	3.1	3.5	3.8	2.2	2.7	2.9	3.2	2.8	2.8
OPEC price shock	2.3	3.9	4.5	3.3	1.0	1.9	3.1	3.0	3.8	3.0
U.S. consumer price index										
Base case	10.4	9.7	8.6	8.1	8.3	9.1	8.9	7.8	7.7	7.9
OPEC price shock	9.8	7.7	7.5	6.1	9.1	12.8	8.5	7.2	6.5	6.3
Overseas industrial production[1]										
Base case	-2.0	3.3	4.6	4.5	4.5	4.6	4.6	4.6	4.6	4.6
OPEC price shock	-2.0	3.3	4.6	4.5	4.5	4.6	4.6	4.6	4.6	4.6
International price of crude petroleum (F.O.B.)										
Base case	16.8	7.4	9.8	10.6	10.9	11.0	11.2	11.6	11.5	11.9
OPEC price shock	15.3	4.5	4.5	4.5	25.0	48.0	4.5	4.5	4.5	4.5
Domestic price of crude petroleum										
Base case	41.5	19.1	23.4	18.4	11.9	11.9	12.0	12.4	12.2	12.6
OPEC price shock	40.7	17.6	20.0	14.6	18.0	34.9	9.9	7.8	5.7	4.9
					(Per cent)					
U.S. short-term interest rate[2]										
Base rate	14.1	16.1	14.2	13.0	11.9	11.8	11.5	10.4	9.5	9.8
OPEC price shock	11.7	9.5	9.5	8.9	12.7	14.1	10.1	8.6	8.2	7.9

1 That of France, Italy, West Germany, the United Kingdom, and Japan.
2 Short-term prime commercial paper.
SOURCE Wharton Econometric Forecasting Associates, latest available projections as of June 1981 (for the base case); Wharton alternative projection of November 1980 (for the OPEC price shock); and estimates by the Economic Council of Canada.

Table B-6

Effect on Selected Indicators of the OPEC Price Shock Assumptions, 1981-90

	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
					(Percentage change)					
Real gross national expenditure										
Base case	3.5	2.6	3.3	2.9	2.5	3.1	3.4	2.0	2.6	2.7
OPEC price shock	3.4	3.2	4.8	4.0	2.8	0.7	0.9	0.8	2.6	3.4
Consumer price index										
Base case	12.5	12.2	12.2	10.6	9.9	8.7	8.5	8.4	8.0	8.4
OPEC price shock	12.0	10.8	10.3	8.7	12.1	15.4	10.5	8.5	6.1	6.0
Real disposable income										
Base case	1.5	2.3	1.5	2.0	1.5	2.3	2.3	1.2	1.7	1.3
OPEC price shock	1.0	1.7	2.8	3.0	1.5	-0.8	0.9	0.6	2.5	2.0
					(Per cent)					
Unemployment rate										
Base case	7.1	6.4	5.5	5.3	5.3	5.5	5.5	6.0	6.3	6.4
OPEC price shock	7.3	6.7	5.6	5.3	4.6	4.6	5.5	6.8	7.9	8.0
Commercial paper rate (90-day)										
Base case	17.0	17.1	16.5	14.9	13.7	13.0	12.1	10.6	9.2	8.1
OPEC price shock	15.1	11.5	12.1	10.5	13.4	14.6	11.4	9.6	7.7	5.3
					(Percentage of GNE)					
Federal surplus or deficit (-)										
Base case	-2.0	-1.7	-1.0	-0.3	--	0.4	0.8	1.0	1.2	1.6
OPEC price shock	-1.7	-0.8	--	0.8	1.2	1.7	1.6	1.4	1.1	1.5

SOURCE Economic Council of Canada, CANDIDE Model 2.0, September 1981.

Table B-7

Anatomy of Inflation: Annual Change in the Consumer Price Index,[1] 1981-90

	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
					(Percentage change)					
Base case	12.5	12.2	12.2	10.6	9.9	8.7	8.5	8.4	8.0	8.4
External inflation stationary at 5 per cent per year	9.6	10.2	10.3	9.1	8.4	7.0	7.0	7.2	7.0	7.4
Reduction in U.S. interest rates by 3.0 percentage points	11.5	11.4	11.0	9.8	9.6	8.4	8.2	8.2	7.9	8.5
Low money supply growth at 4 per cent per year	12.2	12.0	11.9	9.9	9.3	8.0	8.1	8.3	8.0	8.6
Increase in total factor productivity	12.1	11.5	11.4	9.8	9.0	7.7	7.5	7.4	7.0	7.6
Unemployment rate held in 7.0 per cent range	12.5	12.2	12.1	10.4	9.7	8.4	8.2	8.1	7.7	8.2
Increase in domestic energy prices held to 8.0 per cent	9.1	10.1	10.2	9.2	8.7	7.8	7.9	8.4	8.1	8.3
Expectations process changed	12.6	11.6	11.3	9.8	9.1	7.9	7.8	7.7	7.3	7.8
Effect of all factors	5.3	6.5	6.1	5.0	4.5	3.4	3.5	4.3	4.2	4.2

1 Assuming nonaccommodating monetary policy.
SOURCE Economic Council of Canada, CANDIDE Model 2.0, September 1981.

C The Results of Alternative Sets of Policy

Tables C-1 to C-3 show the results for a strategy in which the major objectives are inflation control and deficit reduction. Tables C-4 to C-6 show the results for a strategy in which the major objectives are inflation control and real growth.

Within each strategy, we have examined the projected implications of five alternative policy combinations (labelled A to E) for a set of policy levers (Tables C-1 and C-4), a set of policy target variables or constraints (Tables C-2 and C-5), and a set of miscellaneous economic indicators (Tables C-3 and C-6). In the case of the policy levers and some of the economic indicators, the results are expressed as deviations from the base case outcomes. For the policy target variables and constraints, as well as the rest of the indicators, the results of the base case and the five alternatives both appear, and a comparison can be drawn between them.

In the base case, the policy mix currently in effect is assumed to be maintained over the 1981-85 period. In Alternative A, only expenditure policy is permitted to deviate from the base case. In each of the subsequent alternatives, another policy element is allowed to vary from the base case policy mix, and the policy measures that have already been modified are adjusted in response to the addition of the new element. In Alternative D, for example, personal taxation rates are permitted to deviate from the base case assumption. Expenditure policy, indirect taxation, and corporate taxation – which have already been modified in the preceding alternatives – then adjust accordingly.

To obtain a more complete understanding of the numerous results reported in Tables C-1 to C-6, the reader must move from one table to another, piecing together the evidence that supports the point of view taken in this Review. This may appear to be a difficult task, and for this reason we have set up the following example. At many points in our discussion, we have emphasized that reinforcement of monetary policy with fiscal measures would enable Canada to close the distance between

the base case outcome and the suggested numerical targets reported in Chapter 3. By moving systematically between certain indicators contained in Tables C-4 and C-5, we demonstrate how our simulation results support this point of view. For purpose of discussion we focus on year 1983, but our remarks generally hold for the entire period 1981-85. In Table C-5, the rate of growth of money supply in the base case for 1983 is 6 per cent per year (the mid-range of the Bank of Canada's target). As explained in Chapter 3, Alternative D includes a different mix of fiscal policy but substantially the same monetary policy as in the base case (reflecting current policy). In Alternative D, for year 1983 we permit corporate, indirect and personal taxes to drift away from their base case values in the direction that would enable the economy to move closer to the objectives set out in Chapter 3. In fact, Table C-4 shows that in Alternative D the marginal rates for 1983 associated with personal taxation have moved above the base case by 14.2 per cent. When money supply growth is permitted to deviate in a direction that would increase the chances of achieving the stated targets, we note the following. Personal tax rates rise, and government deficits improve, as do the trade balance and real growth. As the rate of growth of money supply increases in Table C-5 from 5.4 per cent in 1983 to 6.2 per cent, personal tax rates adjust upwards. In simple terms, looser monetary policy leads to tighter fiscal policy. Increasing the rate of growth of money supply should not be undertaken, unless it is accompanied by restrictive fiscal policy. But, what about the other indicators such as real growth, the current account balance, and the federal deficit? It is the movement of these indicators that should determine the choice between tight monetary and easy fiscal policy, or between easy monetary and tight fiscal policy. As we loosen monetary policy and tighten fiscal policy, real growth rates rise from 3.6 per cent to 3.7 per cent in 1983 (Table C-5). Furthermore, the federal deficit improves from 2 per cent of GNE to 1.4 per cent of GNE, and the trade deficit improves from 1.9 per cent of GNE to 1.6 per cent of GNE. As a result of changing the policy mix, we have improved growth, the trade position, and the federal government's deficit position. Furthermore, if this mix is accompanied by policies that, by lowering corporate and indirect taxation rates not associated with energy, encourage productivity growth and reduce the supply-side impact of large increases in the price of oil, we also find that by 1983 inflation is reduced, and unemployment not substantially changed, relative to the base case results.

Table C-1

Strategy : Inflation Control and Deficit Reduction — Effect of Five Alternatives (A to E) on Policy Levers (as a Proportion of Base Case Levels),[1] 1981-85

	1981	1982	1983	1984	1985
			(Per cent)		
Federal government expenditure					
Base case projection	100.0	100.0	100.0	100.0	100.0
A Expenditure policy only	91.8	89.1	89.5	95.3	98.6
B A plus indirect taxation	93.4	90.7	90.6	95.2	97.9
C B plus corporate taxation	93.4	90.4	89.8	94.1	96.9
D C plus personal taxation	98.6	95.8	94.9	97.1	98.5
E D plus monetary policy	98.8	96.0	95.1	97.2	98.5
Federal sales tax rate					
Base case projection	100.0	100.0	100.0	100.0	100.0
A Expenditure policy only	98.9	98.2	97.3	97.1	97.0
B A plus indirect taxation	80.0	65.1	47.7	43.2	38.6
C B plus corporate taxation	82.0	68.0	51.9	47.0	41.1
D C plus personal taxation	80.3	70.4	58.3	56.5	52.2
E D plus monetary policy	80.8	70.9	59.2	57.6	53.1
Corporate tax rate					
Base case projection	100.0	100.0	100.0	100.0	100.0
A Expenditure policy only	98.9	98.5	98.0	98.4	98.7
B A plus indirect taxation	99.3	99.0	98.5	98.8	99.0
C B plus corporate taxation	86.9	80.4	68.3	74.8	77.9
D C plus personal taxation	75.4	73.7	66.6	75.6	79.8
E D plus monetary policy	75.7	74.2	67.3	75.8	79.8
Basic personal income tax rates					
Base case projection	100.0	100.0	100.0	100.0	100.0
A Expenditure policy only	104.2	103.8	103.0	101.1	100.0
B A plus indirect taxation	103.6	103.3	102.7	101.2	100.3
C B plus corporate taxation	103.7	103.4	102.9	101.5	100.6
D C plus personal taxation	143.5	140.1	132.3	113.3	102.5
E D plus monetary policy	142.1	139.1	131.2	112.0	102.0
Short-term interest rate					
Base case projection	100.0	100.0	100.0	100.0	100.0
A Expenditure policy only	98.7	98.0	97.7	98.3	99.2
B A plus indirect taxation	98.8	98.2	98.0	98.6	99.3
C B plus corporate taxation	98.8	98.2	98.0	98.6	99.3
D C plus personal taxation	99.2	98.7	98.5	98.9	99.5
E D plus monetary policy	94.0	90.1	88.4	74.3	87.2

1 For example, the value 91.8 for federal government expenditure in 1981 indicates that in Alternative A this policy lever is reduced to 91.8 per cent of the base case value.

SOURCE Economic Council of Canada, CANDIDE Model 2.0, September 1981.

Table C-2

Strategy: Inflation Control and Deficit Reduction – Effect of Five Alternatives (A to E) on Target Variables, 1981-85

	1981	1982	1983	1984	1985
		(Percentage change)			
Consumer price index[2]					
Base case projection	12.5	12.2	12.2	10.6	9.9
A Expenditure policy only	12.5	12.1	11.9	10.5	9.8
B A plus indirect taxation	11.6	11.4	11.1	10.2	9.6
C B plus corporate taxation	11.5	11.2	10.8	10.1	9.7
D C plus personal taxation	11.7	10.9	9.9	9.5	9.1
E D plus monetary policy	11.6	10.9	9.9	9.4	9.1
Real gross national expenditure					
Base case projection	3.5	2.6	3.3	2.9	2.5
A Expenditure policy only	3.0	2.6	3.4	3.2	2.7
B A plus indirect taxation	3.3	2.9	3.7	3.5	2.8
C B plus corporate taxation	3.4	3.2	4.1	3.9	3.0
D C plus personal taxation	0.0	3.0	3.5	5.0	3.8
E D plus monetary policy	0.2	3.1	3.7	5.2	4.2
Money supply					
Base case projection	6.1	6.0	6.0	6.0	6.0
A Expenditure policy only	6.1	6.0	5.9	5.8	5.7
B A plus indirect taxation	6.1	5.9	5.9	6.0	6.0
C B plus corporate taxation	6.0	6.0	6.3	6.3	6.1
D C plus personal taxation	3.8	3.1	2.9	4.5	5.5
E D plus monetary policy	5.1	4.4	4.0	7.5	4.8
			(Per cent)		
Unemployment rate					
Base case projection	7.1	6.4	5.5	5.3	5.3
A Expenditure policy only	7.3	6.6	5.7	5.4	5.3
B A plus indirect taxation	7.3	6.6	5.6	5.1	5.0
C B plus corporate taxation	7.3	6.5	5.3	4.7	4.5
D C plus personal taxation	8.4	7.5	6.3	5.5	5.1
E D plus monetary policy	8.4	7.5	6.3	5.5	5.1
		(Percentage of GNE)			
Federal surplus or deficit					
Base case projection	-2.0	-1.7	-1.0	-0.3	--
A Expenditure policy only	-1.8	-1.5	-0.7	-0.2	0.1
B A plus indirect taxation	-2.0	-1.8	-1.3	-0.7	-0.4
C B plus corporate taxation	-2.4	-2.3	-2.0	-1.3	-1.0
D C plus personal taxation	-0.4	--	0.2	0.1	--
E D plus monetary policy	-0.4	0.1	0.4	0.4	0.3
Current account of the balance of international payments					
Base case projection	-1.1	-1.1	-1.7	-1.9	-2.1
A Expenditure policy only	-0.9	-0.9	-1.4	-1.8	-2.0
B A plus indirect taxation	-1.0	-1.1	-1.7	-2.0	-2.3
C B plus corporate taxation	-1.0	-1.2	-2.0	-2.4	-2.7
D C plus personal taxation	0.7	0.6	0.2	-0.8	-1.5
E D plus monetary policy	0.6	0.6	0.2	-0.8	-1.5

SOURCE Economic Council of Canada, CANDIDE Model 2.0, September 1981.

Table C-3

Strategy: Inflation Control and Deficit Reduction — Effect of Five Alternatives (A to E) on Selected Indicators, 1981-85

	1981	1982	1983	1984	1985
		(Billions of 1971 dollars)			
Real gross national expenditure – difference from the base case					
Base case projection	134.6	138.1	142.7	146.9	150.5
A Expenditure policy only	-0.6	-0.6	-0.6	-0.2	0.1
B A plus indirect taxation	-0.3	0.2	0.6	1.4	1.9
C B plus corporate taxation	-0.1	0.7	1.9	3.3	4.2
D C plus personal taxation	-4.5	-4.1	-4.0	-1.3	0.7
E D plus monetary policy	-4.3	-3.7	-3.4	-0.3	2.2
Real gross national expenditures – cumulative difference from the base case					
Base case projection	134.6	138.1	142.7	146.9	150.5
A Expenditure policy only	-0.6	-1.2	-1.8	-2.0	-1.9
B A plus indirect taxation	-0.3	-0.1	0.5	1.9	3.8
C B plus corporate taxation	-0.1	0.6	2.5	5.8	10.0
D C plus personal taxation	-4.5	-8.6	-12.6	-13.9	-13.2
E D plus monetary policy	-4.3	-8.0	-11.5	-11.8	-9.6
		(Billions of current dollars)			
Federal and provincial surplus or deficit (-) – cumulative difference from the base case					
Base case projection	-3.8	-2.8	-0.1	3.5	4.8
A Expenditure policy only	1.2	2.4	3.5	4.2	4.7
B A plus indirect taxation	0.2	0.2	-0.6	-1.7	-3.2
C B plus corporate taxation	-0.9	-2.6	-6.1	-9.1	-12.7
D C plus personal taxation	9.1	18.9	26.3	29.2	30.2
E D plus monetary policy	9.0	18.1	26.7	30.7	33.2
Business unremitted profits – cumulative difference from the base case					
Base case projection	18.1	17.4	19.0	18.8	21.0
A Expenditure policy only	-0.4	-0.8	-1.3	-1.4	-1.3
B A plus indirect taxation	-0.8	-1.0	-1.2	-0.3	0.7
C B plus corporate taxation	0.3	1.8	4.5	8.7	12.8
D C plus personal taxation	-2.3	-4.4	-7.4	-7.4	-6.2
E D plus monetary policy	-2.1	-3.8	-6.3	-5.4	-3.5
Investment[1] – cumulative difference from the base					
Base case projection	54.2	62.7	74.5	86.2	99.0
A Expenditure policy only	-0.3	-0.8	-1.5	-2.0	-2.0
B A plus indirect taxation	-0.4	-1.0	-1.8	-2.2	-2.1
C B plus corporate taxation	-0.2	0.1	1.4	4.9	9.8
D C plus personal taxation	-1.7	-5.2	-9.2	-11.9	-12.5
E D plus monetary policy	-1.7	-4.9	-8.5	-10.2	-8.9

Table C-3 (cont'd)

	1981	1982	1983	1984	1985
			(Percentage of GNE)		
Investment[1]					
Base case projection	16.3	16.5	17.1	17.5	17.9
A Expenditure policy only	16.3	16.4	17.1	17.5	18.0
B A plus indirect taxation	16.3	16.5	17.2	17.7	18.2
C B plus corporate taxation	16.3	16.7	17.6	18.4	18.9
D C plus personal taxation	16.3	16.3	17.2	18.0	18.8
E D plus monetary policy	16.3	16.3	17.3	18.1	19.0
			(Per cent)		
Saving rate[2]					
Base case projection	9.7	9.5	9.0	8.8	8.4
A Expenditure policy only	9.5	9.3	9.0	8.9	8.6
B A plus indirect taxation	9.6	9.4	9.1	8.9	8.6
C B plus corporate taxation	9.6	9.5	9.2	9.0	8.8
D C plus personal taxation	7.4	7.5	9.0	9.8	9.6
E D plus monetary policy	7.5	7.4	9.0	9.8	9.7
			(U.S. cents)		
Exchange rate					
Base case projection	85.4	85.7	84.8	84.8	84.2
A Expenditure policy only	85.5	85.9	85.1	84.9	84.2
B A plus indirect taxation	85.4	85.6	84.6	84.3	83.6
C B plus corporate taxation	85.4	85.3	84.1	83.6	82.9
D C plus personal taxation	86.5	87.0	86.3	85.3	84.1
E D plus monetary policy	86.4	86.9	86.3	85.1	84.0
			(Percentage change)		
Productivity[3]					
Base case projection	0.4	-0.2	0.3	0.8	0.9
A Expenditure policy only	0.1	-0.1	0.4	0.9	1.0
B A plus indirect taxation	0.4	.1	0.5	0.9	1.0
C B plus corporate taxation	0.5	0.3	0.8	1.1	1.1
D C plus personal taxation	-1.6	0.8	0.9	1.7	1.3
E D plus monetary policy	-1.5	0.8	1.0	1.9	1.5
Real wage rate					
Base case projection	-2.4	0.3	-0.5	0.9	0.8
A Expenditure policy only	-2.3	0.3	-0.4	0.8	0.7
B A plus indirect taxation	-1.6	0.5	--	0.8	0.9
C B plus corporate taxation	-1.5	0.6	0.2	0.8	1.2
D C plus personal taxation	-1.5	0.6	-0.1	-0.5	-0.1
E D plus monetary policy	-1.4	0.6	0.2	-0.1	0.2
Real disposable income					
Base case projection	1.5	2.3	1.5	2.0	1.5
A Expenditure policy only	0.4	2.3	1.7	2.4	1.8
B A plus indirect taxation	1.2	2.7	2.2	2.4	2.1
C B plus corporate taxation	1.4	2.9	2.6	2.7	2.3
D C plus personal taxation	-8.0	2.8	3.3	6.2	4.1
E D plus monetary policy	-7.8	2.6	3.5	6.0	4.6

Table C-3 (cont'd)

	1981	1982	1983	1984	1985
			(Thousands)		
Employment – cumulative difference from the base case					
Base case projection	10,760	11,091	11,432	11,711	11,920
A Expenditure policy only	-32	-74	-120	-147	-157
B A plus indirect taxation	-23	-34	-28	18	94
C B plus corporate taxation	-20	-16	27	136	292
D C plus personal taxation	-272	-594	-947	-1,148	-1,223
E D plus monetary policy	-262	-571	-904	-1,079	-1,215

1 Construction and machinery and equipment.
2 Personal saving, as a proportion of personal disposable income.
3 Output per person-hour.
SOURCE Economic Council of Canada, CANDIDE Model 2.0, September 1981.

Table C-4

Strategy: Inflation Control and Real Growth – Effect of Five Alternatives (A to E) on Policy Levers (as a Proportion of Base Case Levels),[1] 1981-85

	1981	1982	1983	1984	1985
			(Per cent)		
Federal government expenditure					
Base case projection	100.0	100.0	100.0	100.0	100.0
A Expenditure policy only	101.7	98.9	98.1	102.6	105.0
B A plus indirect taxation	103.2	99.8	97.9	101.0	102.9
C B plus corporate taxation	102.5	97.4	93.9	96.8	99.4
D C plus personal taxation	103.3	99.5	96.8	98.1	99.5
E D plus monetary policy	103.5	99.9	97.0	98.1	99.2
Federal sales tax rate					
Base case projection	100.0	100.0	100.0	100.0	100.0
A Expenditure policy only	98.3	97.6	96.9	96.7	96.8
B A plus indirect taxation	68.3	55.2	40.2	36.4	35.1
C B plus corporate taxation	74.5	63.5	49.0	43.6	38.0
D C plus personal taxation	74.4	63.4	49.7	46.2	41.1
E D plus monetary policy	75.1	64.6	51.4	48.7	44.0
Corporate tax rate					
Base case projection	100.0	100.0	100.0	100.0	100.0
A Expenditure policy only	97.0	96.9	96.8	97.6	98.5
B A plus indirect taxation	97.7	97.6	97.6	98.2	98.8
C B plus corporate taxation	59.5	60.5	55.3	66.4	73.4
D C plus personal taxation	54.8	56.1	53.1	66.7	74.5
E D plus monetary policy	55.8	58.2	55.8	69.1	76.1
Personal income tax rates					
Base case projection	100.0	100.0	100.0	100.0	100.0
A Expenditure policy only	100.3	100.1	100.1	99.1	98.3
B A plus indirect taxation	99.8	99.9	100.2	99.6	98.9
C B plus corporate taxation	100.5	100.9	101.4	100.6	99.8
D C plus personal taxation	100.4	106.6	114.2	105.8	94.2
E D plus monetary policy	100.0	107.5	116.2	107.4	97.4
Short-term interest rate					
Base case projection	100.0	100.0	100.0	100.0	100.0
A Expenditure policy only	97.5	97.1	97.1	98.0	99.2
B A plus indirect taxation	98.0	97.8	97.7	98.4	99.3
C B plus corporate taxation	98.6	98.2	98.0	98.5	99.3
D C plus personal taxation	98.4	98.1	98.0	98.6	99.4
E D plus monetary policy	87.9	86.0	85.1	67.6	85.0

1 For example, the value 101.7 for federal government expenditure in 1981 indicates that in Alternative A this policy lever is raised to 101.7 per cent of the base case value.

SOURCE Economic Council of Canada, CANDIDE Model 2.0, September 1981.

Table C-5

Strategy: Inflation Control and Real Growth – Effect of Five Alternatives (A to E) on Target Variables, 1981-85

	1981	1982	1983	1984	1985
			(Percentage change)		
Consumer price index					
Base case projection	12.5	12.2	12.2	10.6	9.9
A Expenditure policy only	12.4	12.1	12.1	10.6	10.0
B A plus indirect taxation	11.0	11.4	11.3	10.3	9.9
C B plus corporate taxation	10.8	11.3	10.9	10.4	10.1
D C plus personal taxation	10.8	11.3	10.8	10.2	9.9
E D plus monetary policy	10.7	11.2	10.8	10.0	9.8
Real gross national expenditure					
Base case projection	3.5	2.6	3.3	2.9	2.5
A Expenditure policy only	3.5	2.7	3.4	3.2	2.6
B A plus indirect taxation	3.8	3.1	3.7	3.4	2.7
C B plus corporate taxation	4.1	3.7	4.3	4.0	2.7
D C plus personal taxation	4.2	3.3	3.6	4.3	3.3
E D plus monetary policy	4.2	3.4	3.7	4.5	3.5
Money supply					
Base case projection	6.1	6.0	6.0	6.0	6.0
A Expenditure policy only	6.6	6.3	6.2	6.1	6.0
B A plus indirect taxation	6.4	6.2	6.3	6.2	6.1
C B plus corporate taxation	6.1	6.2	6.6	6.5	6.3
D C plus personal taxation	6.2	5.8	5.4	5.7	6.8
E D plus monetary policy	8.4	7.1	6.2	8.5	5.2
			(Per cent)		
Unemployment rate					
Base case projection	7.1	6.4	5.5	5.3	5.3
A Expenditure policy only	7.1	6.4	5.5	5.1	5.1
B A plus indirect taxation	7.2	6.3	5.3	4.8	4.8
C B plus corporate taxation	7.2	6.1	5.0	4.1	4.1
D C plus personal taxation	7.2	6.2	5.3	4.3	3.9
E D plus monetary policy	7.2	6.3	5.5	4.5	4.1
			(Percentage of GNE)		
Federal surplus or deficit (–)					
Base case projection	–2.0	–1.7	–1.0	–0.3	--
A Expenditure policy only	–2.1	–1.8	–1.0	–0.4	–0.1
B A plus indirect taxation	–2.5	–2.2	–1.6	–0.9	–0.6
C B plus corporate taxation	–3.6	–3.2	–2.7	–1.9	–1.5
D C plus personal taxation	–3.7	–3.0	–2.0	–1.4	–1.7
E D plus monetary policy	–3.5	–2.6	–1.4	–0.5	–0.8
Current account of the balance of international payments					
Base case projection	–1.1	–1.1	–1.7	–1.9	–2.1
A Expenditure policy only	–1.1	–1.1	–1.7	–2.0	–2.3
B A plus indirect taxation	–1.2	–1.4	–2.0	–2.2	–2.4
C B plus corporate taxation	–1.3	–1.8	–2.4	–2.9	–3.0
D C plus personal taxation	–1.3	–1.6	–1.9	–2.5	–2.9
E D plus monetary policy	–1.2	–1.4	–1.6	–2.1	–2.6

SOURCE Economic Council of Canada, CANDIDE Model 2.0, September 1981.

Table C-6

Strategy: Inflation Control and Real Growth – Effect of Five Alternatives (A to E) on Selected Indicators, 1981-85

	1981	1982	1983	1984	1985
		(Billions of 1971 dollars)			
Real gross national expenditures – difference from the base case					
Base case projection	134.6	138.1	142.7	146.9	150.5
A Expenditure policy only	--	0.2	0.4	0.8	1.0
B A plus indirect taxation	0.5	1.2	1.7	2.4	2.9
C B plus corporate taxation	0.8	2.4	3.8	5.4	5.9
D C plus personal taxation	0.9	1.9	2.3	4.3	5.7
E D plus monetary policy	0.9	2.0	2.5	4.8	6.5
Real gross national expenditures – cumulative difference from the base case					
Base case projection	134.6	138.1	142.7	146.9	150.5
A Expenditure policy only	--	0.3	0.7	1.5	2.5
B A plus indirect taxation	0.5	1.7	3.4	5.9	8.8
C B plus corporate taxation	0.8	3.2	7.0	12.4	18.3
D C plus personal taxation	0.9	2.8	5.1	9.4	15.1
E D plus monetary policy	0.9	2.9	5.4	10.1	16.6
		(Billions of current dollars)			
Federal and provincial surplus or deficit (-) – cumulative difference from the base case					
Base case projection	-3.8	-2.8	-0.1	3.5	4.8
A Expenditure policy only	-0.2	-0.3	-0.3	-0.5	-1.1
B A plus indirect taxation	-1.5	-3.0	-5.0	-7.1	-9.7
C B plus corporate taxation	-5.0	-9.5	-15.4	-20.4	-26.1
D C plus personal taxation	-5.5	-8.6	-10.0	-12.5	-20.4
E D plus monetary policy	-5.0	-6.6	-5.4	-3.8	-6.7
Business unremitted profits – cumulative difference from the base case					
Base case projection	18.1	17.4	19.0	18.8	21.0
A Expenditure policy only	0.2	0.6	1.0	1.6	2.3
B A plus indirect taxation	-0.4	0.3	1.0	2.8	4.6
C B plus corporate taxation	2.8	7.4	12.7	19.4	25.3
D C plus personal taxation	3.2	7.7	11.6	17.2	23.1
E D plus monetary policy	3.3	7.8	11.1	16.2	21.3
Investment[1] – cumulative difference from the base case					
Base case projection	54.2	62.7	74.5	86.2	99.0
A Expenditure policy only	--	0.2	0.6	1.5	2.8
B A plus indirect taxation	-0.2	-0.1	0.2	0.9	2.3
C B plus corporate taxation	0.3	2.9	6.9	14.0	22.1
D C plus personal taxation	0.4	3.0	6.2	12.0	18.9
E D plus monetary policy	0.4	3.0	6.4	12.6	20.8

Table C-6 (cont'd)

	1981	1982	1983	1984	1985
			(Percentage of GNE)		
Investment[1]					
Base case projection	16.3	16.5	17.1	17.5	17.9
A Expenditure policy only	16.3	16.5	17.2	17.7	18.1
B A plus indirect taxation	16.3	16.6	17.4	17.8	18.3
C B plus corporate taxation	16.4	17.2	18.2	18.9	19.3
D C plus personal taxation	16.4	17.3	18.2	18.9	19.2
E D plus monetary policy	16.4	17.3	18.2	18.9	19.4
			(Per cent)		
Saving rate[2]					
Base case projection	9.7	9.5	9.0	8.8	8.4
A Expenditure policy only	9.7	9.5	9.1	8.9	8.6
B A plus indirect taxation	9.8	9.6	9.2	8.9	8.6
C B plus corporate taxation	9.9	9.7	9.3	9.0	8.8
D C plus personal taxation	9.9	9.4	8.6	8.8	9.5
E D plus monetary policy	9.8	9.3	8.6	8.9	9.5
			(U.S. cents)		
Exchange rate					
Base case projection	85.4	85.7	84.8	84.8	84.2
A Expenditure policy only	85.3	85.6	84.8	84.6	83.9
B A plus indirect taxation	85.2	85.2	84.3	84.1	83.4
C B plus corporate taxation	85.0	84.6	83.5	83.0	82.4
D C plus personal taxation	85.0	84.7	84.1	83.5	82.5
E D plus monetary policy	84.9	84.7	84.3	83.7	82.7
			(Percentage change)		
Productivity[3]					
Base case projection	0.4	-0.2	0.3	0.8	0.9
A Expenditure policy only	0.4	-0.1	0.4	0.9	1.0
B A plus indirect taxation	0.9	--	0.5	0.9	1.0
C B plus corporate taxation	1.1	0.3	0.8	1.1	1.0
D C plus personal taxation	1.1	0.1	0.5	1.4	1.3
E D plus monetary policy	1.2	0.2	0.6	1.6	1.5
Real wage rate					
Base case projection	-2.4	0.3	-0.5	0.9	0.8
A Expenditure policy only	-2.2	0.3	-0.3	1.0	0.8
B A plus indirect taxation	-1.1	0.2	--	0.8	1.0
C B plus corporate taxation	-0.9	0.3	0.4	0.8	1.5
D C plus personal taxation	-0.9	0.3	0.4	0.6	1.1
E D plus monetary policy	-0.9	0.4	0.9	0.9	1.3

Table C-6 (cont'd)

	1981	1982	1983	1984	1985
		(Percentage change)			
Real disposable income					
Base case projection	1.5	2.3	1.5	2.0	1.5
A Expenditure policy only	1.5	2.4	1.6	2.3	1.9
B A plus indirect taxation	2.6	2.6	2.1	2.3	2.0
C B plus corporate taxation	3.1	2.9	2.6	2.5	2.3
D C plus personal taxation	3.2	1.5	0.6	3.9	4.6
E D plus monetary policy	2.8	1.2	0.6	3.5	4.9
		(Thousands)			
Employment – cumulative difference from the base case					
Base case projection	10,760	11,091	11,432	11,711	11,920
A Expenditure policy only	-0	5	14	41	82
B A plus indirect taxation	11	53	122	226	357
C B plus corporate taxation	18	89	216	416	655
D C plus personal taxation	20	60	94	219	438
E D plus monetary policy	18	52	73	184	391

1 Construction and machinery and equipment.
2 Personal saving, as a proportion of personal disposable income.
3 Output per person-hour.
SOURCE Economic Council of Canada, CANDIDE Model 2.0, September 1981.

Notes

CHAPTER 1

1 The Economic Council has devoted a major report to the regulatory system in Canada and its effects on the supply side of the economy. See *Reforming Regulation* (Ottawa: Supply and Services Canada, 1981).

2 The narrowly defined money supply (M1) is defined by the Bank of Canada as currency plus demand deposits.

3 Bank of Canada, *Annual Report of the Governor to the Minister of Finance – 1980* (Ottawa, 1981), p. 8.

4 As defined by the Bank of Canada, the broadly defined monetary aggregates comprise the following:
M2 – currency and all chequable deposits, notice deposits, and personal term deposits;
M3 – currency plus total privately held bank deposits.

5 Bank of Canada, *op. cit.*, p. 7.

6 This excludes the volumes required for swap arrangements with the United States, whereby quantities of oil are exported to that country from western Canada and similar quantities are imported from south of the border in eastern Canada, thus minimizing transportation costs.

7 *The National Energy Program – 1980* (Ottawa: Energy Mines and Resources Canada, 1980).

8 The September 1981 agreement defines "conventional old oil" as "oil recovered from a pool initially discovered prior to January 1, 1981." As for "conventional new oil," it is defined as "oil from pools initially discovered after December 31, 1980"; 'incremental oil', as determined by the fixed ratio method, recovered from pools subject to enhanced recovery schemes (other than waterflood schemes) commencing operation after December 31, 1980; and crude bitumen obtained from experimental and non-integrated oil sands projects commencing operation after December 31, 1980" (pp. 2-3).

9 The National Accounts federal deficit (or surplus) is designed to meet the needs of economic analysis in such a way that the impact of the government's transactions can be tied in directly with other sectors of the economy. The National Accounts presentation includes a wider range of transactions than the "budgetary deficit" published by the Public Accounts.

The budgetary deficit (or surplus) produced by the Public Accounts is derived from a different accounting framework. It is designed to facilitate legislative scrutiny and departmental planning. This budgetary position is the

central feature of the annual Budget Speech of the Minister of Finance. It does not include several important funds such as those for old age security, the majority of unemployment insurance funds, and government trust and pension funds. However, it includes a number of internal bookkeeping transactions that do not represent flows between the government and the private sector.

The government cash requirement statement includes the net effects of government lending and borrowing operations, which are excluded in the National Accounts budgetary position, as discussed above. It also includes changes in trust and pension accounts affecting the government's cash position and is therefore useful for the government's own cash management and for financial analysis.

To give an idea of the magnitude of the differences between the three budgetary concepts: in fiscal year 1979/80 the federal deficit on a National Accounts basis was $9.2 billion. On the cash transactions basis, the total cash requirement was $10.6 billion; the Public Accounts basis budgetary deficit was $11.5 billion.

10 The basis of these calculations of revenue is as follows:

With total personal income averaging $192.3 billion annually over the 1976-80 period, a 1 percentage point reduction in the average effective federal tax rate on personal incomes implies forgone revenues worth $1.9 billion per year – a total of $9.5 billion for the period. By the same calculation, the 1.1 percentage point increase in the provincial rates imply annual average incremental revenues of $2.1 billion, for a total of $10.5 billion.

Over the period corporate profits (adjusted for inventory valuation) averaged $23.0 billion per year; thus a 3.3 percentage point reduction in the average effective rate of corporate taxation implies annual revenues forgone of $759 million – a total of $3.8 billion over the 1976-80 period.

Gross national product over the period annually averaged $235.6 billion. A 0.7 percentage point reduction in the federal average effective indirect tax rate implies annual forgone revenues of $1.6 billion – a total of $8.0 billion for the period.

Chapter 2

1 Economic Council of Canada, *Seventeenth Annual Review: A Climate of Uncertainty* (Ottawa: Supply and Services Canada, 1980).

2 R. S. Preston, C. Braithwaite, B. Cain, B. L. Eyford, B. K. Lodh, P. S. Rao, H. M. Saiyed, and M. Willis, "The Medium-Term Outlook: Spring 1981 Reassessment." (Ottawa: Economic Council of Canada, June 1981).

3 Wharton Econometric Forecasting Associates, *June 1981 Post-Meeting Forecast* (Philadelphia, 1981).

List of Tables

List of Charts

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