

# Experimental indexes of economic activity in the provinces and territories, October 2020

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Economic activity in most provinces and territories increased in October. On a month-to-month basis, the indexes based on principal component analysis (PCA) show increases for all provinces and territories except Quebec and Northwest Territories, while the indexes based on least absolute shrinkage and selection operator (LASSO) show a decrease only for Nunavut.

The PCA- and LASSO-based experimental indexes were developed to address the need for a comprehensive measure of economic activity at the sub-national level in advance of the annual estimates of gross domestic product for the provinces and territories. PCA and LASSO are statistical methods that can be used to combine a range of economic indicators from a number of areas (e.g., the labour market, merchandise trade, manufacturing production and wholesale and retail trade) into composite indicators.

## **Declines in Quebec reflect stronger, earlier restrictions**

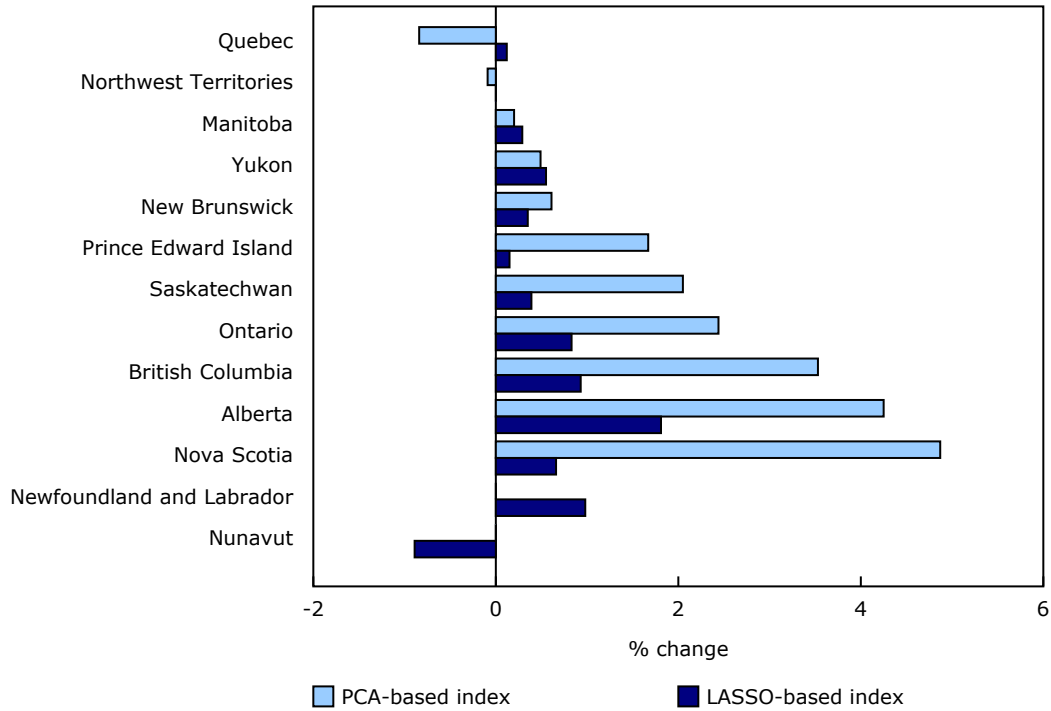
COVID-19 cases increased across the country in October, and a tightening of restrictions on economic activity occurred in British Columbia, Alberta, Manitoba, Quebec and New Brunswick.

In early October, several regions of Quebec reached the Quebec government's COVID-19 red alert level, with additional regions reaching this level as the month progressed. Activity was curtailed in these regions as a result of Quebec having earlier and stronger restrictions in October compared with the other provinces and territories. According to the PCA-based index, economic activity in Quebec declined 0.84% in October, while the LASSO-based index registered a smaller increase (+0.12%) than in September (+0.55%).

British Columbia, Alberta, Manitoba, Ontario and New Brunswick also instituted new measures to mitigate the rising number of COVID-19 cases in October. The effects of these measures are not fully incorporated into the October activity estimates because they were implemented later in the month than the restrictions put into place in Quebec. As a result, these effects would not have been captured by the October cycles of the surveys used to construct the activity indexes.



**Chart 1**  
**Percent change in economic activity, September 2020 to October 2020 by index and by province or territory**



**Note(s):** PCA: principal component analysis; LASSO: least absolute shrinkage and selection operator.  
**Source(s):** Author's calculations based on data from table [36-10-0633-01](#).

### Deceleration in the pace of recovery

The PCA- and LASSO-based activity indexes indicate a slowdown in the pace of growth in most province and territories. Both indexes show that the September to October change in the three-month moving average of monthly growth rates was negative in 9 of the 13 provinces and territories. For PCA-based economic activity, the largest slowdowns in growth occurred in Alberta, Quebec, Saskatchewan and Ontario. For the LASSO-based index, the largest slowdowns occurred in Alberta, Yukon, Nunavut, Quebec and Ontario.

**Table 1**  
**Activity indexes growth rates, three-month moving average up to October 2020**

	Three-month average of monthly growth rates		September to October 2020 change in moving averages	
	PCA	LASSO	PCA	LASSO
	%		% points	
Newfoundland and Labrador	..	-0.5	..	0.5
Prince Edward Island	1.6	0.2	-0.1	-0.1
Nova Scotia	2.1	0.7	0.4	-0.1
New Brunswick	0.1	0.3	0.3	0
Quebec	1.3	0.4	-2.4	-0.6
Ontario	3.2	0.9	-1.7	-0.2
Manitoba	0.3	0.3	-0.4	0.1
Saskatchewan	3.2	1.0	-1.8	-0.1
Alberta	3.7	2.2	-2.5	-1.8
British Columbia	2.9	0.9	-0.1	-0.1
Yukon	0.4	0.7	-0.2	-0.7
Northwest Territories	0.5	..	-1.5	..
Nunavut	..	0.2	..	-0.9

.. not available for a specific reference period

**Note(s):** PCA: principal component analysis; LASSO: least absolute shrinkage and selection operator.

**Source(s):** Author's calculations based on data from table [36-10-0633-01](#).

### Note to readers

Additional information is available in the paper titled [Experimental Economic Activity Indexes for Canadian Provinces and Territories: Experimental Measures Based on Combinations of Monthly Time Series](#), which is part of the series *Analytical Studies: Methods and References (11-633-X)*.

**Available tables:** table [36-10-0633-01](#).

**Definitions, data sources and methods:** survey numbers [2101](#), [2151](#), [2201](#), [2301](#), [2310](#), [2325](#), [2401](#), [2406](#), [2419](#), [2612](#), [2802](#), [3701](#), [5005](#) and [7505](#).

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