June 26, 2012

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Canadian Indicator Surprise Aggregate: A Tool for Predicting Central Bank Moves

Highlights

- The Canadian Indicator Surprise Aggregate (CISA) measures the overall recent tone of the indicator news flow, helping to determine if BoC interest rate changes are forthcoming.
- Each of the 12 indicators which make up the CISA are given a Significance Score, as determined by their impact on two-year Canadian government bonds, and a Surprise Score, measuring how much initial readings differed from median forecasts. The CISA is calculated daily on a rolling three-month basis with newer indicators weighted more heavily.
- The CISA currently shows that BoC interest rate increases are not likely, based on the economic indicators from the U.S. and Canada. Current conditions in Europe make rate hikes even less likely. The DE forecast is for rates to remain unchanged through the end of the year. Risks are skewed to the downside on the possibility of a Eurozone "Lehman Moment."

Introduction

The Bank of Canada (BoC) currently faces a conundrum on its interest rate policy. Domestic conditions hint that tightening might become appropriate. Inflation is currently running slightly below the 2% target—with the Core CPI at 1.8% y/y in May—while labor market improvements have been robust of late, adding about 150K total jobs over the past three months. Households are borrowing against home equity to finance consumption, and household debt-to-income ratios are on par with the pre-recession U.S.. Moreover, interest rate increases might be the only tool to stem elevated activity in the housing market. Therefore, it is not surprising that the April 17 BoC rate decision statement hinted that "some modest withdrawal" of stimulus may become appropriate.

However, the June 5 rate decision statement cited weakening global economic growth with European risks "skewed to the downside" as well as a deterioration of global financial conditions, sluggish U.S. growth, and emerging markets slowing down more sharply than expected. While the "modest withdrawal" of stimulus still remains on the table, it is overshadowed by the much bleaker depiction of global growth. Markets interpreted this as tilting the balance towards rate cuts.

BoC rhetoric has agitated markets over the past three months as markets ponder which way (and when) interest rates will move next. Two-year Canadian government bond yields have been as high as 1.42% on April 27 and as low as 0.88% on June 1. Major indicator releases have rattled bond markets as investors view each piece of data as the beginning of a fresh trend. However, central bankers—especially BoC governor Mark Carney, who also serves as Chairman of the Financial Stability Board (FSB)—are not apt to act on a single indicator, but rather the broader tone of a set of indicators, both domestic and external.

Therefore, Decision Economics, Inc. (DE) has developed a Canadian Indicator Surprise Aggregate (CISA) to better measure the tone of economic data and better predict policy rate changes.

Table 1
CISA Significance Score

Indicator	Change (bps)	Significance Score
U.S. Nonfarm Payrolls	4.55	5
Canada Net Chg in Employment	4.10	5
Canada GDP	2.58	4
Canada Core CPI	2.34	3
U.S. Retail Sales	2.30	3
Canada CPI	2.26	3
Canada Ex-Auto Retail Sales	2.05	2
U.S. ISM Survey	2.02	2
Canada Retail Sales	1.78	2
U.S. Ex Auto Retail Sales	1.59	2
U.S. Core CPI	0.80	1
U.S. CPI	0.68	1

Sources: Bloomberg and Decision Economics, Inc.

Canadian Indicator Surprise Aggregate (CISA)

The CISA measures the overall recent tone of the economic data flow. It summarizes the net effect of the 12 economic indicators shown in Table 1. Indicators

Table 2
Cumulative CISA Calculation, April 17-June 5, 2012

Date	Indicator	Forecast	Initial Release	Surprise Score	Significance Score	CISA Score	Cumulative CISA
20-Apr	Canada CPI	0.5	0.4	-1	3	-3	-3
24-Apr	Canada Retail Sales	0.1	-0.2	-1	2	-2	-5
	Canada Retail Sales Ex Auto	0.6	0.5	-1	2	-2	-7
30-Apr	Canada GDP	0.2	-0.2	-2	4	-8	-15
1-May	U.S. ISM	53	54.8	1	2	2	-13
4-May	U.S. Nonfarm Payrolls	+160K	+115K	-1	5	-5	-18
11-May	Canada Net Chg Employment	+10K	+58.2K	2	5	10	-8
15-May	U.S. Retail Sales Ex Auto	0.2	0.1	-1	2	-2	-10
18-May	Canada CPI	0.3	0.4	1	3	3	-7
	Canada Core CPI	0.2	0.4	1	3	3	-4
23-May	Canada Retail Sales	0.3	0.4	1	2	2	-2
	Canada Retail Sales Ex Auto	0.5	0.1	-1	2	-2	-4
1-Jun	Canada GDP	0.3	0.1	-1	4	-4	-8
	U.S. Nonfarm Payrolls	+150K	+69K	-1	5	-5	-13
	U.S. ISM	53.8	53.5	-1	2	-2	-15

Sources: Bloomberg and Decision Economics, Inc.

impact the CISA through the product of the Significance Score and Surprise Score.

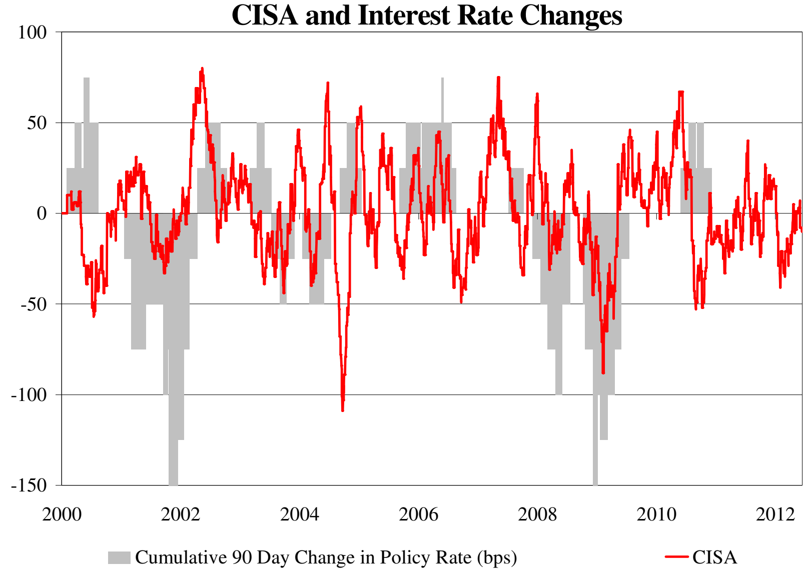
These 12 indicators were chosen because of their significant impact on Canadian bond yields from 2000-12. Table 1 gives the change in basis points on two-year Canadian government yields when an indicator exceeds its median forecast by one standard deviation. Based on those values, indicators are assigned a Significance Score between 1 and 5.

The Surprise Score changes each month for each indicator and can take integer values between -3 and 3. The Surprise Score is based on the difference between the median forecast and the initial release of the indicator.

The DE CISA is calculated daily on a rolling three-month basis with recent indicators weighted more heavily. Table 2 shows a cumulative and, in the interest of simplicity, non-weighted CISA calculation between the April 17 and June 5 rate decisions. Clearly, the economic data took a negative turn, with the cumulative CISA at -15 over the time period. Unsurprisingly, bond yields fell sharply and the central bank tone grew more cautious.

Chart 1 shows the correlation between the CISA and changes in the BoC policy rate since 2000. It is important to note that the CISA says nothing about the level of the indicators themselves, only how much the indicators undershoot or exceed forecasts.

Chart 1
CISA and Interest Rate Changes



Sources: Bloomberg and Decision Economics, Inc.

Links Between U.S. and Canadian Markets

Also of note, six of the twelve indicators included in the CISA are U.S. indicators. There are some reasons that, for example, the U.S. ISM reading is more important than Canadian Building Permits.

First, the U.S. is the destination of 70 percent of Canadian exports. Exports are cyclical—tending to grow faster than output in expansions—so strong U.S. data could be interpreted as boosting demand for exports. Also, as the U.S. is the largest economy in the world, it is not surprising that foreign markets use U.S. data to gauge the state of the global economy.

Equally likely, U.S. data are important to Canadian financial markets because U.S. economic data tend to be more timely and less noisy. Canada's Labor Force Survey is its only major indicator released somewhat concurrently with its U.S. counterpart, Nonfarm Payrolls. However, May U.S. retail sales data were released on June 13, while Canada data will not be available until July 24.

CISA Largely Abstracts From EM, Eurozone Risks

While the CISA does accurately capture the tone of the major U.S. and Canadian indicators, it largely abstracts from the unique risks currently facing the global economy. The EM slowdown and the Eurozone crisis could have strong and persistent negative impacts on financial markets and global growth. Therefore, the CISA must be viewed only as one piece of the current macroeconomic backdrop that the BoC considers in rate decisions.

As for interest rate policy in 2012, DE predicts short term interest rates to remain unchanged through the end of the year—barring a major Eurozone event which creates global financial turmoil. The situation in Europe is volatile, and has components of political, economic, social, and financial instability. The BoC will likely remain on the sidelines until these headwinds ease.

However, the CISA should continue to be tracked as a measure of U.S. and Canadian economic conditions. If growth in Canada and the U.S. is stronger than expected and the situation in the Eurozone is contained, expect the BoC to be ready to raise rates. Carney has frequently promoted clear central bank communication and the importance of a credible inflation targeting policy—therefore, he would not mention stimulus withdrawal unless it were a possibility.