ECON 423 Lab: Noneconomic Forecasts

Evaluating the Composite Leading Index

This lab examines the ability of the Composite Index of Leading Indicators to predict turning points in the business cycle.

- On page 370 of the text: "The National Bureau defined that a peak is reached if the next three months are all downward; a trough is reached if the next three months are all upward."
- How reliable is this as a forecast of turning points in the reference cycle?
- How often does the reference cycle peak close to peaks in the Indicators?

Data

The Excel file leading_indicators.xls contains dates, the monthly Composite Index of Leading Indicators, and four variables related to the reference cycle:

- Leading: Composite Index of Leading Indicators
- **Peak**: = 1 at reference cycle peaks
- Trough: = 1 at reference cycle troughs
- Expansion: = 1 during expansions
- Recession: = 1 during recessions

Procedures

- 1. Preliminary steps
 - Insert a new column to the right of Leading
 - Label the column Delta-L
 - Write a formula calculating the month-to-month change in the composite leading index
 - Insert a new column to the right of Delta-L
 - Label the new column Delta-L3
 - Write a formula using the logical functions "If" and "And" so that this column = 1 if Delta-L = 1 for 3 consecutive months
 - Sum up Delta-L3 What does this sum tell you about turning point forecasts?
- 2. Analysis
 - We now know how often the Composite Index of Leading Indicators turned down for three consecutive months in the sample period
 - Want to find out how often an actual business cycle peak happened "near" these events
 - Must define "near" in practical terms
 - Let near be \pm three months

- Construct a logical variable that is equal to 1 if Delta-L3 equals 1 and Peak = 1 in any of the three months before or after Delta-L3 equals 1, and equal to zero otherwise
- Formula:
 - Column E: Delta-L3
 - Column F: Peak
 - In Column G, Row 6: =IF(AND(E6=1,OR(F3=1,F4=1,F5=1,F6=1,F7=1,F8=1,F9=1)),1,0)
- 3. Evaluation
 - How many times was the formula =1?
 - How many business cycle peaks in the sample?
 - How many times did Delta-L3 turn down for three consecutive months?
 - Is this an "overestimate" of business cycle peaks?