Information Bulletin

PROVINCIAL AND NATIONAL BUSINESS CYCLES 1976 TO 2006: HOW THE PROVINCES FARED*

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Contents

The WCER Coincident Indicator (CI)

Rational economic policy actions and effective private sector decision making depend on timely and systematic information about where an economy stands at any particular time. Whether our focus is on the national or provincial economy, certain activities such as real estate sales, construction, retail sales, and many other goods and service producing sectors are subject to periods of either acceleration or deceleration, rather than steady growth. At times they may even experience negative growth. These fluctuations are evident in both income and employment.

In a federal political structure there is a natural interest in knowing how fluctuations in economic activity differ across provinces and how that of each province relates to the national experience. How do fluctuations differ across provinces? Does the national monetary policy, put in place by the Bank of Canada, run counter to the needs of some provincial economies? These are important questions in a country like Canada, one of the most decentralized federations, and where historically there has been substantial variation in economic conditions from one part of the country to another. And further, with the amount of economic authority vested in provincial governments it is, at the very least, surprising that comparative cyclical analysis is absent. This provides all the more reason for awareness of not only what is happening to the national economy but to track the spatial variability within it.

Measurements of regional and national business conditions try to capture the common movement among a number of economic data series. For interpreting changes in business conditions, timeliness is important and, therefore, annual data is not particularly useful. Knowing where you were last year, some six months after the year has ended, is of limited use in addressing current issues. For interpretation of where we are presently and in the immediate past, monthly data is preferable. If we are to make inter-provincial comparisons and to contrast provincial with national experience, an absolute imperative is monthly measures based on identical series across jurisdictions. We need to be reading from the same page. For example, at the national level, monthly Gross Domestic Product (GDP) estimates are produced by Statistics Canada but no comparable monthly—or even quarterly—series is available provincially and we must, therefore, rely for comparisons on alternative measures.

Why a Coincident Indicator When Looking at Economic Activity?

A measure of activity in a specific sector of the economy is driven by two components: one represents the growth and cyclical forces that exist in the overall economy; and the second consists of the demand and supply conditions unique to that sector. Put simply, although activity levels in specific sectors may be expected to move hand in hand, they sometimes move from month to month in opposite directions. Hence, evaluating the economy by looking at the performance of individual sectors can lead to false interpretations of current

economic conditions nationally and provincially. What is required is some
'composite' measure of the changes that are occurring.

Criteria for the WCER Coincident Indicator (CI)

Making inter-provincial comparisons, and [in] contrasting provincial and
national experience, require that the Coincident Indicator be constructed from
identical sets of time series. Comparisons are impossible without equivalence in
the basic data. As stated previously for the national economy, the obvious
indicator is the monthly gross domestic product which encompasses all segments
of economic activity. In the absence of monthly or even quarterly estimates of
GDP for the provinces, a satisfactory alternative measure has to be developed.
Whatever options are selected must be broadly representative of what is taking
place in the economy.

The criteria in selecting the makeup of a Coincident Indicator include the
following:

1. the series selected should offer broad representation of both the income
    generating and the expenditures sides of the economy;
2. there be timely availability of the series chosen at both the provincial and
    the national level;
3. the series have proved reliable in dating national periods of business
    expansion and contraction; and
4. a small number of series is preferable.

In sum the desirable attributes of an accurate Coincident Indicator represent
breadth, availability, reliability and simplicity.

Choice of Time Series for the WCER Coincident Indicator (CI)

Making inter-provincial comparisons, and contrasting provincial and national
experience, requires that the CI be constructed from identical sets of time series.
The WCER has chosen three from among many possible measures. These three
have the advantages of a substantial coverage of all economic sectors and
reflect both production and consumption activities. In common parlance they
provide information on both the supply and the demand sides of the economy.
Three are chosen:

1. full time employment for those 15 and over for both sexes;
2. total hours worked in the month including both full and part time for both
    sexes aged 15 and over; and
3. the volume of retail sales in all stores (current sales adjusted for
    inflation).

Full time employment is a measure of the strength of labour market demand
and is derived from a specific question on the monthly Statistics Canada Labour
Force Survey (LFS). The LFS is a sample of some 55 thousand households.
Respondents are asked a specific question as to how many hours they actually
worked at their job during the reference week of the Survey. Those who worked
30 hours or more—which generally amounts to about 85 per cent of the total—

are classified as in 'full time employment'.[1] The responses to the LFS provide information on both the goods and services producing sectors of the economy.

The Total hours worked reflects the intensity with which labour is utilized in all sectors of the economy and serves as a proxy for levels of producer activity including how strongly capital equipment is worked. The LFS respondent is asked how many hours during the past week (the reference week) he/she worked at his/her job.

Retail sales are a good measure of household expenditure and existing levels of consumer confidence. Data on retail sales by province are produced by Statistics Canada from a sample of retailers in each province. This is a repeated survey each month with as much overlap as possible in the sample.[2] Monthly data are reported in current dollars so that the effects of inflation are in the data. We have chosen to take inflation out of the retail sales data with the Canadian Price Index (CPI), a broadly accepted monthly measure of price change and one relevant to household spending patterns. The result is an approximate measure of the volume of retail sales.

Deriving the WCER Provincial CIs

The steps in putting the CIs together are:
1. seasonally adjust the monthly series;
2. convert nominal retail sales to a volume basis with the national CPI;
3. apply a smoothing technique to address the erratic elements in each series;
4. express all series as an index with its 1992 monthly average equaling 100;
5. construct a CI with equal weights assigned to each of the index moving averages obtained in (4).

The seasonal element in the three chosen series is substantial and must be removed from the observations. For example, in total hours worked in Nova Scotia the seasonal ranges from a high of 110% of the monthly average to a low of 90%, and in the case of full time in Saskatchewan the seasonal factors range from a high of 106% to a low of 95%.

To combine numbers employed, hours worked, and retail sales adjusted for inflation into a provincial aggregate activity index requires that each series must be converted to a monthly index value. This is done by expressing each in terms of its 1992 monthly average.

The random elements in each series present a special problem that can be summarised in the following expression:

$$Y(t) = X(t) + u(t)$$

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[1] For a description of the LFS cf. Statistics Canada, see the guide to the Labour Force Survey, Cat. 71-543-GIE (2006).

[2] For description of the Retail Trade Survey see the Statistics Canada website and request a description of the Retail Trade Survey (Monthly) (MRTS). This provides information on the questionnaire used, data sources and methodology, data accuracy, and documentation.

where Y—the observed value of say actual hours worked in (t) after seasonal adjustment—consists of two components. X(t) represents the 'true' value, that is a value which reflects the evolution of the variable through time, while u(t) measures temporary unanticipated change impacting only in the month in which it occurs. In the three series, particularly in actual hours worked, u(t) is quite significant. Factors such as abnormal weather conditions can be a big part of u(t). The u(t) component in Y(t) is also strongly present in those provinces with smaller populations where the sampling that underlies estimates of the Ys can be quite limited. The point is that data at the provincial level are more volatile than national data and are likely to reflect the impact of idiosyncratic events. There are a number of ways of addressing this problem including moving averages, exponential smoothing and Kalman filters, none of which are totally satisfactory. In this work we have applied exponential smoothing to all individual series prior to construction of provincial aggregate indexes.

The provincial aggregates are constructed by assigning equal weights to each series. Shifting these weights within tolerable limits does not have measurable influence. The comparative results for Canada and each of the ten provinces, listed alphabetically, on a monthly basis from January 1976 through August of 2006 are shown in Figures 1 through 11, below. Periods identified as recession are shaded in each figure.

Identifying Periods of Recession

This is not quite the same as identifying national recessions. The generally accepted criterion for identification of a period of national recession is two successive quarters of decline in GDP: however, we are not using a measure of provincial GDP but rather monthly series, albeit a set broadly representative of the economy. For comparable national time series of full time employment or retail sales once a recession commences it is characterized by a steady decline in the measure until a bottoming out occurs. However, with monthly provincial data the downward trend in a recessionary period may be interrupted by month to month increases resulting from sampling error or 'one of' conditions. Accordingly, the road is not smoothly downhill as with a national measure. However, this difficulty can be substantially alleviated when data series are bundled into an aggregate measure. The following rule is applied to identify provincial periods of recession:

1. the aggregate index must display a declining trend for at least six months; and
2. the amount of decline must be at least 1 per cent from the previous peak.

The Canadian CI

Figure 1 displays the Canadian CI monthly since March of 1976. Three periods of recession and the percent decline in the indicator for each are found in Table 1.

TABLE 1: Periods of Recession and Percent Decline in the Canadian CI, 1976-2006

Months of Recession	% decline in the CCI
October 1979 to June 1980	-1.3
February 1981 to November 1982	-6.4
October 1989 to April 1992	-7.8

Source WCER

Of the three recessionary periods, October 1989 to May 1992—evident throughout the country—was by far the longest, and recorded the largest percentage decline in the Indicator. The Canadian CI indicates no recession in 2000-2001 but rather months of no growth. The Canadian CI is shown in Figure 1.

FIGURE 1: The Canada CI (1992 monthly average=100)
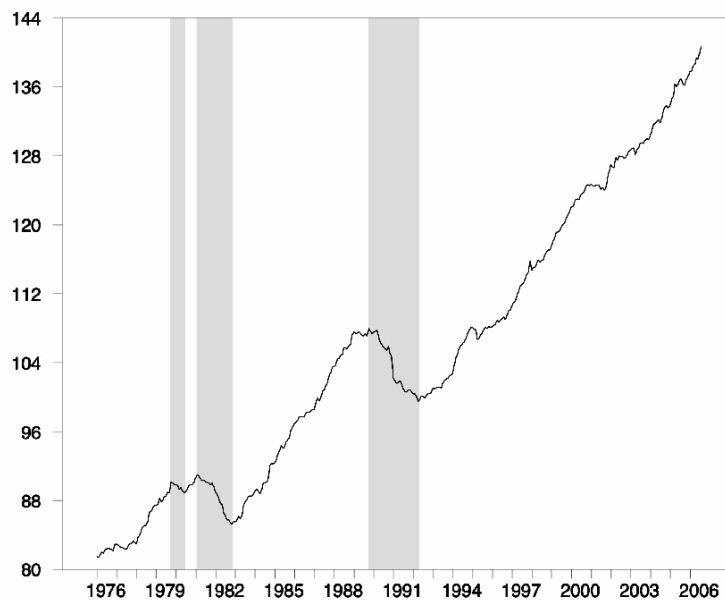
Source: WCER

The Alberta CI

Table 2, below, contains the Alberta CI. Three periods of recession and the percent fall in the Alberta CI for each are indicated in Table 2.
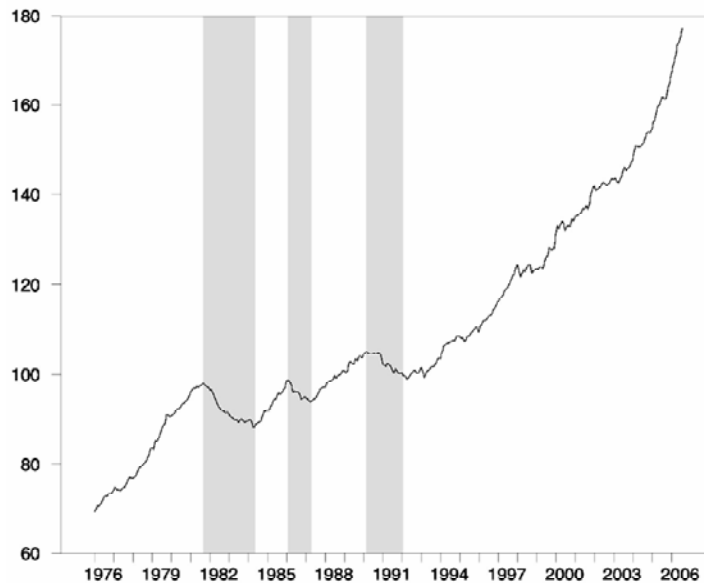
TABLE 2: Periods of Recession and % Decline in the Alberta CI, 1976-2006

Months of Recession	% decline in the Alberta CI
September 1981 to May 1984	-9.8
February 1986 to April 1987	-5.1
March 1990 to January 1992	-4.4

Source: WCER

Figure 2 shows the Alberta CI.

FIGURE 2. The Alberta CI (1992 monthly average=100)

Source: WCER

The lengthiest and most severe of the Alberta recessions was in the early 1980s followed by a modest but short recovery to the 1986-1987 recession, a decline not experienced nationally or in other provinces but one shared by other energy producing jurisdictions in North America such as Texas. Figure 2 shows the path of the Alberta CI which has been characterized by almost uninterrupted expansion since early 1992. The strong growth path post-2003 is especially evident. Of the three recessions in Alberta, two coincide with the national situation.

The British Columbia CI

Table 3, below, indicates the periods of recession recorded by the Indicator.

TABLE 3: Periods of Recession and % Decline in the British Columbia CI, 1976-2006

Months of Recession	% decline in the British Columbia CI
January 1981 to November 1982	-11.2
March 1990 to September 1991	-3.7
December 2000 to September 2001	-2.3

Source: WCER

Figure 3, below, shows the path of the British Columbia CI.

FIGURE 3. The British Columbia CI (1992 monthly average=100)
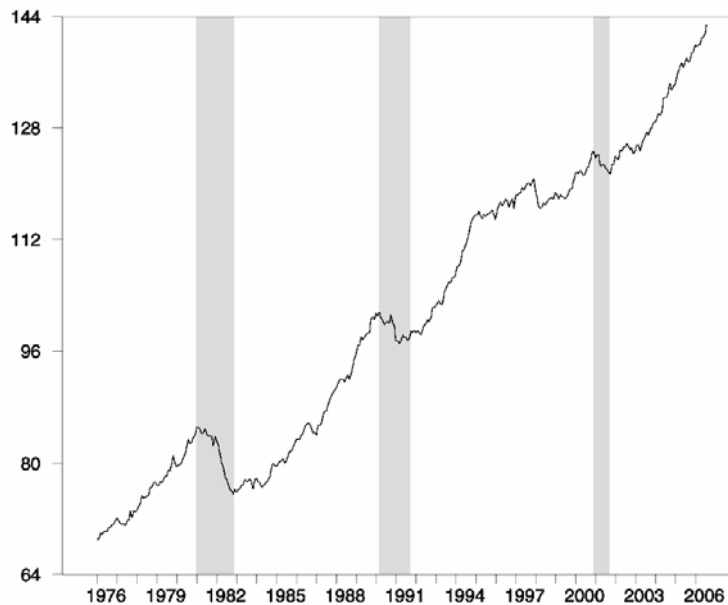
Source: WCER

Of the three recessionary periods in British Columbia, two have proximity with those nationally, with that in 1981-1982 substantially more severe and of the longest duration. Figure 3, above, reveals the impact of the large domestic and international migration during the first part of the 1990s which produced a construction boom, as well as the substantial slowing of the economy in 1997 which not quite qualifies as a recession under the criteria adopted here.

The Manitoba CI

Table 4, below, identifies the periods of recession and their severity as reflected in the Manitoba CI. Figure 4, below, presents the path of the Manitoba CI. The experience of the Manitoba economy images the national, a fact indicative of the ties of the provincial economy to Central Canada. Of the three recorded recessions, the most serious for the province was from October 1989 to May 1992 when the Manitoba CI recorded a decline of 8.6%. Unlike the experience of Alberta and British Columbia, the 1981-1982 recession was substantially milder in Manitoba.

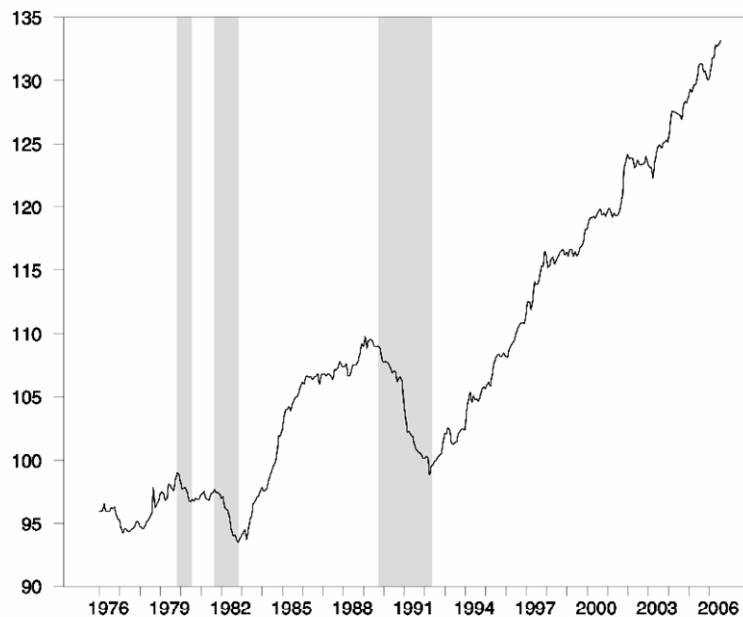**TABLE 4: Periods of Recession and % Decline in the Manitoba CI, 1976-2006**

Months of Recession	% decline in the Manitoba CI
December 1979 to July 1980	-2.3
October 1981 to December 1982	-4.3
November 1989 to April 1992	-8.6

Source: WCER

Figure 4, below, shows the Manitoba CI.

FIGURE 4. The Manitoba CI (1992 monthly average=100)

Source: WCER

The New Brunswick CI

Table 6, below, contains the five periods of recession suggested by the New Brunswick CI, two of which correspond with those recorded nationally and three—in 1996-1997, 2000-2001, and 2002-2003— are province specific. The most severe decline and that of longest duration occurred for just over two years during 1980-1982 period. The moderate recessions in 1996-1997 point to the sluggish performance of the economy during the 1990s. Those in 2000-2001 and in 2002-2003 speak to the impact of the US recession of 2001 and the ensuing hesitant recovery on the New Brunswick economy.

TABLE 5: Periods of Recession and % Decline in the New Brunswick CI, 1976-2006

Months of Recession	% decline in the New Brunswick CI
April 1980 to May 1982	-9.5
November 1990 to April 192	-4.6
July 1996 to March 1997	-2.7
November 2000 to July 2001	-2.9
April 2002 to May 2003	-2.6

Source: WCER

The New Brunswick CI is displayed in Figure 5 below.

FIGURE 5. The New Brunswick CI (1992 monthly average=100)
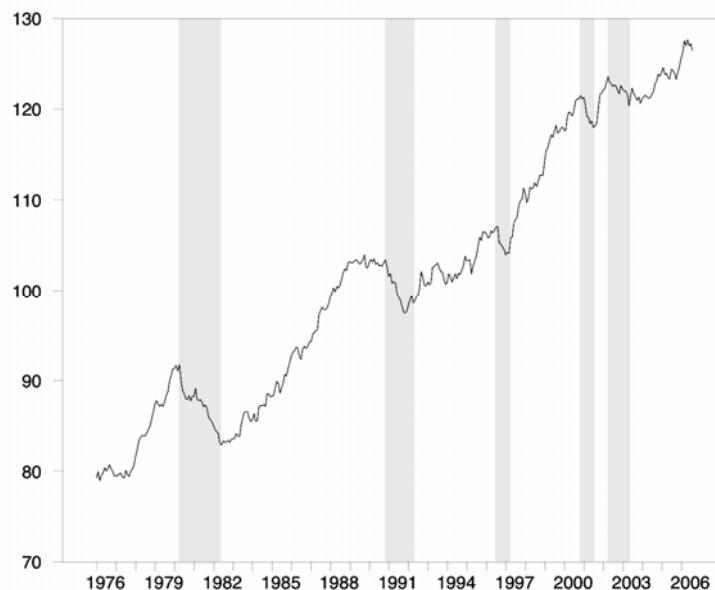
Source: WCER

The Newfoundland CI

The Newfoundland CI displays five periods of recession over the years as shown in Table 7 below: three of these have some proximity to national experience though the 1990-1993 decline in Newfoundland was longer and more severe than experienced nationally or in any other province. Newfoundland, like Alberta, recorded a recession during the oil price collapse in 1986-1987. A fifth period of recession occurred in 1995-1996, reflecting the massive erosion of the cod stocks.

TABLE 6: Periods of Recession and % Decline in the Newfoundland CI, 1976-2006

Months of Recession	% decline in the Newfoundland CI
September1979 to July 1980	-2.0
February 1981 to April 1983	-7.5
June 1986 to January 1987	-2.1
October 1990 to February 1992	-12.1
March 1995 to May 1996	-2.8

Source: WCER

Figure 6, below, shows the Newfoundland CI.

FIGURE 6. The Newfoundland CI (1992 monthly average=100)

Source: WCER

The Nova Scotia CI

The Nova Scotia CI indicates that over the period Nova Scotia experienced two of the recessions recorded nationally but not that in 2000-2001. Table 6, below, contains periods of recession in the Nova Scotia CI suggesting that both recessions were of significant duration and of moderate severity. Figure 5, below, displays the performance of the Nova Scotia CI.

Table 7: Periods of Recession and % Decline in the Nova Scotia CI, 1976-2006

Months of Recession	% decline in the Nova Scotia CI
April 80 to December 1982	-7.5
September 1989 to May 1992	-9.4
October 1994 to July 1995	-3.6

Source: WCER

Notable is the sluggish and hesitant recovery from the 1990-1992 recession, followed by another relatively mild recession in 1994-1995. The Nova Scotia CI is shown in Figure 7 below.

FIGURE 7. The Nova Scotia CI (1992 monthly average=100)
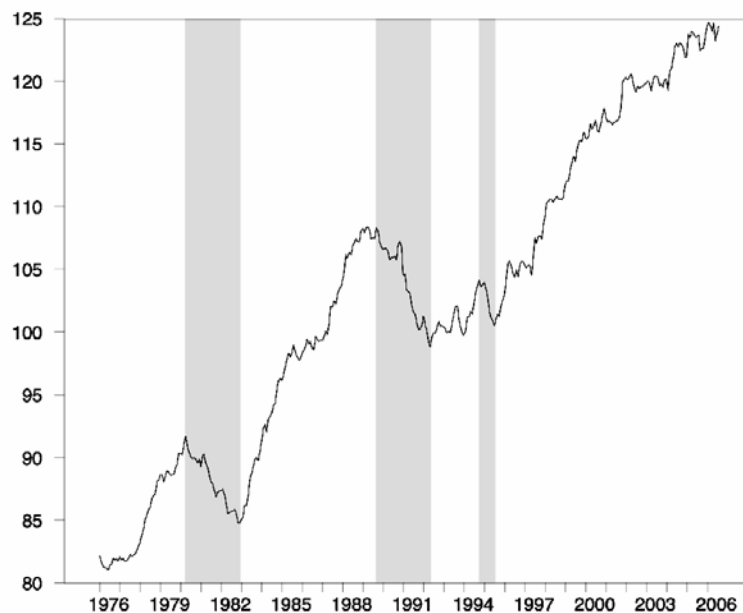
Source: WCER

The Ontario CI

In Table 8, below, are the periods of recession identified by the Ontario CI and the percent decline recorded in each. Because Ontario is such a large part of the national economy there, is as expected, a close coincidence between the provincial and the national cyclical experience. Of the Ontario recessions, the one from 1989 to 1992 was the most severe and of the longest duration.

TABLE 8: Periods of Recession and % Decline in the Ontario CI, 1976-2006

Months of Recession	% decline in the Ontario CI
October 1979 to June 1980	-3.3
June 1981 to November 1982	-4.9
May 1989 to May 1992	-10.6
January 2001 to September 2001	-1.2

Source: WCER

Figure 8, below, shows the performance of the Ontario CI over the period.

FIGURE 8. The Ontario CI (1992 monthly average=100)
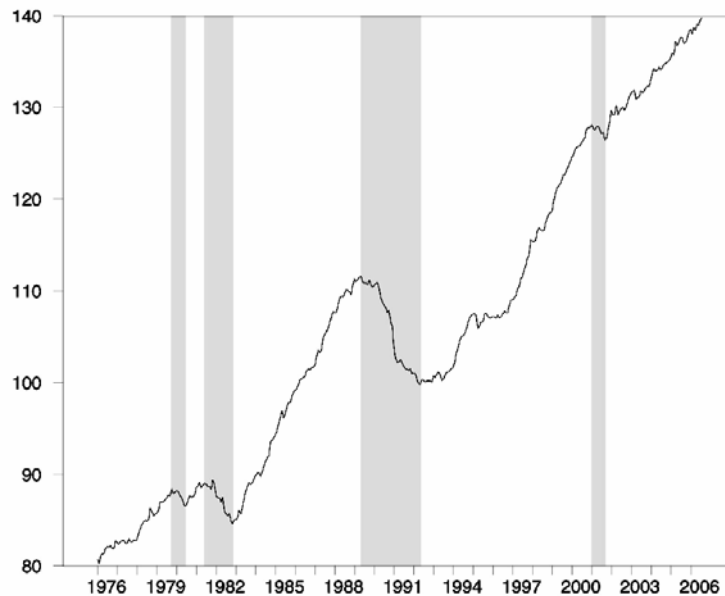
Source: WCER

The Prince Edward Island CI

Table 9, below, contains recessionary periods in Prince Edward Island. Two recessions, those in 1981-82 and in 1989-92 reflect the national experience with considerably greater severity, particularly in the former period. The Prince Edward Island CI recorded two moderate declines in the early years of the new millennium, separated by a modest recovery. These declines represented a series of adverse events in the economy including potato disease, the BSE embargo on cattle shipments to the US market, a slowdown in residential construction, a decline in tourism, and a fall in exports, particularly of processed fish products.

TABLE 9: Periods of Recession and % Decline in the Prince Edward Island CI, 1976-2006

Months of Recession	% decline in the PECI
February 1980 to June 1982	-11.1
January 1989 to April 1992	-12.0
April 2002 to November 2002	-2.6
August 2003 to February 2004	-3.1

Source: WCER

The path of the Prince Edward Island CI is shown in Figure 9.

FIGURE 9. The Prince Edward Island CI (1992 monthly average=100)

Source: WCER

The Quebec CI

Periods of recession and a measure of the severity of each for Quebec are found in Table 10, below. As second in economic importance to Ontario it is also expected that the performance of the Quebec economy would display some equivalence to the national. Both the 1981-1982 and 1989-1992 recessions were relatively severe, and particularly in the case of the former considerably greater than both the national and the impact of that recession on Ontario. Notably, the recession of 1994-1995 was specific to Quebec.

TABLE 10: Periods of Recession and % Decline in the Quebec CI, 1976-2006

Months of Recession	% decline in the QNCI
January 1980 to July 1980	-2.2
February 1981 to February 1983	-10.0
October 1989 to May 1993	-10.2
December 1994 to June 1995	-2.4

Source: WCER

Figure 10, below, shows the path of the Quebec CI over the period.

FIGURE 10. The Quebec CI (1992 monthly average=100)
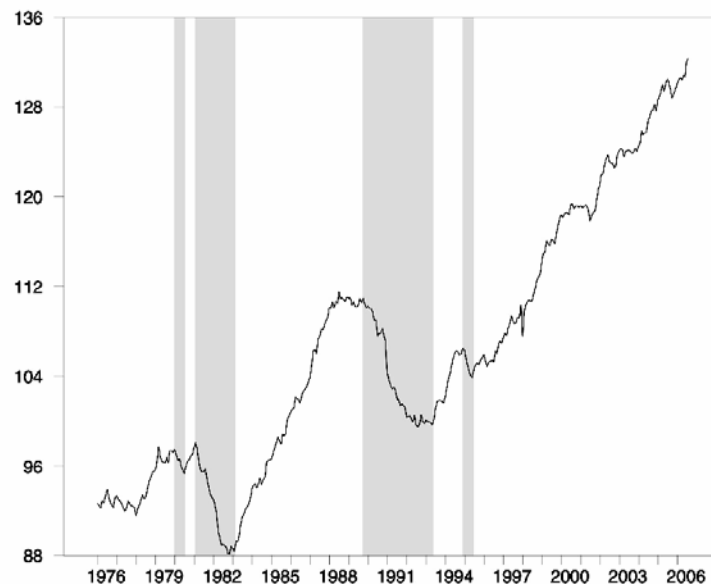
Source: WCER

The Saskatchewan CI

Table 11, below, shows five periods of recession and their severity in Saskatchewan as recorded by the CI The first was from 1980 to 1982 with an aborted recovery to September 1983 followed by a decline into the spring of 1984. Saskatchewan also experienced, during the late eighties to early nineties, a lengthy recession with a decline of about the same magnitude as that in the early eighties. Among Western Canadian provinces the recession of 1998-1999 was unique to Saskatchewan and associated with low farm prices, reduced farm incomes and depressed conditions in manufacturing.

TABLE 11: Periods of Recession and % Decline in the Saskatchewan CI, 1976-2006

Months of Recession	% decline in the SKCI
January 1980 to July 1982	-9.3
September 1983 to May 1984	-4.3
May 1988 to October 1992	-9.8
January 1998 to May 1999	-3.7
May 2000 to September 2001	-2.9

Source: WCER

Figure 11 shows the Saskatchewan CI.

FIGURE 11. The Saskatchewan CI (1992 monthly average=100)
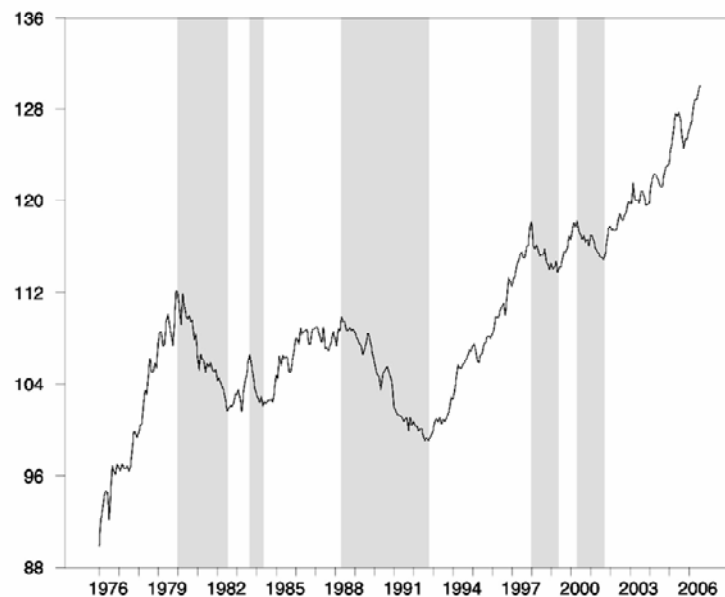
Source: WCER

Provincial Recessions: Differences

Our set of CIs indicates that cyclical experience differs across the provinces. Table 12, below, provides a synopsis. The table indicates in column (A) that Manitoba is the only province experiencing no recessions other than the three recorded nationally. In column (B) there are two provinces—Ontario and Quebec—that experienced all three national recessions together with one specific to the province. Alberta and British Columbia, in column (C), each experienced two national recessions and recorded one specific to each. Column (D) indicates those provinces that have experienced at least two specific recessions over the period. Column (D) made up of the Atlantic provinces and Saskatchewan is one in which recessionary experiences are at substantial variance with national experience. Also, while there is no evidence of a 1979-1980 recession, it is clear that a downturn commenced during these years at a time when other provinces were either showing sustained expansion (Alberta and British Columbia) or recovering from 1979-1980. In general, Table 12 suggests that there is justifiable skepticism in applying national recessionary experience to individual provincial economies.

TABLE 12: How Provincial Recessions Relate to the National Experience

(A) **Provinces in recession in all 3 national recessions**	(B) **Provinces in recession in 3 national recessions and experiencing one recession specific to the province**	(C) **Provinces in recession in 2 national recessions and experiencing one recession specific to the province**	(D) **Provinces with 2 or more recessions specific to the province**
Manitoba	Ontario	Alberta	New Brunswick
	Quebec	British Columbia	Newfoundland
			Nova Scotia
			Prince Edward Island
			Saskatchewan

Source: WCER

Longer Term Trends Implied by the WCER CIs

Monthly coincident indicators are also suggestive of longer term trends in the economy, in labour market demands, in the utilization of productive capacity, and in household expenditure growth**.** The trends in the CIs will not be precisely equal to those in provincial or national GDP simply because the indicators are truncated measures of economic activity. Nevertheless, they do reflect the underlying strength or weakness, effectively the vitality, of the economy's underpinnings.

To provide inter-provincial and provincial-national comparisons in longer term trends, we have segmented the period covered into two eras, 1976-1992 and 1992-2005, and calculated for each the rate of the growth in the respective CIs.

TABLE 13: Comparative Growth Rates in CIs, 1976-1992 and 1992-2005

	Growth Rate 1976-1992 %	Growth Rate 1992-2005 %
CANADA	1.74	2.34
Alberta	2.75	3.56
British Columbia	2.30	2.40
Manitoba	1.04	2.01
Nova Scotia	1.29	1.60
New Brunswick	1.40	1.67
Newfoundland	1.13	1.36
Prince Edward Island	1.18	2.13
Ontario	1.29	2.41
Quebec	0.47	1.98
Saskatchewan	0.02	1.82

Source: WCER

Uniformly, growth rates are higher in the second period, a fact that reflects the widespread impact of the relatively severe recessions of the early eighties and the early nineties. For example, some provinces lost the equivalent of two or even three years growth in these downturns. The better growth recorded in the latter period occurred because all jurisdictions have benefited from the fact of either an absence of recession or only a relatively mild downturn.

Table 13, above, also underscores the very substantial differences in provincial economic growth experience. For example, in the first period annual average growth ranged from a high of 2.75% in Alberta, or 1.58 times the national average, to a low of approximately zero in the case of Saskatchewan. In the second period annual average growth ranged from a low of 1.60% in Nova Scotia or 0.68 times the national average, to a high of 3.56% for Alberta, some 1.5 times the national. Given the degree of variation revealed by Table 13 it is apparent that the Canadian growth experience has rather limited provincial applicability.

Diffusion as a Measure of Provincial Cyclical Variation

A diffusion index is an additional instrument for summarizing provincial cyclical experience. This type of index reveals how the parts of a given whole are performing over a time interval. In our case, the parts are the provincial economies measured by the monthly WCER coincident indicators and the time period is from January of 1976 through August of 2006. The monthly diffusion

index illustrated in Figure 12, below, is constructed by taking the monthly percent change in each provincial CI, classifying it as one of:

- increase
- decrease
- no change

and deducting from CIs recording a month-over-month increase those that record a decrease. The resulting index is a measure of the net changes occurring in provincial economies. If all provinces experience *positive* monthly growth, a maximum value of +10 would be recorded for that month. If all provinces display *negative* monthly growth, the index would have a value of -10. Provinces where no change is evident are effectively assigned a value of zero in the calculation. Where provinces with monthly positive growth equal those with declining growth the value of the index would be zero. The index expresses the regional makeup of the growth recorded and conveys the degree of uniformity in provincial experience.

Figure 12 shows the net balance of expanding and contracting CIs across the ten provinces for each month. The index is based on a measure of three month percent changes in the provincial CIs. In constructing the index, movements at an annual rate of 0.5% or less were regarded as the equivalent of 'no change'. Shaded areas indicate periods of recession identified by the Canadian CI. Figure 12 suggests the disparity in monthly provincial business conditions even during periods of economic expansion. The figure also indicates that periods of national recession were quite widely shared across provinces with substantial uniformity evident in the decline of 1981-1982 and again in 1989-1992.[3] The provincial impact of the minor recession of 1979-1980 can also be gleaned from the figure despite the fact that this recession, unlike the other two, did not occur in all provinces.

The uneven behaviour of the index following the recession in the 1990s reflects the uneven nature of economic expansion during these years when five of the ten provinces suffered specific recessions, most evident in the slow growth Atlantic provinces.

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[3] The positive blip in the index during October of 1990 is suggestive of the impact on retail sales in anticipation of the introduction of the 7% GST in January 1991.

FIGURE 12. The Net Balance of Expanding and Contracting CIs Across Provinces
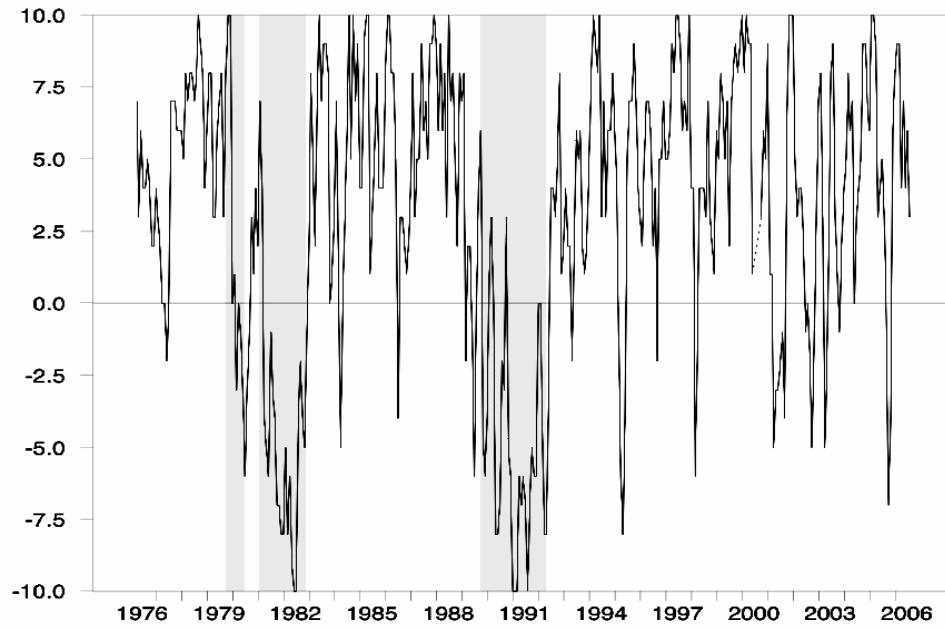
Source: WCER

Conclusion

The purpose of this research is to identify provincial cyclical experience over recent decades and to offer the basis for inter-provincial comparisons. This is a limited objective since it is not, for example, designed to either provide an in-depth description or—even more ambitiously—to evaluate the specific provincial circumstances that generated cyclical change.

To complete the research, one must consistently apply in each jurisdiction identical measures of economic activity. This type of comparative analysis seems highly appropriate in a decentralized federation like the Canadian. Unfortunately provincial GDP data comparable to national GDP are not available monthly and one must therefore find available monthly series that harmonize with the ebb and flow of aggregate business conditions. Among the many possible candidates, the monthly series chosen are total hours worked, full time employment and the volume of retail sales. When combined into an index, they appear to track the performance of the national and the provincial economies quite effectively. A diffusion index of provincial CIs is a useful tool in summarizing monthly provincial business conditions.

The result is a recession record of the past one-third of a century that reveals considerable heterogeneity in the Canadian cyclical experience.

The first half of the period covered reveals two rather severe recessions experienced nationally and across the provinces. In contrast, there has been no national recession since the severe downturn of 1989-1992 but there have been provincial recessions over the past fourteen year period, most strongly evident in the Atlantic region. These downturns, however, rank as relatively mild in depth and limited in duration.

The results suggest that in establishing policies that are national in scope—such as monetary policy—those responsible require a systematic and timely knowledge base that effectively allows the evaluation of provincial business conditions. Even in the best of circumstances policy decisions will be complex and not always optimal from the perspective of individual provinces.

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Statistics Canada, CANSIM II and CANSIM.

Appendix

The monthly time series drawn from CANSIM I and II used to construct the set of coincident indicators follow:

Canada: V3494701 total hours worked; V2062812 full time employment; V21644955 retail sales in current dollars spliced with D656023 and V115584.

Alberta: V3501241 total hours worked; V2096772 full time employment; V21645079 retail sales in current dollars spliced with D651171 and V115647.

British Columbia: V3502051 total hours worked; V2097452 full time employment; V21645083 retail sales in current dollars spliced with D651347 and V115648.

Manitoba: V3499621 total hours worked; V2095512 full time employment; V21645071 retail sales in current dollars spliced with D650907 and V115644.

New Brunswick: V3497191 total hours worked; V2093622 full time employment; V21645051 retail sales in current dollars spliced with D650467 and V115699.

Newfoundland & Labrador: V3502861 total hours worked; V2091723 full time employment; V21645039 retail sales in current dollars spliced with D650203 and V115696.

Nova Scotia: V3496381 total hours worked; V2092992 full time employment; V21645047 retail sales in current dollars spliced with D650379 and V115698.

Ontario: V3498811 total hours worked; V2094882 full time employment; V21645063 retail sales in current dollars spliced with D650731 and V115702.

Prince Edward Island: V3495571 total hours worked: V2092362 full time employment; V21645043 retail sales in current dollars spliced with D650291 and V115697.

Quebec: V3498001 total hours worked; V2094252 full time employment; V21645055 retail sales in current dollars spliced with D650555 and V115700.

Saskatchewan: V3500431 total hours worked; V2096142 full time employment; V21645075 retail sales in current dollars spliced with D651083 and V115646.

The retail sales data for each jurisdiction were deflated by the national CPI V18702611.