

Estimates of multifactor productivity growth in the provinces, 2020

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Multifactor productivity in the business sector increased in three of the four Atlantic provinces (Newfoundland and Labrador, Prince Edward Island, and Nova Scotia), Ontario and British Columbia in 2020, while it declined in Quebec and the three Prairie provinces. It changed little in New Brunswick.

Multifactor productivity measures the extent to which inputs are efficiently used in the production process. Multifactor productivity increases if growth in real gross domestic product exceeds growth in combined labour and capital inputs.

The largest increases in multifactor productivity in 2020 were observed in three of the four Atlantic provinces: Nova Scotia (+5.4%), Prince Edward Island (+5.0%), and Newfoundland and Labrador (+2.1%). Multifactor productivity declined the most in the three Prairie provinces: Alberta (-2.4%), Manitoba (-1.4%) and Saskatchewan (-1.0%). For Canada overall, multifactor productivity increased 0.5% in the business sector in 2020, the same rate as the average annual growth in the period from 2010 to 2019, before the COVID-19 pandemic.

Multifactor productivity is one of the three components of labour productivity, the other two being capital intensity and labour skill upgrading. An increase in capital intensity arises from investment in equipment, structures and intellectual property that contributes to growth in labour productivity. Skill upgrading is measured by labour compositional changes toward those workers who are more educated and more experienced. It captures the effect of an increase in worker skills from education and experience on labour productivity.

The differences in labour productivity growth among the provinces in 2020 are attributable to differences in multifactor productivity growth and capital intensity in the provinces in that year

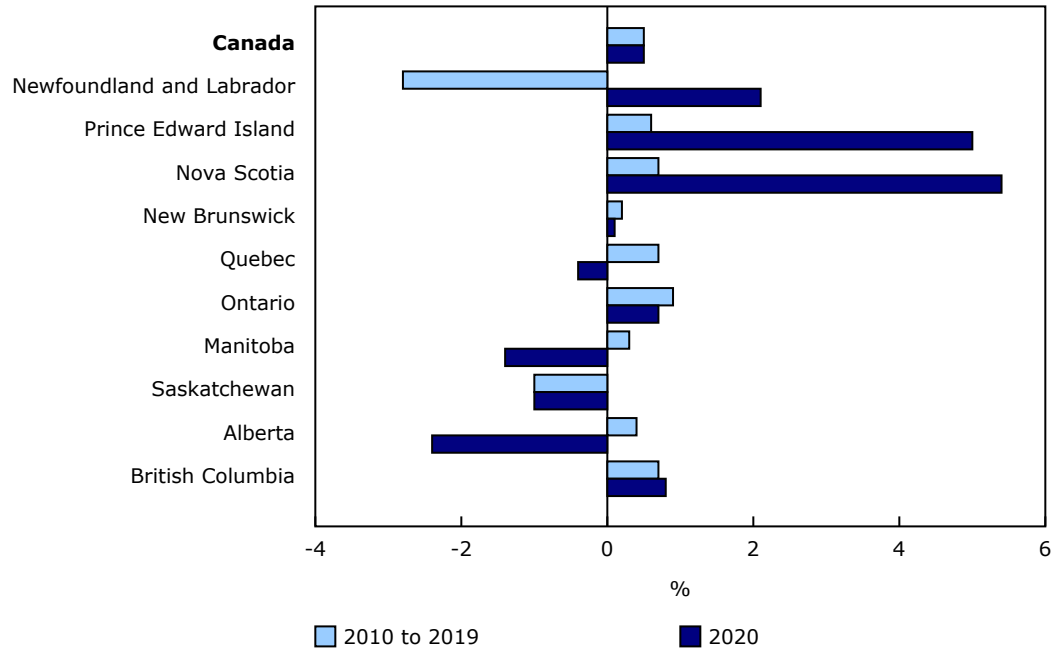
The differences in labour productivity growth among the provinces in 2020 were partly attributable to differences in multifactor productivity growth in that year. The provinces with relatively high labour productivity growth, such as Newfoundland and Labrador (+13.8%), Prince Edward Island (+13.2%), and Nova Scotia (+11.4%), also posted higher multifactor productivity growth. The provinces with relatively low labour productivity growth, such as the three Prairie provinces, had lower multifactor productivity growth.

The differences in labour productivity growth across the provinces in 2020 were also attributable to differences in the effect of capital intensity. The provinces with relatively high labour productivity growth, such as Newfoundland and Labrador, Prince Edward Island, and British Columbia, tended to have high capital deepening effects. In contrast, the provinces with relatively low labour productivity growth, such as Manitoba and New Brunswick, tended to have lower capital deepening effects.

The differences in capital deepening in the provinces in 2020 were attributable to differences in the decline in hours worked. While hours worked decreased sharply in all provinces in 2020 during the pandemic, capital changed little. Therefore, the capital used by each worker, or capital intensity, increased. The effect of capital deepening is expected to have declined in 2021 as hours worked rose.

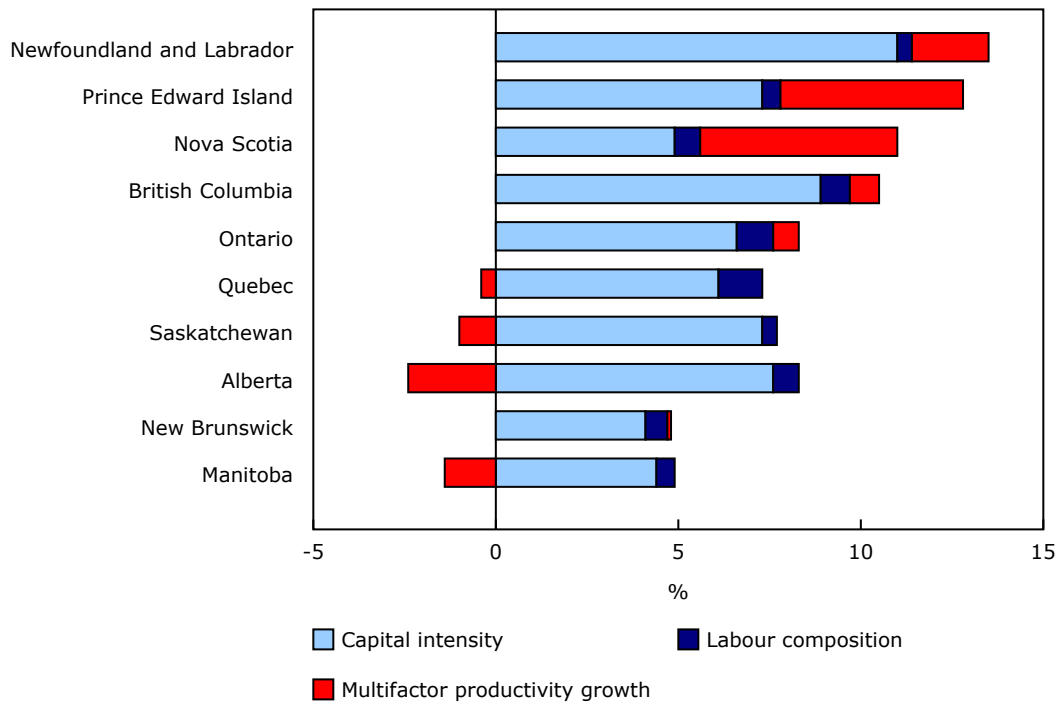


Chart 1
Multifactor productivity growth in the business sector (% per year), by province, 2010 to 2019 and 2020



Source(s): Tables [36-10-0211-01](#) and [36-10-0208-01](#).

Chart 2
Contributions to labour productivity growth in the business sector (%), by province, 2020



Source(s): Tables 36-10-0211-01 and 36-10-0208-01.

Note to readers

This release covers the database on provincial multifactor productivity and related variables for business sector industries from 1997 to 2020. Data include multifactor productivity, value added, capital input and labour input in the aggregate business sector and major subsectors.

This database is constructed using a methodology that is similar to the one used to construct the [multifactor productivity estimates at the national level](#) released in *The Daily* on April 5, 2022.

Data in this release reflect the estimates of [gross domestic product by industry in the provinces and territories for 2020](#) published in *The Daily* on May 3, 2021; [data on fixed capital for 2020](#) published in *The Daily* on November 17, 2021; and [data on hours worked for 2020](#) published in *The Daily* on February 11, 2022.

Multifactor productivity measures at Statistics Canada are derived from a growth accounting framework that allows analysts to isolate the effects of increases in input intensity and skill upgrading on the growth in labour productivity. The residual portion of labour productivity growth that is not attributable to increases in input intensity and skill upgrading is called "growth in multifactor productivity." It measures the efficiency with which inputs are used in production. Growth in this area is often associated with technological change, organizational change or economies of scale.

Available tables: table [36-10-0211-01](#).

Definitions, data sources and methods: survey number [1402](#).

For more information, or to enquire about the concepts, methods or data quality of this release, contact us (toll-free 1-800-263-1136; 514-283-8300; infostats@statcan.gc.ca) or Media Relations (statcan.mediahotline-ligneinfomedias.statcan@statcan.gc.ca).