

Labour Productivity in Newfoundland and Labrador

1997 to 2022

**Department of Finance
Economics Division
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Title: Labour Productivity by Province and Industry

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Key Information:

Main Messages

- Labour productivity growth in the Newfoundland and Labrador business sector grew at a compound annual rate of 1.7% over the 1997 to 2022 period.
- The energy sector—the oil industry in particular—was the main driver of productivity growth in the province.
- Changes in labour productivity in the province are largely correlated with level of oil production. The ‘Mining and oil and gas extraction’ sector observed a compound annual growth rate of 4.3% between 1997 and 2022.
- Labour productivity growth has been recorded across most industries in the province from 1997 to 2022, but growth was strongest within goods-producing industries, particularly ‘Mining and oil and gas extraction’.
- From 1997 to 2022, business sector labour productivity growth in Newfoundland and Labrador ranked the highest among provinces, on par with Manitoba, and above the national average of 1.2%.
- Labour productivity results for 2020 and 2021 were highly unusual due to the COVID-19 pandemic. In 2020, labour productivity increased considerably as the number of worked hours decreased more than the real value added of production. In 2021, hours worked recovered, offsetting the artificial productivity gains in the previous year.
- In 2022, the level of labour productivity in the Newfoundland and Labrador business sector, in terms of real value added per hour worked (in 2012 dollars), was the second highest among provinces at \$80.0, only behind Saskatchewan (\$85.4) and Alberta (\$79.9). The Canadian average stood at \$57.6.

Historical Context

- Productivity is a measure of how efficiently goods and services are produced. There are several different measures of productivity: labour productivity, capital productivity and multifactor productivity. Fundamentally, productivity is the level of output per unit of input.
- The measure of productivity used for this analysis is labour productivity, defined as the amount of value added per hour worked. This provides an indicator of the efficiency of an hour worked. The value is expressed in real terms (chained 2012 dollars). Showing the data in real terms is especially important for Newfoundland and Labrador, as variations in commodity prices would otherwise distort the assessment.

- The time series begins in 1997, which coincides with the emergence of offshore oil extraction in the province. This provides a view of the transformative effect the industry has had on the economy.
- Newfoundland and Labrador's total economic output (real GDP) is considerably influenced by the level of oil produced in the province. However, employment associated with oil production (and subsequently hours worked) is relatively steady in the short-term, regardless of fluctuations in production. Therefore, when oil production falls and employment is unchanged, labour productivity may decline.
- Within business sector industries (or private sector), the province's real labour productivity was \$52.7 per hour in 1997, and increased to \$80.0 in 2022, for a compound annual growth rate of 1.7% (see Table 1 and Figure 1). The level of labour productivity was the third highest among the provinces in 1997 and the second highest of all provinces in 2022 (see Figure 4). However, for all industries excluding the energy sector, labour productivity in Newfoundland and Labrador followed a very similar trend compared to the rest of Canada (see Figure 2).
- Most of the increase in labour productivity over this period was captured by goods industries, or more specifically 'Mining and oil and gas extraction'. Labour productivity generally increased in line with higher crude oil output. Excluding the energy sector, productivity growth was slower, increasing from \$50.4 in 1997 to just \$54.6 in 2022, or at a compound annual growth rate of 0.3% per year. Labour productivity for Canada, excluding Newfoundland and Labrador and excluding the energy sector, increased from \$41.7 in 1997 to \$56.6 in 2022, or at a compound annual growth rate of 1.2% per year. Since the early 2000s, labour productivity in business sector industries (excluding energy) in Newfoundland and Labrador and the rest of Canada have been at similar levels and generally exhibited similar trends (see Figure 2).
- There is a natural tendency for goods-producing industries to exhibit higher labour productivity than service-producing industries, as the former are capital intensive. However, in recent years, the ratio of goods to service-producing industries productivity was about twice as high in Newfoundland and Labrador than in Canada overall. Again, this can be mostly attributed to the relative size of the 'Mining and oil and gas extraction' industry in the province compared to elsewhere.
- Productivity in the province reached a high point in 2007 when offshore crude oil production reached a peak, then slowly declined over the following years, in line with decreasing oil production. This trend began to reverse in 2016. In 2017, the Hebron oil platform entered service, leading to gradual increases in crude oil output in the following years. Productivity reached a new record high in 2020 (see Figure 3).
- Productivity in the 'Mining and oil and gas extraction' industry increased by an average annual rate of 4.3% between 1997 and 2022. During this period, the national average rate for this industry declined 0.3%, weighed down by Alberta and Saskatchewan. In recent years, low oil prices and limited means of shipping crude out of these provinces constrained development opportunities in Western Canada's oil sector, thus limiting productivity growth. This is evidenced by the spread between Western Canadian Select and West Texas Intermediate crude oil prices, which peaked at about US\$45 per barrel in late 2018 before averaging around US\$13 per barrel over the 2019 to 2021 period. In 2022, the spread averaged approximately US\$18 per barrel for the year, as it began to widen in the second half of the year.

- Labour productivity in ‘Mining and oil and gas extraction’ for Newfoundland and Labrador was the highest of all provinces in 2022. Breaking this down into mining and oil separately, ‘Oil and gas extraction’ was far ahead of any other province (see Figure 5), and has maintained the top rank since 1998. ‘Mining and quarrying’ also compared favorably (see Figure 6), ranking the second highest in 2022, behind Saskatchewan. The province’s ranking suddenly went from near the bottom ranking to near the top in 2006. This reflects the impact of the Voisey’s Bay nickel mine, which began operations in 2005 and ramped up activity in 2006.
- The considerably high labour productivity for oil and gas in Newfoundland and Labrador reflects its capital-intensive nature. Once platforms are operational, fewer workers are required per unit of output, compared to other oil-producing provinces. For instance, some oil sands operations in Western Canada require constant excavations and trucking.
- Newfoundland and Labrador had the highest average annual growth in business sector labour productivity over the 1997 to 2022 period, at 1.7% in business sector industries (on par with Manitoba), followed by Saskatchewan (+1.4%) and British Columbia (+1.3%), and above that national average of 1.2% (see Figure 7).

Recent Developments

- The disruptions from the COVID-19 pandemic that began in 2020 resulted in atypical productivity readings since then. Productivity indicators are best observed over the long term. Changes between subsequent years may be misleading, reflecting temporary situations rather than structural changes.
- Business sector industries in the province experienced an increase in labour productivity in 2020 (up 16.3%), followed by a decline in labour productivity in 2021 (down 11.4%) and 2022 (down 8.8%).
 - In 2020, hours worked declined (down 18.8%) more than the real value added of production (down 5.6%), which had the effect of increasing productivity.
 - In 2021, the main development was a generalized recovery in employment and hours worked (up 11.4%), in conjunction with a decline in real value added (down 1.3%).
 - Gains in hours worked continued in 2022, although at a lower rate (up 6.5%), while real GDP declined, largely due to lower oil production. Newfoundland and Labrador was the only province with a decline in real GDP in 2022, increasing the overall labour productivity losses versus other provinces.
- Compared to other provinces, Newfoundland and Labrador had the largest growth in labour productivity in 2020 (up 11.2%), and the steepest decline in the following two years (down 8.9% and 5.8% in 2021 and 2022, respectively). All provinces posted gains in 2020, all but PEI reported productivity losses in 2021, and all but Manitoba and Saskatchewan reported lower productivity in 2022 when compared to 2021 (see Figure 8).

Prepared by: Economics Division, Department of Finance

Table 1: Labour Productivity, NL, by Industry

	1997- 2022 CAGR (%)	2007- 2022 CAGR (%)	2012- 2022 CAGR (%)	2021 Change (%)	2022 Change (%)	Share of real value added, 2022
All industries	1.3	-0.8	0.8	-8.9	-5.8	100.0
Business sector industries	1.7	-1.1	0.8	-11.4	-8.8	71.9
Goods-producing businesses	2.7	-2.5	2.1	-15.4	-8.1	44.7
Agriculture, forestry, fishing and hunting	4.4	4.0	2.8	5.2	17.9	0.9
Mining and oil and gas extraction	4.3	-5.3	0.5	-2.7	-15.4	37.5
Utilities	1.8	2.0	2.1	-2.5	2.3	2.1
Construction	-0.6	-0.1	-0.2	-28.1	1.2	5.8
Manufacturing	1.5	2.6	0.5	-2.2	-7.2	2.7
Service-producing businesses	1.3	1.4	0.8	-5.9	-5.0	27.2
Wholesale trade	3.0	2.2	-0.2	3.8	-8.1	2.0
Retail trade	2.8	3.0	2.7	-0.7	-4.1	5.6
Transportation and warehousing	0.0	0.2	-0.3	-9.3	4.1	2.4
Information and cultural industries	4.1	5.2	2.2	-5.9	-2.0	2.4
Finance and insurance, and holding companies	3.4	5.4	7.4	-0.8	2.3	3.2
Real estate, rental and leasing	1.8	2.1	3.4	-8.1	-1.7	2.1
Professional, scientific and technical services	-1.3	-1.7	-2.3	-13.7	-12.8	3.1
Administrative and support, waste management and remediation services	-0.7	-1.7	-3.7	-14.7	-7.6	1.1
Educational services	-1.0	0.8	-0.4	9.7	2.5	0.1
Health care and social assistance	-0.7	-0.5	-0.4	-1.1	0.0	2.3
Arts, entertainment and recreation	-1.8	0.0	-4.3	-12.1	-5.2	0.1
Accommodation and food services	0.9	0.6	-0.5	-6.2	2.0	1.7
Other private services	2.3	2.3	2.0	-4.3	-3.5	1.2

CAGR: compound average growth rate

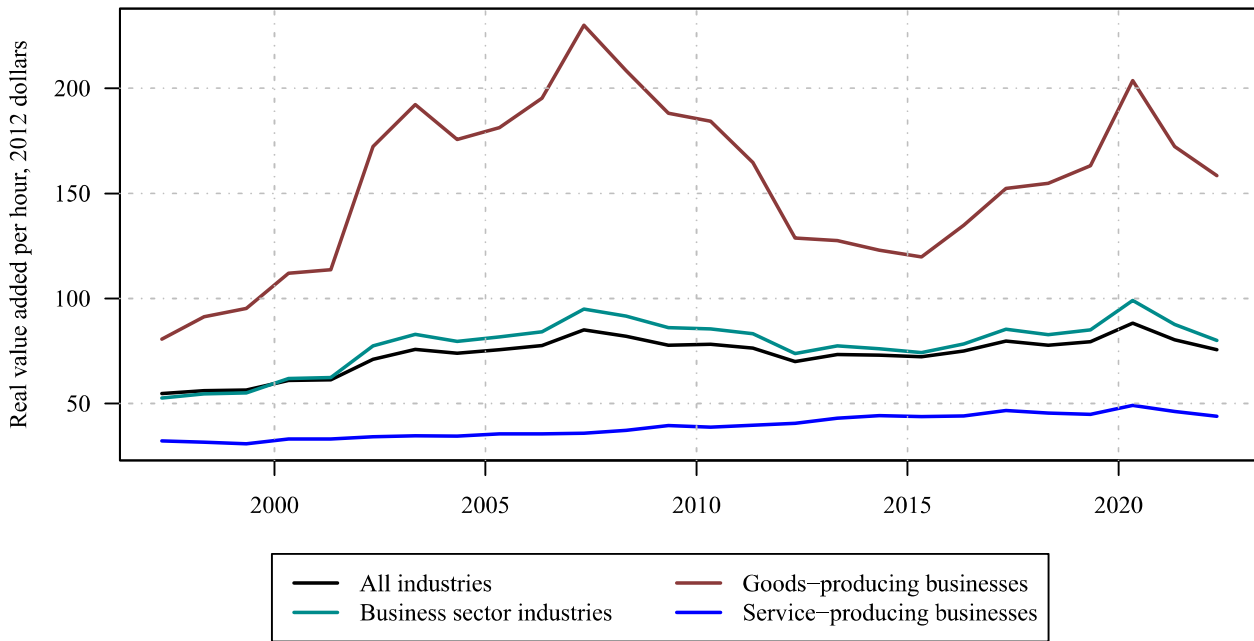
Source: Statistics Canada. Table 36-10-0480-01

Table 2: Hours Worked, NL, by Industry

	2021 Change (%)	2022 Change (%)	Share of real value added, 2022
All industries	10.5	4.4	100.0
Business sector industries	11.4	6.5	71.9
Goods-producing businesses	12.7	1.8	44.7
Agriculture, forestry, fishing and hunting	7.4	-11.1	0.9
Mining and oil and gas extraction	-3.3	7.4	37.5
Utilities	5.7	-2.1	2.1
Construction	18.4	0.7	5.8
Manufacturing	21.5	4.7	2.7
Service-producing businesses	10.8	8.8	27.2
Wholesale trade	-0.8	3.6	2.0
Retail trade	5.5	5.2	5.6
Transportation and warehousing	4.3	6.6	2.4
Information and cultural industries	6.9	3.6	2.4
Finance and insurance, and holding companies	6.3	-2.8	3.2
Real estate, rental and leasing	12.1	-0.1	2.1
Professional, scientific and technical services	19.0	25.1	3.1
Administrative and support, waste management and remediation services	21.4	16.1	1.1
Educational services	11.0	7.3	0.1
Health care and social assistance	11.0	1.7	2.3
Arts, entertainment and recreation	18.6	25.1	0.1
Accommodation and food services	24.0	14.0	1.7
Other private services	12.0	10.3	1.2

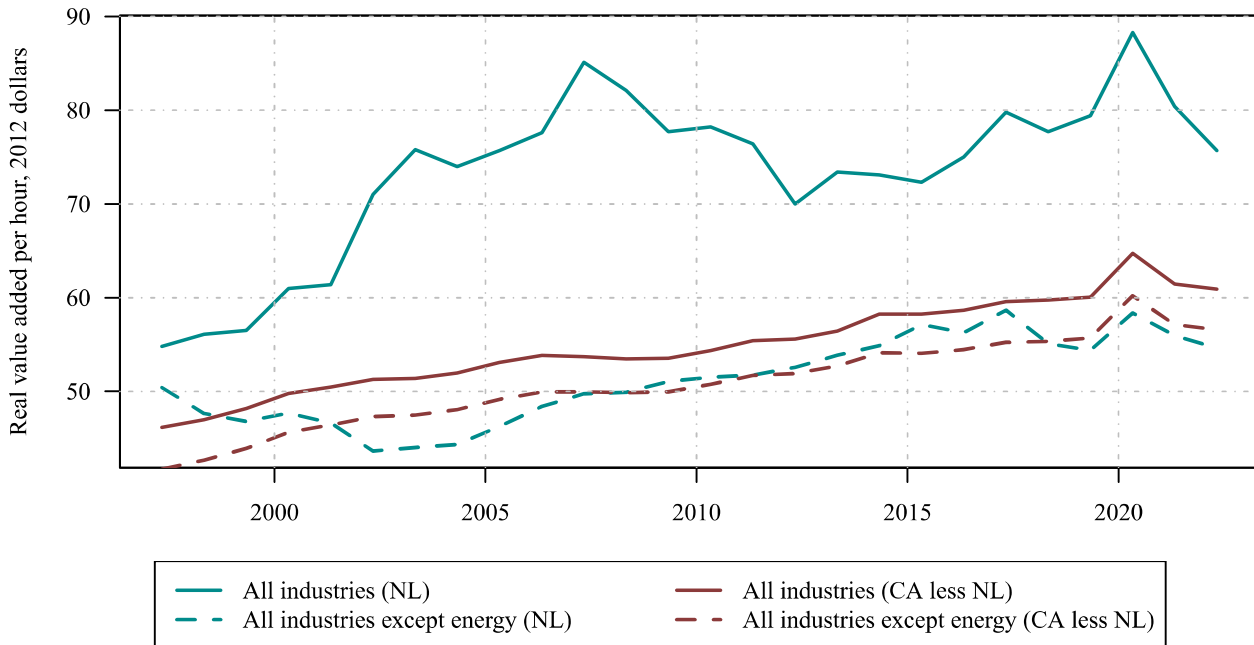
Source: Statistics Canada. Table 36-10-0480-01

**Figure 1: Labour Productivity by Sector
NL, 1997–2022**



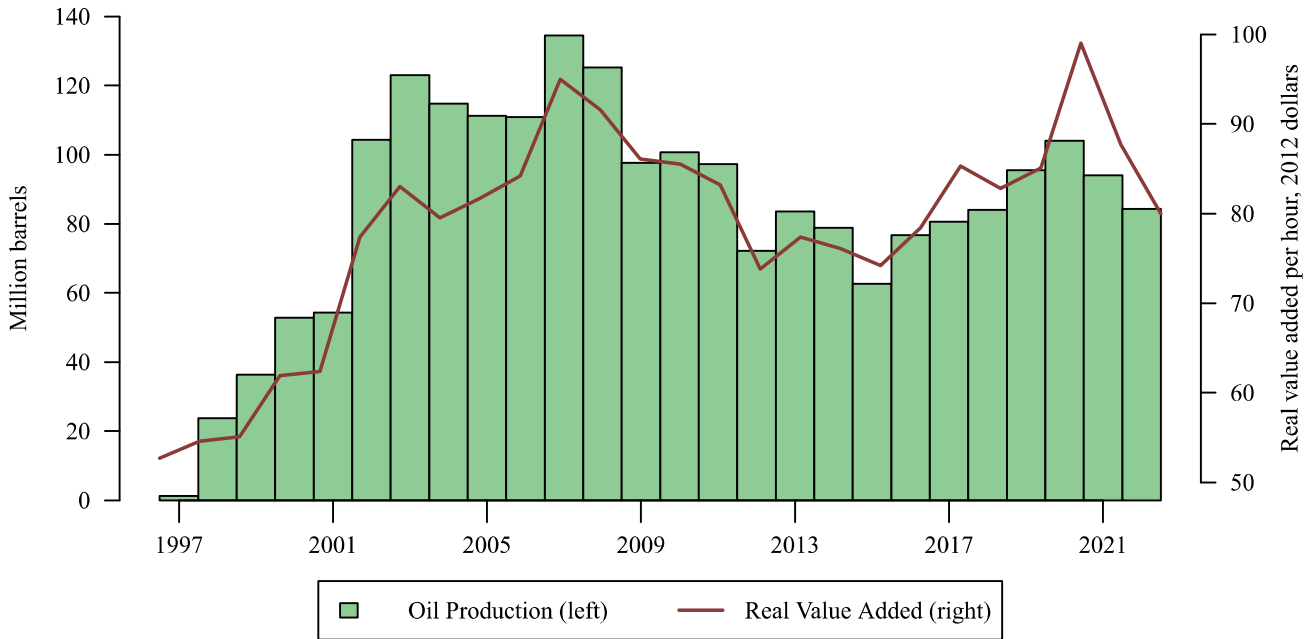
Source: Statistics Canada. Table 36–10–0480–01

**Figure 2: Labour Productivity, NL and Canada, 1997–2022
With and Without Energy Sector**



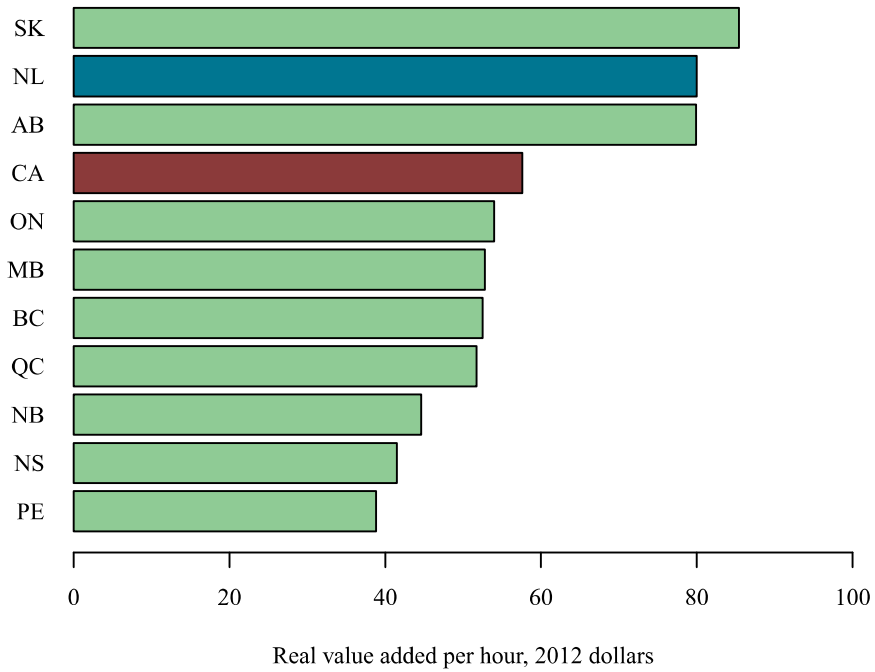
Source: Statistics Canada. Table 36–10–0480–01

**Figure 3: Labour Productivity and Oil Production
NL, 1997–2022**



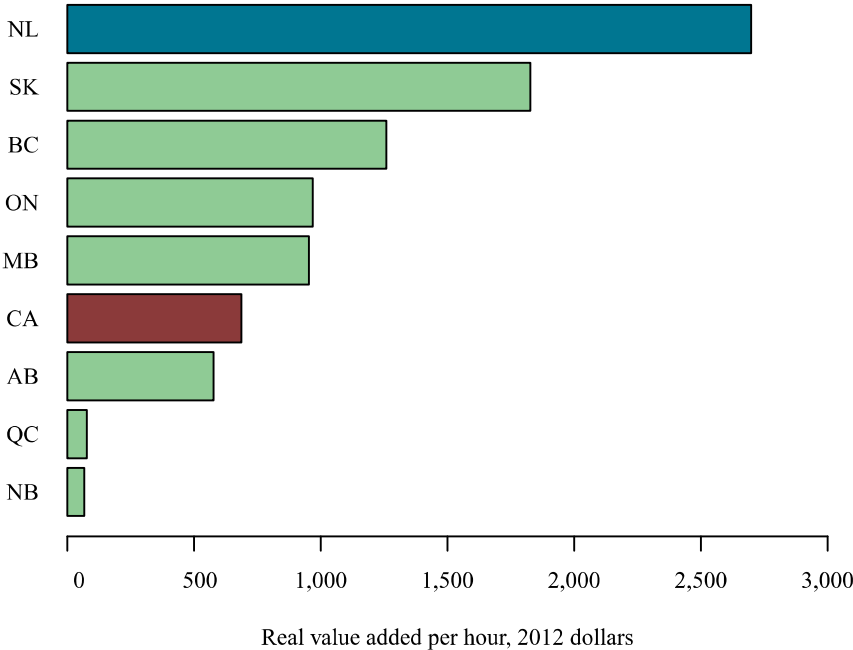
Source: C–NLOPB; Statistics Canada. Table 36–10–0480–01

**Figure 4: Business Sector Labour Productivity
Levels, by Province, 2022**



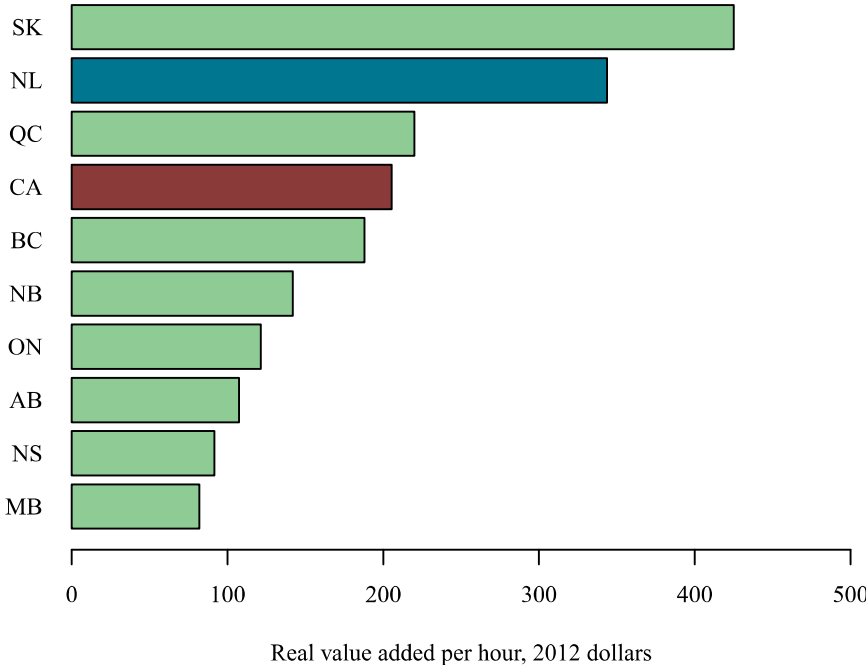
Source: Statistics Canada. Table 36–10–0480–01

Figure 5: Oil and Gas Extraction Labour Productivity Levels, by Province, 2022



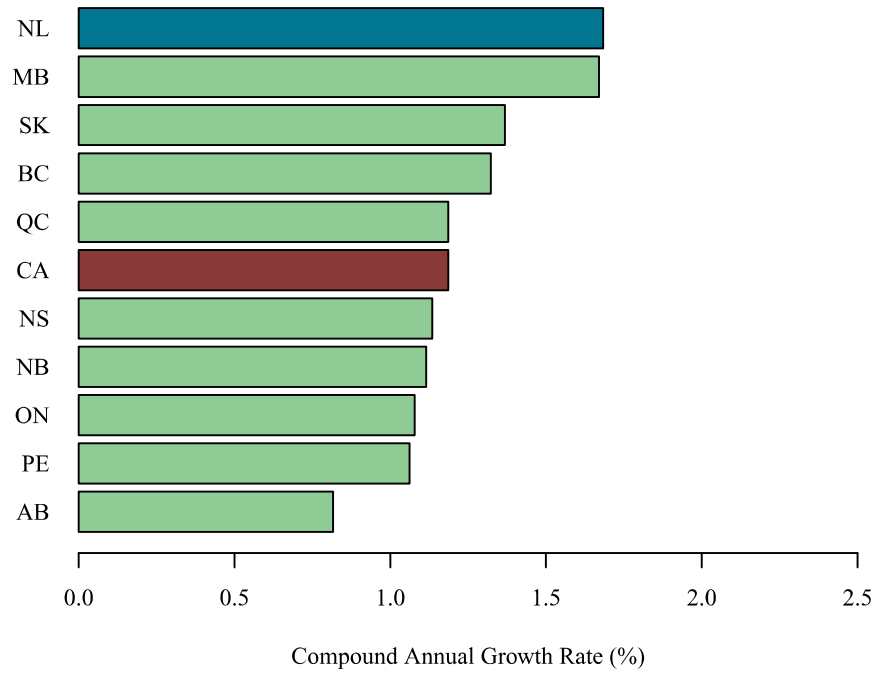
Source: Statistics Canada. Table 36-10-0480-01

Figure 6: Mining and Quarrying Labour Productivity Levels, by Province, 2022



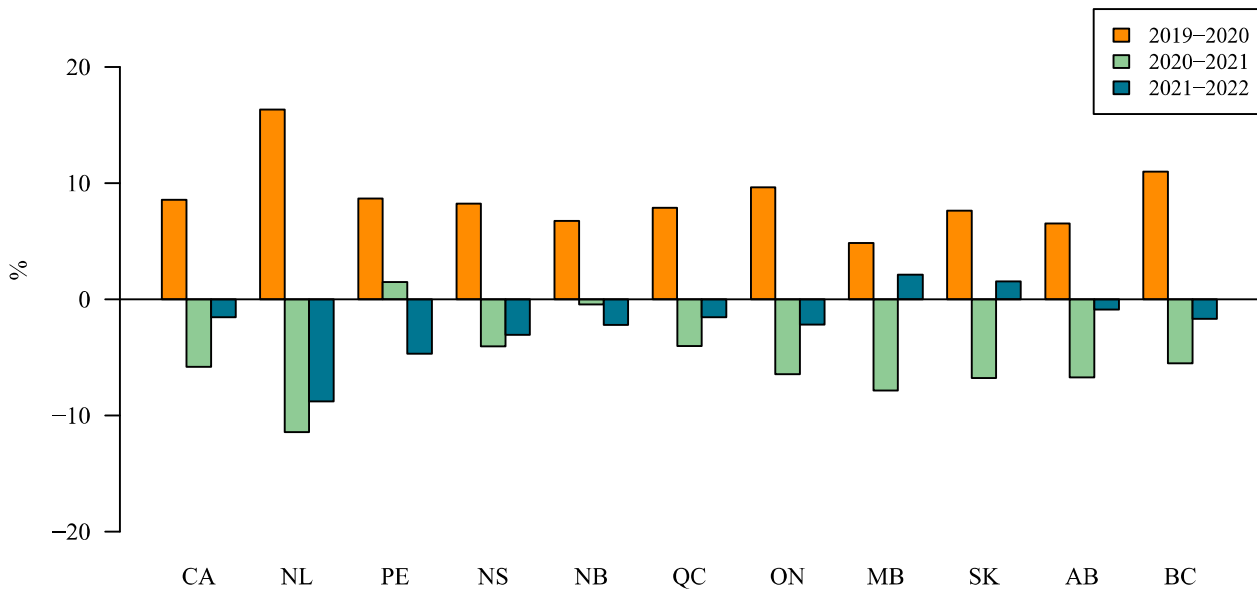
Source: Statistics Canada. Table 36-10-0480-01

Figure 7: Business Sector Labour Productivity Growth Rates, by Province, 1997–2022



Source: Statistics Canada. Table 36–10–0480–01

Figure 8: Business Sector Labour Productivity Growth by Province



Source: Statistics Canada. Table 36–10–0480–01