## **Integrative Case 2**

## **Common Trends and Cycles in Canadian Interest Rates**

As a junior financial analyst in an investment bank, you have been assigned to investigate the dynamics of some key Canadian interest rates. You expect these interest rates to be related for several reasons; according to the expectations and liquidity premium hypotheses of the term structure of interest rates, short and long rates move together over time. Moreover, according to the risk structure of interest rates, interest rates on corporate bonds are always higher than interest rates on government bonds with the same term to maturity.

Access the CANSIM II database (as you did in Integrative Case 1) to locate historical Canadian interest rate data. Although some series go as far back as 1975, you decide to analyze Canadian interest rate movements in the period after June 1982, thereby ignoring the effects of certain big shocks to the Canadian economy such as the oil shocks of the 1970s.

1. Get monthly data, from June 1982 to August 2002, on the overnight funds rate, the one-year treasury bill rate, a 10-year interest rate, and interest rates on long-term provincial and long-term corporate bonds.

- Present a time series plot of these interest rate series and comment on their longrun co-movements.
- Calculate the mean and standard deviation as well as the maximum and minimum values for each series over the sample period (from June 1982 to August 2002). Which were the worst and best years in terms of interest rates?

2. One interesting feature of this data set is the contemporaneous correlation between the different series. Calculate the contemporaneous correlations between these interest rate series.

- Which series exhibit the strongest correlations? The weakest? Do the correlation patterns you identified here manifest in the graphical representation of the series?
- Compare the contemporaneous correlations over the whole period with those in the 1980s and 1990s.

3. Present a time series plot of the spread between the interest rates on each of long-term provincial bonds and long-term corporate bonds and the treasury bill rate.

- Do these spread series show evidence of a trend?
- Calculate the mean and standard deviation as well as the maximum and minimum values for each of the spread series.

4. It has been argued in the text that interest rates are procyclical (they tend to be high when the level of economic activity is high and low when the level of economic activity is low).

- Describe how you would investigate the cyclical properties of interest rates and interest rate spreads.
- Are risk premiums on corporate bonds procyclical or countercyclical? Why?

Copyright © 2004 Pearson Education Canada Inc.