BANK OF CANADA

MONETARY POLICY REPORT

– November 1997 –

The silver dollar on the cover was issued to mark the 100th anniversary of the Stanley Cup. Donated by Governor General Lord Stanley in 1893, the Cup soon became an integral part of hockey's heritage. This design, by Canadian artist Stewart Sherwood, portrays the Stanley Cup as it evolved from the early days of hockey to the present.

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Monetary Policy Report

— November 1997 —

“With the economic momentum expected to continue at a solid pace in the period ahead, monetary policy now faces new challenges .... the immediate challenge for monetary policy [is] to promote monetary conditions that will preserve Canada’s good inflation performance through the current economic upswing, thereby helping to make this economic expansion a long-lasting one.”

* * * * *

“With inflation under control and increasingly favourable fiscal positions, we now have an opportunity to see what our economy is capable of delivering, in terms of sustained growth in output and employment and improving standards of living.”

— Gordon Thiessen

Speech to the Board of Trade, Vancouver, B.C.
7 October 1997

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Canada's Inflation-Control Strategy

Inflation control and the economy

- Inflation control is not an end in itself but, rather, is the means whereby monetary policy contributes to solid economic performance.
- Low inflation allows the economy to function more effectively and thereby contributes to better economic potential over time.
- Inflation-control targets ensure that monetary policy works to moderate cyclical fluctuations in income and employment. These targets help the Bank make more accurate judgments about the potential of the economy.

The monetary policy instrument

- The Bank of Canada uses its influence on short-term interest rates to achieve a rate of monetary expansion consistent with the inflation-control target range. The transmission mechanism is complex and involves long and variable lags, with the major effect on inflation from changes in monetary conditions usually felt over six to eight quarters.

The targets

- In February 1991, the Bank of Canada and the federal government jointly announced a series of targets for reducing inflation to the midpoint of a range of 1 to 3 per cent by the end of 1995. In December 1993, this target range was extended to the end of 1998.
- By the end of 1998, a decision will be taken on a future inflation-control target range that would be consistent with price stability.

Monitoring inflation

- In the short run, the Bank focusses on the CPI excluding food, energy, and the effect of indirect taxes, because there is a good deal of movement in the CPI caused by transitory fluctuations in the prices of food and energy, as well as by changes in indirect taxes. This measure is referred to as the *core* CPI.
- Over longer periods, the measures of inflation based on the total CPI and the core CPI tend to follow similar paths. In the event of persistent differences between the trends of the two measures, the Bank would adjust its desired path for core CPI inflation so that total CPI inflation would come within the target range.

1. INTRODUCTION

In the last half-year, the economic expansion in Canada has become well established, supported by low inflation, highly stimulative monetary conditions, and a strong U.S. economy. These positive factors have more than offset the dampening effects that fiscal restraint and private and public sector restructuring have had on spending and consumer confidence.

The economic expansion in Canada has become well established …

Private sector activity has been moving ahead briskly, with household spending and business investment in machinery and equipment leading the way. In addition, strong growth in world trade has supported a rising trend in Canadian exports. Consequently, economic slack has been taken up more rapidly than in the second half of last year.

… and economic slack has been taken up more rapidly.

These developments have been broadly in line with expectations set out in the last *Report*, where it was concluded that the highly stimulative monetary conditions of the past two years would no longer be necessary as the economy gained momentum and moved towards full resource utilization. Consistent with this assessment, in early summer the Bank acted to counter an easing in monetary conditions stemming from persistent weakness in the exchange rate. In early autumn further action was taken, this time to moderate the extent of monetary stimulus in the economy.

With the economy now gathering strong momentum and the influences of restructuring and past fiscal policy measures becoming increasingly less pronounced, the challenge for monetary policy is to promote a level of monetary conditions that preserves low inflation and thereby contributes to making this economic expansion a long-lasting one.

With the economy gathering strong momentum, the challenge for monetary policy is to preserve low inflation and thereby help make the expansion a long-lasting one.

This report includes information received to 29 October 1997.

2. Recent Developments in Inflation

Over the past six months, core CPI inflation has shown little change, remaining in the lower half of the Bank's inflation-control target range. The downward pressure on inflation coming from slack in product markets has been partly offset by efforts in a few sectors to boost profit margins.

Inflation and the target range

Since the last* Report*, core inflation has remained in the lower half of the target range.

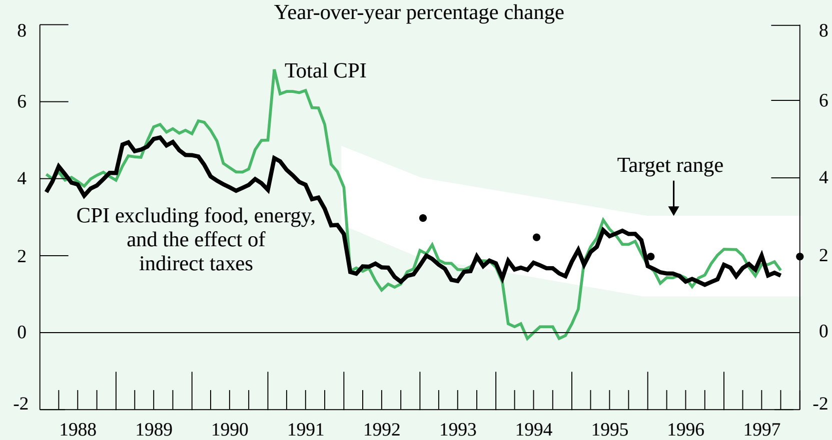
As anticipated in last May's *Report*, the 12-month rate of increase in the core CPI has remained in the lower half of the inflation-control target range. As of September 1997, core inflation was 1.5 per cent compared with 1.7 per cent last March (Chart 1). Other statistical measures of trend inflation convey the same message (Technical Box 1).

Even so, core inflation has been slightly higher than was expected six months ago. The downward pressure on inflation from excess capacity has been partly offset by efforts to restore profit margins in retailing and certain other consumer-oriented sectors. In addition, as inflation expectations in recent years have become more heavily influenced by the inflation target and less sensitive to past inflation, the overall downward pressure from slack in the economy may, in effect, have been somewhat lessened (Technical Box 2).

Chart 1

Consumer Price Index

Year-over-year percentage change



• Midpoint of the inflation-control target range

Technical Box 1

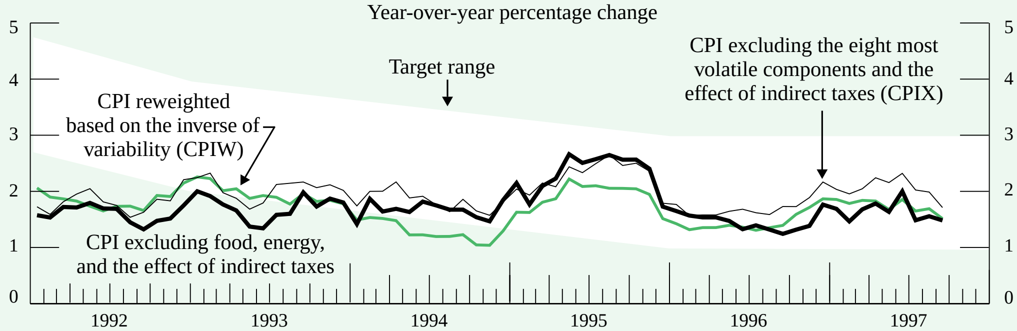
Measuring the Trend of Inflation

Most central banks with inflation targets use a measure of core inflation similar to that used by the Bank of Canada (the CPI excluding food, energy, and the effect of indirect taxes) as a guide in conducting monetary policy. Some, such as the Reserve Bank of New Zealand and the Bank of England, also regularly publish other statistical measures of the trend inflation rate. These measures are based on the assumption that extreme fluctuations in relative prices generally translate into temporary shocks to the inflation rate without altering its underlying trend. The trend of inflation can be estimated using statistical measures but cannot be measured precisely. It is therefore prudent to compare several different measures. When those measures convey the same message, monetary authorities can reasonably assume that their decisions are based on reliable guides. If, however, the estimates diverge significantly, the reasons for this divergence must be closely examined to help monetary policy keep the trend rate of inflation within the target range.

On the basis of recent research,* the Bank has started to monitor two other statistical measures of trend inflation that seem to contain the most information about future movements in the total CPI. The first of these measures (CPIX) excludes the eight most volatile components from the CPI (fruit, vegetables, gasoline, fuel oil, natural gas, mortgage interest, inter-city transportation, and tobacco products) as well as the effect of indirect taxes on the remaining components. The total weighting of these eight components in the CPI (16 per cent) is less than the weighting of total food and energy (26 per cent). The second measure (CPIW) retains all the CPI components, but multiplies each CPI basket weight by an additional weight that is inversely proportional to the component's variability, so that the most volatile components have less influence in the overall index.

The Core CPI and Statistical Measures of the Trend Inflation Rate

Year-over-year percentage change



Since the beginning of 1997, both these measures have followed a path similar to that of the core CPI. Although their levels differ slightly, these measures essentially tell the same story, since they are well within the inflation-control target range and are currently below the midpoint of 2 per cent.

* See Laflèche (1997a, b) and Crawford, Fillion, and Laflèche (forthcoming).

Technical Box 2

The Inflation Process: Changing Expectations

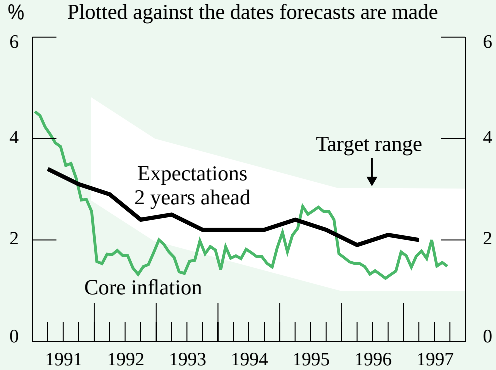
Core CPI inflation has been relatively stable since 1992 despite considerable excess supply in the economy. In the past, prolonged periods of significant excess demand or excess supply generally resulted in inflation moving higher or lower. A change in the process that determines inflation expectations may explain the puzzle in recent behaviour.

Inflation expectations can be represented as a weighted average of past inflation and forward-looking expectations for inflation. In an environment of relatively stable low inflation, especially if the credibility of monetary policy is reasonably high, the weight of forward-looking expectations rises and that of past inflation diminishes. With the success of inflation-control targets, forward-looking expectations seem to be increasingly anchored to the midpoint of the target range. As long as such expectations prevail, there will be less divergence of actual inflation from target inflation in the presence of excess supply or demand.

Data compiled by Consensus Economics (1991-1997) support this view. The data show that expected inflation two years out has hovered around 2 per cent for some time. Indeed, a temporary rise in core inflation in 1995, caused by higher commodity prices and the effect on prices of a past depreciation of the Canadian dollar, had little impact on medium-term inflation expectations (Technical Box 4, May 1996 *Report*).

Short-Term Inflation Expectations

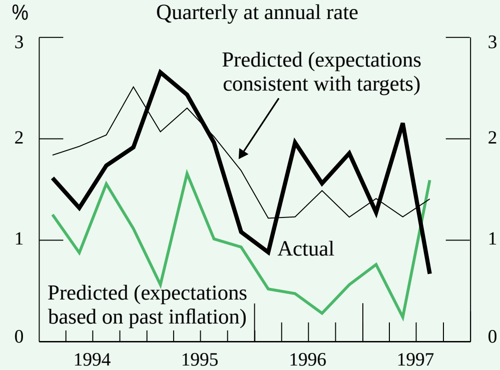
Plotted against the dates forecasts are made



Source: Consensus Economics Inc.

Actual and Predicted Core Inflation

Quarterly at annual rate



Fillion and Léonard (1997), using models where the key determinants of inflation are the output gap and expected inflation, provide empirical evidence that expectations were essentially backward-looking in the 1970s; were consistent with a long-term inflation rate of 4 per cent in the 1980s; and have been close to 2 per cent since 1993. Their model, in which estimated expectations over the past few years have been consistent with the inflation-control targets, does a good job of predicting the relatively stable core inflation of the recent period. This stability occurs despite considerable excess supply in the economy. In contrast, a similar model, but with expectations driven exclusively by past inflation, predicts significantly lower inflation rates than those observed, even in projections where expectations are revised each period in light of the most recently observed inflation rates.

The 12-month rate of increase in the total CPI was 1.6 per cent in September 1997, compared with 2.0 per cent in March. Energy prices, after some easing in the spring related to earlier reductions in producer prices, strengthened towards the end of the summer because of temporary gasoline shortages in North America.

Total CPI inflation is also in the lower half of the target range.

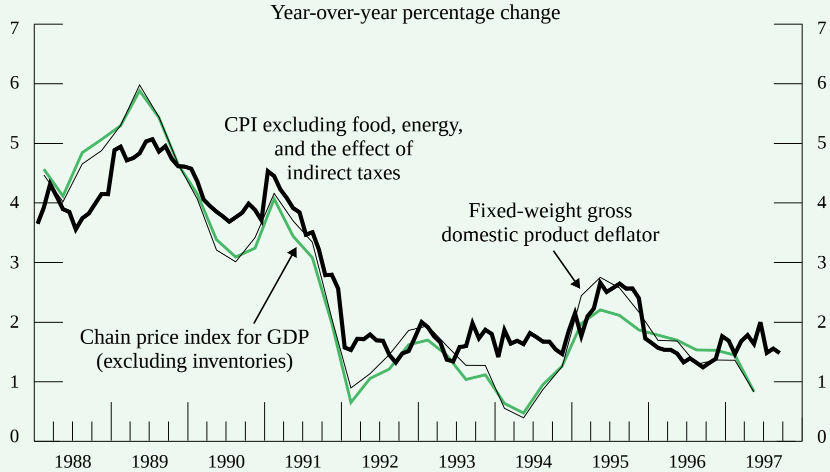
Other broad measures of inflation have fallen significantly since the last *Report*, largely because of the impact of a decline in the terms of trade—the price of exports relative to the price of imports. In particular, the export prices of crude oil, natural gas, and wheat all fell considerably during the first half of 1997. The rate of increase in the fixed-weight gross domestic product (GDP) deflator was 0.8 per cent in the second quarter of 1997 on a year-over-year basis, as was the rate of increase in the chain price index for GDP excluding inventories—a measure of price changes using weights that adjust to keep up with shifts in the composition of spending (Chart 2).

Other broad measures of inflation have fallen considerably.

Chart 2

Broad Inflation Measures

Year-over-year percentage change



Factors at work on inflation

Aggregate demand and supply

The pace of economic expansion picked up in the first half of 1997, largely as anticipated. Over this period, real GDP rose at an annual rate of 4.3 per cent, after a gain of 3.1 per cent over the second half of 1996. The expansion has been supported by strong growth in the U.S. economy and the accommodative monetary conditions that were necessary to offset the restraint on aggregate demand that had come from measures to reduce fiscal deficits

The strong pace of economic expansion was largely as anticipated ...

... and led to a substantial increase in employment.

Household demand continued to rise strongly, supported by low interest rates.

(Technical Box 2, November 1996 *Report*) and from private sector restructuring. With momentum in the economy building, labour market activity also picked up, and employment rose substantially.

The strong recovery in household expenditures, which began last year, continued in the first half of 1997, even though there was little change in real personal disposable income because of higher tax payments. These higher taxes stemmed largely from special factors such as a high level of realized capital gains, the introduction of an accelerated program for collecting employment insurance premiums, and higher contribution rates for the Canada Pension Plan and Quebec Pension Plan. Consumer spending on big-ticket items such as housing, motor vehicles, and other consumer durables was particularly robust, fuelled by low interest rates and pent-up demand. The rise in spending left the personal savings rate at a postwar low, but the net worth of the household sector continued to increase significantly in the first half of the year owing to capital gains (Technical Box 1, May 1997 *Report*).

Chart 3

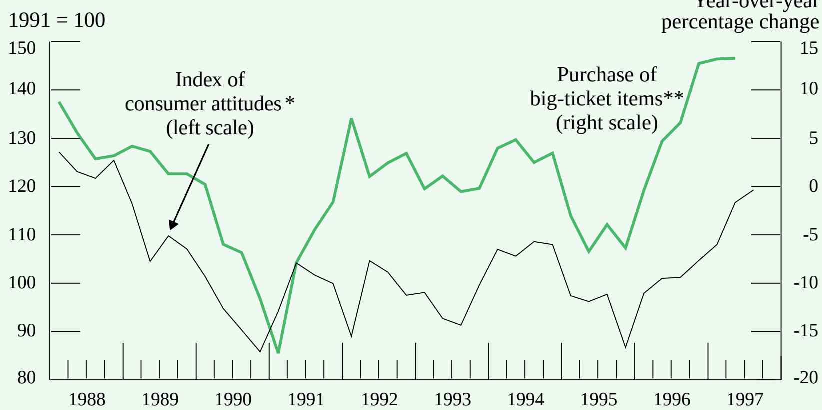
Employment

Quarterly growth at annual rate

The pickup in employment growth in the last two quarters (Chart 3) contributed to the improving environment for the personal sector and, hence, to a further pronounced recovery in consumer confidence (Chart 4). Gains in private sector employment have been broadly based, both by province and by industry. An increase in the labour force participation rate (the percentage of those of working age who are in the labour force) since last March also points to improved labour market conditions.

Chart 4

Consumer Confidence



* Source: Conference Board of Canada
**Expenditures in constant dollars on consumer durables plus housing

Increased capital spending by businesses broadened to include expenditures on structures.

Spending by businesses on capital goods remained strong in the first six months of 1997. These expenditures were again focussed on improving efficiency and expanding capacity. Furthermore, after having been concentrated in machinery and equipment earlier, the increase in expenditures has broadened to include spending on structures. In particular, the oil and gas sector boosted investment outlays considerably, mainly in response to the earlier surge in energy prices.

Inventory levels remained in good balance. Encouraged by higher sales levels, companies in both the manufacturing and wholesale trade sectors continued to increase their stocks in the first half of the year.

External demand for Canadian goods was a major source of stimulus to the economy.

The growth of exports resumed in the first half of 1997 in response to a strong U.S. economy and the resolution of labour disputes in the automobile industry in October 1996. U.S. demand was led by business investment in machinery and equipment and by consumer demand. Canadian exports of automobiles in the second quarter of 1997 were adversely affected by temporary parts shortages, however.

Imports also responded to the robust domestic demand ...

The robust recovery in both domestic demand and exports contributed to a further substantial increase in import volumes in the first half of 1997. The increased demand was again concentrated in components such as machinery and equipment and consumer purchases of motor vehicles, most of which tend to be imported. Imports of industrial parts and materials continued to increase strongly. This largely reflects the growth in export volumes linked to the expansion of two-way trade following various trade liberalization agreements over the past 10 years.

... and as a result the current account returned to a modest deficit position.

The current account of Canada's balance of payments has returned to a modest deficit position over the past year, largely in response to strong growth in domestic demand for import-intensive items and a deterioration in the terms of trade. Nevertheless, on balance, the current account position has improved considerably since 1994, mainly because of the increased competitiveness of Canadian firms and the relatively stronger growth of external demand (Chart 5).[1]

Chart 5

Current Account

Per cent of nominal GDP

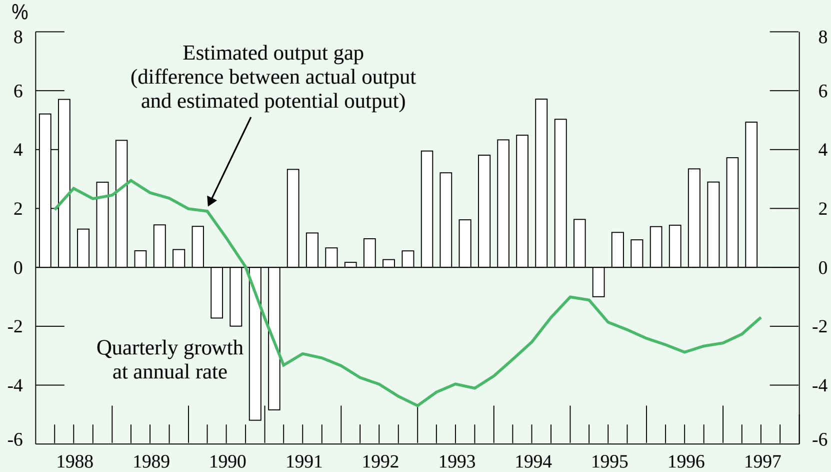
The estimated gap between actual and potential output narrowed further.

Overall, demand continued to grow faster in the first half of 1997 than the Bank's estimate of the economy's capacity to produce. As a result, the Bank calculates that the output gap narrowed to about 1 3/4 per cent at midyear, down from about 2 1/2 per cent at the end of 1996 (Chart 6). Such estimates, it should be noted, are imprecise and should be viewed as points within a wide confidence band. Moreover, they are subject to frequent review as the flow of economic information is received.

1. Details on the evolution in the volume of net exports since 1994 can be found in Technical Box 1 in the November 1996 *Report*.

Chart 6

Real Gross Domestic Product in Constant Dollars



Cost control

In the first half of 1997, firms continued to make concerted efforts to keep unit cost increases low and to improve productivity.

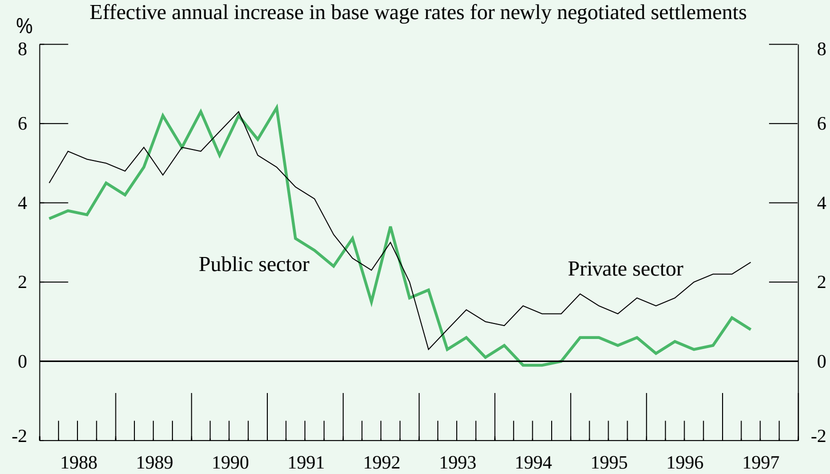
Wage gains in the first half of 1997 appeared to be largely consistent with productivity increases ...

Wages, the largest component of total costs, again rose at a moderate pace, with gains largely consistent with productivity increases. Annual wage settlements in the unionized private sector averaged 2.4 per cent, compared with 2.1 per cent in the second half of 1996 (Chart 7). The average pay increase for most non-unionized employees was 2.6 per cent in 1997, according to the Conference Board of Canada's compensation outlook survey. Overall, based on these and other measures, underlying wage increases (i.e., excluding such factors as changes in the composition of employment) in the private sector appear to have been in a range between 2 and 2.5 per cent on a year-over-year basis. Average wage settlements in the public sector remained low (0.9 per cent). Thus, the average underlying wage increase in the total economy is estimated to have been somewhat below 2 per cent.

Chart 7

Wage Settlements

Effective annual increase in base wage rates for newly negotiated settlements



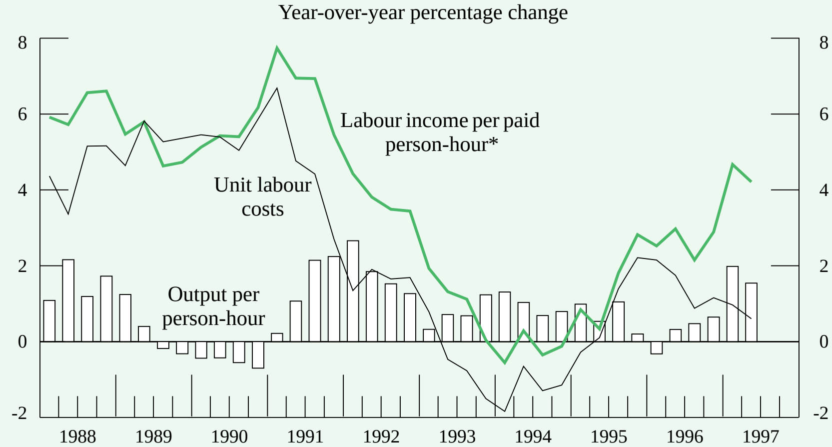
... so that unit labour costs rose only modestly.

Productivity (output per person-hour) rose substantially in the first half of 1997, partly because of the cyclical pickup in output. As a result, the year-over-year rise in unit labour costs remained very low (Chart 8). Much of the increase in labour income per person-hour (excluding the self-employed) likely reflected the ongoing shift in the composition of employment towards higher-paid occupations and the timing of irregular bonus payments.

Chart 8

Unit Labour Costs and Labour Productivity

Year-over-year percentage change



* Excluding the self-employed

Temporary influences

Over the past six months, core inflation has been somewhat higher than anticipated, partly because of factors that are not expected to have a lasting effect on inflation. For instance, profit margins in some consumer-related sectors (such as retailing and air transportation) have improved because the recovery in household spending has permitted less-generous price discounting. The resulting rise in prices for such items as air fares and some semi-durable goods (e.g., clothing) has been large enough to have a noticeable impact on the core CPI. Now that profit margins in these sectors are closer to normal levels (Chart 9), there is less likelihood of further significant price-level increases and, hence, of an ongoing effect on inflation.

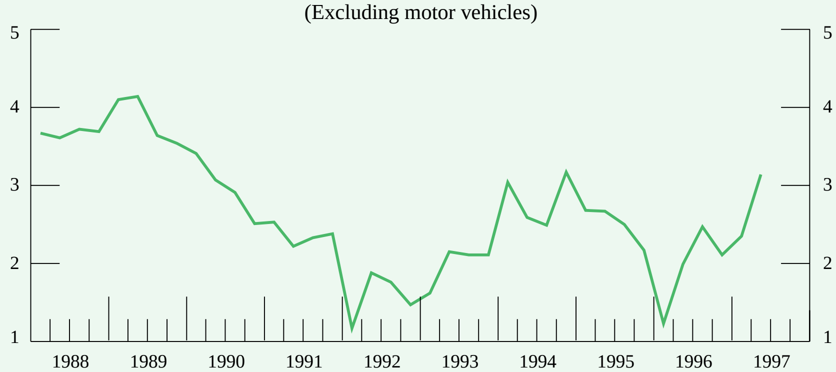
Restoration of profit margins in some sectors has affected price levels ...

... with only temporary effects on inflation.

Chart 9

Profit Margin for Consumer Goods and Services Sector

(Excluding motor vehicles)



Note: Operating profits as a percentage of operating revenues. This sector includes manufacturers of consumer goods mainly for the domestic market (e.g., clothing and household furniture), most wholesaling for the consumer market (aside from motor vehicles), most retailing (aside from motor vehicles), and personal and household services.

Some temporary influences on the core CPI have been working in the opposite direction. For example, automobile manufacturers offered higher rebates over the summer on selected models to clear out 1997 stocks. The modest appreciation of the Canadian dollar from levels in early 1995 has also exerted slight downward pressure on consumer prices so far this year.

This spring, earlier declines in energy prices at the producer level started to feed through and reverse previous price increases at the consumer level. In particular, the prices of fuel oil and gasoline began to decline, as anticipated in the last issue of the *Report*. Towards the end of the summer, however, gasoline prices strengthened because of temporary shortages in North America.

Energy prices have generally been moving down ...

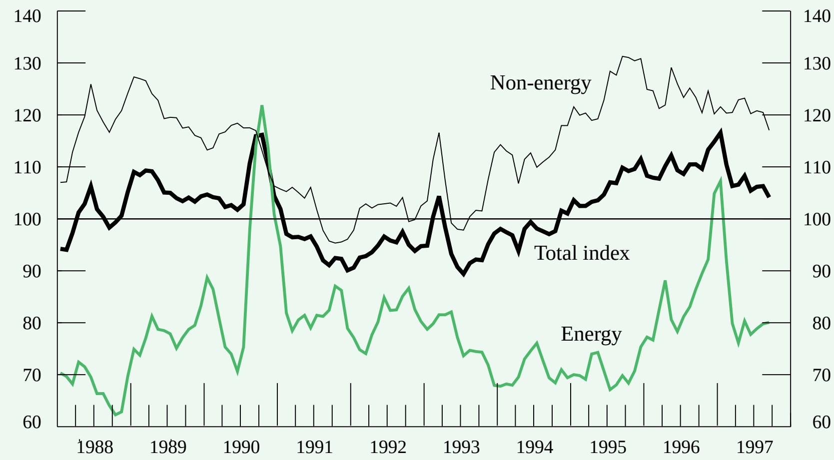
... while prices of non-energy commodities have remained firm.

Aside from developments in energy, world commodity markets have had relatively little net impact on consumer prices since last April. Prices of non-energy commodities (quoted in U.S. dollars) have, on average, remained reasonably firm (Chart 10).

Chart 10

Bank of Canada Commodity Price Index

1982-90 = 100, in U.S. dollars



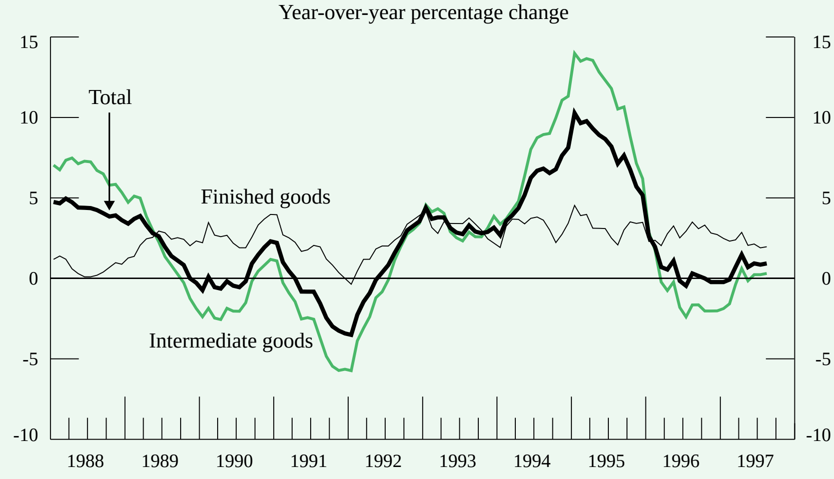
Producer prices give no indication of inflation pressures.

At the producer level, the aggregate industrial product price index has increased modestly on a year-over-year basis in recent months (Chart 11). Nonetheless, the 12-month rise in prices of finished industrial goods has edged down.

Chart 11

Industrial Product Price Index

Year-over-year percentage change



3. Achieving the Inflation-Control Targets

In the last *Report*, the Bank concluded that some reduction in the highly stimulative monetary conditions would be needed as the economy gained momentum and moved towards full resource utilization. By early summer, however, monetary conditions had eased even further as a result of persistent weakness in the exchange rate. In response to this development, on 26 June the Bank raised the Bank Rate by 25 basis points to 3 1/2 per cent and its band for overnight interest rates to between 3 and 3 1/2 per cent (Chart 12). This action led to a rise in commercial paper rates and a firming of the dollar, thus reversing the earlier easing in monetary conditions.

On 26 June, the Bank raised the Bank Rate in response to weakness in the exchange rate.

On 1 October, the Bank raised the Bank Rate by another 25 basis points to 3 3/4 per cent and its band for overnight interest rates to between 3 1/4 and 3 3/4 per cent. This action was taken to moderate the degree of monetary stimulus in the economy given the rapid growth in the measure of money used for transactions (M1) and evidence that the economic expansion was becoming more self-sustaining. While money market rates had already largely incorporated this move, the Canadian dollar firmed somewhat further (Chart 13).

On 1 October, the Bank raised the Bank Rate to moderate the extent of monetary stimulus in the economy.

Chart 12

Overnight Financing Cost

Wednesdays

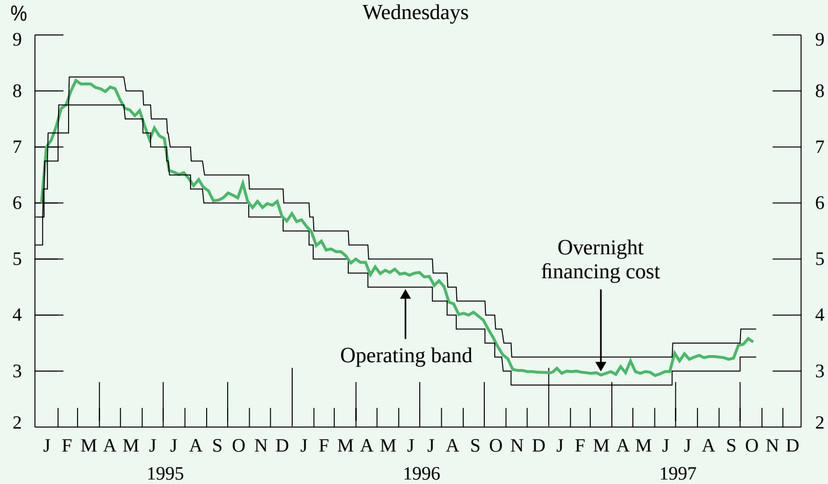
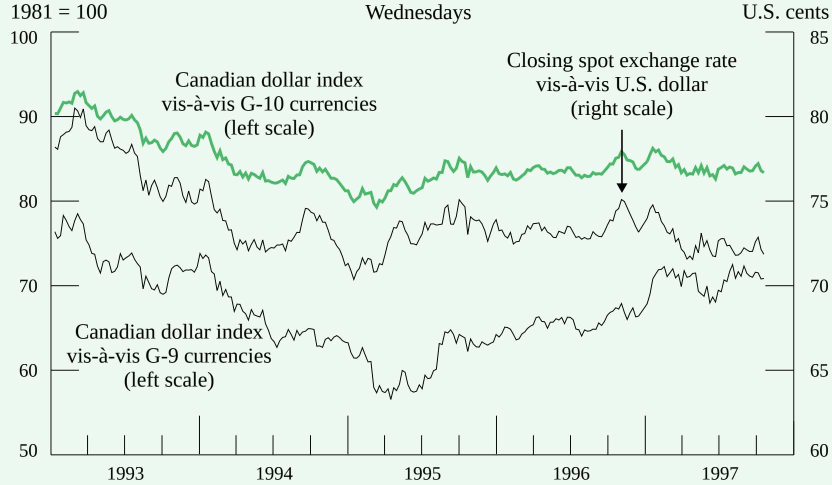


Chart 13

Canadian Dollar Exchange Rate

Wednesdays

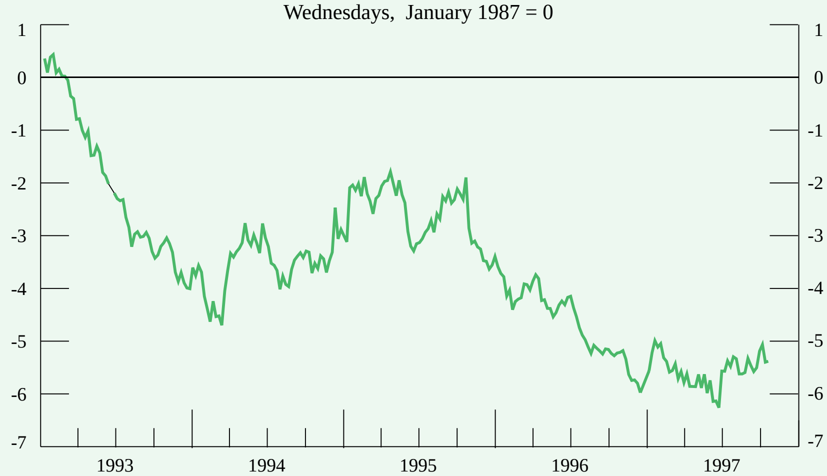


As a result of the interest rate and exchange rate movements following the 26 June increase in the Bank Rate, the monetary conditions index moved back up to around -5.5. This was close to the average for the first half of 1997, during which time the index fluctuated between approximately -6.0 and -5.0. After the move on 1 October, the index rose somewhat further to between -5.5 and -5.0 (Chart 14). At this level, monetary conditions continue to provide strong support for the economy. In late October, however, there was some reversal of the index as a result of currency weakness occurring at the time of the sharp swings in global equity markets.

Chart 14

Monetary Conditions Index

Wednesdays, January 1987 = 0



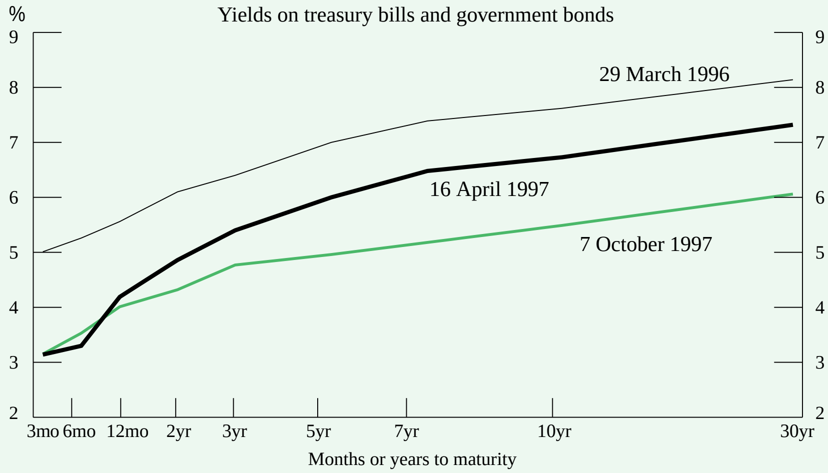
Canadian interest rate premiums continued to decline during the past six months because of the dramatic progress that has been made in eliminating government deficits and growing expectations that inflation will remain low. Medium- and long-term interest rates have fallen further below those in the United States. Moreover, in both countries, interest rate levels at these terms to maturity have declined, with long-term rates in Canada touching record lows. With these declines in market interest rates, comparable mortgage rates in Canada have fallen.

Interest rate premiums declined further ...

Chart 15

Term Structure of Canadian Interest Rates

Yields on treasury bills and government bonds



The yield curve in Canada nonetheless remains upward sloping (Chart 15). Embodied in the curve are expectations of a rise in short-term money market rates. But gauging the magnitude of these expectations is complicated by the existence of term-to-maturity premiums in interest rates that reflect the uncertainty investors feel about instruments with maturities beyond the shortest terms. In addition, the sharp reduction in the supply of treasury bills, owing to lower Government of Canada borrowing requirements and a shift to longer-term financing, has affected the relationship between yields on treasury bills and those on other money market instruments such as commercial paper (Chart 16).

... but the yield curve remains upward sloping.

Chart 16

90-Day Commercial Paper Rate and 3-Month Treasury Bill Rate

Financial markets continue to expect the Canadian dollar to appreciate.

An important factor in the foreign exchange market during the past six months has been the strength of the U.S. dollar. This buoyancy has reflected the strong cyclical position of the U.S. economy compared with those of its major trading partners. The Canadian dollar has benefited from this strength relative to overseas currencies. However, on a trade-weighted basis against all G-10 currencies, the Canadian dollar has declined slightly, with firmness against overseas currencies offset by some weakness vis-à-vis the U.S. dollar. As for the future, market expectations for the Canadian dollar appear to be increasingly based on the view that some combination of a rise in short-term interest rates and in the value of the dollar will occur as the economic cycle matures. It is this expectation of currency appreciation that has enabled short-term interest rates in Canada to remain some 180 basis points below comparable U.S. rates.

4. The Outlook for Inflation

When evaluating the prospects for inflation, the Bank focusses on the main factors influencing the balance, over the next 12 to 18 months, between the level of aggregate demand and the economy's capacity to supply goods and services. An important element for the outlook will be assessing the net effect on aggregate demand of the degree of monetary stimulus on the one hand and of the diminishing impact of restructuring and fiscal policy measures on the other. The Bank also examines measures of inflation expectations and the pace of monetary expansion.

Aggregate demand and supply

Notwithstanding recent global financial market volatility, external factors remain positive.

Notwithstanding recent developments in southeast Asia and associated volatility in global equity markets, external factors remain positive for the Canadian economy.

In the United States, the pace of economic expansion exceeded the estimated growth of potential output during the first half of 1997. This continued through the third quarter. The rate of increase in real GDP should ease over the next few quarters, as a reduction in pent-up household demand and the possible consequences of the recent stock market decline slow the growth of domestic demand. U.S. inflation, excluding food and energy prices, moderated slightly to 2.2 per cent in September. The good inflation performance to date suggests that the amount of excess demand in the U.S. economy at midyear was probably less than the Bank had previously estimated. Nevertheless, the recent pace of expansion still raises the possibility of an increase in inflation pressures. Although monetary conditions tightened in the first half of the year as a result of the appreciation of the U.S. dollar and the March increase in the federal funds target rate, the Federal Reserve may at some point have to raise interest rates somewhat further in order to head off inflation and thus prolong the economic expansion.

The Federal Reserve may have to raise interest rates somewhat further in order to head off inflation and thus prolong the economic expansion.

Economic expansion in the major European countries was slightly stronger than expected during the first half of 1997. In the second quarter, growth in the major continental economies was supported by strong growth in exports, while in the United Kingdom, activity continued to advance at a faster rate than potential output. Moderate to strong growth is expected in these economies during the second half of the year.

In Japan, the economy contracted sharply in the second quarter, more than reversing the spending surge that took place ahead of the April sales tax increase. While easy monetary conditions should provide some support for modest growth of the Japanese economy for the remainder of the year, the recent volatility in southeast Asian financial markets has added a distinct downside risk to the outlook.

Commodity prices are expected to firm somewhat. In particular, prices of most industrial commodities should rise as the expansion in the major economies reduces the world's excess capacity.

External demand should continue to play an important role in the economic upswing ...

Both external demand and the strong competitive position of Canadian industry should continue to contribute to growth in Canada's exports over the next year. The high level of investment spending in many export-oriented industries should allow exporters to satisfy rising demand as new capacity comes on stream.

Domestic demand will continue to be supported by the ongoing effects of low interest rates. Moreover, the restraint on domestic demand from fiscal deficit-reduction measures and the impact on consumer confidence coming from restructuring are diminishing.

... as should strong gains in domestic demand, supported by the recovery in the labour market.

Thus, several factors point to improved prospects for sustained, strong growth in household demand. The heightened pace of economic expansion has contributed to gains in private sector employment. As both external and domestic fundamentals promote substantial gains in aggregate demand, employment should continue to grow and should lead to increases in personal disposable income. Added to the effects of low interest rates and improved confidence levels, these gains in employment and income as well as pent-up demand for housing and consumer durables, should further boost household demand over the next year. The recent stock market decline is not expected to have any significant effect on activity.

Business investment expenditures are also expected to continue growing strongly during the second half of the year. This view is supported by the most recent survey of business confidence by the Conference Board as well as Statistics Canada's mid-year survey of investment intentions.

The Bank anticipates average growth of about 4 per cent through to the fourth quarter of 1998.

Overall, both external and domestic factors point to vigorous economic activity into 1998. The Bank anticipates average growth of about 4 per cent through to the fourth quarter of 1998. This should translate into annual average growth of a little less than 4 per cent for 1997 and of around 4 per cent for 1998. On a comparable basis, a recent Department of Finance survey shows that private sector forecasters are currently looking for growth of 3.7 per cent in both 1997 and 1998. With this profile, the Bank's current estimate is that the economy may very well be producing at full capacity towards the end of 1998, although there remains considerable uncertainty regarding such estimates. Until then, slack in goods and labour markets will continue to put downward pressure on inflation.

Temporary factors affecting inflation

Identifiable transitory factors should have little effect on inflation.

Strengthening household demand may further reduce the degree of price discounting in the Canadian retail marketplace as some retailers attempt to improve profitability. Earlier marked declines in the prices of many industrial materials are, however, still working their way through the system and should continue to put slight downward pressure on the CPI in coming months. On balance, these factors should have little net effect on the core CPI through 1998.

Measures of inflation expectations

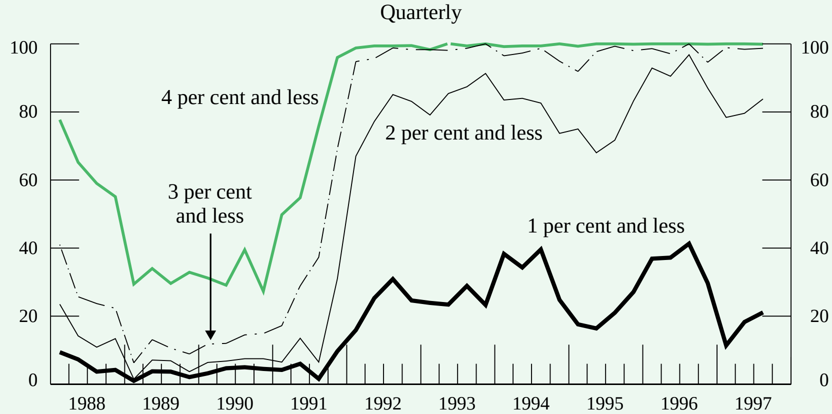
Inflation expectations remain consistent with the inflation-control target range.

Expectations of inflation, as noted earlier in Technical Box 2, are influenced both by recent developments in inflation and by the credibility of the Bank's inflation-control strategy. In the regular survey reported in the Conference Board's September *Index of Business Confidence*, 84 per cent of respondents (compared with 78 per cent in the March 1997 survey) expected inflation to be 2 per cent or less over the near term (Chart 17).

Chart 17

Percentage Distribution of Expected Price Increases Over the Next Six Months

Quarterly



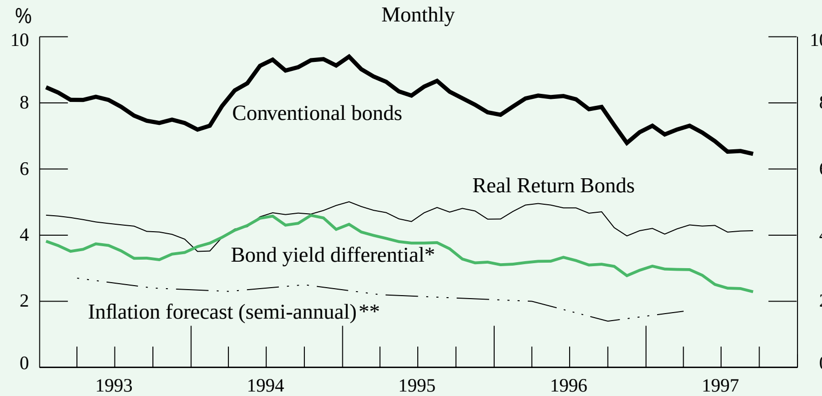
Source: Conference Board of Canada

In the Conference Board's September quarterly *Survey of Forecasters*, it was anticipated that CPI inflation would average about 1.8 per cent in 1997 and 1.9 per cent in 1998. The 1997 forecast was marginally lower than that of six months earlier, while the 1998 forecast was unchanged. Longer-term inflation forecasts, as reported by Consensus Economics Inc., are also in the lower part of the inflation-control target range (Chart 18).

Chart 18

CPI Inflation Forecasts 6 to 10 Years Ahead and 30-Year Bond Yields

Monthly



* The differential is calculated using the appropriate compound interest formula.
**Source: Consensus Economics Inc.

With the decline in the nominal long-term interest rate, the differential between the yields on conventional and Real Return Bonds has narrowed further, extending a three-year downward trend. This would suggest that investors have continued to adapt to the low-inflation environment. The decline in this differential so far this year is similar to that in other industrial countries that issue index-linked bonds (Technical Box 3). While one cannot extract a precise estimate of expected inflation from this differential, it would appear that expectations are within the inflation-control target range.

Technical Box 3

Inflation Expectations and Index-Linked Bonds

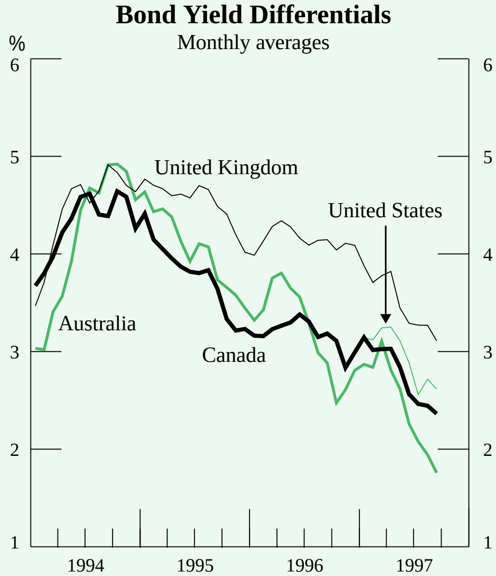
A small number of countries issue real return or index-linked bonds. Holders of these bonds receive interest payments and principal that are adjusted for the rate of domestic inflation. Thus, the yield differential between conventional bonds and index-linked bonds of similar remaining terms to maturity will be affected by expectations concerning inflation over the rest of the bond's life. In addition to inflation expectations, however, the differential embodies premiums for inflation uncertainty and for other factors such as differences in liquidity characteristics. As the premiums for these other factors are likely to change only slowly, the path of the bond yield differential over time provides a reasonably good picture of changes in expected inflation and the uncertainty surrounding it.*

The evolution of bond yield differentials (derived from bonds with remaining terms to maturity of approximately 10 or 25 years) in the four countries shown in the left-hand chart suggests that there has been a steady and broadly based decline in the premium for inflation expectations and inflation uncertainty over the past four years. Bond yield differentials for Canada, Australia, and the United Kingdom have fallen by between 1.5 and 3 percentage points since mid-1994. The corresponding measure in the United States has also fallen since the first index-linked bonds were issued early this year.

The downward trend of bond yield differentials coincides with a marked decline in global inflation during the 1990s. By the middle of 1997, average inflation for consumer prices in 20 industrialized countries was about 1.5 per cent. The fall in actual inflation has no doubt heavily influenced expectations of future inflation and the uncertainty surrounding it. But continued declines in bond yield differentials as some of these economies approached (or even exceeded) capacity suggest that central banks are making progress in establishing their anti-inflation credentials.

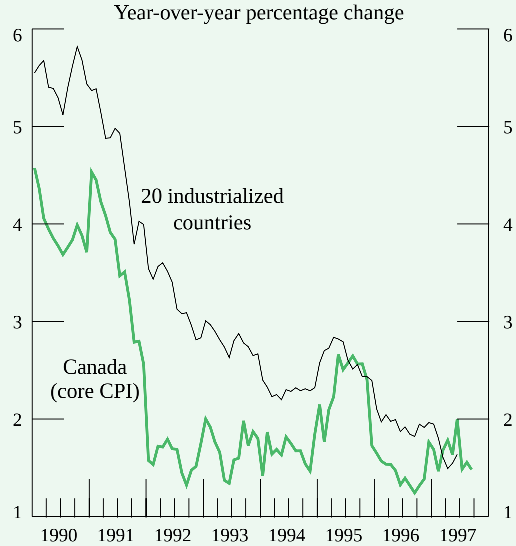
Bond Yield Differentials

Monthly averages



Average Inflation in 20 Industrialized Countries

Year-over-year percentage change



* For additional information regarding Real Return Bonds and the measurement of inflation expectations, see Côté et al. (1996).

Monetary indicators

The Bank continues to monitor M1 growth closely.

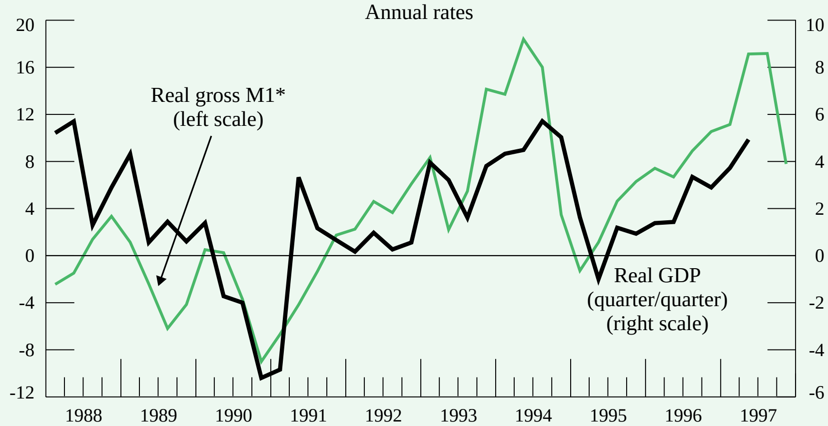
M1 (the definition of money that includes the money used in transactions) grew at an unsustainably rapid pace over the first half of 1997, reflecting low interest rates and the lingering effects of the introduction of competitive interest rates on current accounts. More recently, M1 growth on a year-over-year basis has started to moderate towards a pace more consistent with inflation remaining within the target range.

The rapid growth of real M1 over the past year indicates that the robust expansion of real GDP should continue into next year (Chart 19). The yield curve also suggests that economic growth should be strong in 1998. A steep yield curve has usually been followed by strong GDP growth over the next four quarters. Taken together, these indicators are consistent with real GDP growing faster than estimated potential through 1998.

Chart 19

Real GDP Growth and Growth of Real Gross M1

Annual rates

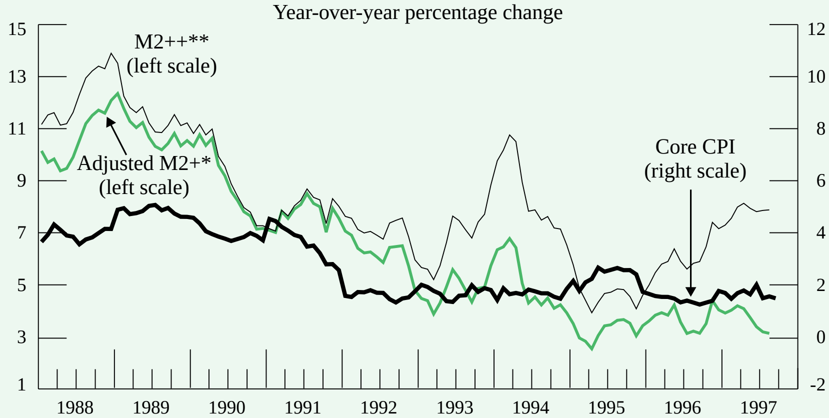


* Two-quarter moving average of growth in gross M1 (deflated by the consumer price index), one quarter earlier

Chart 20

Core Inflation and Broad Money Growth

Year-over-year percentage change



* Adjusted M2+ adds CSBs and mutual funds sponsored by certain financial institutions to M2+.
** M2++ adds CSBs and all mutual funds to M2+.

Because of strong portfolio shifts into mutual funds, the traditional broad monetary aggregates are not currently reliable indicators of future inflation.

M2+ (the traditional broad definition of money, which includes money market mutual funds) has been growing very slowly on a year-over-year basis since the last *Report*. Normally, this would indicate the absence of inflationary pressure. In recent years, however, holders of deposits have been seeking higher yields by switching into mutual funds, most of which are outside the M2+ aggregate. The adjusted M2+ aggregate incorporates mutual funds sponsored by financial institutions that issue deposits or deposit-like instruments, in order to capture the shifts within those institutions from deposits to mutual funds. However, investors have also been shifting from deposits to mutual funds other than those sponsored by such institutions. M2++ is an alternative measure that incorporates all mutual funds. Over the past 12 months, M2+ has increased by 0.2 per cent, adjusted M2+ by 3.1 per cent, and M2++ by 7.9 per cent. Such disparate outcomes make it difficult, at present, to draw inferences about inflation from the growth of these traditional and adjusted broad monetary aggregates. Research is continuing into measures of broad money that might have a more reliable link with future inflation.

Inflation projection

Core inflation is expected to remain in the lower half of the inflation-control target range.

In summary, three factors lead us to expect core inflation to remain in the lower half of the inflation-control target range well into 1998. First, downward pressure on core inflation arising from slack in both product and labour markets will continue to play a role over this period. Second, strong growth in productivity in the context of robust economic expansion will contribute to keeping overall unit cost increases low. Third, inflation expectations, based on the various measures available, appear to be centred slightly below the midpoint of the target range.

Once the Canadian economy reaches full capacity, however, inflation pressures could mount unless the Bank is successful in ensuring that the upward trend of aggregate demand is consistent with the growth of the economy’s potential to produce.

5. Conclusions

Inflation, measured by either the core CPI or the total CPI, is expected to stay in the lower half of the inflation-control target range between now and the next *Report*.

Over the period to the end of 1998, the economy is projected to expand at an annual rate of about 4 per cent. Since this pace exceeds the estimated growth of potential output for this period, the Bank's current expectation is that the output gap will tend to close towards the end of 1998.

Under these circumstances, the challenge for monetary policy will be to set monetary conditions at levels that encourage a pace of economic expansion that achieves full use of the economy's capacity and at the same time preserves low inflation. This is how monetary policy can contribute to continued, sustainable gains in output and employment. To this end, some moderation in the degree of monetary stimulus will be needed over the medium term.

While the strategic direction of policy is thus clear, taking measured steps in that direction raises three issues: the timing of policy actions; the amount of adjustment to monetary conditions required; and the extent to which stimulus will be reduced as a result of movements in short-term interest rates as opposed to a strengthening of the Canadian dollar.

Given recent economic trends, and apart from any complications that might arise from a more prolonged bout of the financial market volatility experienced in late October, it seems likely that further action to reduce monetary stimulus will be required between now and the next *Report*. In these circumstances, it also seems likely that somewhat higher short-term interest rates and a firmer exchange rate will both contribute to less-stimulative monetary conditions. However, with low inflation and improved fiscal positions, increases in interest rates and in overall monetary conditions should be much smaller than in past periods of high inflation.

During the next six months, the Bank will have to closely monitor the momentum of the economy and developments in financial markets in order to assess the pace and extent of adjustments to monetary conditions necessary to preserve low inflation and thus bring about a long-lasting economic expansion. It is by prolonging the expansion that we will achieve sustained reductions in unemployment in Canada.

This is a report of the Governing Council of the Bank of Canada: Gordon Thiessen, Bernard Bonin, Charles Freedman, Paul Jenkins, Tim Noël, and Sheryl Kennedy.

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