**Out-of-Sample Forecasting Experiments:
Validating Proposed Leading Indicators**
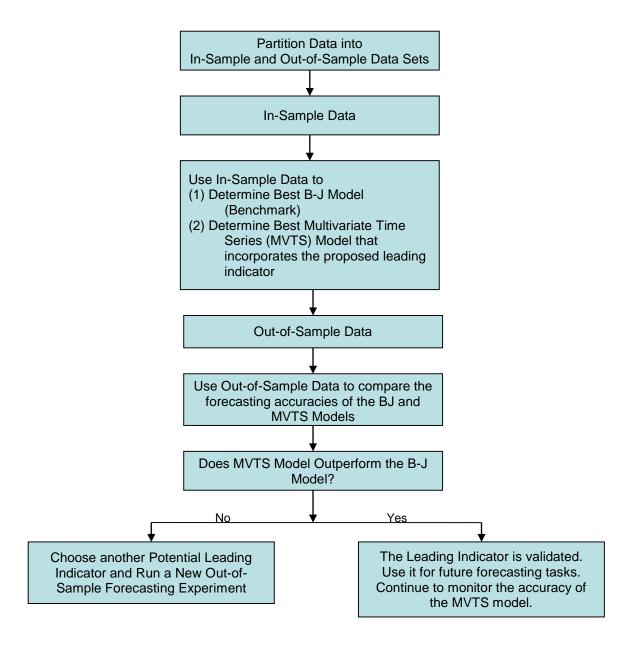
Partition Data into
In-Sample and Out-of-Sample Data Sets

In-Sample Data

Use In-Sample Data to
(1) Determine Best B-J Model
 (Benchmark)
(2) Determine Best Multivariate Time
 Series (MVTS) Model that
 incorporates the proposed leading
 indicator

Out-of-Sample Data

Use Out-of-Sample Data to compare the
forecasting accuracies of the BJ and
MVTS Models

Does MVTS Model Outperform the B-J
Model?

No

Yes

Choose another Potential Leading
Indicator and Run a New Out-of-
Sample Forecasting Experiment

The Leading Indicator is validated.
Use it for future forecasting tasks.
Continue to monitor the accuracy of
the MVTS model.

Figure 4
Out-of-Sample Forecasting Experiments:
Choosing a Good Combination Forecast

Partition Data into 3 parts:
In-Sample, Out-of-Sample and Test Data

In-Sample Data

Use In-Sample Data to Determine
The Parameters of Several Competing
Forecasting Methods

Out-of-Sample Data

Use Out-of-Sample Data to generate the forecasts of the competing
methods and then use the Granger-Ramanathan Method to form the
combination forecast method and its weights

Test Data

Use the Test Data to compare the forecasting accuracy of the G-R
combination method with the forecasting accuracies of the individual
forecasting methods that make up the G-R Combination Method

Does the G-R Combination Method Predict more
accurately than all of the individual forecasting Methods?

No

Yes

Either:
(1) Reduce the number of methods that
make up the combination and try again
(2) Try new individual methods to form
the combination and try again
(3) In addition to (1) and (2) try another
way in getting combination weights.
There exist many alternative ways of
building combination forecasts.

Use the G-R Combination Forecasting
Method for future forecasting tasks