THE CANADIAN ECONOMIC RECOVERY TRACKER: METHODOLOGY

EDC Economics

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INTRODUCTION

This report provides background information on Export Development Canada's (EDC) *Canadian Economic Recovery Tracker (CERT),* including details on the data series used and how the overall index is constructed. The *CERT* aggregates 13 high-frequency indicators to track Canadian economic activity, with the goal of providing an advanced estimate of performance several weeks before official gross domestic product (GDP) statistics.

OVERALL METHODOLOGY

The indicators used in the *CERT* are adjusted to make them as comparable as possible. Most indicators are available weekly, or even daily, while others are only reported monthly—particularly, employment and housing indicators*,* which typically lag other data. We carry forward these series by up to three weeks, as required, to provide the most up-to-date readings.

The index is normalized to zero, so the headline number represents the percentage change in economic activity compared to pre-COVID-19 levels, which can vary by indicator.

THE SUB-INDICES

1. COVID-19

The COVID-19 sub-index is equally weighted and comprised of new weekly case counts and a stringency index.

During the global pandemic, data on newly reported COVID-19 cases provide a useful signal of the spread of the virus, and form the basis for many government policy decisions, including the severity of containment measures. We use aggregated seven-day moving average of daily new cases, reported by Johns Hopkins University, and accessed through Haver Analytics. The severity of government restrictions on the movement of people is important in determining the strength of Canada's economic recovery. To account for this, the *Bank of Canada's COVID-19 Stringency Index* is incorporated, with a maximum value of 100.

In our tracker, we measure the weekly value of COVID-19 cases as a share of the maximum value of 10,625 on Oct. 23, 2020 (which has been subsequently updated after successive waves of the pandemic). For the stringency index, the maximum value was 71 in the week ending April 21, 2020.

2. FINANCIAL MARKETS

This sub-index includes the *TSX Composite Index* and Western Canadian Select (WCS) spot prices, both in U.S. dollars. These indicators are equally weighted. We obtain weekly averages for each from Bloomberg LP.

In the *CERT*, these indicators are measured as a percentage difference from their average values in January 2020. WCS prices are particularly useful, as they tend to be correlated with overall economic activity as well as the Canadian dollar.

3. TRANSPORTATION AND MOBILITY

This sub-index is comprised of three equally weighted components: Google mobility, domestic and international flights, and freight activity.

The mobility measure used is the Google Mobility indices, accessed through Haver Analytics. Google reports the percentage change in the daily number of visits to various places of interest versus the number of visits in the corresponding day between Jan. 3, 2020 and Feb. 6, 2020 (their chosen baseline). The six places of interest provided are:

- retail and recreation;
- grocery and pharmacy;
- parks;
- transit stations;
- workplaces; and
- residential.

We take the average of all indices, but we exclude parks and residential, which aren't well-correlated with economic activity.

We measure domestic and international flights using Statistics Canada's weekly table on domestic and international itinerant aircraft movements. The dataset counts the number of takeoffs and landings from Canadian airports, as registered by NAV Canada air control towers. Weekly data on aircraft movements is available only for the current year, prior data is at a monthly frequency. So, we estimate a year-on-year percentage difference by comparing the number of flights for a given week versus the number of flights for the corresponding month in 2019.

Freight activity is measured as weekly revenue ton-miles (RTM) from CN Rail. We measure the percent difference in weekly RTMs versus February 2020 levels.

4. SENTIMENT

This sub-index is comprised of the IHS Markit Canada Manufacturing PMI, accessed through Haver Analytics, and the *Bloomberg Nanos Canadian Confidence Index*, from Bloomberg LP.

The manufacturing PMI is a monthly indicator, we disaggregate by carrying over values across each week. Values for each month are compared to 50, the neutral value. The PMI represents the change in month-to-month future expectations. Therefore, a return to "peak" levels doesn't represent a return to "peak" manufacturing activity.

The *Canadian Confidence Index* is weekly, and we compare the weekly reading to the average value over January 2020. This is the four-week rolling average of 250 respondents per week, from a sample of 1,000 Canadian consumers. The survey includes questions on personal finance now versus the past year, the Canadian economy over the next six months, job security in the present, and real estate values over the next six months.

5. HOUSING, SPENDING AND EMPLOYMENT

This sub-index is made up of four equally weighted indicators: Residential unit sales, total hours worked, job postings, and consumer spending.

Total hours worked are sourced from Statistics Canada's monthly *Labour Force Survey*. The survey is taken for a given reference week (typically including the 15th day of each month). As the most recent value of the survey might be up to four weeks behind the *CERT*, we carry forward the most recent value. The hours worked series is indexed to February 2020 levels. This indicator serves as a proxy for labour input and is a better indicator of labour market performance than total employment or the headline unemployment rate.

Job postings are provided by Indeed Hiring Lab, which focuses on the Canadian labour market. Indeed measures the total number of job postings visible on its Canadian website, including jobs that are posted directly, as well as those scraped from the web. A data integrity team ensures illegal postings and double postings don't materially impact the total. A shortcoming of this data is that they may understate job vacancies, as a single posting may correspond to several openings. The data is measured as job postings as a percent change since February 2020. This indicator serves as a proxy for labour demand.

Consumer spending is measured using data from RBC's *COVID Consumer Spending Tracker*. This indicator is sourced from credit card purchasing data from RBC's customers and is indexed to February 2020 levels. This data is a timely measure of spending. However, one shortcoming is that many consumers may make purchases using alternate forms of payment. Durables goods purchases such as those for large appliances or vehicles are usually not made with credit cards.

Housing activity is captured through the Canadian Real Estate Association (CREA)'s residential unit sales data. Released monthly, the sales data is a valuable proxy for housing activity and residential investment. This measure is indexed to February 2020 levels.

POTENTIAL AREAS FOR FUTURE IMPROVEMENTS

The *CERT* provides a timely read on overall economic activity in Canada, available weeks before official statistics. Some known shortcomings of this tracker include the following:

1. The consumer spending data we use represents only a subset of all consumer spending, based on credit card data. However, the broad trends seem to track retail sales growth reasonably well.

2. Aside from the recent housing data addition, we don't have a timely measure of durable goods purchases.

3. The tracker equally weights the five sub-indices. It may be the case, that the result is over-weighted toward areas that are easier to measure, including mobility, flights, and freight volume.

These series result in the *CERT* being more highly cyclical than aggregate GDP. However, the *CERT* has a 0.96 correlation with the level of monthly real GDP. Currently, we're unable to include a reliable measure of services activities, and instead use industrial activity by including manufacturing PMIs in the tracker.

DATA SOURCES

Indicator	Data	Source
COVID-19	COVID-19 cases	Haver; Johns Hopkins University
	COVID-19 stringency index	Bank of Canada
Financial markets	S&P TSX Composite	Bloomberg; SPTSX Index
	WCS spot price	Bloomberg; USCRWCAS Index
Sentiment	Purchasing Managers' Index (PMI)	Haver; IHS Markit
	Bloomberg/Nanos Canadian confidence	Bloomberg; BNCCINDX Index
Transportation and mobility	Google mobility indices	Haver; Google
	Domestic and international flights	Statistics Canada; Table 23-10-0287-01
	Freight revenue-ton-miles	CN Rail
Housing, spending and employment	Residential unit sales	Haver; CREA
	Hours worked	Statistics Canada; Table 14-10-0032-01
	Job postings	FRED; Indeed Hiring Lab
	Consumer credit card spending	RBC