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170 Laurier Avenue West, Suite  
604  
Ottawa, Ontario K1P 5V5  
613-233-8891  
[csls@csls.ca](mailto:csls@csls.ca)

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**A Detailed Analysis of Labour Productivity  
Development in New Brunswick, 1997-2022**

Adriana Suuronen  
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# A Detailed Analysis of Labour Productivity Development in New Brunswick, 1997-2022

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## Abstract

This report analyzes labour productivity developments in New Brunswick at the aggregate level and for two-digit NAICS industries between 1997 and 2022. Total economy labour productivity increased in New Brunswick by 1.05 percent per year over the period, similarly to Canada's growth rate of 1.12 percent per year. Nevertheless, the level of labour productivity in New Brunswick was only 80.5 percent of Canada's value in 2022. In New Brunswick, business sector industries experienced labour productivity growth of 1.12 percent per year and non-business industries grew at a rate of 0.71 percent annually between 1997 and 2022. Growth was slightly higher in Canada during the period of 1.19 percent per year for business sector industries and 0.85 percent annually for non-business sector industries. Industries that disproportionately contributed to growth of the total economy labour productivity in New Brunswick include: agriculture, forestry, fishing, and hunting (which experienced a growth rate of 5.25 percent annually during the period); mining and oil and gas extraction (which decreased at a rate of 4.16 percent per year); wholesale trade (which experienced a growth rate of 2.60 percent during the period); transportation and warehousing (which experienced growth rate of 2.04 percent annually during the period); and informational and cultural industries (which experienced a growth rate of 2.44 percent annually during the period).

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# A Detailed Analysis of Labour Productivity Development in New Brunswick, 1997-2022

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## Executive Summary

Labour productivity measures how much value added is produced per hour worked. It is an important issue to study as an increase in labour productivity leads to a necessary, but not sufficient condition for improved wages and working conditions for the employees. As a result, labour productivity is a key determinant of the growth in living standards.

Unfortunately for its citizens, labour productivity in New Brunswick has been lagging behind that in the rest of Canada. In 2022, aggregate, total economy labour productivity in New Brunswick was \$49.2 per hour worked (2012 dollars). In Canada, the level was \$61.1 per hour worked (2012 dollars). New Brunswick was therefore only 80.52 percent of Canada's level. Furthermore, this gap is long standing: between 1997 and 2022, New Brunswick has had similar growth of labour productivity to Canada with an average rate of 1.05 percent per year. Canada's labour productivity grew slightly faster at a rate of 1.12 percent annually. This means that New Brunswick made no progress in closing the productivity gap with the rest of Canada.

The goal of this report is to assess productivity performance at the aggregate and industry level in New Brunswick, relative to Canada from 1997 and 2022. The first section explains the importance of calculating labour productivity and the methodology to do so. The second section explores aggregate measures of labour productivity including for all industries, business sector industries, and non-business sector industries. The third section explains the contribution of each industry to labour productivity growth. The fourth section outlines output per hour in goods-producing businesses. The fifth section explores the output per hour in the service-producing businesses. Lastly, the output per hour in non-business sector industries will be presented.

Key findings throughout the paper include the following:

- All-industries labour productivity in New Brunswick has been significantly below under Canada's level every year between 1997 and 2022. In 1997 real output per hour in New Brunswick was 81.9 percent of the national level. In 2022 the real output per hour was 80.5 percent of the national level.
- All-industries labour productivity in both Canada and New Brunswick experienced an increase in 2020 due to larger decreases in hours worked than real value added during the Covid-19 pandemic. In New Brunswick labour productivity increased by \$2.8 per hour (2012 \$) and in Canada the increase was \$4.7 per hour (2012 dollars).
- New Brunswick performs relatively better in non-business sector industries than business sector industries between 1997 and 2022. In 2022 labour productivity in business sector industries in New Brunswick was only 77.4 percent of Canada's value. New Brunswick was 85.5 percent of Canada's value in non-business sector industries.
- In 2022, New Brunswick had the third lowest all industry labour productivity level of all the provinces and territories. The Northwest Territories had the highest level of labour

productivity at \$91.5 per hour (2012 dollars). New Brunswick's growth rate of real output per hour was also the third lowest of all the provinces. Manitoba experienced the highest growth rate of labour productivity at a rate of 1.45 percent per year.

- New Brunswick's below average level of labour productivity in the business sector industries is largely due to two sectors. First, the mining and oil and gas extraction sector has become increasingly less important in New Brunswick after the closure of both the Sussex Potash Mine and Brunswick Mine during this period. In 1997 it was 7.1 percent of all industries' real value added. In 2022 it was only 0.8 percent. Labour productivity has fallen by a rate of 4.16 percent per year in New Brunswick in this sector between 1997 and 2022. In Canada decreases were only 0.33 percent per year. This is still the two-digit NAICS industry with the highest labour productivity in Canada.
- Second, manufacturing makes up the highest percentage of all industries' real value added. The growth of labour productivity in this sector has been slow in New Brunswick at a rate of 0.75 percent per year. In Canada, growth is faster at 1.38 percent annually. Growth in New Brunswick was especially slow between 2004 and 2019.
- New Brunswick's lower levels of labour productivity in non-business industries in comparison to Canada is due to the government sector. New Brunswick has had lower labour productivity than the national value every year between 1997 and 2022. New Brunswick has grown slower in the period as well.
- Throughout the period important sectors have surpassed the national labour productivity level. This includes the sector of agriculture, forestry, fishing, and hunting; and the sector of utilities. In other sectors, New Brunswick has caught up with Canada's level of labour productivity through high rates of growth. This includes the transportation and warehousing sector; and information and cultural industries.

This report describes the differences between New Brunswick and Canada real output per hour to assess labour performance at the aggregate and industry level.

# A Detailed Analysis of Labour Productivity Development in New Brunswick, 1997-2022<sup>1</sup>

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## I. Introduction

Labour productivity measures how much value added is produced per hour worked. It is important to study as an increase in labour productivity leads to increases in profits and investment in business. It is also a necessary, but not sufficient condition for improved wages and working conditions for the employees. Labour productivity is the most important determinant of growth in living standards. Of key interest is the cause of that growth. Growth in labour productivity may come from applying more capital (machinery and equipment, structures or intellectual property) to the production process or from technological change (Baldwin, J., G. Wulong, R. Macdonald, & B. Yan, 2014).

Labour productivity in New Brunswick is currently low, only 80.5 percent of Canada's level. It is important to study labour productivity in New Brunswick for two reasons. First, to identify the sectors that labour productivity in New Brunswick is currently falling behind in and assess what is causing this slow growth. Second, it is important to recognize why some sectors are improving the output produced per hour. This knowledge can then be translated to other parts of the economy.

Labour productivity is defined as the amount of real value added per hour worked. This means that numbers are expressed in constant prices that adjust for price increases. To calculate labour productivity the total real value added is divided by the total number of hours worked.

Real value added is the value that is created in a specific stage of the manufacturing process. This means that the cost of any intermediate good used in the production of the good or service is subtracted from the final price the product is sold at. The total number of hours worked includes all labour at that stage of production that goes into the final good or service.

When calculating productivity growth rates, it is essential that real values be used. Real values account for price changes and avoid distortions from high price inflation or deflation. Labour productivity growth should only capture changes in the quantity produced, not prices.

Nominal output per hour is a measure of labour productivity that uses current prices instead of constant prices. This measure does not only focus on an increase in the quantity of the good or service that is produced; it also incorporates the price that the good or service is sold at. An increase in nominal output per hour may simply be an increase in the price of the good or

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<sup>1</sup> This report was written by Adriana Suuronen under the supervision of CSLS Executive Director Andrew Sharpe. This is one of a series of research report on the New Brunswick economy done as part of the CSLS-AIPR project on the future of New Brunswick. The author thanks Tim Sargent for very useful comments. Email: csls@csls.ca

service. To calculate nominal output per hour, the nominal value added is divided by the total number of hours worked.

Nominal values are used when comparing levels of labour productivity between different industries and different provinces.<sup>2</sup> They cannot be used to calculate productivity growth because it accounts for price changes.

The price deflator is used to measure the change in the price of a good or service. The quantity produced does not influence the price deflator. To calculate the price deflator the nominal value added must be divided by the real value added and then multiplied by 100. In this report, all prices are expressed in 2012 dollars.

The goal of this report is to assess productivity performance at the aggregate and industry level in New Brunswick, relative to Canada from 1997 and 2022. The second section explores the aggregate measures of labour productivity including all industries, business sector industries, and non-business sector industries. The third section explains the contribution of each industry to labour productivity growth. The fourth section outlines output per hour in goods-producing businesses. The fifth section explores the output per hour in the service-producing businesses. Lastly, the output per hour in non-business sector industries will be presented.

## II. Output per Hour on the Aggregate Level

Aggregate levels can be defined as the total economy with all industries, business sector industries, or non-business sector industries. This section summarizes observations of these aggregate levels of the industries.

### A. All Industries

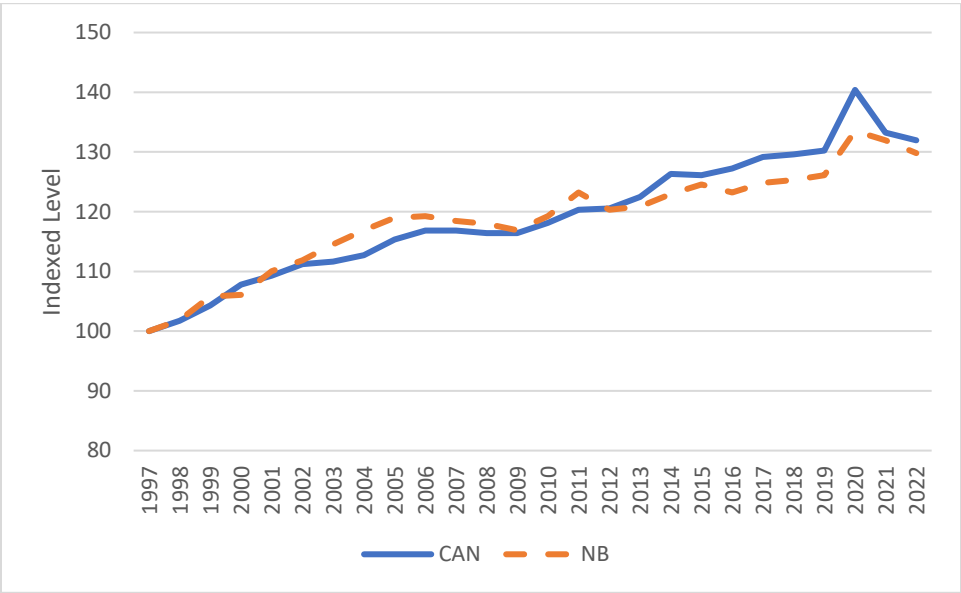
Throughout all industries in New Brunswick, the real value added in 2022 was \$32,523 million (2012 dollars). Labour productivity was \$49.2 per hour (2012 dollars). This is 80.5 percent of the national labour productivity level of \$61.1 per hour (2012 dollars). Canada had a higher value of all industry labour productivity in comparison to New Brunswick every year between 1997 and 2022.

Between 1997 and 2022 New Brunswick experienced growth of total economy labour productivity at 1.05 percent per year. This is similar to Canada's growth rate of 1.12 percent per year (Chart 1, Table 2). Between 2000 and 2008 New Brunswick achieved growth of 1.34 percent per year, higher than Canada's growth of 0.97 percent per year. Then, between 2008 and 2019 labour productivity in New Brunswick grew slower. Canada had a higher growth rate of 1.03 percent per year. New Brunswick's growth was only 0.61 percent per year. In the most recent sub-period, between 2019 and 2022, New Brunswick's productivity growth rate has increased to 0.97 percent per year whereas Canada has only grown by 0.44 percent annually.

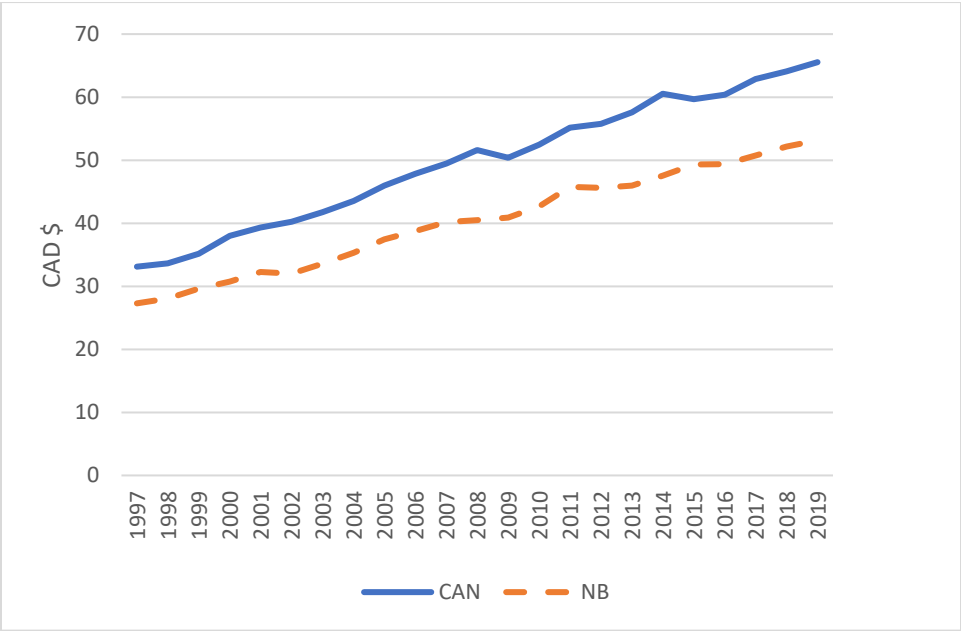
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<sup>2</sup> Nominal values are only available until 2019. Real values are available until 2022. In this report, to utilize the most recent data, levels will be compared using real values. Levels are expressed in 2012 dollars.

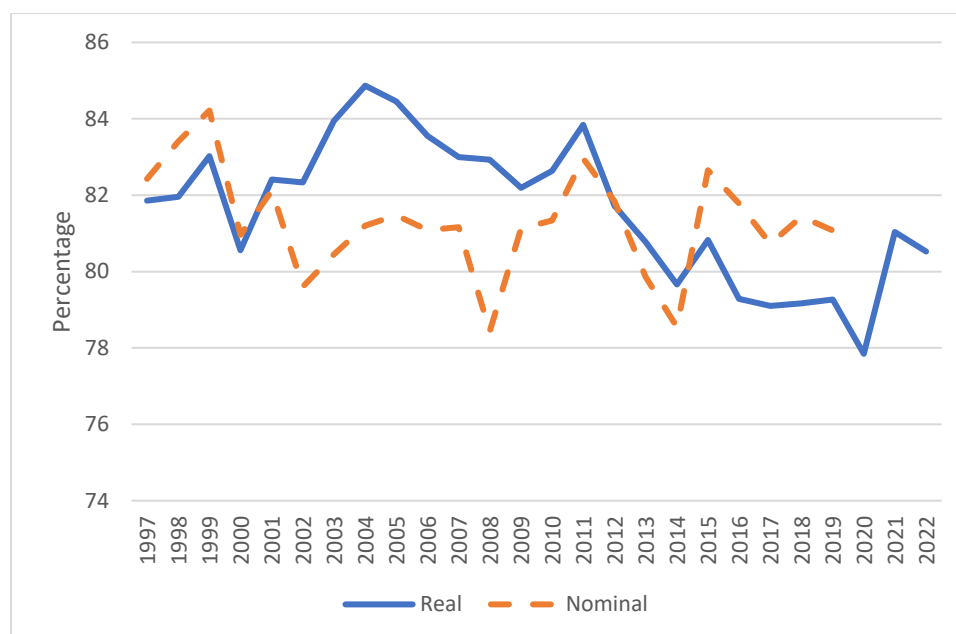
Chart 1: Output Per Hour for All Industries in Canada and New Brunswick  
Panel A: Real Output Per Hour, 1997=100, 1997-2022



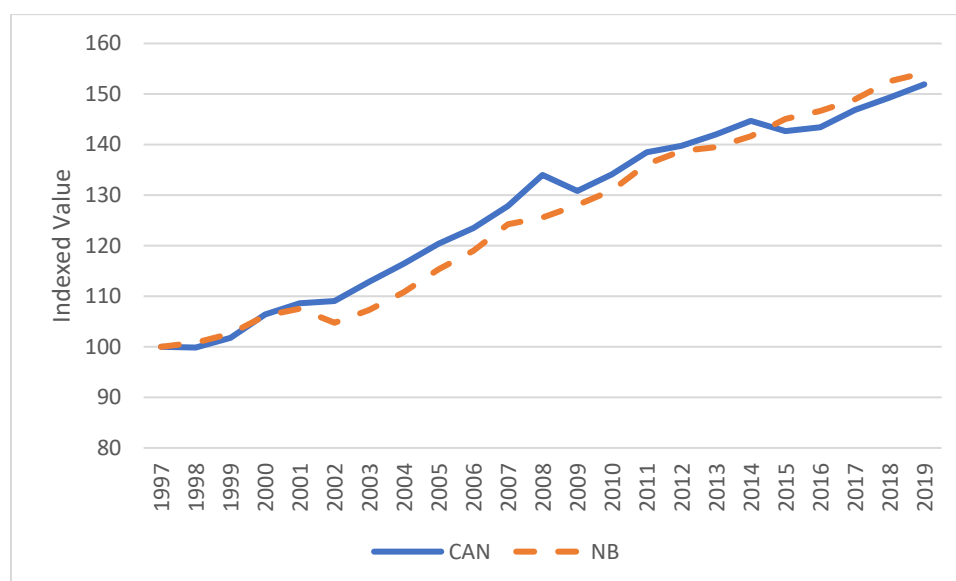
Panel B: Nominal Output Per Hour, 1997-2019



Panel C: Output Per Hour as a Percent of the National Average, 1997-2022



Panel D: Price Deflator, 1997=100, 1997-2019



Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-0033)

In 2022, the business sector is was amore important contributor to the economy than the non-business sector with 62.6 percent of real value added in New Brunswick, compared to 69.7 percent in Canada. In 1997 the business sector was even more important at 72.4 percent in Canada and 66.5 percent in New Brunswick (Table 1). In New Brunswick this is largely due to the growth of the importance of the non-business sector between 1997 and 2022. The non-business sector was 33.5 percent of value added in 2022 as the non-business sector has higher value added and grew fast in some periods.

Table 1: Composition of Real Value Added of All Industries and Level of Real Output per Hour in New Brunswick and Canada, 1997 and 2022 (expressed in percent)

	Percent of Real Value Added				Level of Real Output per Hour			
	CAN		NB		CAN		NB	
	1997	2022	1997	2022	1997	2022	1997	2022
Business Sector	74.1	73.1	68.8	65.1	42.9	57.6	33.8	44.6
Non-Business Sector	25.9	26.9	31.2	34.9	59.0	72.9	50.8	60.7
All industries	100.0	100.0	100.0	100.0	46.3	61.1	37.9	49.2

Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-0033)

Table 2: Real Output Per Hour All Industries in New Brunswick and Canada, 1997-2022 and selected sub-periods (average annual growth rates expressed in percent)

	1997-2022		2000-2008		2008-2019		2019-2022	
	CAN	NB	CAN	NB	CAN	NB	CAN	NB
All industries	1.12	1.05	0.97	1.34	1.03	0.61	0.44	0.97
Business sector industries	1.19	1.12	1.00	1.11	1.05	0.57	0.23	1.30
Non-business sector industries	0.85	0.71	0.82	1.82	0.94	0.44	0.60	-0.49

Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-0033)

As is clear from Chart 1, in 2020 there was an increase in real output per hour in both New Brunswick and Canada. In 2021 this value decreased to follow the overall trend. Between 2019 and 2020 in New Brunswick, the real output per hour of all industries increased by 5.86 percent. In Canada, the increase was even larger and real output per hour increased by 7.79 percent.

Although real value added did decrease due to the Covid-19 pandemic in 2020, the hours worked decreased by a larger percentage. Between 2019 and 2020 real value added in New Brunswick decreased by 2.79 percent, whereas hours worked decreased by 8.03 percent. This led to an increase in labour productivity.

Industries that had growth of real output per hour of over 8.0 percent between 2019 and 2020 in New Brunswick include construction, wholesale trade, retail trade, private educational services, and non-profit institutions serving households. Real estate, rental, and leasing had a growth of 22.86 percent between 2019 and 2020 in Canada, but growth was slow in New Brunswick at 1.62 percent per year.

## B. Business Sector Industries

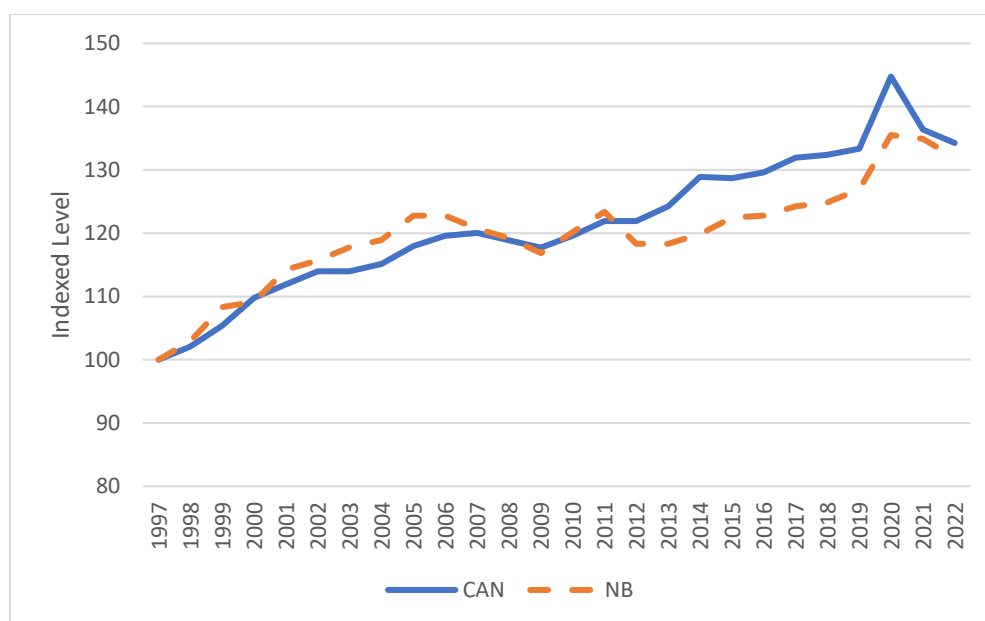
Growth in New Brunswick's real and nominal output per hour is largely driven by the growth in business sector industries. In 2022, the real value added of business sector industries is



\$21,201 million (2012 dollars), which is 65.1 percent of real value-added from all industries.<sup>3</sup> Real output per hour in 2022 was \$44.6 (2012 dollars), 77.4 percent of Canada's value of \$57.6 (2012 dollars).

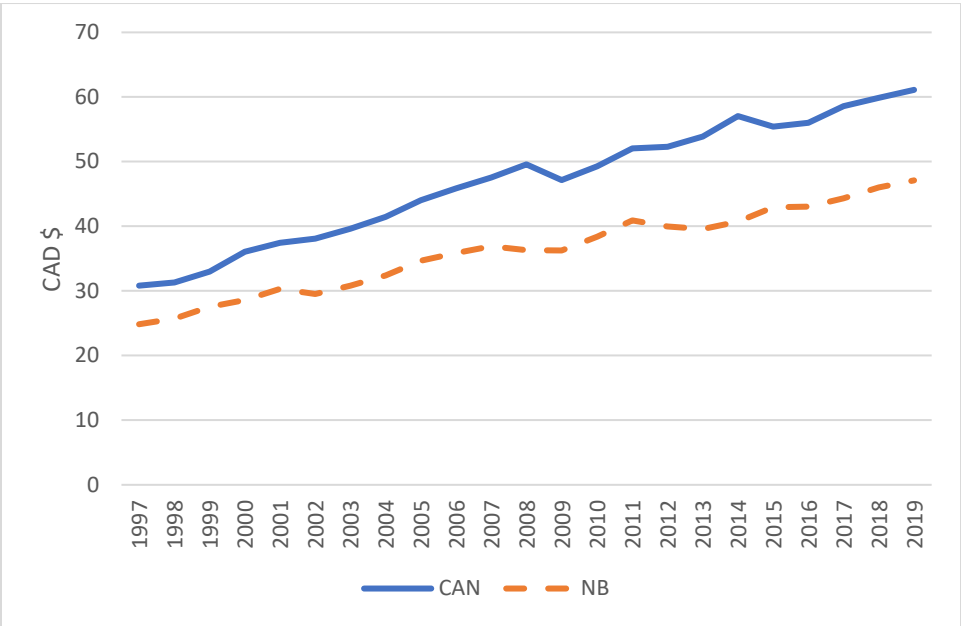
Between 1997 and 2022 business sector industry labour productivity has grown at a rate of 1.12 percent per year in New Brunswick. Growth has been slightly higher in Canada at 1.19 percent per year (Chart 2). Between 2000 and 2008 New Brunswick grew at a rate of 1.11 percent per year, whereas Canada experienced growth of 1.00 percent annually. Next, between 2008 and 2019 Canada experienced faster growth of 1.05 percent per year. New Brunswick's growth was only 0.57 percent per year. Lastly, between 2019 and 2022 New Brunswick has grown much faster at a rate of 1.30 percent per year. Canada only grew at a rate of 0.57 percent per year. Similarly to the total economy, the reason for the slightly slower growth throughout the period in labour productivity in businesses sector industries in New Brunswick in comparison to Canada is due to poor growth in the 2010s.

Chart 2: Output Per Hour for the Business Sector Industries in Canada and New Brunswick  
Panel A: Real Output Per Hour, 1997=100, 1997-2022

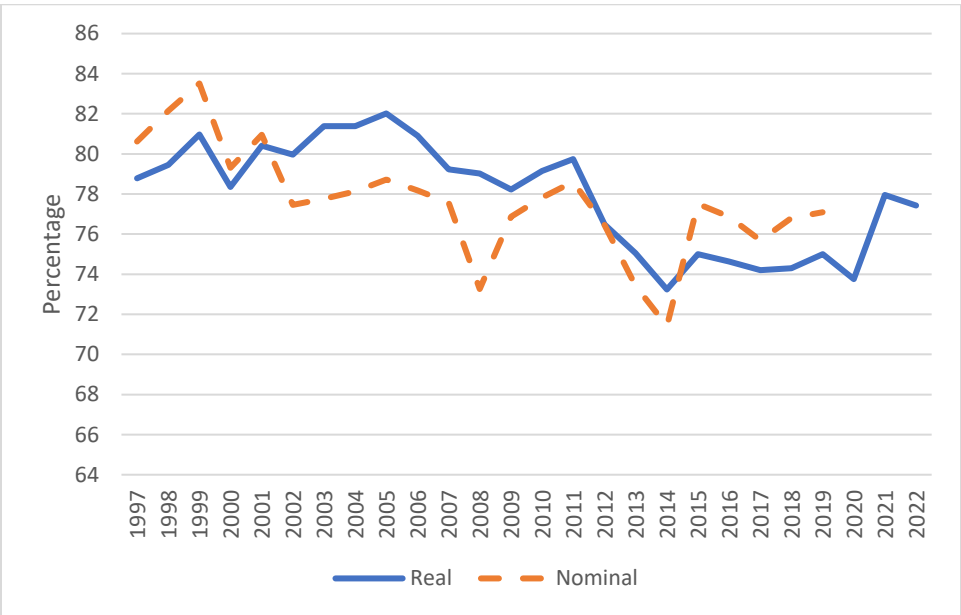


<sup>3</sup> New Brunswick has a low share of total real value-added from the business sector compared to other provinces. Prince Edward Island and Nova Scotia are the only two provinces with a lower percentage of all industry real value-added coming from the business sector in 2022 (60.3 percent in Prince Edward Island and 60.7 percent in Nova Scotia). Alberta has the highest percentage of real value added coming from the business sector at 79.8 percent. The national average is much higher than New Brunswick's value at 73.4 percent in 2022.

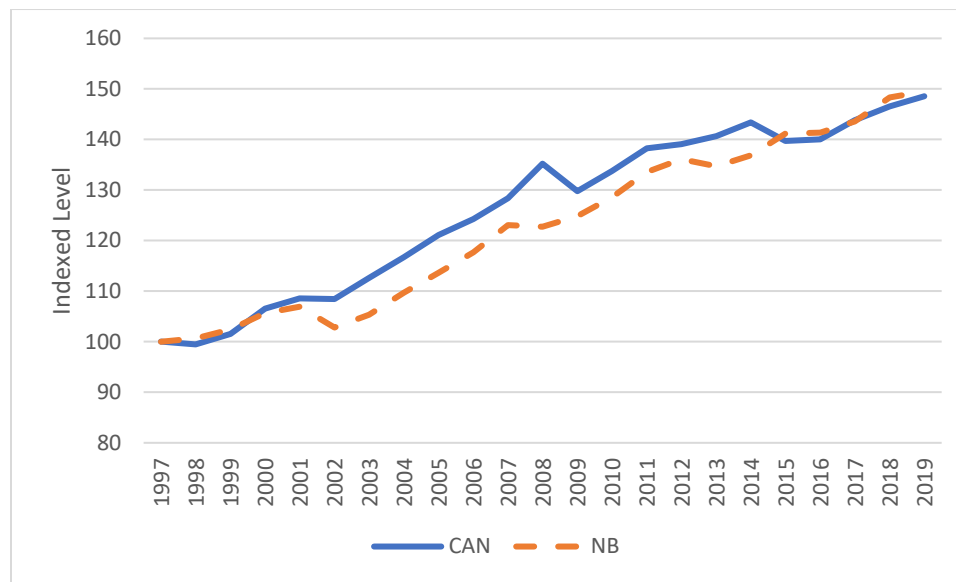
Panel B: Nominal Output Per Hour, 1997-2019



Panel C: Output Per Hour as a Percentage of the National Average, 1997-2022



Panel D: Price Deflator, 1997-2019



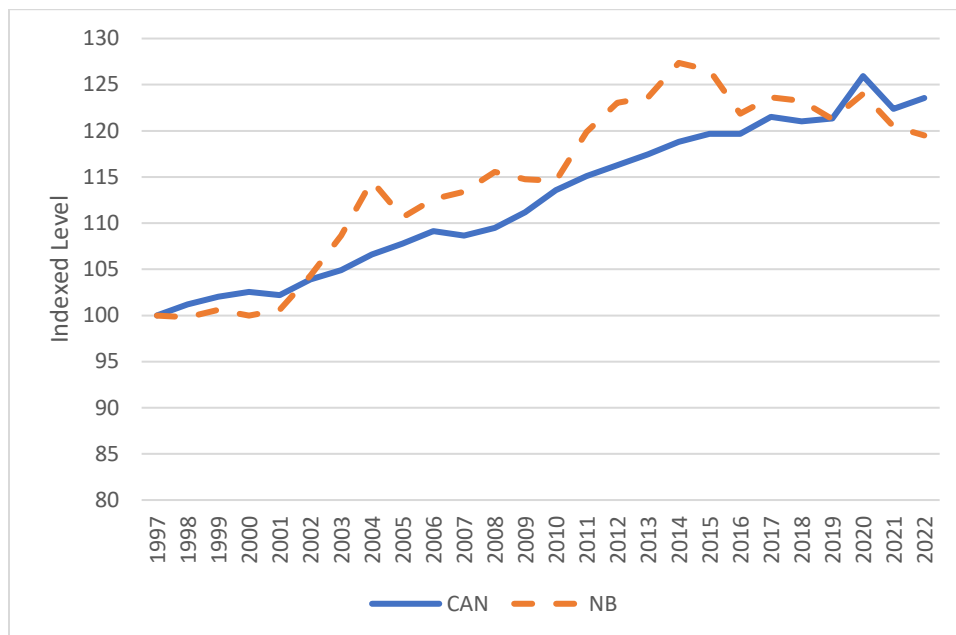
Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-0033)

### C. Non-Business Sector Industries

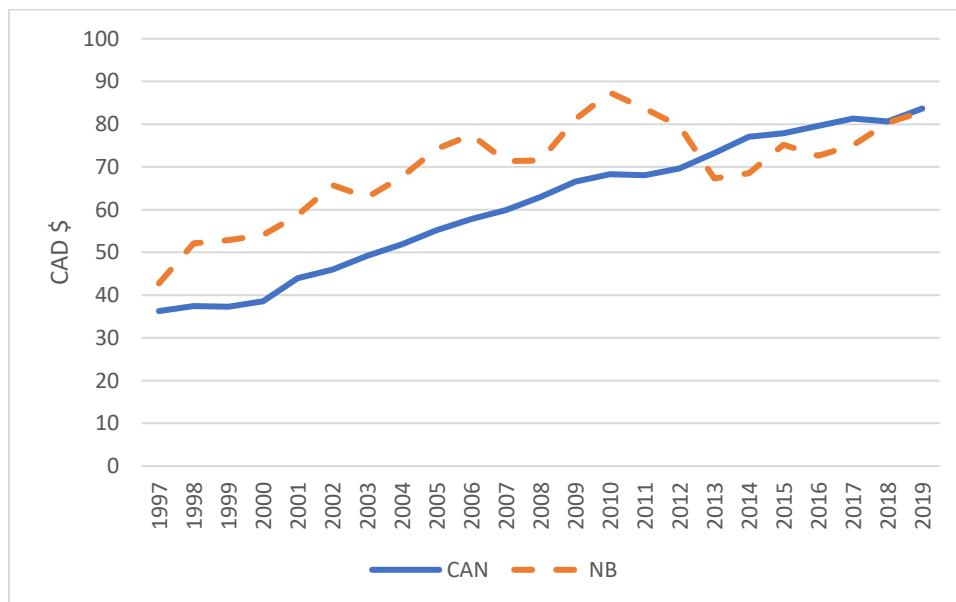
The rest of the growth in total labour productivity between 1997 and 2022 can be explained by non-business sector industries, which consists largely of public health and education services. New Brunswick's non-business sector industries' real value-added in 2022 was \$11,327 million (2012 dollars) or 34.9 percent of the total real value-added in the province. In 2022 labour productivity was \$60.7 per hour (2012 dollars). This is 83.3 percent of Canada's labour productivity value of \$72.9 per hour (2012 dollars).

Between 1997 and 2022 real output per hour in the non-business sector has increased at a rate of 0.71 percent per year in New Brunswick. In Canada growth was faster at 0.85 percent per year (Chart 3). Growth rates between 2000 and 2008 were high in New Brunswick with 1.82 percent annual increases in New Brunswick and 0.82 percent increases per year in Canada. Then, between 2008 and 2019 growth rates decreased in New Brunswick to 0.44 percent annually and 0.94 percent per year in Canada. In the final sub-period, New Brunswick's labour productivity value has decreased by 0.49 percent per year and Canada has experienced slow growth of 0.60 percent per year. Slower growth of non-business sector industries in New Brunswick in comparison is due to poor growth since 2014.

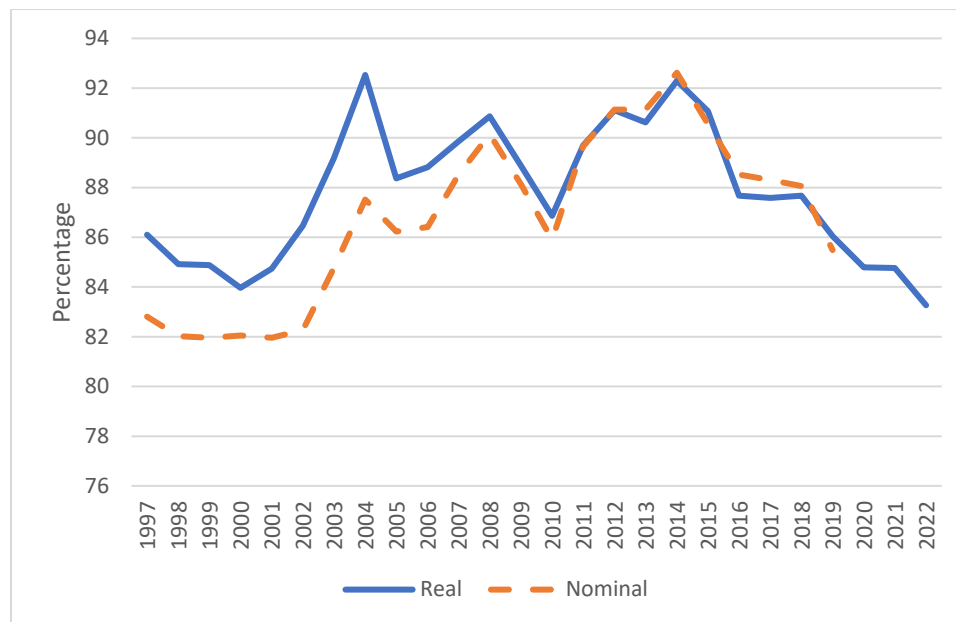
Chart 3: Output Per Hour for the Non-Business Sector Industries in Canada and New Brunswick  
 Panel A: Real Output Per Hour, 1997=100, 1997-2022



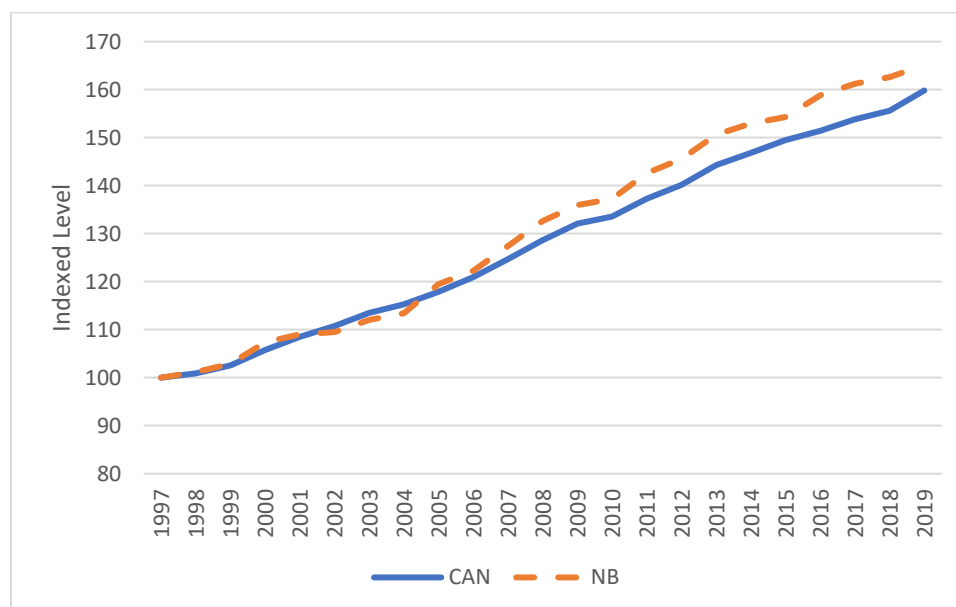
Panel B: Nominal Output Per Hour, 1997-2019



Panel C: Output Per Hour as a Percentage of the National Average, 1997-2022



Panel D: Price Deflator, 1997=100, 1997-2019



Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-0033)

Non-business sector industries include both the non-profit institutions serving households and the government sector. Both experienced growth in labour productivity between 1997 and 2022. The government sector has a much higher value-added than non-profit institutions, meaning it has a greater impact on the trends of non-business sector industries. This will be discussed in the last section.

#### D. Comparison of Labour Productivity Between Canadian Provinces and Territories

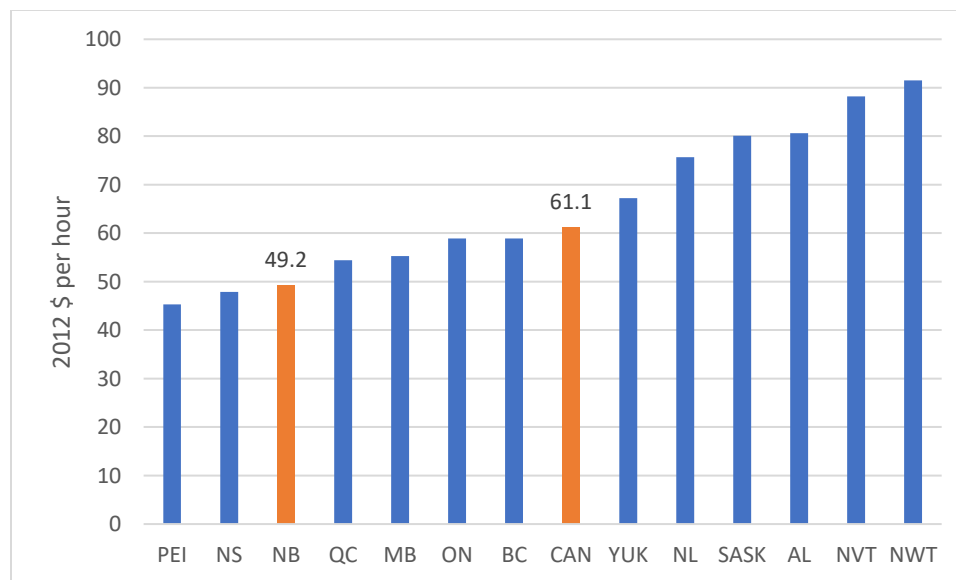
In 2022 New Brunswick had the third lowest level of all industries labour productivity of all the provinces and territories at \$49.2 per hour (2012 dollars). This was 80.5 percent of the national value (Chart 4).

Among all the provinces and territories, Northwest Territories had the highest level of real output per hour of \$91.5 (2012 dollars). Alberta was the province with the highest level of labour productivity of \$80.6 per hour (2012 dollars). The high level of labour productivity in both areas is due to the mining and oil and gas sector. In the Northwest Territories the mining and oil and gas sector has a real output per hour level of \$328.2 (2012 dollars) and the real value added is 29.5 percent of all industries real value added. In Alberta the sector has a real output per hour of \$333.8 (2012 dollars) and the real value added is 27.1 percent of all industries real value added. Overall, every province or territory that has a higher level of labour productivity than Canada in 2022, also has a larger portion of the sector of mining and oil and gas a proportion of all industries value added.

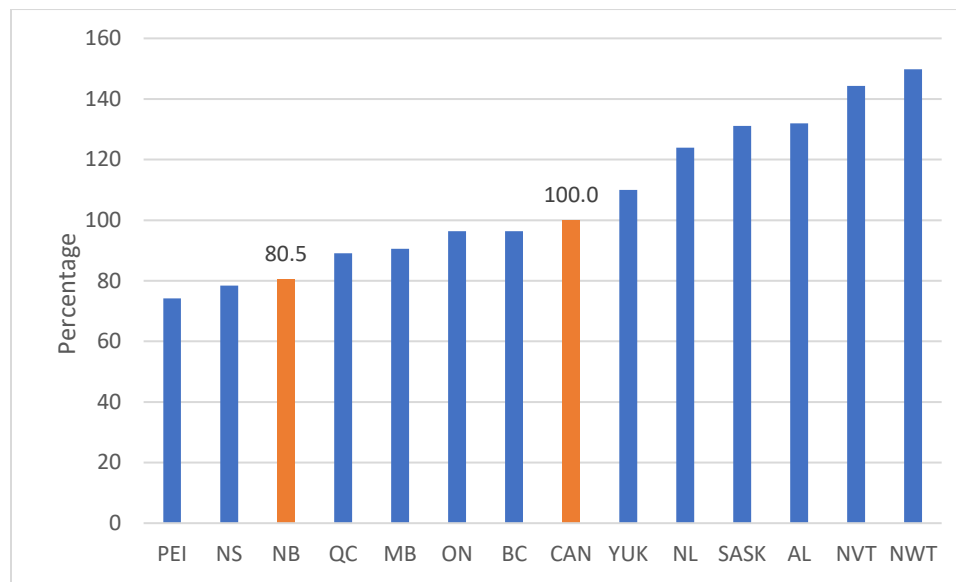
Prince Edward Island is the province or territory with the lowest level of real output per hour in 2022 at \$45.3 (2012 dollars). This is only 74.1 percent of the national value. The labour productivity level of all goods-producing services is significantly behind the national value, leading to this low level.

Chart 4: Real Output per Hour for all Provinces and Territories, 2022

Panel A: Absolute Value (2012 \$ per hour)



Panel B: As a Percentage of the Canadian Level



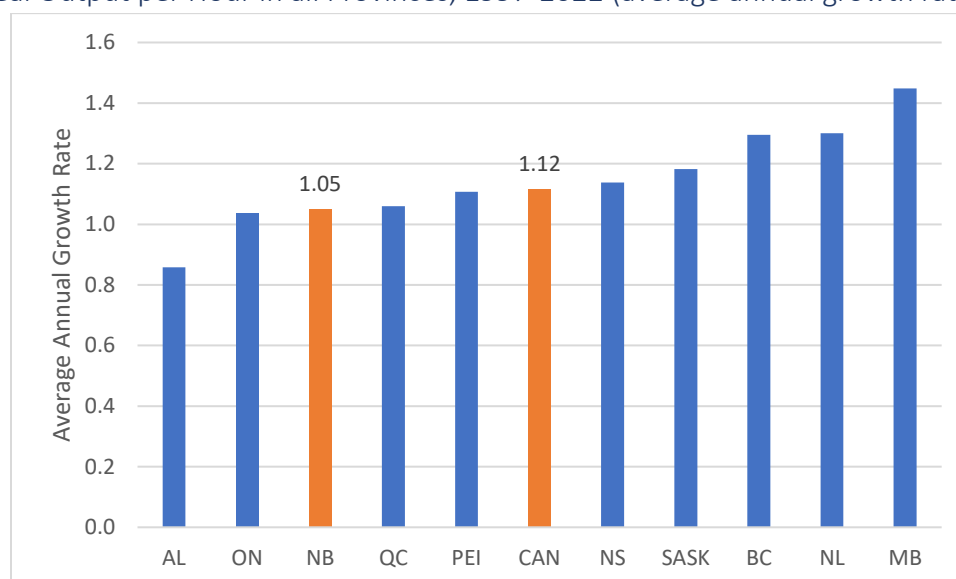
Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-0033)

Between 1997 and 2022 New Brunswick experienced the third slowest growth of all industries labour productivity between 1997 and 2022 of all the provinces at a rate of 1.05 percent per year. This is lower than Canada's growth rate of 1.12 percent per year.

Manitoba experienced the fastest growth of all industries labour productivity between 1997 and 2022 at a rate of 1.45 percent annually. In Manitoba labour productivity in goods-producing industries grew at a rate of 1.67 percent per year, but in Canada it only grew at a rate of 1.22 percent per year. Service-producing industries real output per hour increased at a rate of 1.70 percent in Manitoba and 1.37 percent in Canada.

Alberta had the slowest growth rate of all industries labour productivity growth of all provinces at a rate of 0.86 percent per year. In 1997 33.9 percent of real value added in Alberta was from the mining and oil and gas extraction sector. In 2022, this percent has decreased to 27.1 percent. The labour productivity in the sector is very high and therefore has a compensation effect on Alberta's all-industry labour productivity growth.

Chart 4: Real Output per Hour in all Provinces, 1997-2022 (average annual growth rates)



Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-0033)

### III. Industry Contribution to Labour Productivity Growth

All industries labour productivity has increased at a rate of 1.05 percent per year in New Brunswick and 1.12 percent annually in Canada between 1997 and 2022. Different industries had different contributions to the growth throughout the period based on its productivity growth rate and importance in the economy, as shown in Table 3.

To calculate an industry's contribution to the growth of labour productivity, the average share of nominal value-added of that industry is multiplied by the average annual growth rate of the industry between 1997 and 2022 and then is divided by 100 to obtain the total contribution to the growth.<sup>4</sup> This value is then divided by the growth rate of all industries between 1997 and 2022 and multiplied by 100 to get the percentage of contribution to growth of labour productivity.

Between 1997 and 2022 certain industries in New Brunswick contributed differently to the growth of labour productivity throughout the economy. This means that the industry's percentage contribution to growth differs from the average share of nominal value-added. For an industry to achieve a contribution that differs significantly from its share of all industries real value added it must have a growth rate of labour productivity far in value from the growth rate of labour productivity in the total economy.

We make six observations on the labour productivity contribution of different industries from 1997 to 2022:

<sup>4</sup> The average share of nominal value-added for an industry is calculated by averaging the share of nominal value added in 1997 for the industry and the share of nominal value added in 2019 for the industry.



First, the agriculture, forestry, fishing, and hunting industry contributed 18.9 percent of the total economy labour productivity growth during the period, but only had a share of nominal value of 3.8 percent. This is the largest contribution of any two-digit NAICS industry. This industry's labour productivity grew rapidly between 1997 and 2022, at a rate of 5.25 percent per year. The largest contribution to the growth of this industry was crop and animal production, where productivity increased at a rate of 6.97 percent per year during the period. Crop and animal production contributed 10.4 percent of total economy labour productivity growth. Forestry and logging also experienced a rapid productivity growth of 4.41 percent per year and contributed 4.9 percent of total growth. Fishing, hunting, and trapping grew at a rate of 2.72 percent per year throughout the period and contributed 2.2 percent of the growth.

When comparing to Canada, New Brunswick had a more disproportional contribution to growth of total economy labour productivity due to agriculture, forestry, fishing, and hunting. As mentioned, the contribution of this industry to the labour productivity of all industries in New Brunswick is 18.9 percent. In Canada, the contribution is only 7.2 percent. This is due to the slower growth rate of labour productivity throughout the period in this industry of 3.86 percent per year throughout the period in Canada, in comparison to the growth rate of 5.25 percent annually in New Brunswick. Canada also has an average share of nominal value-added of this industry of only 2.08 percent. This is low in comparison to New Brunswick's value of 3.78 percent of total nominal value-added.

Second, mining and oil and gas extraction made negative contributions to the growth of labour productivity by 5.6 percent during the period, but only comprised a share of nominal value added of 1.4 percent. This is because labour productivity in this industry decreased rapidly in this industry during the period at a rate of 4.16 percent per year. In Canada decreases in labour productivity were smaller, at a rate of 0.33 percent per year during the period. This means that in Canada the percentage of contribution to growth is smaller. Nevertheless, it is still relatively disproportionate as the share of value added in Canada is 4.8 percent and the percentage of contribution to growth is -1.4 percent.

Third, wholesale trade contributed to 10.3 percent of the growth of labour productivity, but only had a share of nominal value added of 4.1 percent throughout the period. Growth was high during this period at a rate of 2.65 percent per year. This trend was similar in Canada, with a growth rate of 2.65 percent per year between 1997 and 2022. Wholesale trade was therefore disproportionately contributing to total economy labour productivity growth in both New Brunswick and Canada.

Next, retail trade had a relatively high share of nominal value added at 6.0 percent in New Brunswick. Nevertheless, the contribution to growth was much higher at 11.0 percent. Growth of the labour productivity in the retail trade industry in New Brunswick increased at a rate of 1.91 percent per year throughout the period. In Canada the growth rate was even higher at 2.34 percent per year, making the contributions to total economy labour productivity growth even smaller in Canada than New Brunswick.

Also, the transportation and warehousing industry contributed to the labour productivity growth by 11.1 percent during the period. The share of value added was only 5.7 percent. The growth rate of labour productivity in this industry was high at 2.04 percent per year between 1997 and 2022. In Canada, growth of labour productivity was much slower at 0.62 percent, and therefore only contributed 2.6 percent to total economy labour productivity growth.

Last, in New Brunswick the percentage of contribution to growth of the information and cultural industries was 7.0 percent, even though the share of nominal value added was only 3.0 percent. Growth in this industry was fast, at a rate of 2.44 percent per year throughout the period. In Canada the labour productivity in the information and cultural industries grew at a rate of 1.48 percent per year, a similar rate to the total economy growth rate. This means that the percentage contribution in this industry in Canada was in line with its output share.

Further discussion of the contribution of industry to aggregate labour productivity growth will be provided throughout the next three sections.

Table 3: Contribution of Industries to the All-Industries' Labour Productivity Growth in Canada and New Brunswick, 1997-2022

	Average Share of Nominal Value-Added (1997 and 2019)		Average Annual Productivity Growth Rate, 1997-2022		Total Contribution to Productivity Growth (percentage points)		Percentage of Contribution to Productivity Growth	
	CAN	NB	CAN	NB	CAN	NB	CAN	NB
All industries	100.00	100.00	1.12	1.05	1.12	1.05	100.00	100.00
Business sector industries	73.64	66.94	1.19	1.12	0.88	0.75	78.24	71.40
Goods-Producing Businesses	29.55	26.14	1.22	1.03	0.36	0.27	32.19	25.64
Agriculture, forestry, fishing and hunting [BS11]	2.08	3.78	3.86	5.25	0.08	0.20	7.17	18.91
Mining and oil and gas extraction [BS21]	4.81	1.42	-0.33	-4.16	-0.02	-0.06	-1.42	-5.62
Utilities [BS22]	2.55	3.63	0.66	1.89	0.02	0.07	1.50	6.54
Construction [BS23]	6.45	5.73	0.26	0.66	0.02	0.04	1.50	3.60
Manufacturing [BS3A]	13.66	11.57	1.38	0.75	0.19	0.09	16.83	8.27
Service-Producing Businesses	44.09	40.80	1.37	1.27	0.60	0.52	53.93	49.35
Wholesale trade [BS41]	5.15	4.14	2.65	2.6	0.14	0.11	12.20	10.26
Retail trade [BS4A]	4.85	6.03	2.34	1.91	0.11	0.12	10.14	10.97
Transportation and warehousing [BS4B]	4.69	5.70	0.62	2.04	0.03	0.12	2.60	11.08
Information and cultural industries [BS51]	2.98	3.00	1.48	2.44	0.04	0.07	3.93	6.97
Finance and insurance, and holding companies [BS5B]	6.79	5.60	2.28	1.33	0.15	0.07	13.82	7.09
Real estate, rental and leasing [BS53]	4.64	3.45	1.24	1.55	0.06	0.05	5.14	5.10
Professional, scientific and technical services [BS54]	5.19	2.97	0.42	0.2	0.02	0.01	1.95	0.56
Administrative and support, waste management and remediation services [BS56]	2.43	2.57	-0.22	0.46	-0.01	0.01	-0.48	1.13
Educational services [BS61]	0.17	0.23	0.79	0.8	0.00	0.00	0.12	0.17
Health care and social assistance [BS62]	2.73	2.93	-0.18	-0.5	0.00	-0.01	-0.44	-1.39
Arts, entertainment and recreation [BS71]	0.73	0.47	-1.18	-2.32	-0.01	-0.01	-0.76	-1.05
Accommodation and food services [BS72]	2.26	2.33	0.62	0.17	0.01	0.00	1.25	0.38
Other private services [BS81]	1.48	1.37	1.55	0.91	0.02	0.01	2.04	1.19
Non-business sector industries	26.36	33.06	0.98	1.19	0.26	0.39	23.07	37.47
Non-profit institutions serving households [NP]	9.45	9.85	0.55	0.41	0.05	0.04	4.64	3.84
Government sector [GS00]	16.91	23.22	3.08	2.13	0.52	0.49	46.50	47.10
ICT Sectors	3.88	3.45	0.85	0.71	0.03	0.02	2.95	2.34

Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-0033)

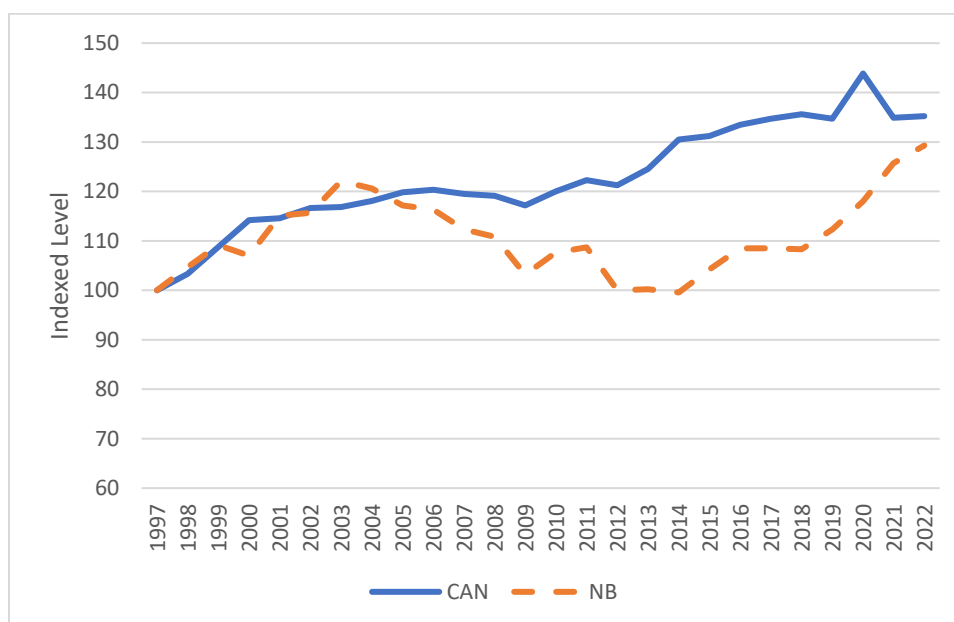
#### IV. Output per Hour in Goods-Producing Businesses

Goods-producing businesses include five two-digit NAICS industries, including goods produced in agriculture, forestry, fishing, and hunting; mining and oil and gas extraction; utilities; construction; and manufacturing. Goods-producing businesses made up 24.4 percent of real value-added in New Brunswick in 2022. In the same year, real output per hour of goods-producing businesses in New Brunswick was \$60.9 (2012 dollars). This is only 79.0 percent of the national value of real output per hour of \$77.1 (2012 dollars).

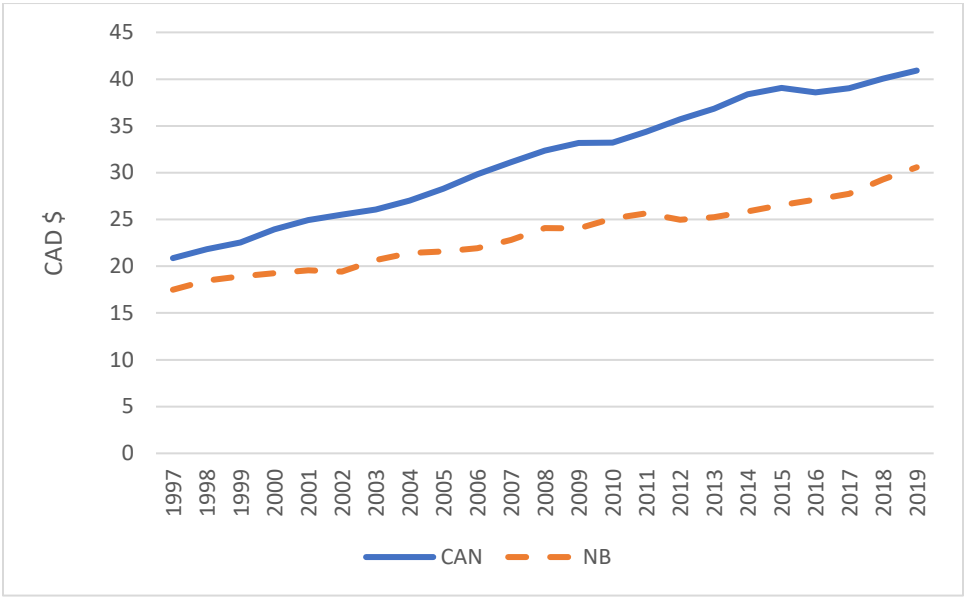
Between 1997 and 2022 labour productivity of goods-producing businesses increased at a rate of 1.03 percent per year. This is lower than Canada's growth of 1.22 percent per year (Chart 4, Table 5). Between 2000 and 2008 New Brunswick grew slightly slower than Canada, at a rate of 0.44 percent per year, compared to Canada which grew at a rate of 0.53 percent annually. Then, between 2008 and 2019 growth of New Brunswick was significantly lower than the national growth rate. New Brunswick grew at a rate of 1.13 percent per year, whereas Canada grew at a rate of 1.13 percent annually. In recent years, between 2019 and 2022, New Brunswick has grown much faster than Canada. New Brunswick grew at a rate of 4.81 percent per year and Canada only grew at a rate of 0.13 percent annually.

Labour productivity for goods-producing businesses peaked in New Brunswick in 2003, after increasing by 22.1 percent between 1997 and 2003. Real output per hour then decreased by 22.5 percent between 2003 and 2014, significantly falling behind the national value, which increased by 13.7 percent during this same period. New Brunswick has achieved rapid growth in recent years, as mentioned above, and has begun to catch-up to the national value.

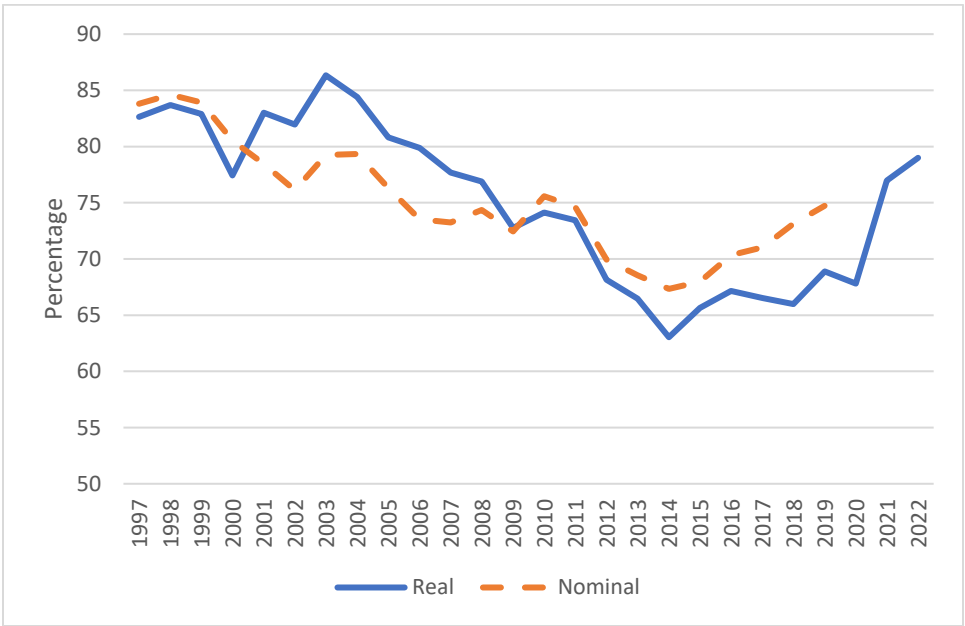
Chart 4: Output Per Hour for Goods-Producing Businesses in Canada and New Brunswick  
Panel A: Real Output Per Hour, 1997=100, 1997-2022



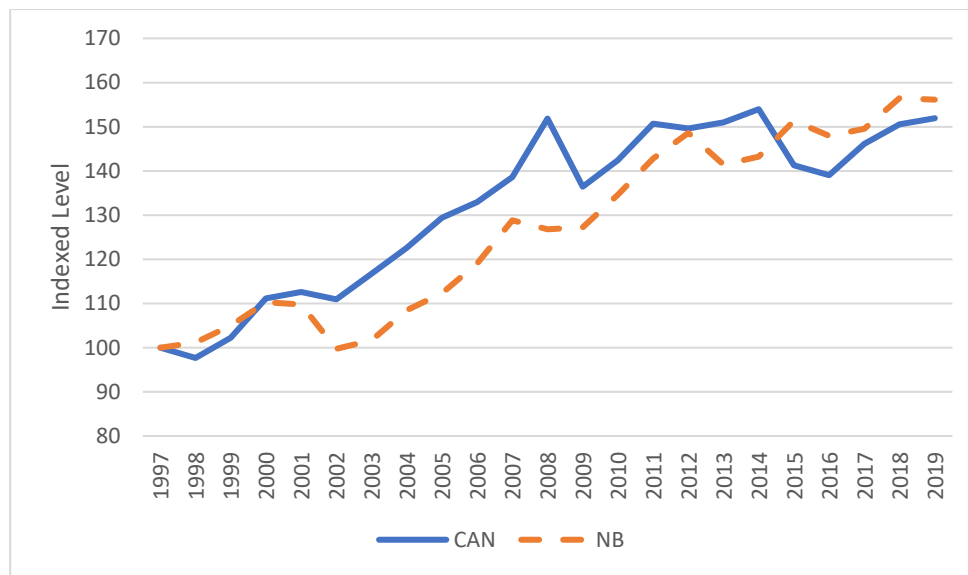
Panel B: Nominal Output Per Hour, 1997-2019



Panel C: Output Per Hour as a Percentage of the National Average, 1997-2022



Panel D: Price Deflator, 1997=100, 1997-2019



Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-0033)

The slow growth of labour productivity for goods-producing businesses between 2008 and 2019 was largely due to the mining and oil and gas extraction sector. Although there was productivity growth, there was a fall in the output of this high-productivity level sector. The real value added decreased substantially, falling to only 0.8 percent of all industries real value added in 2022 (Table 4). The increase in productivity growth between 2019 and 2022 is driven by the agriculture, forestry, fishing, and hunting sector; manufacturing sector; and construction sector. Agriculture, forestry, fishing, and hunting labour productivity grew especially fast at a rate of 14.91 percent per year between 2019 and 2022 (Table 5). This will be further analyzed throughout the following five sections.

Table 4: Goods-Producing Businesses Real Value Added as a Share of All Industries Real Value Added and Level of Real Output per Hour in New Brunswick and Canada, 1997 and 2022 (expressed in percent)

	Percent of Real Value Added				Level of Real Output per Hour			
	CAN		NB		CAN		NB	
	1997	2022	1997	2022	1997	2022	1997	2022
Goods-Producing Businesses	33.7	27.0	30.9	24.4	57.0	77.1	47.1	60.9
Agriculture, forestry, fishing, and hunting [BS11]	2.3	1.9	2.5	3.4	23.5	60.5	16.9	60.7
Mining and oil and gas extraction [BS21]	8.6	7.2	6.7	0.8	318.5	293.5	278.6	96.4
Utilities [BS22]	2.6	1.9	4.1	4.1	174.6	205.9	144.9	231.3
Construction [BS23]	6.2	7.0	6.3	6.9	46.6	49.7	38.8	45.7
Manufacturing [BS3A]	14.2	9.0	11.3	9.3	44.9	63.2	44.9	54.1

Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-0033)

Table 5: Real Output Per Hour of Goods-Producing Businesses in New Brunswick and Canada, 1997-2022 and selected sub-periods (average annual growth rates expressed in percent)

	1997-2022		2000-2008		2008-2019		2019-2022	
	CAN	NB	CAN	NB	CAN	NB	CAN	NB
Goods-Producing Businesses	1.22	1.03	0.53	0.44	1.13	0.12	0.13	4.81
Agriculture, forestry, fishing, and hunting [BS11]	3.86	5.25	1.85	3.57	3.73	3.50	4.05	14.91
Mining and oil and gas extraction [BS21]	-0.33	-4.16	-4.57	-2.56	1.52	0.54	0.54	0.70
Utilities [BS22]	0.66	1.89	1.05	-1.40	0.93	6.08	0.24	-3.11
Construction [BS23]	0.26	0.66	-0.03	0.25	0.43	0.11	-0.13	3.35
Manufacturing [BS3A]	1.38	0.75	1.09	-0.92	0.87	-0.04	-0.31	4.07

Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-0033)

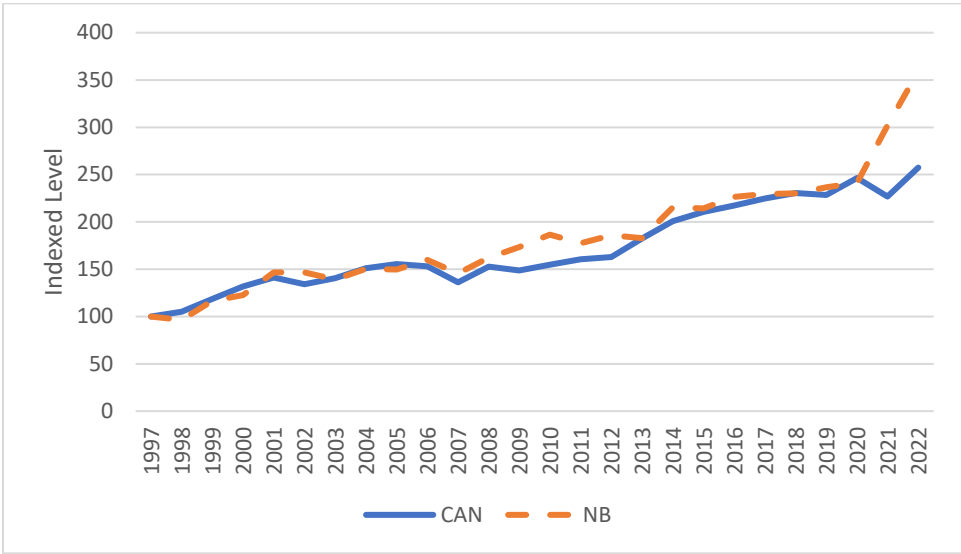
#### A. Agriculture, Forestry, Fishing, and Hunting

The agriculture, forestry, fishing, and hunting sector had a real value-added of \$1,145 million (2012 dollars) in 2022. This is 3.4 percent of the real value-added of all industries in New Brunswick. In 2022 labour productivity of agriculture, forestry, fishing, and hunting was \$60.7 per hour (2012 dollars) in New Brunswick. This is 100.3 percent of Canada's value of \$60.5 per hour (2012 dollars) in this industry.

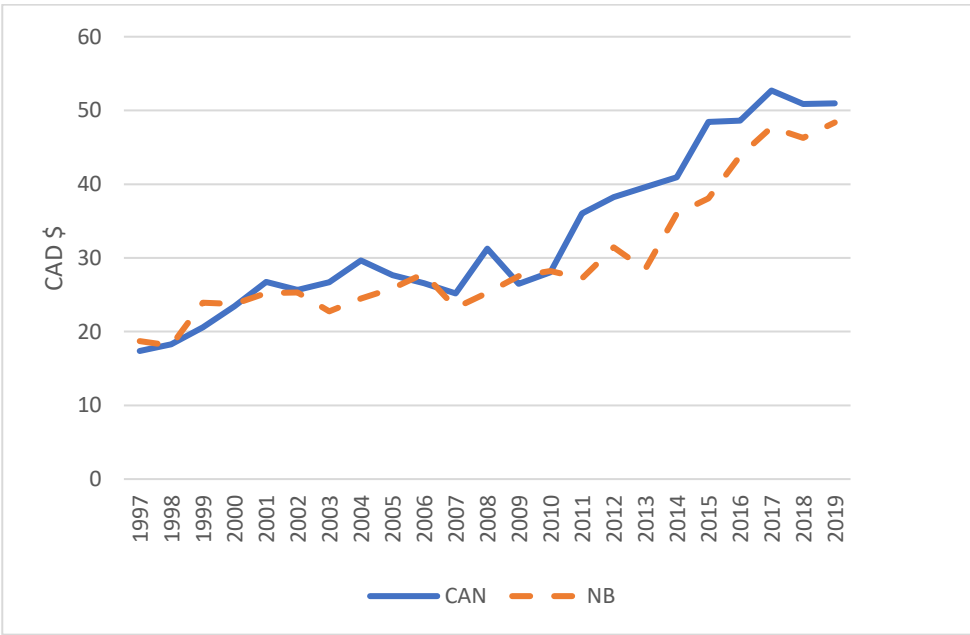
Agriculture, forestry, fishing, and hunting in New Brunswick experienced rapid growth of real output per hour, with a growth rate of 5.25 percent per year between 1997 and 2022. This is higher than the national growth rate of 3.86 percent. This is largely due to increases in labour productivity in recent years. In the most recent sub-period, between 2019 and 2021 real output per hour of agriculture, forestry, fishing, and hunting grew quickly at a rate of 14.91 percent per year in New Brunswick (Chart 5). In Canada growth during this sub-period only grew at a rate of 4.05 percent per year.

Chart 5: Output Per Hour for the Agriculture, Forestry, Fishing, and Hunting Sector (BS11) in Canada and New Brunswick

Panel A: Real Output Per Hour, 1997=100, 1997-2022

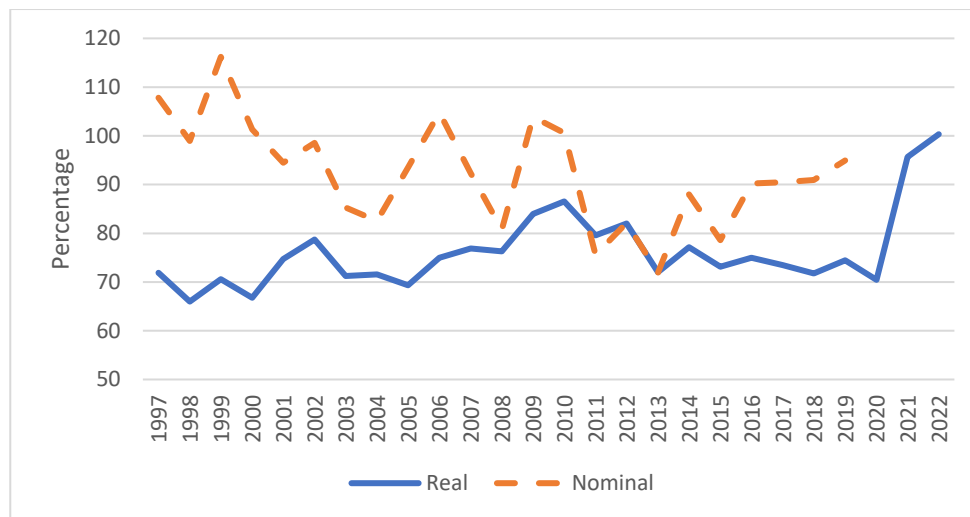


Panel B: Nominal Output Per Hour, 1997-2019

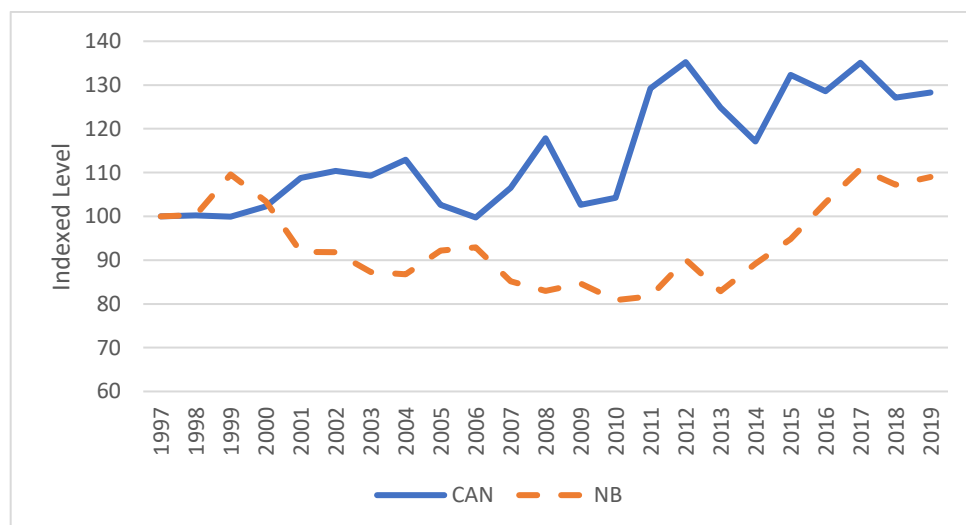




Panel C: Output Per Hour as a Percentage of National Average, 1997-2022



Panel D: Price Deflator, 1997=100, 1997-2019



Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-0033)

The output structure of the real value added of agriculture, forestry, fishing, and hunting differs between Canada and New Brunswick. In New Brunswick the sub-industries forestry and logging; and fishing, hunting, and trapping are much more important than Canada. In Canada crop and animal production is more important than in New Brunswick (Table 6).

New Brunswick's high growth productivity of agriculture, forestry, fishing, and hunting throughout the whole period is largely due to crop and animal production, which grew at a rate of 6.97 percent per year between 1997 and 2022 (Chart 6, Table 7). It also contributed to the extremely high growth between 2019 and 2022. During this sub-period productivity of crop and animal production increased by 17.47 percent per year (Table 7). Crop and animal production comprise 60.0 percent of the total value added in this sector in 2022 (Table 6). Therefore, changes in this sub-industry have a large impact on the overall sector of agriculture, forestry,

fishing, and hunting. Both forestry and logging; and fishing, hunting, and trapping also experienced rapid labour productivity growth between 2019 and 2022 in New Brunswick. Forestry and logging productivity increased at a rate of 14.73 percent per year and fishing, hunting, and trapping productivity grew at a rate of 10.64 percent annually.

Table 6: Sub-Industries of Agriculture, Forestry, Fishing, and Hunting [BS11] Real Value Added as a Share of Agriculture, Forestry, Fishing, and Hunting [BS11] Real Value Added in New Brunswick and Canada, 1997 and 2022 (expressed in percent)

	CAN		NB		CAN		NB	
	1997	2022	1997	2022	1997	2022	1997	2022
Crop and animal production [BS11A]	75.0	85.4	32.9	60.0	22.4	67.2	14.3	77.0
Forestry and logging [BS113]	15.2	7.2	39.2	23.8	30.0	49.0	20.4	75.5
Fishing, hunting, and trapping [BS114]	4.6	2.4	18.6	13.0	27.2	34.0	16.4	32.1
Support activities for agriculture and forestry [BS115]	5.1	5.0	9.3	3.2	23.9	40.1	20.6	36.1
Total	100.0	100.0	100.0	100.0				
Sector as % of GDP	2.3	1.9	2.5	3.4				

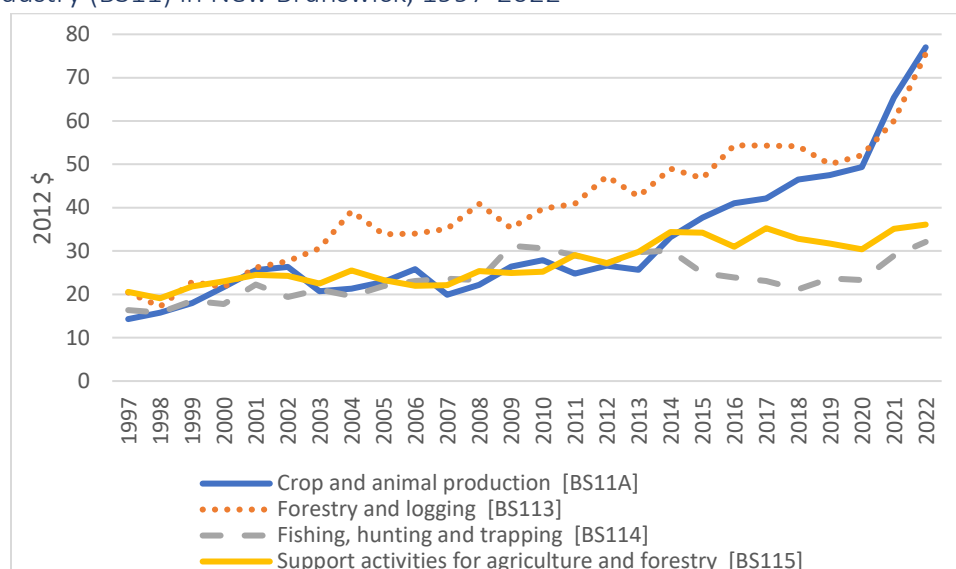
Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-0033)

Table 7: Real Output Per Hour of Agriculture, Forestry, Fishing, and Hunting [BS11] in New Brunswick and Canada, 1997-2022 and selected sub-periods (average annual growth rates expressed in percent)

	1997-2022		2000-2008		2008-2019		2019-2022	
	CAN	NB	CAN	NB	CAN	NB	CAN	NB
Agriculture, forestry, fishing, and hunting [BS11]	3.86	5.25	1.85	3.57	3.73	3.50	4.05	14.91
Crop and animal production [BS11A]	4.49	6.97	1.53	0.29	4.64	7.16	5.33	17.47
Forestry and logging [BS113]	1.98	4.41	3.41	8.25	1.17	1.84	-1.77	14.73
Fishing, hunting, and trapping [BS114]	0.90	2.72	3.77	3.42	-0.02	0.15	-3.13	10.64
Support activities for agriculture and forestry [BS115]	2.09	2.27	0.91	1.25	1.04	2.03	4.34	4.43

Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-0033)

Chart 6: Real Output Per Hour of the Sub-Industries of the Agriculture, Forestry, Fishing and Hunting Industry (BS11) in New Brunswick, 1997-2022



Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-0033)

Crop and animal products can further be divided into the categories shown in Table 8. Greenhouse, nursery, and floriculture production was the largest driver behind the high productivity growth of crop and animal products. Between 1997 and 2022 labour productivity grew at a rate of 12.92 percent per year (Table 9). In the most recent sub-period, between 2019 and 2022, labour productivity growth has been extremely high at 43.59 percent per year (Chart 7).

This sub-industry has become increasingly important to the total real value-added of agriculture, forestry, fishing, and hunting. In 1997 it only made-up 13.2 percent of the total real value-added of agriculture, forestry, fishing, and hunting. In 2022 it made up 59.5 percent of the total real value-added in this sector (Table 8). This is the only sub-industry of crop and animal products that has increased in importance during the period. Therefore, this sub-industry of greenhouse, nursery, and floriculture is responsible for the rapid growth of real output growth per hour in agriculture, forestry, fishing, and hunting.

Between 1997 and 2022 aquaculture fell from 10.5 percent of GDP in this industry to only 6.0 percent of GDP. In the same sub-industry labour productivity increased rapidly at a rate of 7.27 percent per year. This is because, although real value in aquaculture added increased slower than the industry, the number of hours worked in aquaculture decreased by 3.00 percent per year between 1997 and 2022. This resulted in growth of labour productivity. This is likely due to technical improvements made in this sub-industry.

Table 8: Sub-Industries of Crop and Animal Production [BS11A] Real Value Added as a Share of Crop and Animal Production [BS11A] Real Value Added in New Brunswick and Canada, 1997 and 2022 (expressed in percent)

	Greenhouse, nursery, and floriculture production [BS1114]		Crop production [BS111A]		Aquaculture [BS1125]		Animal production (except aquaculture) [BS112A]	
	CAN	NB	CAN	NB	CAN	NB	CAN	NB
1997	5.8	13.2	70.8	42.3	0.6	10.5	22.8	34
2022	18.7	59.5	65.7	24.8	0.7	6.0	14.8	9.7

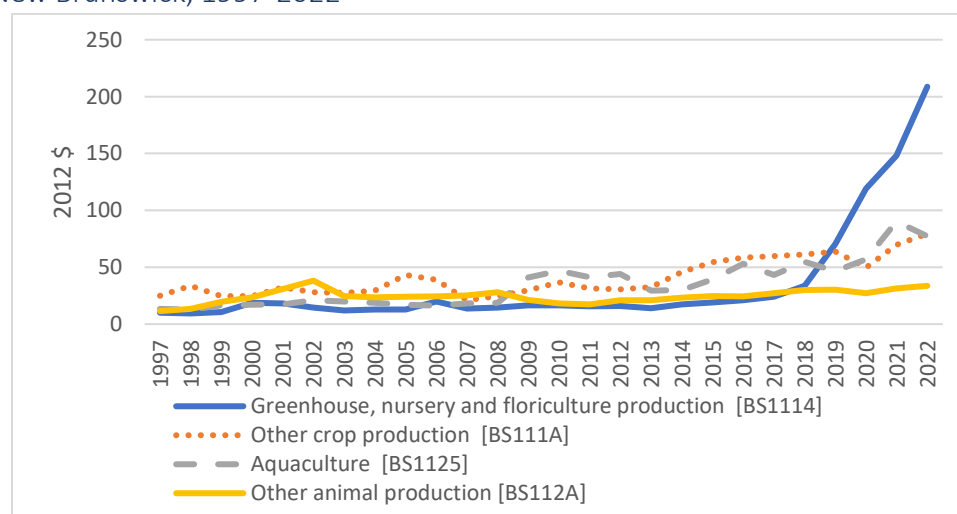
Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-0033)

Table 9: Real Output Per Hour of Crop and Animal production (BS11A) in New Brunswick and Canada, 1997-2022 and selected sub-periods (average annual growth rates expressed in percent)

	Greenhouse, nursery, and floriculture production [BS1114]		Crop production [BS111A]		Aquaculture [BS1125]		Animal production (except aquaculture) [BS112A]	
	CAN	NB	CAN	NB	CAN	NB	CAN	NB
1997-2022	5.29	12.92	3.78	4.75	3.27	7.27	3.61	4.38
2000-2008	0.85	-3.18	-3.6	0.00	9.14	1.12	4.31	2.31
2008-2019	6.16	15.39	4.77	9.05	3.59	8.68	3.19	0.69
2019-2022	25.69	43.59	4.31	7.61	3.19	18.34	5.91	3.39

Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-0033)

Chart 7: Real Output Per Hour of the Sub-Industries of the Crop and Animal Production Industry (BS11) in New Brunswick, 1997-2022



Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-0033)

i. *Impact of Cannabis Production in New Brunswick*

In October 2018 recreational cannabis was legalized across Canada. Cannabis production is included in the agriculture, forestry, fishing, and hunting industry, under the sub-industry greenhouse, nursery, and floriculture production. This can explain the large increase of labour productivity in the output of greenhouses in New Brunswick for this sub-industry and the overall industry between 2018 and 2019 and the continued high growth between 2019 and 2022.

Between 2018 and 2019 the real value added of cannabis production increased from \$74.3 million (2012 \$) to \$207.8 million (2012 \$), an increase of 279.7 percent. By 2022 the real value added was at \$492.5, an increase of 562.9 percent since 2019. The real value added continued to increase and in 2022 and the absolute value added of cannabis production in 2022 in New Brunswick was \$493 million (2012 \$). This comprises 5.60 percent of national cannabis production. Cannabis comprised 1.51 percent of provincial GDP in 2022 and contributed to 22.28 percent of real GDP growth in New Brunswick since 2018, when it was legalized.

When comparing to other provinces, New Brunswick has the highest share of cannabis in provincial GDP by a large margin. As mentioned, 1.51 percent of New Brunswick's real GDP is from cannabis. Throughout Canada the share of cannabis of real GDP is only 0.43 percent. New Brunswick's high share of cannabis in provincial GDP translated to a very high contribution to real GDP growth in comparison to other provinces. Between 2018 and 2022, the cannabis sector contributed to 22.28 percent of real GDP growth. When comparing this figure with Canada, only 4.11 percent of real GDP growth was due to cannabis production. Between 2021 and 2022 the percentage of contribution from cannabis production is even higher, at 35.91 percent (Table 10).

Other provinces that have high values of cannabis as shares of real GDP include British Columbia and Prince Edward Island. In 2022, British Columbia had a share of 0.78 percent and Prince Edward Island had a value of 0.72 percent. Nevertheless, New Brunswick's is much higher than the share of any other province. The contribution to real GDP growth is significantly higher in New Brunswick than any other province as well. Between 2018 and 2022 the second highest contribution to growth of real GDP of cannabis was Alberta with a value of 11.15 percent, low compared to New Brunswick's value of 22.28 percent.

This increase in cannabis production between 2018 and 2022 by 662.9 percent greatly contributed to the increase in labour productivity in the greenhouse, nursery, and floriculture production sub-industry. As mentioned, labour productivity in New Brunswick in this sub-industry increased from \$33.6 (2012 \$) in 2018 to \$208.7 (2012 \$) in 2022, an increase of 621.1 percent. New Brunswick's extreme values in comparison to other provinces explain the much faster growth of labour productivity in the sub-industry of greenhouse, nursery, and floriculture between 2018 and 2022 in comparison to the national value.

Table 10: Cannabis Production [BS111C] by Province, 2022

	Absolute Value Added of Cannabis Production (millions of 2012 \$)	Provincial Share of National Cannabis Production (%)	Share of Cannabis in Provincial Real GDP (%)	Contribution to Real GDP Growth, 2018-2022 (%)	Contribution to Real GDP Growth, 2021-2022 (%)
Newfoundland and Labrador	7	0.08	0.02	0.02	-0.15
Prince Edward Island	47	0.53	0.72	3.30	4.53
Nova Scotia	212	2.41	0.53	3.71	2.38
New Brunswick	493	5.60	1.51	22.28	35.91
Quebec	1,511	17.18	0.39	0.20	-0.24
Ontario	3,527	40.10	0.45	5.66	1.73
Manitoba	77	0.87	0.12	2.58	-0.22
Saskatchewan	119	1.35	0.15	-13.43	-0.46
Alberta	688	7.83	0.20	11.15	-0.41
British Columbia	2,116	24.05	0.78	1.89	1.27
Total	8,797	100.00	0.43	4.11	1.00

Source: Statistics Canada, Table: 36-10-0402-01

## B. Mining and Oil and Gas Extraction

In 2022 real value-added in the mining and oil and gas extraction sector was \$258 million (2012 dollars). This is only 0.8 percent of the total industry real value-added in New Brunswick. In 1997 this sector was much more important, and it was 7.1 percent of all industry real value-added. This fall made a negative contribution to productivity growth. In 2022 real output per hour in New Brunswick was \$96.4 (2012 dollars). This is only 32.8 percent of the national value of \$293.5 (2012 dollars).

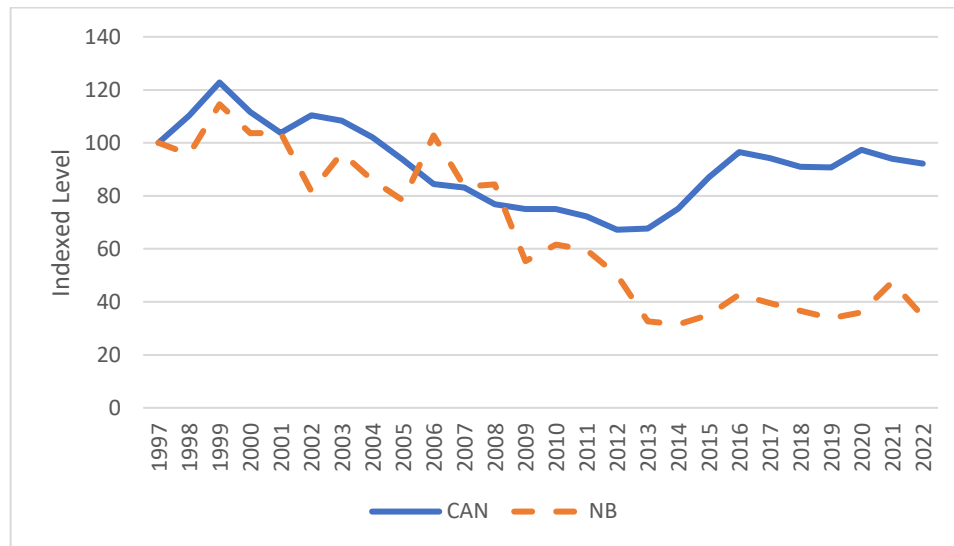
Mining and oil and gas extraction have experienced a large decrease in real output per output in New Brunswick (Chart 8). Between 1997 and 2022 the decrease of labour productivity in New Brunswick was 4.16 percent a year. In Canada decreases were small in the period. Canada's real output per hour decreased by 0.33 percent per year. Between 2008 and 2019 New Brunswick experienced decreases of 7.95 percent per year. In Canada, there was growth of 1.52 percent per year.

Between 1997 and 2012 real output per hour of the mining and oil and gas extraction industry decreased by 49.9 percent in New Brunswick and prices increased by 215.0 percent. This means that although real productivity was decreasing, the rising prices led to increases in nominal output per hour throughout this period. When the price increases companies normally exploit more margin resources, causing labour productivity to fall. Then, between 2012 and 2019 real output per hour continued to fall, during this period by 16.3 percent. Prices began to fall and

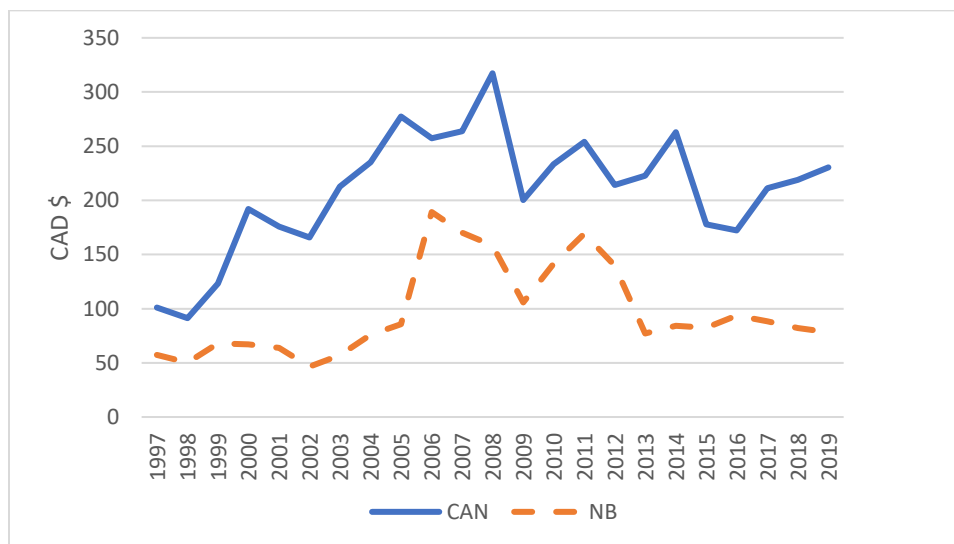
fell by 83.0 percent throughout the period. This led to decreases in the nominal output per hour, as well as real output per hour. As oil and gas prices are a volatile commodity changes in their price have a direct impact on nominal output per hour, as well as an indirect impact on real output per hour.

Chart 8: Output Per Hour for the Mining and Oil and Gas Extraction Industry (BS21) in Canada and New Brunswick

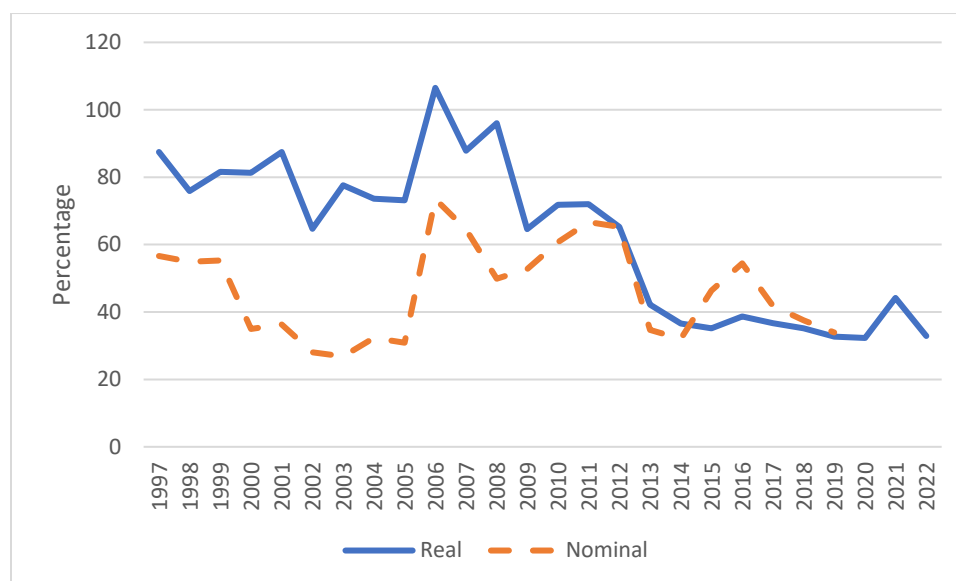
Panel A: Real Output Per Hour, 1997=100, 1997-2022



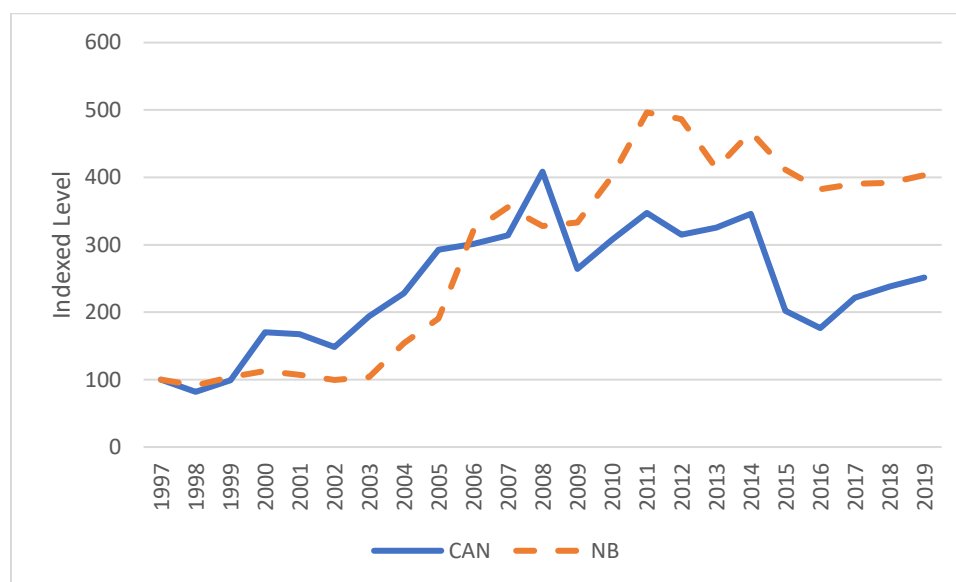
Panel B: Nominal Output Per Hour, 1997-2019



Panel C: Output per Hour as a Percentage of National Average, 1997-2022



Panel D: Price Deflator, 1997=100, 1997-2019



Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-0033)

The output structure of real value added in the mining and oil and gas extraction greatly differs between Canada and New Brunswick. In New Brunswick mining and quarrying is the most important sub-industry in the mining and oil and gas extraction sector. It has fallen slightly in importance throughout the period. In 1997 it comprised 94.0 percent of the real value added of the entire sector and in 2022 that percentage had fallen to 85.7 percent. This is largely due to an increase in the importance of support activities for mining and oil and gas extraction. In Canada oil and gas extraction made up 69 percent of real value added in the total sector in 2022, but in New Brunswick it only makes up 0.2 percent of real value added in the sector.



Oil and gas extraction has the highest labour productivity value of the sub-industries of mining and oil and gas extraction in Canada of \$686.7 per hour (2012 dollars) in 2022. As oil and gas extraction has the highest percent of real value added in this sector in Canada and the lowest percent in New Brunswick, the higher labour productivity level in Canada in the mining and oil and gas extraction industry is due to a composition effect.

Both mining and quarrying and support activities for mining and oil and gas extraction experienced strong declines in productivity during the period in New Brunswick (Chart 9). Between 1997 and 2022 mining and quarrying decreased at a rate of 2.63 percent per year. Support activities for mining and oil and gas extraction decreased at a rate of 7.56 percent per year. Between 2008 and 2019, the sub-period with the largest decreases in mining and oil and gas extraction productivity, mining and quarrying experienced decreases of 6.59 percent per year and support activities for mining and oil and gas extraction experienced decreases of 8.04 percent per year (Table 11). Mining and quarrying experienced a rebound since 2019, with a strong growth rate of labour productivity of 5.72 percent per year.

Table 10: Composition of Real Value Added of Mining and Oil and Gas Extraction (BS21) and Level or Real Output per Hour in New Brunswick and Canada, 1997 and 2022 (expressed in percent)

	Percent of Real Value Added				Level of Real Output per Hour			
	CAN		NB		CAN		NB	
	1997	2022	1997	2022	1997	2022	1997	2022
Oil and gas extraction [BS211]	64.6	69.0	0.0	0.2	909.8	686.7	0.0	67.6
Mining and quarrying (except oil and gas) [BS212]	26.0	21.0	94.0	85.7	214.6	205.3	275.8	141.8
Support activities for mining and oil and gas extraction [BS213]	9.4	10.0	6.0	14.1	76.9	76.9	266.5	37.3
Total	100.0	100.0	100.0	100.0				
Sector as a % of GDP	8.6	7.2	6.7	0.8				

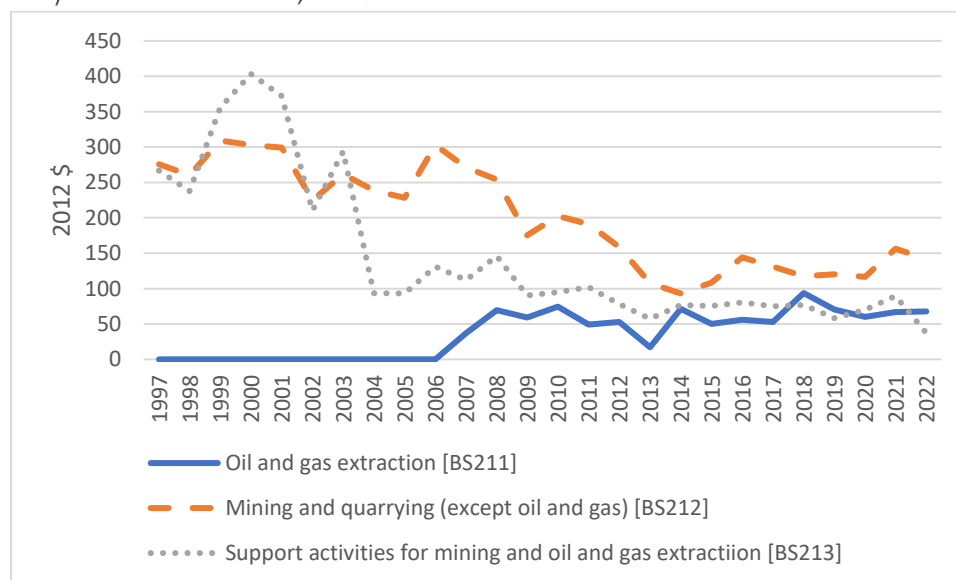
Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-0033)

Table 11: Real Output Per Hour of Mining and Oil and Gas Extraction (BS21) in New Brunswick and Canada, 1997-2022 and selected sub-periods (average annual growth rates expressed in percent)

	1997-2022		2000-2008		2008-2019		2019-2022	
	CAN	NB	CAN	NB	CAN	NB	CAN	NB
Mining and oil and gas extraction [BS21]	-0.33	-4.16	-4.57	-2.56	1.52	-7.95	0.54	0.70
Oil and gas extraction [BS211]	-1.12	N/A	-8.61	N/A	3.22	0.09	2.26	-1.30
Mining and quarrying (except oil and gas) [BS212]	-0.18	-2.63	-1.64	-2.18	-2.16	-6.59	0.57	5.72
Support activities for mining and oil and gas extraction [BS213]	0.00	-7.56	-0.08	-11.93	-0.36	-8.04	-0.89	-13.73

Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-0033)

Chart 9: Real Output Per Hour of the Sub-Industries of the Mining and Oil and Gas Extraction Industry (BS21) in New Brunswick, 1997-2022



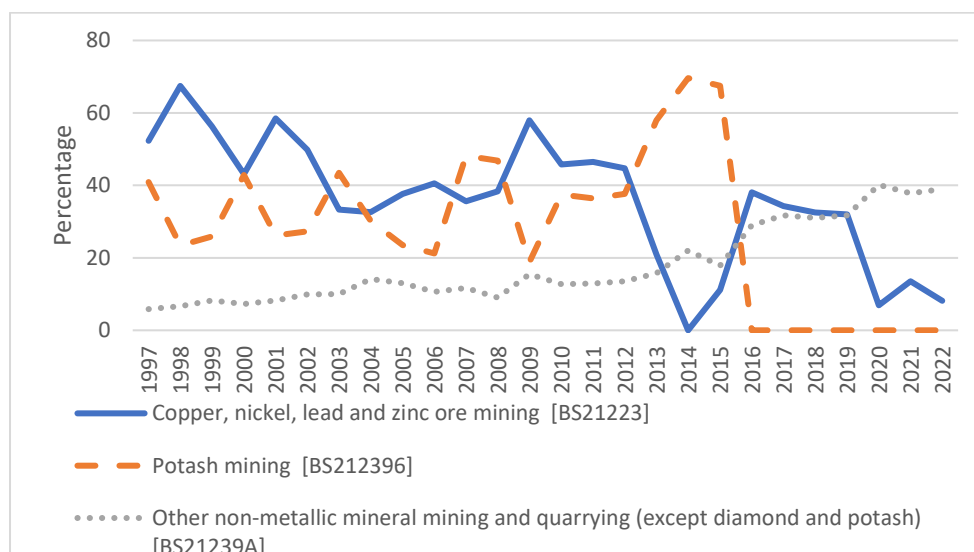
Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-0033)

When examining the sub-industries of mining and quarrying, potash mining; and copper, nickel, lead, and zinc ore mining were by far the most important sub-industries in 1997 in New

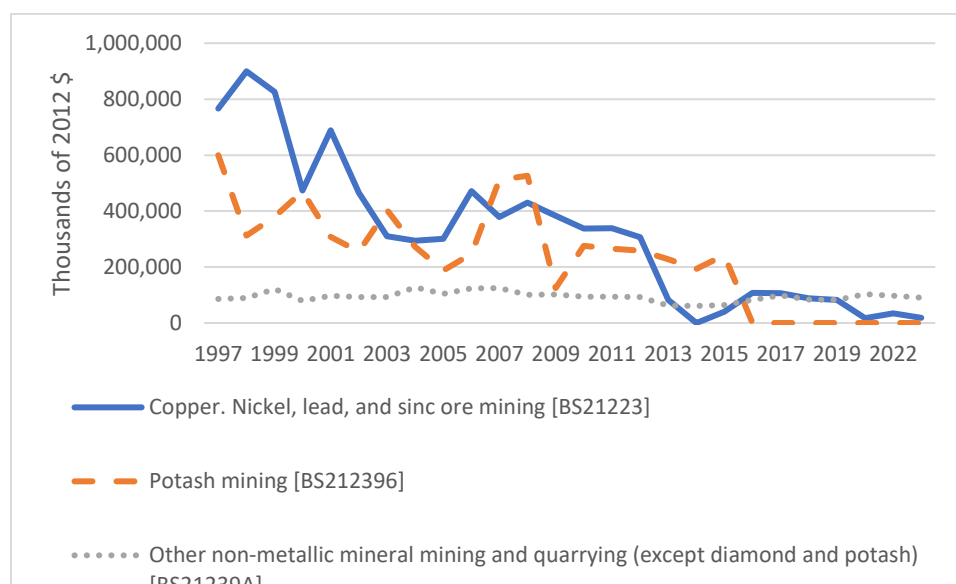
Brunswick. In 1997 52.3 percent of the real value added in the mining and quarrying sub-industry was from copper, nickel, lead, and zinc ore mining with a value of \$767 million (2012 dollars) and 40.9 percent of the real value added in the industry was from potash mining with a value of \$600 million (2012 dollars) (Chart 10). In 2022 the most important sub-industry is non-metallic mineral mining and quarrying that is not diamond and potash with 39.0 percent of total real value added in the sector with a value of \$91 million (2012 dollars).

Chart 10: Real Value Added of the Important Sub-Industries of Mining and Quarrying (Except for Oil and Gas) (BS212) in New Brunswick, 1997-2022

Panel A: Percentage of Real Value Added of Mining and Quarrying (except for oil and gas) (BS212)



Panel B: Absolute Values



Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-0033)

As discussed, between 2008 and 2019 was a large decrease in labour productivity in the mining and oil and gas extraction sectors. This was largely due to both potash mining and copper, nickel, lead, and zinc ore mining sub-industries.

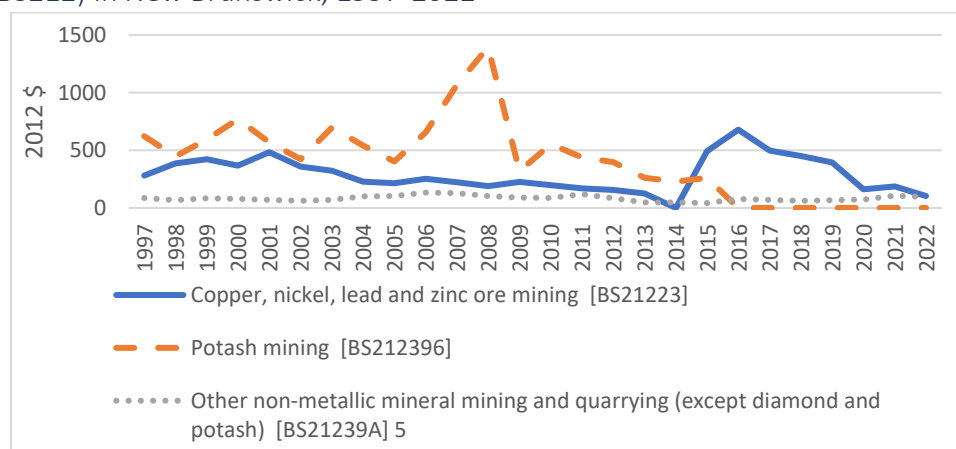
First, potash mining experienced the largest decreases in labour productivity throughout the period. In 2008 potash mining was 41.2 percent of the total real value added in the mining and oil and gas extraction industry at a value of \$526 million (2012 dollars), and hours worked were 377,100. Therefore, real output per hour was \$1,395.0 (2012 dollars).

However, by 2019 there was no real value added or hours worked in the potash mining sector. In 2016 the Sussex potash mine officially closed in New Brunswick because the demand for fertilizer, which is made with potash, was decreasing (Brown, 2022). This closure of the potash mine also influenced the decrease in support activities for mining. In 2016 31.0 percent of jobs in the industry of mining and oil and gas extraction were lost. The closure of this mine was one of the main causes of the decrease in real output per hour of mining and oil and gas extraction during this period as it was the only potash mine in the province.

Second, between 2008 and 2014 the copper, nickel, lead, and zinc ore mining sub-industry experienced decreases in real value in New Brunswick. In 2008 the real value added was \$430 million (2012 \$) and hours worked were 2,281.1 thousand. The real output per hour was therefore \$188.5 (2012 \$). In 2014 the real value added, and total hours worked both decreased to 0.0. In 2016 the real value added increased to \$108 million (2012 \$) but has not been able to be close to its previous levels of real value added.

In 2013 the Brunswick Mine closed, which had been a large producer of copper. Although the mine's closure was long expected this caused a large labour shock in the New Brunswick economy with no hours worked in the copper sub-industry in 2014 (Jones, 2013). The number of jobs in the sector of mining and oil and gas extraction decreased by 21.8 percent when the mine closed. The closure of this mine also created a large change of the composition of the mining and oil and gas extraction sector in New Brunswick.

Chart 11: Real Output Per Hour of the Major Sub-Industries of Mining and Quarrying (Except Oil and Gas) (BS212) in New Brunswick, 1997-2022



Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-0033)

### C. Utilities

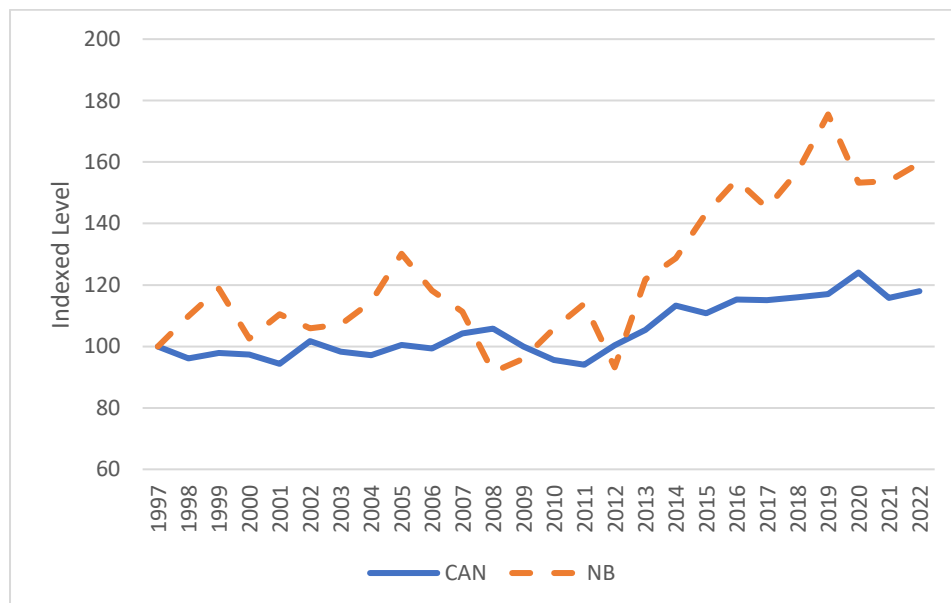
In 2022 the real value-added of the utility industry in the business sector was \$1,369 million (2012 dollars) or 4.1 percent of the total real value-added in all industries in New Brunswick. The real output per hour in New Brunswick in 2022 was \$231.3 (2012 dollars). This is 112.3 percent of the national value of \$205.9 (2012 dollars).

Between 1997 and 2022 New Brunswick experienced growth of real output per hour in the utilities sector of 1.89 percent per year. This is much higher than Canada's growth rate of 0.66 percent annually (Chart 12, Table 13). Growth between 2008 and 2019 had been especially fast at 6.08 percent per year in New Brunswick. In the most recent period, between 2019 and 2022 labour productivity in this industry decreased at a rate of 3.11 percent per year in New Brunswick and increased at a rate of 0.24 percent annually in Canada.

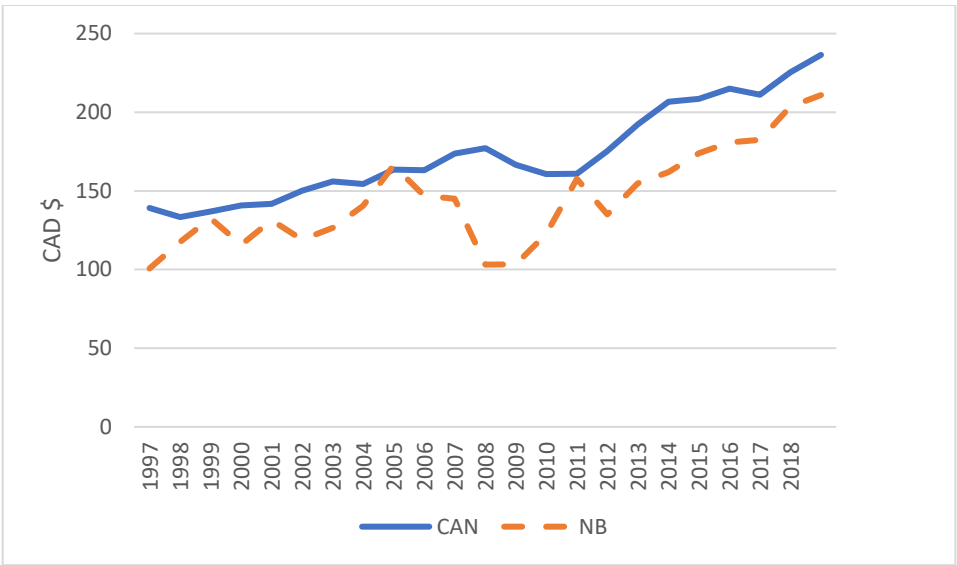
Between 1997 and 2012 both New Brunswick and Canada had similar levels of growth of real output per hour of utilities. Then, between 2012 and 2019 labour productivity New Brunswick increased at a rate of 9.46 percent per year, while in Canada the growth rate of real output per hour in the sector was only 2.22 percent annually. During this period the nominal output per hour increased by only slightly more in New Brunswick than Canada (\$75.7 increase in New Brunswick and \$61.2 increase in Canada). The price deflator decreased between 2012 and 2019 in New Brunswick in comparison to Canada (17.1 percent decrease in New Brunswick, 15.6 percent increase in Canada).

Chart 12: Output Per Hour for the Business Sector Utilities Industry (BS22) in Canada and New Brunswick

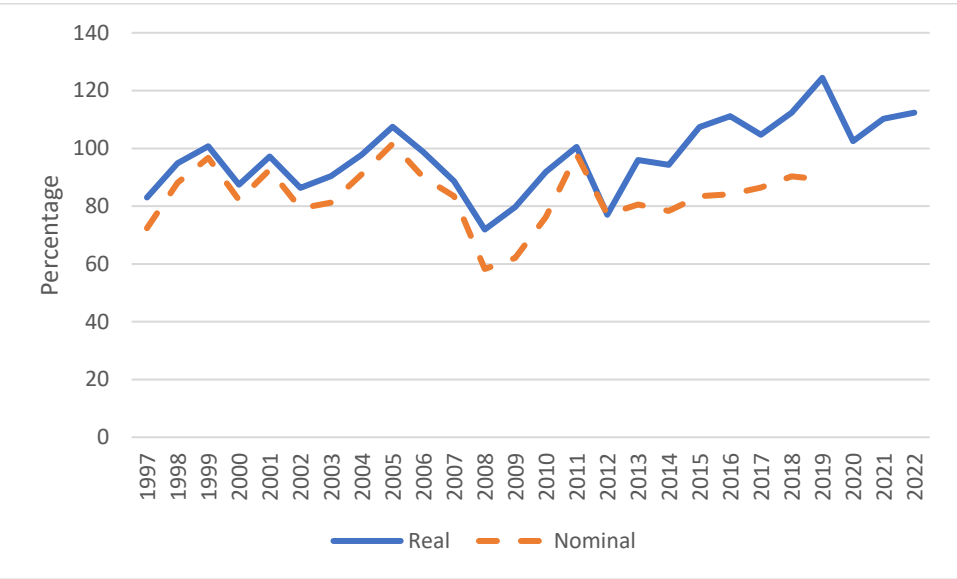
Panel A: Real Output Per Hour, 1997=100, 1997-2022



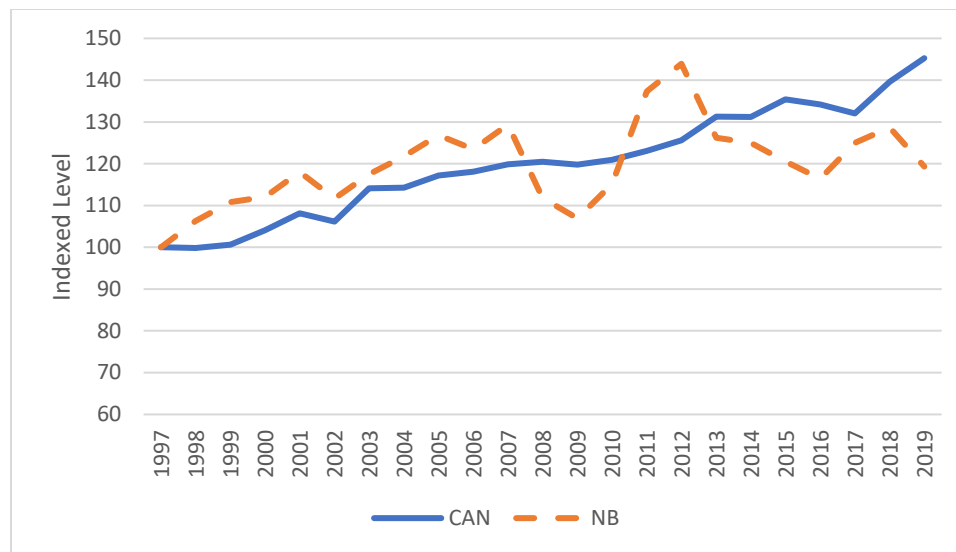
Panel B: Nominal Output Per Hour, 1997-2019



Panel C: Output as a Percentage of the National Average, 1997-2022



Panel D: Price Deflator, 1997=100, 1997-2019



Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-0033)

Canada and New Brunswick have relatively similar output structures of the utilities industry. In New Brunswick electric power generation, transmissions, and distribution make up 98.2 percent of real value-added in the utility sector in 2022, making it the most important sub-industry to study for this sector (Table 12). In Canada, the composition is slightly different with only 86.4 percent of real value added in the utility sector from electric power generation, transmission, and distribution in 2022.

Due to its predominance only electric power generation, transmission, and distribution need to be studied to get a good picture of the growth of labour productivity in the utilities sector. Between 2008 and 2019 the real output per hour of this sub-industry grew at a rate of 5.96 percent per year, virtually the same as the total utilities industry (Table 13).

Table 12: Composition of Real Value Added of Business Sector Utilities (BS22) and Level of Real Output per Hour in New Brunswick and Canada, 1997 and 2022 (expressed in percent)

	Percent of Real Value Added				Level of Real Output per Hour			
	CAN		NB		CAN		NB	
	1997	2022	1997	2022	1997	2022	1997	2022
Electric power generation, transmission, and distribution [BS2211]	88.1	86.9	99.9	98.2	189.6	204.3	146.2	234.3
Natural gas distribution [BS2212]	11.4	12.3	0.0	1.7	112.9	247.5	0.0	234.6
Water, sewage, and other systems [BS2213]	0.5	0.8	0.1	0.1	75.0	76.8	76.3	86.5
Total	100.0	100.0	100.0	100.0				
Sector as a % of GDP	2.6	1.9	4.1	4.1				

Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-0033)

Table 13: Real Output Per Hour of Business Sector Utilities (BS23) in New Brunswick and Canada, 1997-2022 and selected sub-periods (average annual growth rates expressed in percent)

	1997-2022		2000-2008		2008-2019		2019-2022	
	CAN	NB	CAN	NB	CAN	NB	CAN	NB
Utilities [BS22]	0.66	1.89	1.05	-1.40	0.93	6.08	0.24	-3.11
Electric power generation, transmission, and distribution [BS2211]	0.30	1.90	1.30	-1.15	0.15	5.96	0.16	-3.29
Natural gas distribution [BS2212]	3.19	N/A	-0.24	N/A	5.89	7.06	1.12	8.75
Water, sewage, and other systems [BS2213]	0.09	0.50	0.60	-4.67	-0.54	9.42	2.60	5.06

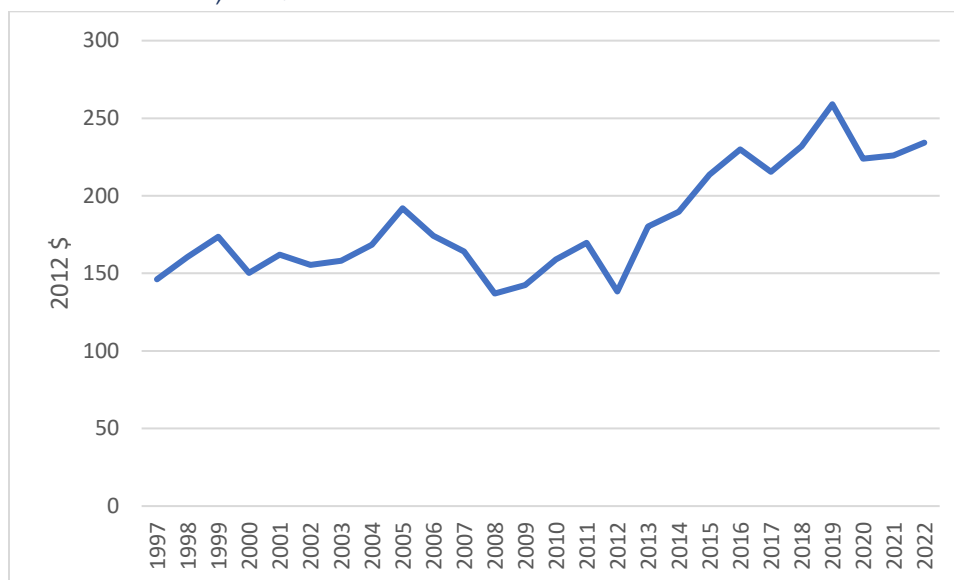
Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-0033)

New Brunswick has thirteen hydro, coal, oil, and diesel-powered stations. Seven of these are hydro stations, three are thermal stations, and three are combustion turbine stations (New Brunswick Power, 2021). There also is the Point Lepreau Nuclear Generating Station. This nuclear station produced 38 percent of total electricity in New Brunswick in 2019. Hydro was the second-highest share of electricity production at 22 percent (Canada Energy Regulator, 2023a).

The large increase in real output per hour of electric power generation, transmission, and distribution in 2012 is largely due to the reopening of the Point Lepreau Nuclear Generating Station. The station was closed between 2008 and 2012 for refurbishment. In 2012 the station reopened, with new technology, leading to high growth of productivity throughout the period due to this (Bissett, 2012). The closure of this plant also put a strain on the supply of power in New Brunswick for these four years. For this reason, the price deflator grew at a rate of 7.71 percent per year when the plant was closed (Chart 13). In 2012 prices of power reach the highest point of the period.



Chart 13: Real Output per Hour of the Electric Power Generation, Transmissions, and Distribution (BS2211) in New Brunswick, 1997-2022



Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-0033)

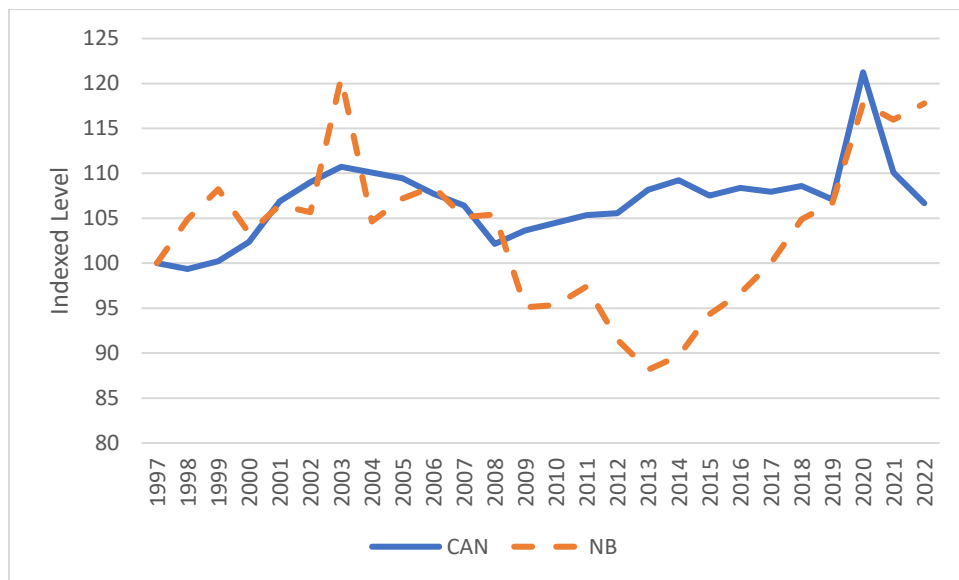
#### D. Construction

In 2022 the real value-added of the construction sector in New Brunswick was \$2,341 million (2012 dollars), 6.9 percent of the real value-added in all industries. In 2022 the real output per hour in New Brunswick was \$45.7 (2012 dollars). This is 92.0 percent of the national value of \$49.7 (2012 dollars).

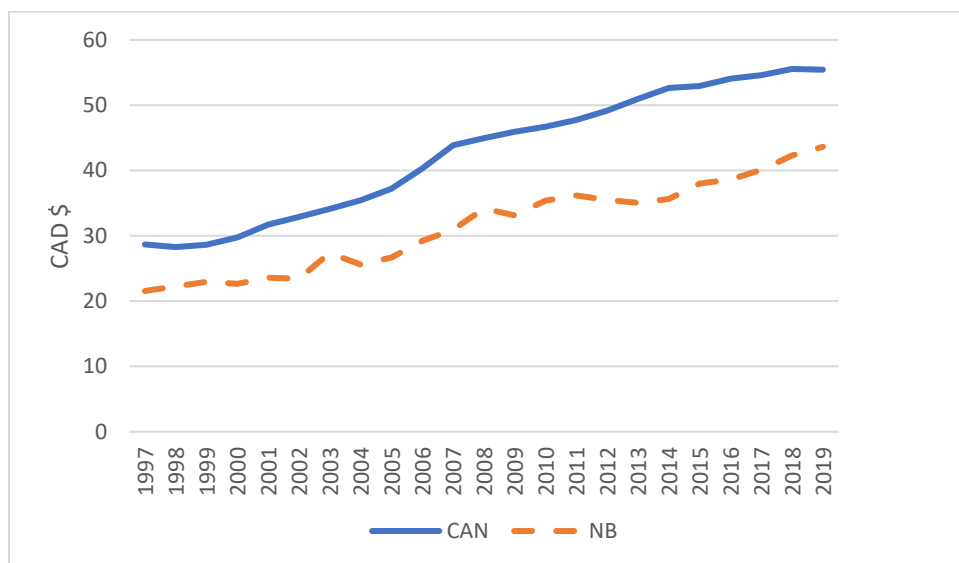
Between 1997 and 2022 labour productivity in construction has increased in New Brunswick at a rate of 0.66 percent per year. This is slightly faster than the growth nationally of 0.26 percent per year. Most of the growth of this sector in New Brunswick has happened in the two most recent sub-periods (Chart 14). Between 2015 and 2019, growth was 3.13 percent per year; between 2019 and 2022, growth was 3.35 percent per year. For Canada, both sub-periods had decreases in real output per hour. Before this, between 2008 and 2015, New Brunswick labour productivity in the construction sector was decreasing at a rate of 1.57 percent per year. Canada's value was growing at a rate of 0.73 percent annually.

Between 2003 and 2013 real output per hour in New Brunswick decreased rapidly at a rate of 3.09 percent per year. Canada experienced a small decrease during this period of 0.24 percent per year. Nominal output per hour followed a different trend and increased by \$7.7 in New Brunswick and \$16.8 in Canada throughout the period. This is illustrated through an increase of the price deflator of 4.34 percent per year in New Brunswick and 5.78 percent per year in Canada between 2003 and 2013. As prices increase, even if less output is produced per hour work (as shown in real output per hour) nominal output per hour can continue to increase because the price of what is being sold is higher.

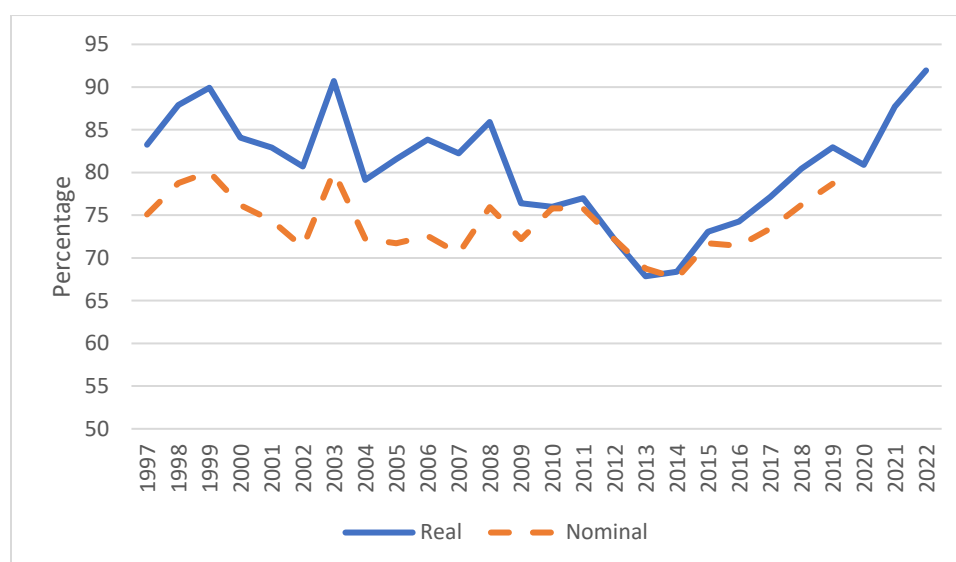
Chart 14: Output Per Hour for the Construction Industry (BS23) in Canada and New Brunswick  
 Panel A: Real Output Per Hour, 1997=100, 1997-2022



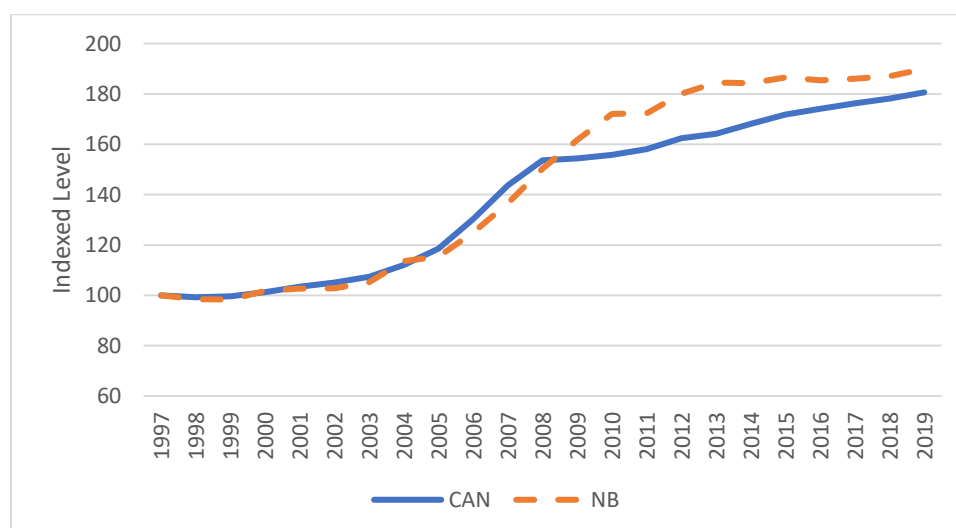
Panel B: Nominal Output Per Hour, 1997-2019



Panel C: Output as a Percentage of National Average, 1997-2022



Panel D: Price Deflator, 1997=100, 1997-2019



Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-0033)

In 1997 engineering construction had the largest real value-added in the New Brunswick construction sector with 36.5 percent of the value added of the construction industry (Table 14). By 2022 this percentage has decreased to 24.9 percent of real value-added in the construction sector. In 2022, the sub-industry in the construction sector with the highest real value-added is now residential building construction, which made up 42.3 percent of construction real value-added in 2022. Repair construction comprised 19.6 percent of real value added of construction in New Brunswick in 2022.

As mentioned, between 2003 and 2013 the construction sector in New Brunswick fared much worse than Canada and labour productivity decreased at a rate of 3.09 percent per year. This is due to engineering construction, which experienced a decrease in labour productivity of

6.08 percent per year. The importance of engineering construction also decreased from 29.3 percent in 2003 to 18.9 percent in 2013 in New Brunswick. As engineering construction was the sub-industry with the highest labour productivity at the beginning of the period, this compositional shift also decreased labour productivity in the construction sector.

Table 14: Composition of Real Value Added of Construction (BS23) and Level of Real Output per Hour in New Brunswick and Canada, 1997, 2022 (expressed in percent)

	Percent of Real Value Added				Level of Real Output per Hour			
	CAN		NB		CAN		NB	
	1997	2022	1997	2022	1997	2022	1997	2022
Residential building construction [BS23A]	29.7	36.7	26.3	42.3	41.4	50.6	32.8	46.5
Non-residential building construction [BS23B]	21.9	13.9	23.3	12.6	48.8	45.1	50.1	40.9
Engineering construction [BS23C]	31.8	29.2	36.5	24.9	61.8	56.6	49.6	55.1
Repair construction [BS23D]	15.8	18.3	12.8	19.6	35.7	42.8	25.6	37.2
Other activities of the construction industry [BS23E]	0.8	1.9	1.0	0.6	57.1	143.0	67.6	101.3
Total	100.0	100.0	100.0	100.0				
Sector as a % of GDP	6.2	7.0	6.3	6.9				

Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-0033)

Table 15: Real Output Per Hour of Construction (BS23) in New Brunswick and Canada, 1997-2022 and selected sub-periods (average annual growth rates expressed in percent)

	1997-2022		2000-2008		2008-2019		2019-2022	
	CAN	NB	CAN	NB	CAN	NB	CAN	NB
Construction [BS23]	0.26	0.66	-0.03	0.25	0.43	0.11	-0.13	3.35
Residential building construction [BS23A]	0.81	1.41	-0.79	0.40	1.59	1.60	1.08	6.96
Non-residential building construction [BS23B]	-0.31	-0.81	-0.91	-5.28	0.26	0.66	-3.32	0.58
Engineering construction [BS23C]	-0.36	0.42	-0.12	0.83	-0.91	-1.38	1.46	4.49
Repair construction [BS23D]	0.73	1.51	1.08	4.32	1.50	1.35	-2.09	-2.39
Other activities of the construction industry [BS23E]	3.74	1.63	10.49	5.54	1.78	-1.80	0.85	6.70

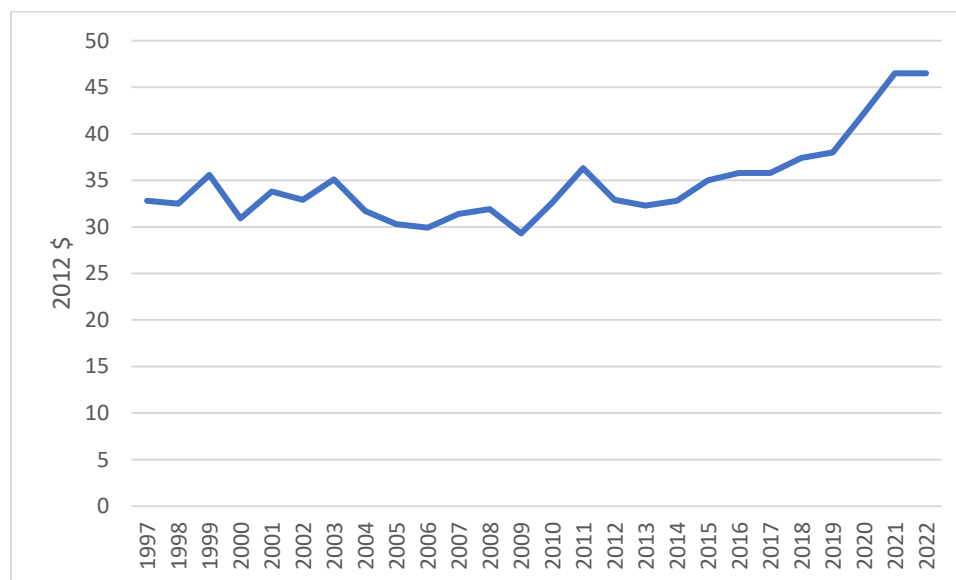
Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-0033)

As mentioned above, between 2003 and 2013 there was a large increase of 5.78 percent per year in the price deflator in New Brunswick. This is largely due to engineering construction which experienced an increase in its price deflator of 7.27 percent per year between 2003 and 2013 in New Brunswick. As discussed in the section on the mining and oil and gas extraction industry, the price of oil and gas increased drastically during this period. This greatly increased the price of engineering construction, in particular engineering construction of oil and gas.

The Point Lepreau Nuclear Generating Station began refurbishments in 2008. In 2008 labour productivity in engineering construction was \$56.3 (2012 dollars) and it was 46.4 percent of the construction sector's real value-added. When the plant reopened in 2012, and this construction was completed, the percentage of the construction sector's real value-added from the engineering construction sub-industry decreased by 39.2 percent between 2012 and 2013. This greatly contributed the decrease in labour productivity of the construction sector during this period.

Residential housing has the highest growth rate of real output per hour in the construction sector in recent years, influencing the trends in the construction sector. Between 2015 and 2022 real output per hour for residential building construction has increased at a rate of 4.14 percent per year (Chart 15).

Chart 15: Real Output per Hour of Residential Building Construction (BS23A) in New Brunswick, 1997-2022



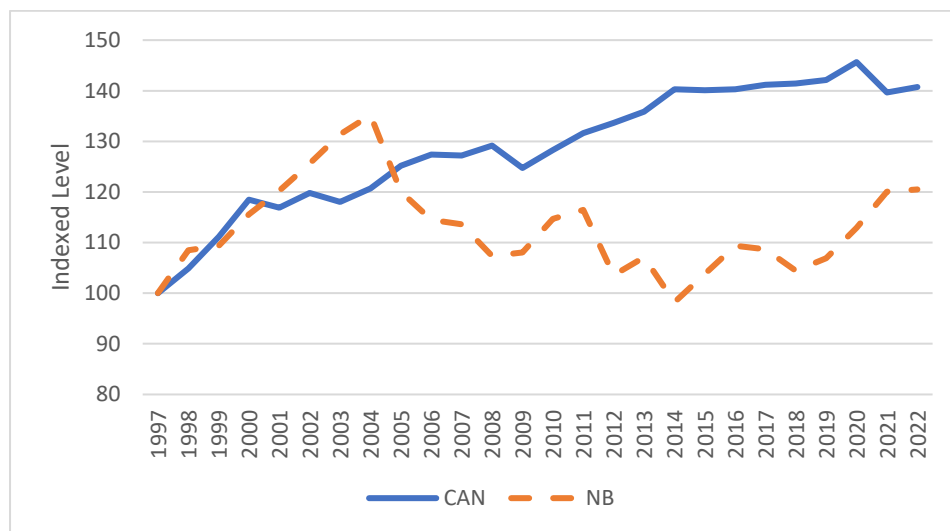
Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-0033)

## E. Manufacturing

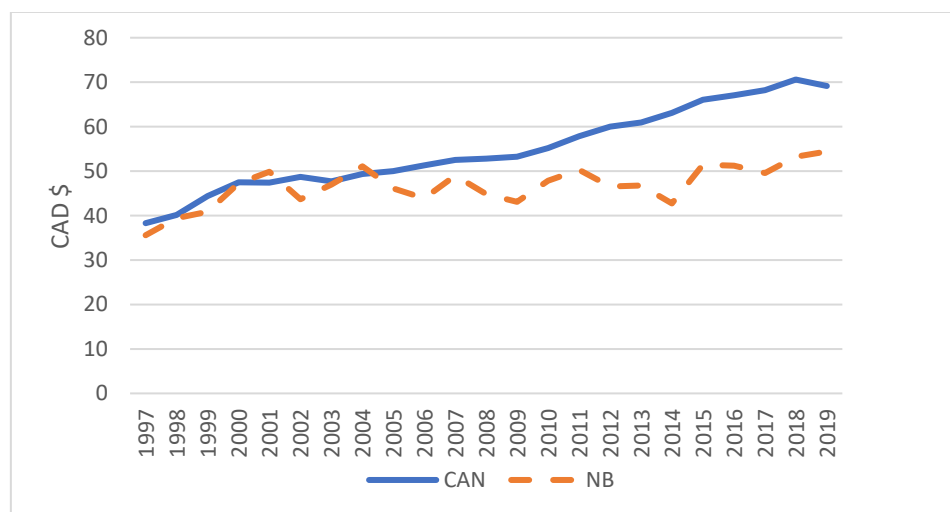
In 2022, New Brunswick's real value-added in the manufacturing sector was 9.3 percent of all industry value-added. This is the largest real value-added of any of the other two-digit NAICS sectors at \$3,144 million (2012 dollars). In 2022 real output per hour was \$54.1 (2012 dollars) in New Brunswick. This is only 85.6 percent of the value in Canada of \$63.2 (2012 \$).

New Brunswick has experienced growth of output per hour in the manufacturing sector at a rate of 0.75 percent per year between 1997 and 2022. This is slower than the growth in Canada of 1.38 percent per year (Chart 16). Between 2000 and 2008 there were decreases of 0.92 percent per year in New Brunswick while Canada grew at a rate of 2.09 percent annually. Nevertheless, in the most recent sub-period, between 2019 and 2022, New Brunswick has experienced fast growth of 4.07 percent per year. Canada decreased at a rate of 0.31 percent per year.

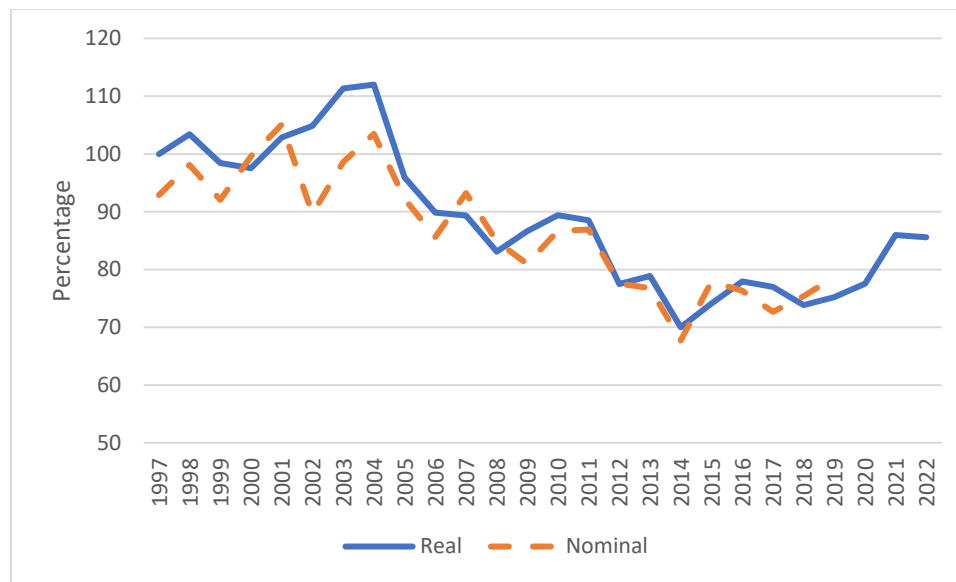
Chart 16: Output Per Hour for the Manufacturing Industry (BS3A) in Canada and New Brunswick  
Panel A: Real Output Per Hour, 1997=100, 1997-2022



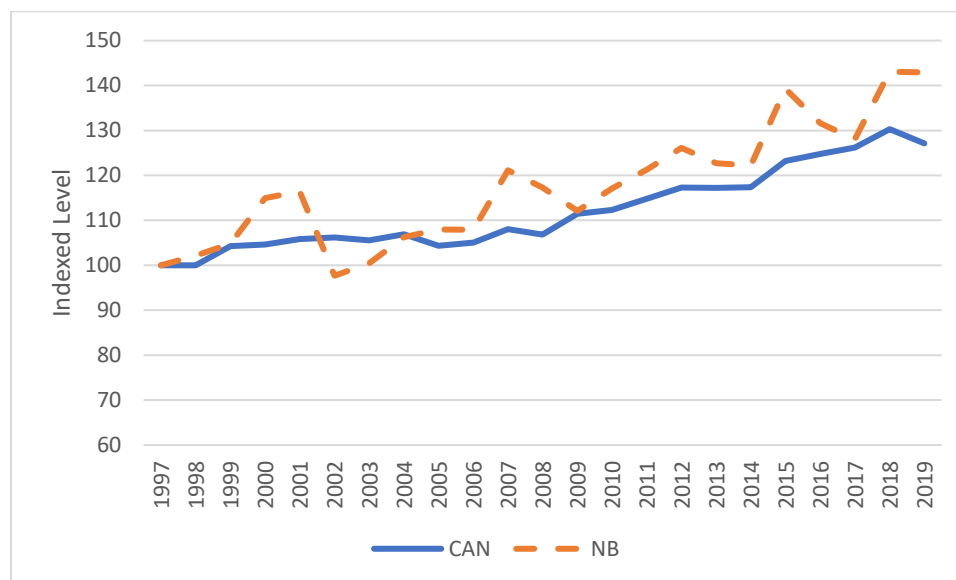
Panel B: Nominal Output Per Hour, 1997-2019



Panel C: Output Per Hour as a Percentage of National Average, 1997-2022



Panel D: Price Deflator, 1997=100, 1997-2019



Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-0033)

In a recent CSLS research report by Andrew Sharpe, labour productivity in the manufacturing sector in New Brunswick is studied between 1997 and 2019. This report finds that between both cyclically neutral periods (between 2000 and 2008 and between 2008 and 2019) New Brunswick experienced slower growth than Canada (Table 17). It also explains that labour productivity in New Brunswick was growing faster than Canada between 1997 and 2004, than labour productivity decreased rapidly between 2004 and 2014 in New Brunswick while it was still growing in Canada, but between 2014 and 2019 New Brunswick grew faster than Canada. The report finds that of the nineteen sub-industries of the manufacturing sector, only four had

faster growth between 2004-2019 in comparison to 1997-2004 (Sharpe, 2021). Six sub-industries were the main drivers behind the decreases in labour productivity in the manufacturing sector during the period: petroleum, food, paper, wood, primary metals, and miscellaneous manufacturing. Petroleum had the greatest decreases of the period at a rate of 6.93 percent per year.

Table 16: Composition of Real Value Added of Manufacturing [BS3A] and Level of Real Output per Hour in New Brunswick and Canada, 1997 and 2022 (expressed in percent)

	Percent of Real Value Added				Level of Real Output per Hour			
	CAN		NB		CAN		NB	
	1997	2022	1997	2022	1997	2022	1997	2022
Food manufacturing [BS311]	10.4	14.2	16.9	22.6	44.8	58.8	34.8	68.4
Beverage and tobacco product manufacturing [BS312]	5.0	3.9	3.0	5.1	141.3	68.4	101.9	101.6
Textile and textile product mills [BS31A]	1.5	0.6	1.3	0.5	27.9	45.1	27.9	28.8
Clothing and leather and allied product manufacturing [BS31B]	2.2	0.6	0.6	0.1	18.2	30.4	21.5	15.8
Wood product manufacturing [BS321]	3.8	5.0	10.8	14.4	20.4	47.3	20.8	38.2
Paper manufacturing [BS322]	5.7	3.3	17.8	17.1	47.5	61.7	79.6	89.7
Printing and related support activities [BS323]	3.3	1.8	1.2	0.4	36.4	49.1	26.6	27.3
Petroleum and coal product manufacturing [BS324]	4.8	5.7	27.4	18.2	667.0	360.1	1343.4	242.9
Chemical manufacturing [BS325]	9.9	11.2	3.0	1.2	95.9	122.8	126.5	45.2
Plastics and rubber products manufacturing [BS326]	4.5	5.4	1.6	3.1	36.1	54.0	36.8	42.9
Non-metallic mineral product manufacturing [BS327]	2.8	3.9	2.7	3.2	50.5	71.5	48.2	50.3
Primary metal manufacturing [BS331]	6.1	5.2	1.8	0.1	60.5	76.7	45.9	206.0
Fabricated metal product manufacturing [BS332]	6.8	7.4	2.4	4.6	39.2	43.6	28.7	32.5
Machinery manufacturing [BS333]	7.2	8.9	1.7	3.6	40.5	43.6	28.7	32.5
Computer and electronic product manufacturing [BS334]	5.0	3.6	1.8	1.4	36.9	66.3	45.2	67.4
Electrical equipment, appliance and component manufacturing [BS335]	2.3	1.9	0.2	0.2	40.5	54.3	17.0	24.2
Transportation equipment manufacturing [BS336]	13.5	11.7	2.2	1.4	45.0	62.2	30.3	31.1
Furniture and related product manufacturing [BS337]	2.8	2.6	1.2	1.3	27.4	39.5	24.5	25.9
Miscellaneous manufacturing [BS339]	2.5	3.1	2.4	1.7	37.1	49.2	33.7	28.5
Total	100.0	100.0	100.0	100.0				
Sector as a % of GDP	14.2	9.0	11.3	9.3				

Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-0033)



Table 17: Real Output Per Hour of Manufacturing [BS3A] in New Brunswick and Canada, 1997-2022 and selected sub-periods (average annual growth rates expressed in percent)

	1997-2022		2000-2008		2008-2019		2019-2022	
	CAN	NB	CAN	NB	CAN	NB	CAN	NB
Manufacturing [BS3A]	1.38	0.75	1.09	-0.92	0.87	-0.04	-0.31	4.07
Food manufacturing [BS311]	1.09	0.79	0.50	-2.69	0.46	-0.67	1.10	9.38
Beverage and tobacco product manufacturing [BS312]	-2.86	-0.01	-5.51	-2.88	-3.10	0.11	-3.20	2.19
Textile and textile product mills [BS31A]	1.94	0.13	0.41	-7.71	2.22	4.27	0.98	-1.46
Clothing and leather and allied product manufacturing [BS31B]	2.07	-1.22	0.79	-9.24	2.72	4.28	2.06	4.61
Wood product manufacturing [BS321]	3.42	2.46	6.08	2.51	1.09	1.77	1.30	0.98
Paper manufacturing [BS322]	1.05	0.48	2.98	-3.38	-0.62	1.96	-0.85	0.83
Printing and related support activities [BS323]	1.20	0.10	1.33	-4.44	1.52	4.56	-2.45	-3.31
Petroleum and coal product manufacturing [BS324]	-2.44	-6.61	-9.07	-9.78	0.19	-1.43	-3.38	-1.09
Chemical manufacturing [BS325]	0.99	-4.03	-1.11	-7.07	0.80	-3.35	-0.14	-5.93
Plastics and rubber products manufacturing [BS326]	1.62	0.62	0.53	-3.72	1.30	0.48	2.67	5.15
Non-metallic mineral product manufacturing [BS327]	1.40	0.17	0.99	-5.80	0.10	5.33	3.66	3.55
Primary metal manufacturing [BS331]	0.95	6.19	1.26	-1.41	1.68	5.17	-7.11	24.91
Fabricated metal product manufacturing [BS332]	0.43	0.50	-0.61	-3.11	1.34	3.88	-3.42	-5.08

Machinery manufacturing [BS333]	1.70	1.87	0.97	-1.22	1.71	0.42	1.97	10.45
Computer and electronic product manufacturing [BS334]	2.37	1.61	-0.86	-12.57	1.56	6.20	2.59	5.75
Electrical equipment, appliance and component manufacturing [BS335]	1.18	1.42	0.24	6.53	1.69	-8.42	-4.58	22.08
Transportation equipment manufacturing [BS336]	1.30	0.10	1.91	1.37	0.01	1.98	-2.06	-6.95
Furniture and related product manufacturing [BS337]	1.47	0.22	-1.48	-4.90	1.94	3.83	2.95	0.26
Miscellaneous manufacturing [BS339]	1.14	-0.67	-0.09	-0.18	0.66	-5.24	3.56	6.95

Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-0033)

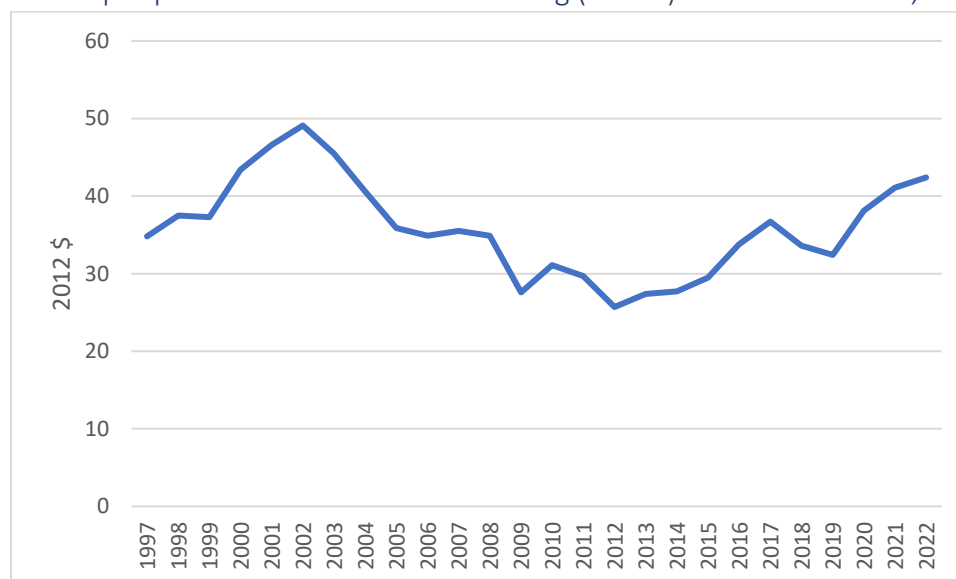
In New Brunswick, labour productivity in the manufacturing sector has increased slower than throughout the economy between 1997 and 2022. Nevertheless, four select manufacturing sub-industries have been able to growth throughout the period that is higher than the national rate. This includes beverage and tobacco product manufacturing; primary metal manufacturing; machinery manufacturing; and electrical equipment, appliance, and component manufacturing.

In the most recent sub-period, between 2019 and 2022, labour productivity in the manufacturing sector has begun to improve and has increased at a rate of 4.07 percent per year compared to decreases of 0.31 percent annually in Canada. 11 of the 19 sub-industries achieved higher growth in New Brunswick than in Canada. The high growth rate is largely due to the largest sub-industry in the manufacturing sector. Food manufacturing had a real value-added of \$719 million (2012 dollars) in 2022. Between 1997 and 2022, the growth of real output per hour in the food manufacturing sub-industry was only 0.79 percent per year. However, in recent years there has been a spike in the real output per hour in this industry. Between 2019 and 2022 the real output per hour of food manufacturing increased at a rate of 9.38 percent per year, but still not back to the 2003 level (Chart 17).

This rebound of labour productivity between 2019 and 2022 in food manufacturing is due to increases in the productivity of seafood production and preparation. Seafood production and preparation makes up 36.2 percent of real value added in the food manufacturing sub-industry. During this sub-period, the real value-added in this sub-industry stayed relatively constant, but the number of hours worked in the industry fell by 18.46 percent per year. This caused the labour productivity in this sub-industry to increase substantially, by 16.41 percent per year. This is likely due to technological improvements in the physical capital in this sub-industry that led to an

increase in the substitution of labour for capital. Due to the COVID-19 pandemic, this was necessary for many businesses. This has led to a large increase in real output per hour in the manufacturing sector between 2019 and 2022.

Chart 17: Real Output per Hour of Food Manufacturing (BS311) in New Brunswick, 1997-2022



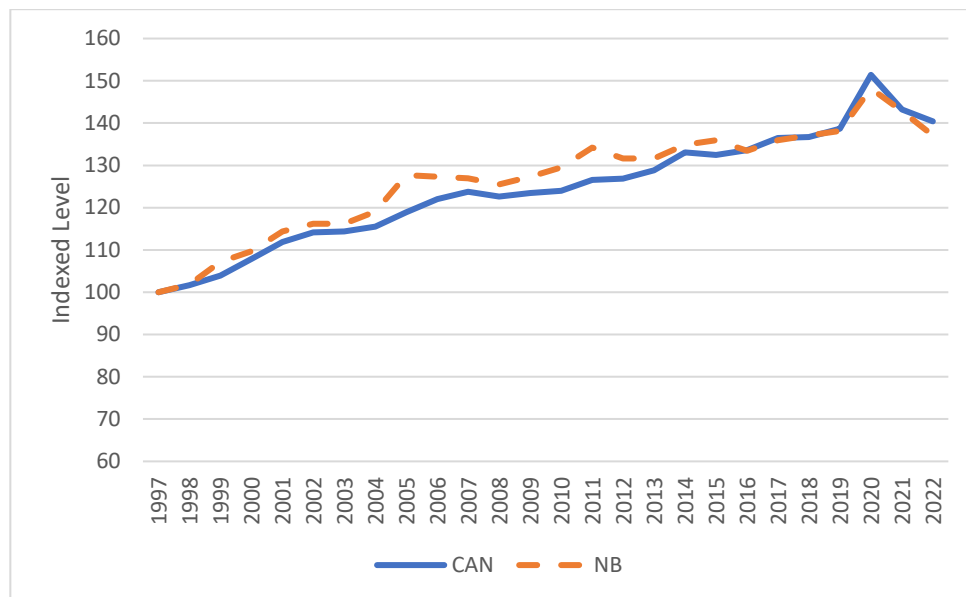
Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-0033)

## V. Output per Hour in Service-Producing Businesses

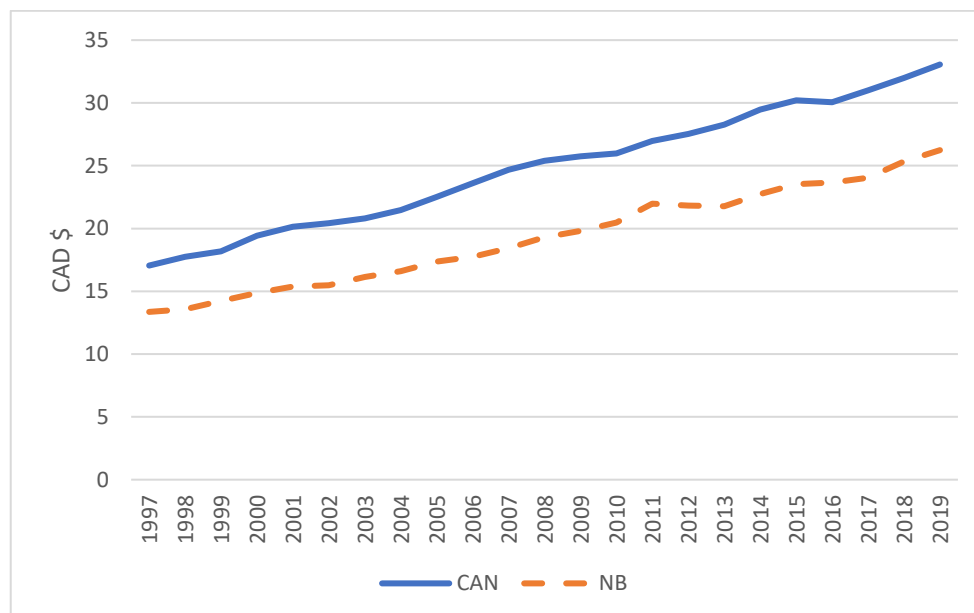
Service-producing businesses include services produced in the wholesale trade; retail trade; transportation and warehousing; information and cultural industries; finance and insurance, and holding companies; real estate, rental, and leasing; professional, scientific, and technical services; administrative and support, waste management and remediation services; educational services; health care and social assistance; arts, entertainments, and recreation; accommodation and food services; and other private services. Service-producing businesses made up 38.2 percent of real value-added in New Brunswick in 2022. In the same year, real output per hour of service-producing businesses in New Brunswick was \$38.1 (2012 dollars), which is 76.7 percent of Canada's value of \$49.7 (2012 dollars).

Between 1997 and 2022 real output per hour in service-producing businesses has grown at a rate of 1.27 percent per year in New Brunswick. Canada has experienced slightly higher growth of 1.38 percent annually (Chart 18). Between 2000 and 2008 New Brunswick grew at a rate of 1.70 percent per year, this is slightly higher than Canada, which grew at a rate of 1.61 percent per year. Then, between 2008 and 2019 New Brunswick grew at a rate of 0.87 percent annually. The national value increased faster at a rate of 1.13 percent annually. In the most recent sub-period, between 2019 and 2022 Canada grew at a rate of 0.41 percent per year. New Brunswick decreased at a rate of 0.20 percent annually.

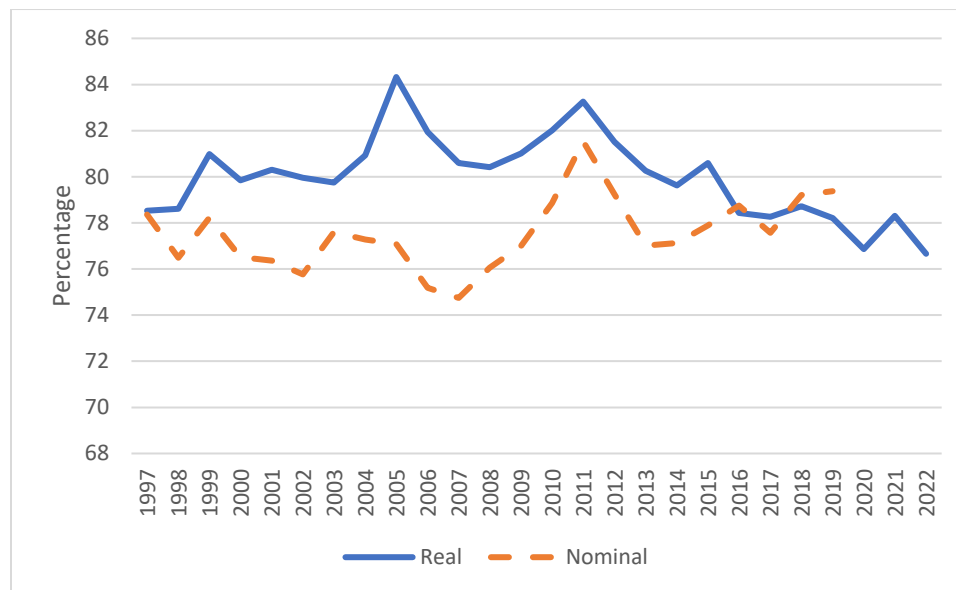
Chart 18: Output Per Hour for Services-Producing Businesses in Canada and New Brunswick  
 Panel A: Real Output Per Hour, 1997=100, 1997-2022



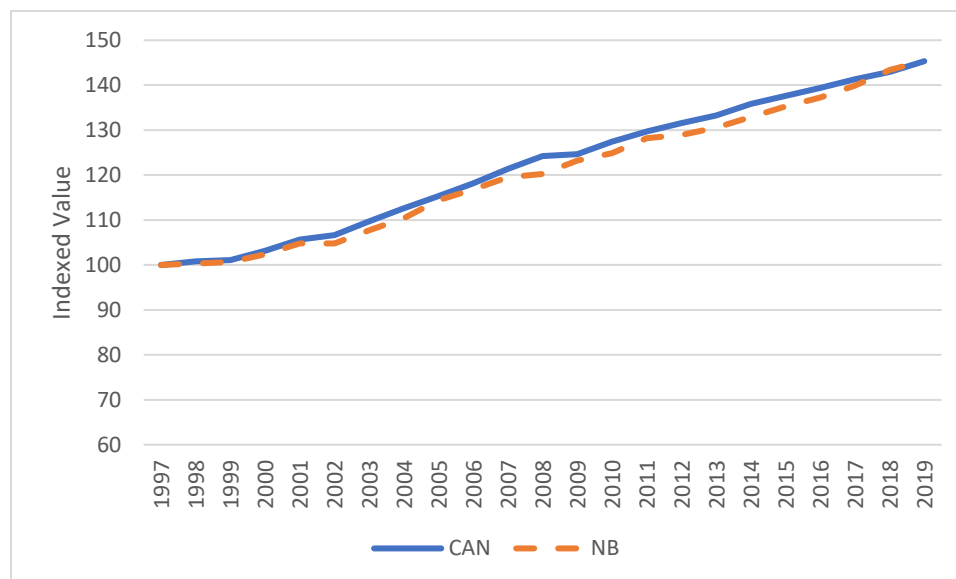
Panel B: Nominal Output Per Hour, 1997-2019



Panel C: Output Per Hour as a Percentage of the National Average, 1997-2022



Panel D: Price Deflators, 1997=100, 1997-2019



Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-003)

Although service producing-industries in New Brunswick underperformed Canada with a slightly lower growth rate, certain industries grew faster in New Brunswick than Canada throughout the period. These industries include transportation and warehousing; information and cultural industries; real estate, rental, and leasing; administrative and support; waste management and remediation services; and educational services. (Table 19).

The output structure of the service-producing industries is relatively similar in Canada and New Brunswick, unlike goods-producing industries (Table 18). This therefore does not have

a large impact on labour productivity differences between Canada and New Brunswick in service-producing businesses.

Table 18: Industries of Service-Producing Businesses Real Value Added as a Share of All Industries Real Value Added and Level of Real Output per Hour in New Brunswick and Canada, 1997 and 2022 (expressed in percent)

	Percent of Real Value Added				Level of Real Output per Hour			
	CAN		NB		CAN		NB	
	1997	2022	1997	2022	1997	2022	1997	2022
Service-Producing Businesses (% of GDP)	38.7	42.7	35.6	38.2	35.4	49.7	27.8	38.1
Wholesale trade [BS41]	4.1	5.0	3.6	3.5	34.1	65.5	25.5	48.4
Retail trade [BS4A]	4.0	4.9	4.5	6.2	19.5	34.8	17.2	27.6
Transportation and warehousing [BS4B]	4.2	3.7	5.3	4.2	38.2	44.6	27.1	44.9
Information and cultural industries [BS51]	2.3	3.3	2.1	3.0	64.3	92.9	50.8	92.7
Finance and insurance, and holding companies [BS5B]	6.0	7.0	5.1	5.6	49.1	86.2	55.5	77.3
Real estate, rental, and leasing [BS53]	4.0	4.1	2.9	3.2	107.7	146.7	92.5	135.9
Professional, scientific, and technical services [BS54]	4.3	6.2	2.6	3.3	44.1	49.0	34.7	36.5
Administrative and support, waste management and remediation services [BS56]	2.4	2.3	2.1	2.8	31.9	30.2	25.3	28.4
Educational services [BS61]	0.1	0.2	0.2	0.2	20.2	24.6	21.8	26.6
Health care and social assistance [BS62]	2.9	2.5	2.9	2.9	47.2	45.1	38.9	34.3
Arts, entertainment, and recreation [BS71]	0.9	0.5	0.7	0.3	35.9	26.7	38.5	21.4
Accommodation and food services [BS72]	2.2	1.8	2.3	1.7	18.5	21.6	13.5	14.1
Other private services [BS81]	1.4	1.3	1.4	1.2	18.6	27.3	16.1	20.2

Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-003)

Table 19: Real Output Per Hour of Service-Producing Businesses in New Brunswick and Canada, 1997-2022 and selected sub-periods (average annual growth rates expressed in percent)

	1997-2022		2000-2008		2008-2019		2019-2022	
	CAN	NB	CAN	NB	CAN	NB	CAN	NB
Service-Producing Businesses	1.38	1.27	1.61	1.70	1.13	0.87	0.41	-0.20
Wholesale trade [BS41]	2.65	2.60	3.23	6.74	2.05	-0.94	0.51	1.78
Retail trade [BS4A]	2.34	1.91	2.89	1.81	1.28	1.15	2.62	0.61
Transportation and warehousing [BS4B]	0.62	2.04	1.37	2.54	0.46	1.79	-1.59	3.84
Information and cultural industries [BS51]	1.48	2.44	2.74	2.93	1.00	1.33	-2.72	-1.47
Finance and insurance, and holding companies [BS5B]	2.28	1.33	1.66	-0.08	2.84	2.55	2.39	-0.39
Real estate, rental, and leasing [BS53]	1.24	1.55	0.24	0.82	0.71	0.90	2.99	-1.36
Professional, scientific, and technical services [BS54]	0.42	0.20	0.31	-1.01	0.83	0.00	-3.19	-3.96
Administrative and support, waste management and remediation services [BS56]	-0.22	0.46	0.69	-0.05	0.58	1.88	-3.87	-4.30
Educational services [BS61]	0.79	0.80	1.24	-0.05	-0.23	-0.56	2.42	1.68
Health care and social assistance [BS62]	-0.18	-0.50	0.08	0.03	-0.44	0.05	0.83	-2.84
Arts, entertainment, and recreation [BS71]	-1.18	-2.32	-1.46	-1.64	0.52	0.72	-4.34	-8.02
Accommodation and food services [BS72]	0.62	0.17	0.88	1.47	0.56	-0.40	-0.46	-3.31
Other private services [BS81]	1.55	0.91	1.41	1.44	1.03	0.34	2.57	1.71

Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-003)

#### A. Wholesale Trade

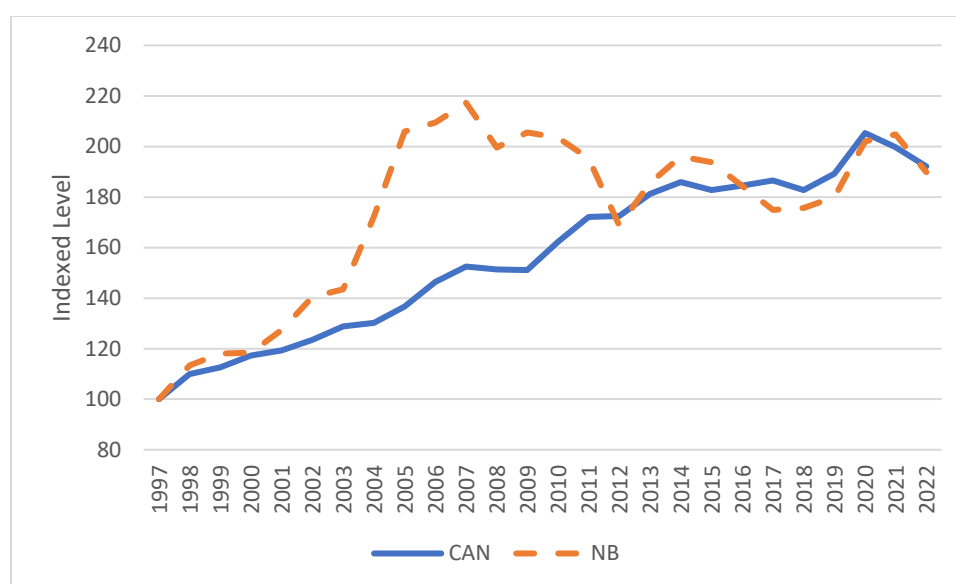
In 2022 the real value-added of wholesale trade was 1,200 million 2012 dollars. This is 3.5 percent of the total real value-added in all industries in New Brunswick. In the same year, the real output per hour was \$48.4 (2012 dollars). This is 73.9 percent of the national labour productivity of \$65.5 (2012 dollars).

Between 1997 and 2022 real output per hour of wholesale trade has grown at similar rates in both New Brunswick and Canada. In New Brunswick, the growth rate was 2.60 percent per year and in Canada, the rate was 2.65 percent per year (Chart 19). In the most recent sub-period, between 2019 and 2022, New Brunswick has been able to grow at a rate of 1.78 percent per year. This is faster than the national growth rate of 0.51 percent annually.

New Brunswick greatly outperformed Canada in real output per hour growth between 1997 and 2007 with growth of 8.07 percent per year in New Brunswick and 3.31 percent per year in Canada. Then between 2007 and 2012 New Brunswick experienced a large decrease of real output per hour in this industry of 4.94 percent per year. During this period Canada's labour productivity in this sector continued to grow at 2.49 percent per year. Canada has achieved a more consistent growth rate during the period, while New Brunswick experienced an extreme increase then decrease in labour productivity of the wholesale trade industry. Overall, this led to New Brunswick and Canada's similar growth rates of labour productivity in this industry between 1997 and 2022.

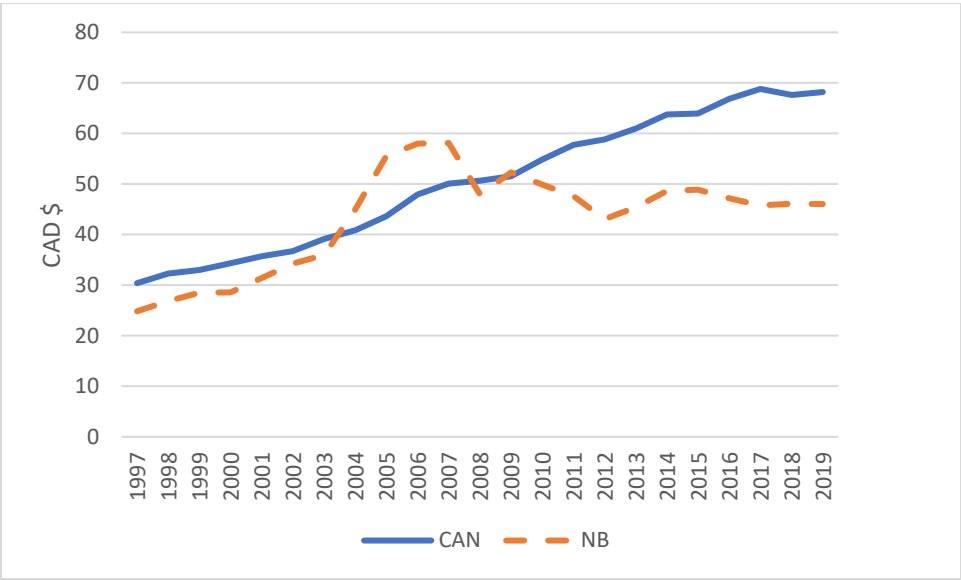
Chart 19: Output Per Hour for the Wholesale Trade Industry (BS41) in Canada and New Brunswick

Panel A: Real Output Per Hour, 1997=100, 1997-2022

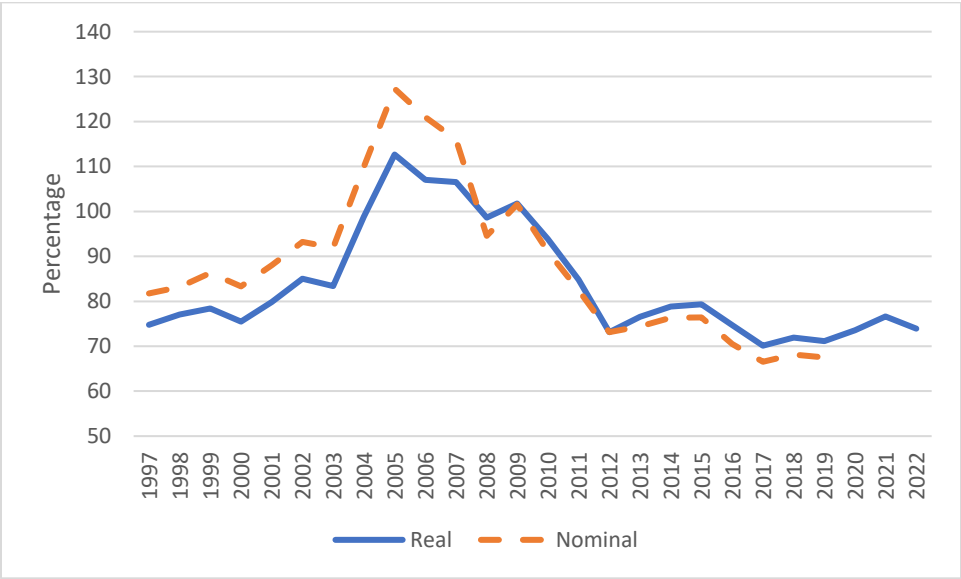




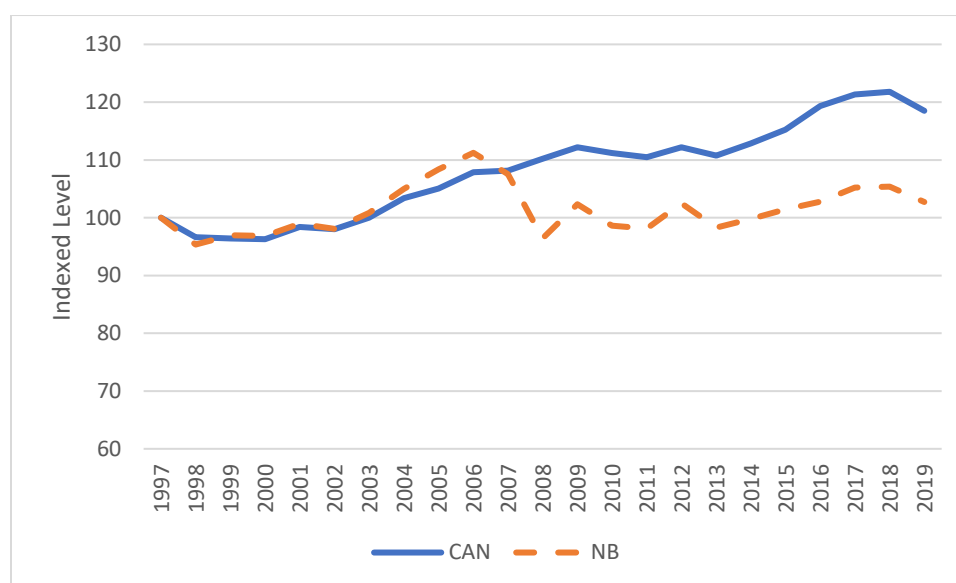
Panel B: Nominal Output Per Hour, 1997-2019



Panel C: Output Per Hour as a Percentage of the National Average, 1997-2022



Panel D: Price Deflator, 1997=100, 1997-2019



Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-0033)

New Brunswick had a much lower real output per hour value in the wholesale trade sector in comparison to Canada in 2022. This is partially due to the differences in the composition of wholesale trade between New Brunswick and Canada (Table 20). Personal and household goods wholesaler-distributors have a high level of labour productivity in Canada at \$93.4 per hour (2012 dollars) and \$53.8 per hour (2012 dollars) in New Brunswick (see appendix table 5). Personal and household wholesaler-distributors are an important part of wholesale trade in Canada, at 17.1 percent of the total (Table 20). In New Brunswick it only comprises 4.8 percent of wholesale trade real value added. This high labour productivity in this sub-industry, therefore, increases the labour productivity of the whole sector. If New Brunswick had the same output structure as Canada, its real output per hour would increase by \$5.2 an hour (2012 dollars) to \$53.6 an hour (2012 dollars).

Nevertheless, even with the same structure of output, this would still leave New Brunswick \$11.9 per hour (2012 dollars) behind the labour productivity level of Canada. Second, machinery, equipment, and supplies wholesaler-distributors make up the largest share of real value added of wholesale trade in both Canada and New Brunswick. The real output per hour of this sub-industry in Canada is \$69.0 (2012 dollars) versus \$36.8 (2012 dollars) in New Brunswick. Productivity growth of this sub-industry in New Brunswick was slower than in Canada. In New Brunswick the growth rate was 1.88 percent per year, whereas in Canada it was 2.51 percent annually (Table 21). This is likely due to the lower importance of computer and communications equipment and supplies to merchant wholesalers in New Brunswick in comparison to Canada. 35.0 percent of people employed in the machinery, equipment, and supplies wholesaler-distributors sub-industry work with computers and communications equipment and supplies to merchant wholesalers. In New Brunswick, the percentage is only 4.4 percent. As technology is a lucrative industry the unimportance of computers for New Brunswick's wholesale trade market leads to a much lower real output per hour

Table 20: Wholesale Trade [BS41] Real Value Added as a Share of Wholesale Trade [BS41] Real Value Added and Level of Real Output per Hour in New Brunswick and Canada, 1997 and 2022 (expressed in percent)

	Percent of Real Value Added				Level of Real Output per Hour			
	CAN		NB		CAN		NB	
	1997	2022	1997	2022	1997	2022	1997	2022
Farm product wholesaler-distributors [BS411]	1.7	2.2	0.4	1.4	38.1	57.7	35.0	61.1
Petroleum product wholesaler-distributors [BS412]	4.0	3.1	31.0	14.7	40.7	166.8	43.6	231.6
Food, beverage, and tobacco wholesaler-distributors [BS413]	12.9	11.1	12.9	18.2	32.2	50.8	15.9	48.2
Personal and household goods wholesaler-distributors [BS414]	12.9	18.2	4.1	4.8	37.8	93.4	35.8	53.8
Motor vehicle and parts wholesaler-distributors [BS415]	8.8	9.0	8.6	9.6	39.9	79.5	25.3	33.9
Building material and supplies wholesaler-distributors [BS416]	18.9	12.6	15.2	13.8	33.8	47.4	24.4	55.2
Machinery, equipment, and supplies wholesaler-distributors [BS417]	27.3	29.6	17.2	25.7	37.1	69.0	23.1	36.8
Miscellaneous wholesaler-distributors [BS418]	10.7	11.2	8.8	8.0	23.6	63.5	21.2	36.8
Wholesale electronic markets, and agents and brokers [BS419]	2.8	2.9	1.8	3.8	32.6	45.5	20.1	40.5
Total	100.0	100.0	100.0	100.0				
Sector as a % of GDP	4.1	5.0	3.6	3.5				

Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-0033)

Table 21: Real Output Per Hour of Wholesale Trade (BS41) in New Brunswick and Canada, 1997-2022 and selected sub-periods (average annual growth rates expressed in percent)

	1997-2022		2000-2008		2008-2019		2019-2022	
	CAN	NB	CAN	NB	CAN	NB	CAN	NB
Wholesale trade [BS41]	2.65	2.60	3.23	6.74	2.05	-0.94	0.51	1.78
Farm product wholesaler-distributors [BS411]	1.67	2.25	3.14	-0.53	1.11	2.27	-5.56	4.53
Petroleum product wholesaler-distributors [BS412]	5.80	6.91	0.99	14.55	8.41	3.43	4.18	6.43
Food, beverage, and tobacco wholesaler-distributors [BS413]	1.84	4.54	1.97	4.61	1.63	2.98	1.98	4.70
Personal and household goods wholesaler-distributors [BS414]	3.68	1.64	3.62	8.34	3.21	-3.85	4.99	3.73
Motor vehicle and parts wholesaler-distributors [BS415]	2.80	1.18	5.51	3.45	0.94	-1.30	-0.99	-1.06
Building material and supplies wholesaler-distributors [BS416]	1.36	3.32	2.96	2.94	0.85	2.55	-4.13	2.27
Machinery, equipment, and supplies wholesaler-distributors [BS417]	2.51	1.88	3.13	5.62	1.33	-2.53	1.19	1.98
Miscellaneous wholesaler-distributors [BS418]	4.04	2.83	4.05	3.91	3.99	0.70	0.75	3.88
Wholesale electronic markets, and agents and brokers [BS419]	1.34	2.84	2.34	7.75	-0.53	0.52	0.59	0.58

Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-0033)

## B. Retail Trade

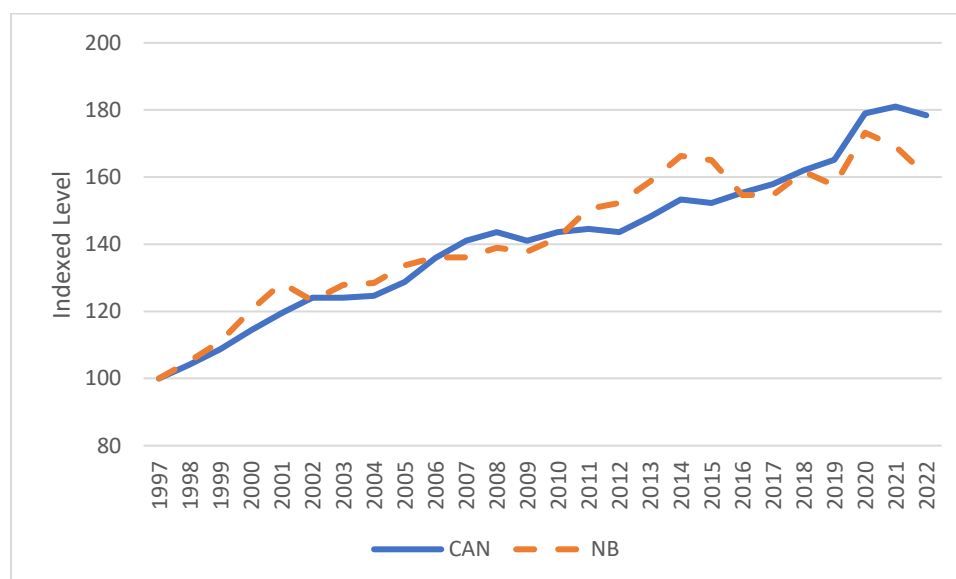
In 2022 the real value added of the retail trade sector was \$2,103 million (2012 dollars), 6.2 percent of the total real value added in New Brunswick. The labour productivity in that year

was \$27.6 per hour worked (2012 dollars), 79.3 percent of Canada's value of \$34.8 (2012 dollars).

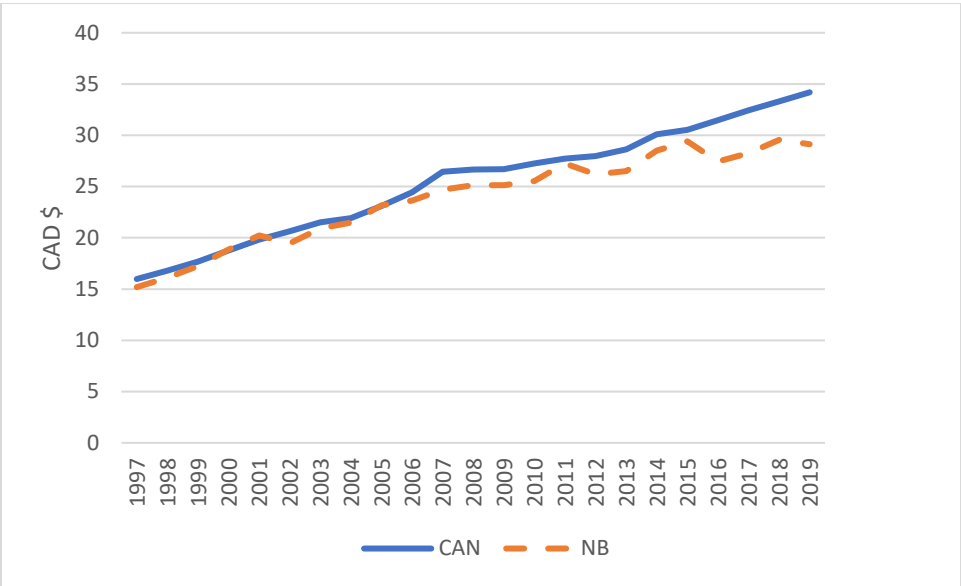
Between 1997 and 2022 the real output per hour in the retail trade industry increased at a rate of 1.91 percent per year in New Brunswick. This is slower than the national growth rate of 2.34 percent per year (Chart 20). Between 2008 and 2019 labour productivity in the retail trade sector in New Brunswick grew at a rate of 1.15 percent per year, similar to Canada's growth rate of 1.28 percent annually. In recent years New Brunswick has experienced slower increases in labour productivity in the retail trade sector. Between 2019 and 2022 real output per hour increased at a rate of 0.61 percent per year in New Brunswick and 2.62 percent per year in Canada.

Since 2014 labour productivity of retail in New Brunswick has been decreasing as a share of national average. In 2014 New Brunswick was 95.7 percent of the national labour productivity in the sector. In 2022 New Brunswick was only 79.3 percent of the national value of real output per hour. Nominal output per hour has followed similar downward trends, which can partially be explained by a decrease in the price deflator. On the other hand, a low price does not explain the fall in real output per hour.

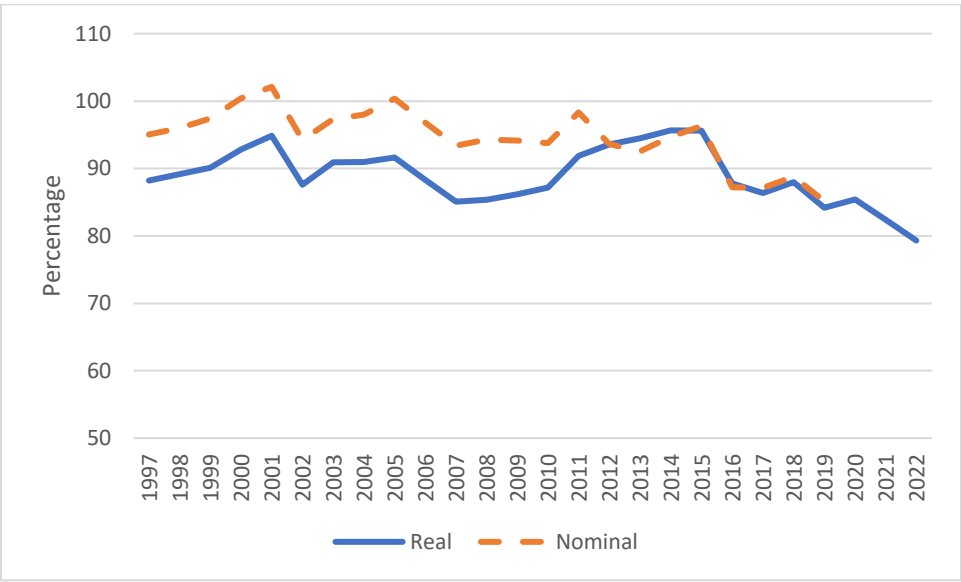
Chart 20: Output Per Hour for the Retail Trade Industry (BS4A) in Canada and New Brunswick  
Panel A: Real Output Per Hour, 1997=100, 1997-2022



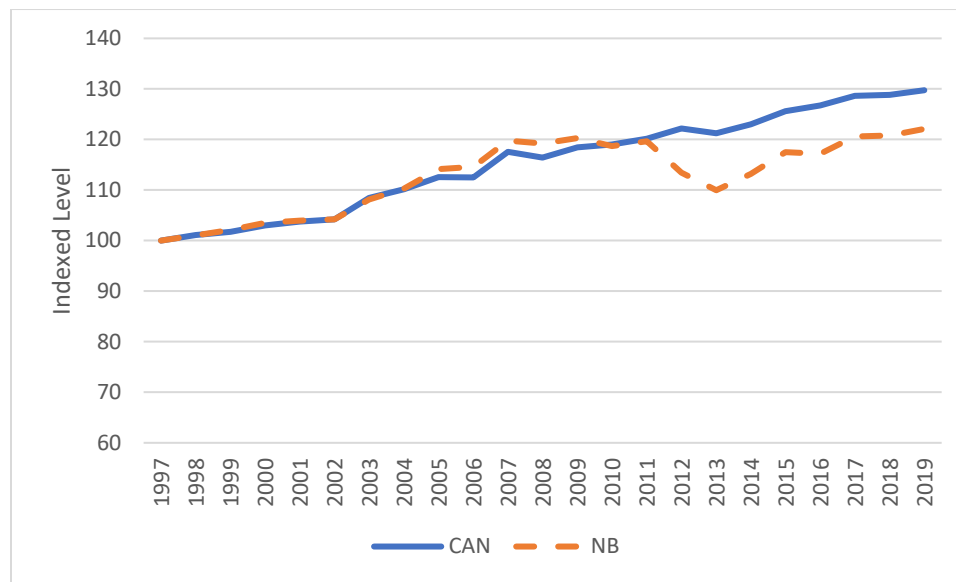
Panel B: Nominal Output Per Hour, 1997-2019



Panel C: Output per Hour as Percentage of National Average, 1997-2022



Panel D: Price Deflator, 1997=100, 1997-2019



Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-0033)

The output structure of the retail trade sector is similar in New Brunswick and Canada (Table 22). This means it has little effect on labour productivity.

In the most recent sub-period, between 2019 and 2022 New Brunswick labour productivity in the retail sector has grown at a much slower rate than the national productivity in the sector (Table 23). Out of the twelve sub-industries of the retail trade sector, only three of them achieved faster growth in New Brunswick than Canada during the most recent sub-period.

Motor vehicle and parts dealers have experienced decreases in labour productivity of 4.66 percent per year in New Brunswick and decreases of only 0.78 percent per year in Canada. This is an important sub-industry of the retail sector in both New Brunswick and Canada and this large decrease in New Brunswick has led to slowed growth in this industry in comparison to the national value.

General merchandise stores have experienced slow growth of labour productivity in New Brunswick between 2019 and 2022 at a rate of 0.53 percent annually. In Canada growth has been much faster, at a rate of 2.49 percent per year. Since this is an important sub-industry in both Canada and New Brunswick, these differences in growth of labour productivity greatly influence the overall slow growth in the retail trade sector in New Brunswick between 2019 and 2022 in comparison to Canada.

Clothing and clothing accessories stores experienced the greatest difference in growth rates of labour productivity between Canada and New Brunswick between 2019 and 2022. In Canada growth of real output per hour of this sub-industry grew rapidly at 6.25 percent per year., whereas in New Brunswick growth was slower at 0.74 percent annually. This large difference in growth rates greatly influences the slowed growth of labour productivity of retail trade in New Brunswick.

Table 22: Sub-Industries of Retail Trade [BS42] Real Value Added as a Share of Retail Trade [BS42] Value Added and Level of Real Output per Hour in New Brunswick and Canada, 1997 and 2022 (expressed in percent)

	Percent of Real Value Added				Level of Real Output per Hour			
	CAN		NB		CAN		NB	
	1997	2022	1997	2022	1997	2022	1997	2022
Motor vehicle and parts dealers [BS441]	15.1	14.8	16.9	16.4	25.8	37.7	21.9	26.0
Furniture and home furnishings stores [BS442]	4.2	3.8	3.3	3.0	21.2	31.4	16.5	25.2
Electronics and appliance stores [BS443]	3.2	2.5	1.9	1.4	15.3	41.5	15.6	28.1
Building material and garden equipment and supplies dealers [BS444]	4.9	8.3	6.4	10.6	25.0	34.3	25.6	30.1
Food and beverage stores [BS445]	25.7	17.4	22.4	15.4	19.8	25.9	17.0	18.9
Health and personal care stores [BS446]	8.9	11.7	11.9	15.1	21.0	30.4	39.5	44.8
Gasoline stations [BS447]	5.7	6.3	7.0	6.2	23.6	54.8	14.3	26.3
Clothing and clothing accessories stores [BS448]	8.4	9.5	6.7	5.7	16.3	37.9	14.7	27.4
Sporting goods, hobby, book, and music stores [BS451]	3.4	3.0	2.2	2.4	11.3	31.9	14.7	27.4
General merchandise stores [BS452]	13.5	11.5	14.2	13.8	20.3	33.7	14.2	25.5
Miscellaneous store retailers [BS453]	4.4	6.1	4.3	6.3	12.8	34.3	11.4	31.0
Non-store retailers [BS454]	2.6	5.2	2.8	3.7	16.6	41.7	12.3	46.7
Total	100.0	100.0	100.0	100.0				
Sector as a % of GDP	4.0	4.9	4.5	6.2				

Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-0033)



Table 23: Real Output Per Hour of Retail Trade (BS42) in New Brunswick and Canada, 1997-2022 and selected sub-periods (average annual growth rates expressed in percent)

	1997-2022		2000-2008		2008-2019		2019-2022	
	CAN	NB	CAN	NB	CAN	NB	CAN	NB
Retail Trade [BS42]	2.34	1.91	2.89	1.81	1.28	1.15	2.62	0.61
Motor vehicle and parts dealers [BS441]	1.53	0.69	1.44	-1.22	1.35	1.24	-0.78	-4.66
Furniture and home furnishings stores [BS442]	1.58	1.71	1.77	2.87	1.25	1.52	0.86	-2.03
Electronics and appliance stores [BS443]	4.07	2.38	4.02	2.45	3.02	0.12	6.45	6.90
Building material and garden equipment and supplies dealers [BS444]	1.27	0.65	2.71	1.34	-0.69	-0.69	2.55	-0.22
Food and beverage stores [BS445]	1.08	0.42	2.47	1.71	-0.31	-1.08	0.39	0.00
Health and personal care stores [BS446]	2.56	1.56	2.91	-0.74	0.75	0.27	4.72	6.58
Gasoline stations [BS447]	3.43	2.47	4.75	2.86	2.66	0.00	3.17	4.88
Clothing and clothing accessories stores [BS448]	3.43	2.52	3.76	4.70	1.86	1.24	6.25	0.74
Sporting goods, hobby, book, and music stores [BS451]	4.24	4.66	3.73	3.71	3.31	5.08	7.19	3.16
General merchandise stores [BS452]	2.05	2.37	2.41	2.29	1.32	2.13	2.49	0.53
Miscellaneous store retailers [BS453]	4.02	4.08	1.91	2.58	5.08	3.67	2.45	2.25
Non-store retailers [BS454]	3.75	5.48	3.32	8.14	2.87	4.55	3.69	3.52

Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-0033)

### C. Transportation and Warehousing

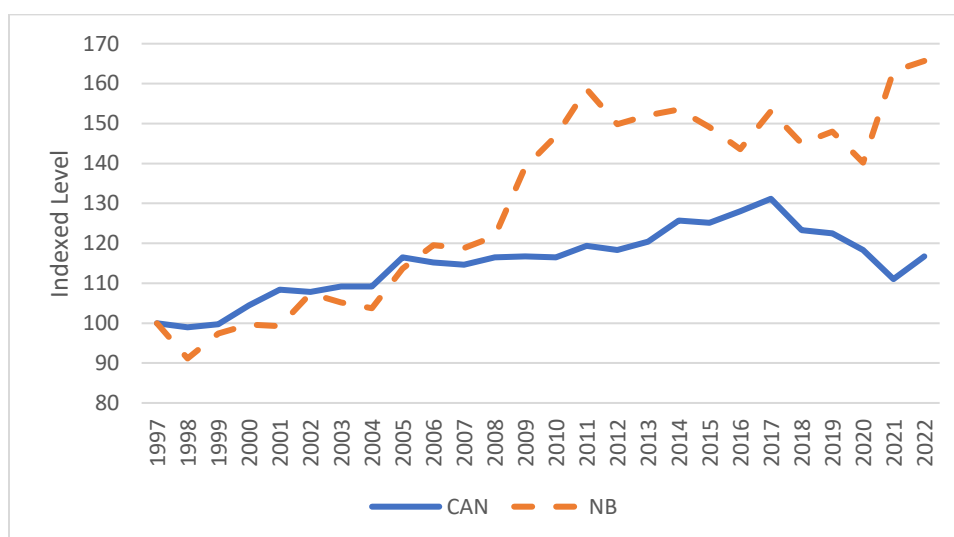
In 2022 the real value added in the transportation and warehousing sector was \$1,426 million (2012 dollars). This is 4.2 percent of all industries' value added in New Brunswick. In 2022 the real output per hour in the transportation and warehousing sector was \$44.9 (2012 dollars) in New Brunswick. This is 100.7 percent of the national value of \$44.6 (2012 dollars).

Between 1997 and 2022 transportation and warehousing experienced growth of real output per hour at a rate of 2.04 percent per year. This is much stronger growth than Canada's growth at a rate of 0.62 percent per year. There was a large increase in the real value added per hour between 2008 and 2011 in New Brunswick from \$33.0 (2012 dollars) to \$43.0 (2012 dollars) (Chart 21). In the most recent sub-period growth has been especially strong with a rate of 3.84 percent per year in New Brunswick. Between 2019 and 2022 Canada's labour productivity has decreased at a rate of 1.59 percent per year.

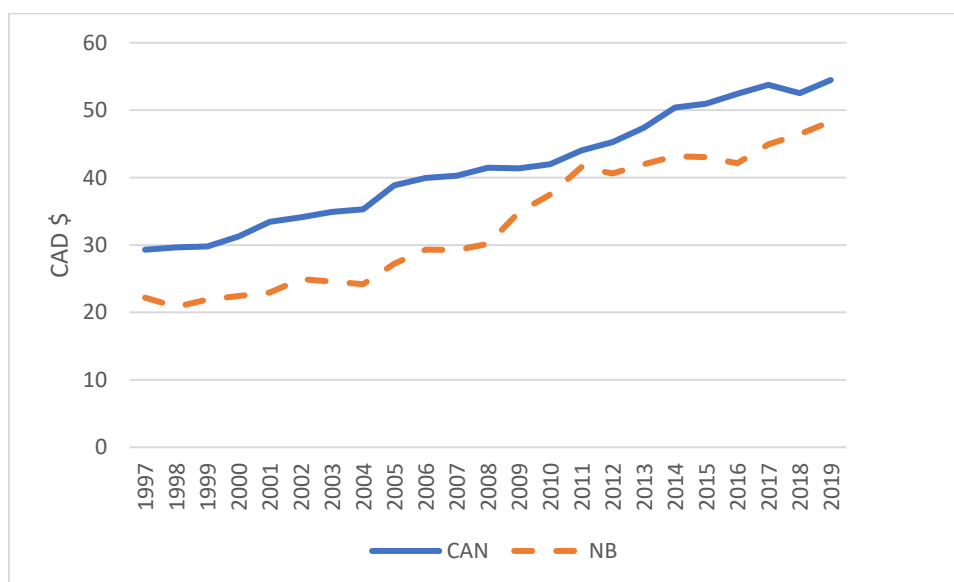
Between 2004 and 2012 the sector of transportation and warehousing experienced labour productivity growth that was especially fast in New Brunswick in comparison to Canada. In New Brunswick real output per hour in the industry increased at a rate of 7.35 percent annually, whereas in Canada's growth was only 1.50 percent per year. Since this period of rapid growth of labour productivity in the transportation and warehousing industry in New Brunswick growth has been much more similar in New Brunswick and Canada. Between 2012 and 2022 real output per hour in the industry in New Brunswick has increased slower, at a rate of 1.01 percent per year, but in Canada there were decreases of 0.13 percent per year.

Chart 21: Output Per Hour for the Transportation and Warehousing Industry (BS4B) in Canada and New Brunswick

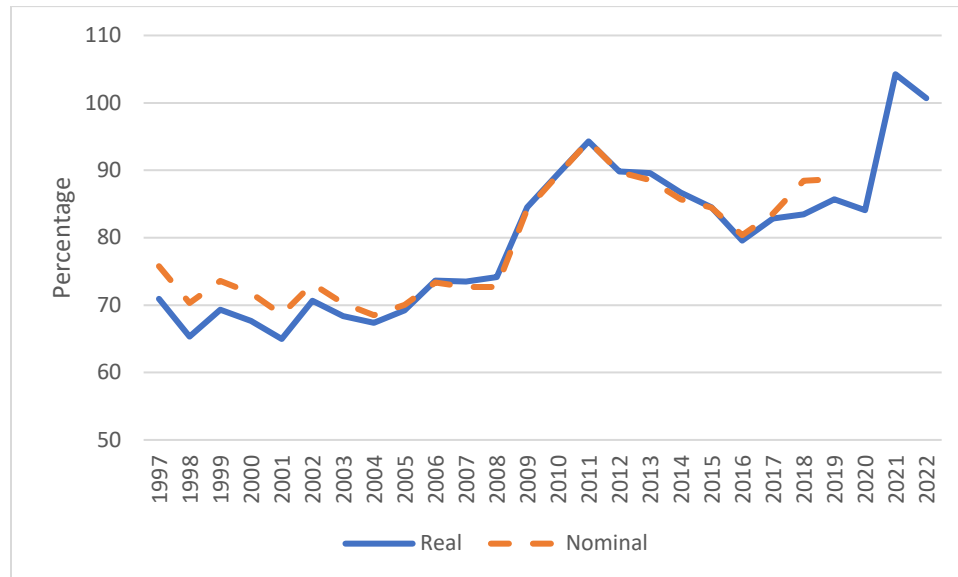
Panel A: Real Output Per Hour, 1997=100, 1997-2022



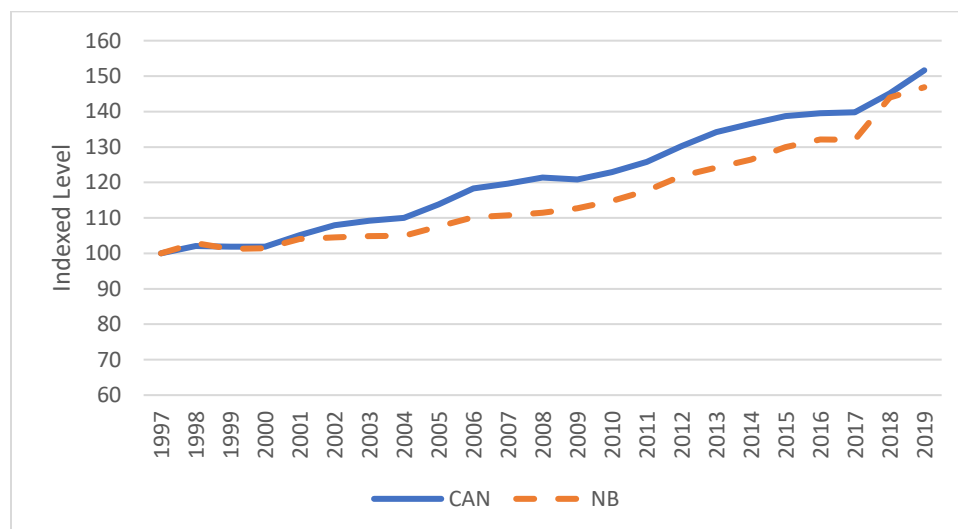
Panel B: Nominal Output Per Hour, 1997-2019



Panel C: Output per Hour as a Percentage of National Average, 1997-2022



Panel D: Price Deflator, 1997=100, 1997-2019



Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-0033)

The output structure in the transportation and warehousing sector is different in New Brunswick and Canada. First, although, truck transportation is the most important sub-industry of transportation and warehousing in both New Brunswick and Canada, in 2022 it comprised 42.8 percent of real value added in New Brunswick and only 27.1 percent in Canada (Table 24). Second, pipeline transportation is 13.7 percent of real value added in the transportation and warehousing industry in Canada, but only 6.0 percent in New Brunswick. Pipeline transportation has a high level of labour productivity in 2022 of \$608.6 per hour (2012 dollars) in Canada and

\$707.1 per hour (2012 dollars) in New Brunswick. This increases the labour productivity value of transportation and warehousing in Canada.

As mentioned, New Brunswick achieved much higher growth of real output per hour in the transportation and warehousing industry than Canada between 1997 and 2022. Of the nine sub-industries of this sector, eight achieved higher growth of labour productivity during the period in New Brunswick than Canada. Labour productivity of rail transportation achieved especially high growth in New Brunswick of 5.31 percent annually and only 2.93 percent per year in Canada (Table 25).

Between 2019 and 2022 New Brunswick has grown much faster than Canada. Seven of the nine sub-industries have experienced faster growth of labour productivity in New Brunswick than in Canada. Truck transportation has been a large influence on this growth as it is the most important sub-industry in both New Brunswick and Canada. Truck transportation has increased at a rate of 5.10 percent annually in New Brunswick and decreased at a rate of 1.17 percent per year in Canada. Both the sub-industry of air transportation; and postal service and courier and messengers have experienced extremely high labour productivity growth in New Brunswick between 2019 and 2022 that was not experienced in Canada. Air transportation increased at a rate of 17.62 percent per year and postal service and couriers and messengers increased at a rate of 11.41 percent per year in New Brunswick.

Table 24: Sub-Industries of Transportation and Warehousing [BS4B] Real Value Added as a Share of Transportation and Warehousing [BS4B] Value Added and Level of Real Output per Hour in New Brunswick and Canada, 1997 and 2022 (expressed in percent)

	Percent of Real Value Added				Level of Real Output per Hour			
	CAN		NB		CAN		NB	
	1997	2022	1997	2022	1997	2022	1997	2022
Air transportation [BS481]	7.9	6.3	2.6	2.3	42.7	68.1	71.5	106.9
Rail transportation [BS482]	9.3	10.2	10.6	11.8	49.9	102.6	41.8	152.2
Water transportation [BS483]	3.7	2.5	5.6	5.2	77.4	66.1	21.8	29.9
Truck transportation [BS484]	21.1	27.1	39.4	42.8	20.8	33.3	24.0	40.4
Transit, ground passenger and scenic and sightseeing transportation [BS48Z]	11.4	7.9	2.8	2.2	30.4	27.1	20.2	27.1
Support activities for transportation [BS488]	15.4	17.6	23.7	19.2	63.7	49.1	59.7	46.8
Pipeline transportation [BS486]	15.9	13.7	0.0	6.0	580.7	608.6	0.0	707.1
Postal service and couriers and messengers [BS49A]	12.4	8.8	14.2	8.1	28.8	26.2	18.2	22.4
Warehousing and storage [BS493]	3.1	5.9	1.1	2.3	39.4	33.2	24.6	35.4
Total	100.0	100.0	100	100.0				
Sector as a % of GDP	4.2	3.7	5.3	4.2				

Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-0033)

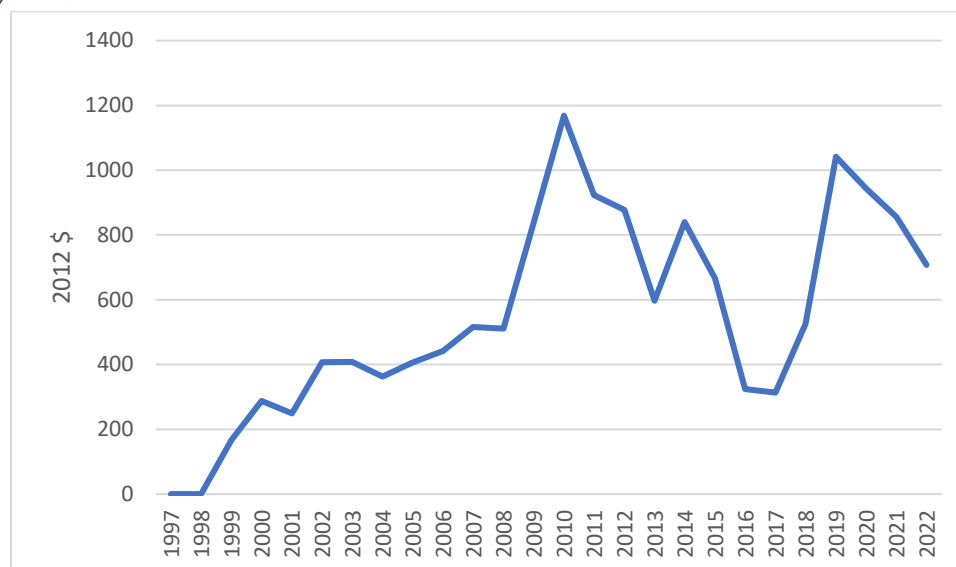
Table 25: Real Output Per Hour of Transportation and Warehousing [BS4B] in New Brunswick and Canada, 1997-2022 and selected sub-periods (average annual growth rates expressed in percent)

	1997-2022		2000-2008		2008-2019		2019-2022	
	CAN	NB	CAN	NB	CAN	NB	CAN	NB
Transportation and warehousing [BS4B]	0.62	2.04	1.37	2.54	0.46	1.79	-1.59	3.84
Air transportation [BS481]	1.88	1.62	6.23	0.82	0.56	2.08	-0.10	17.62
Rail transportation [BS482]	2.93	5.31	3.50	6.73	2.44	5.59	-0.10	2.90
Water transportation [BS483]	-0.63	1.27	-2.72	3.63	-1.84	-3.20	4.39	0.68
Truck transportation [BS484]	1.90	2.10	2.08	2.61	2.25	1.83	-1.17	5.10
Transit, ground passenger and scenic and sightseeing transportation [BS48Z]	-0.46	1.18	1.45	2.98	-1.45	-1.20	-5.49	3.14
Support activities for transportation [BS488]	-1.04	-0.97	0.56	1.64	-0.85	-0.77	-1.89	-1.92
Pipeline transportation [BS486]	0.19	N/A	1.62	7.43	-2.86	6.69	4.12	-12.10
Postal service and couriers and messengers [BS49A]	-0.38	0.83	0.86	3.01	-2.42	-3.02	0.91	11.41
Warehousing and storage [BS493]	-0.68	1.47	-1.57	-6.50	-1.20	8.41	-0.50	3.32

Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-0033)

Another reason for New Brunswick's much higher growth of real output per hour in the transportation and warehousing sector between 2014 and 2012 is due to the pipeline transportation sub-industry. In 2009 the Emera Brunswick Pipeline commenced operations. This pipeline runs between Saint John and St. Stephens and is 140 kilometers long (Canada Energy Regulator, 2023b). When the pipeline opened the real output per hour in this sub-industry increased from \$510.6 (2012 dollars) to \$1,168.4 (2012 dollars) between 2008 and 2010 (Chart 22). This new pipeline greater impacted the real output per hour in New Brunswick, leading to high growth of output per hour of the whole transportation and warehouse sector.

Chart 22: Real Output per Hour of the Pipeline Transportation Sub-Industry (BS486) in New Brunswick, 1997-2022



Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-0033)

#### D. Information and Cultural

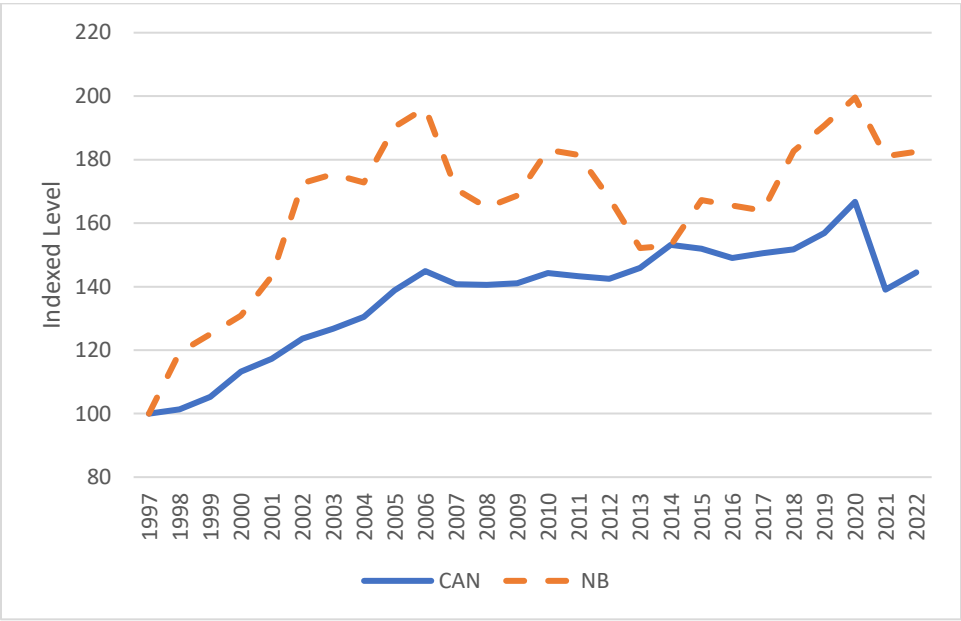
The real value added of the information and cultural sector in 2022 was 3.0 percent of the real value added of all industries in New Brunswick. This is a value of \$1,017 million (2012 dollars). In 2022 the real output per hour of the information and cultural sector in New Brunswick was \$92.7 (2012 dollars). This is 99.8 percent of the national value of \$92.9 (2012 dollars).

Between 1997 and 2022 real output per hour in this sector has increased at a rate of 2.44 percent per year in New Brunswick. Growth was slower in Canada at a rate of 1.48 percent annually. Growth of real output per hour was relatively fast for both New Brunswick and Canada at the beginning of the period (Chart 23). In the last sub-period, between 2019 and 2022 the real output per hour has decreased at a rate of 1.47 percent per year in New Brunswick and 2.72 percent annually in Canada.

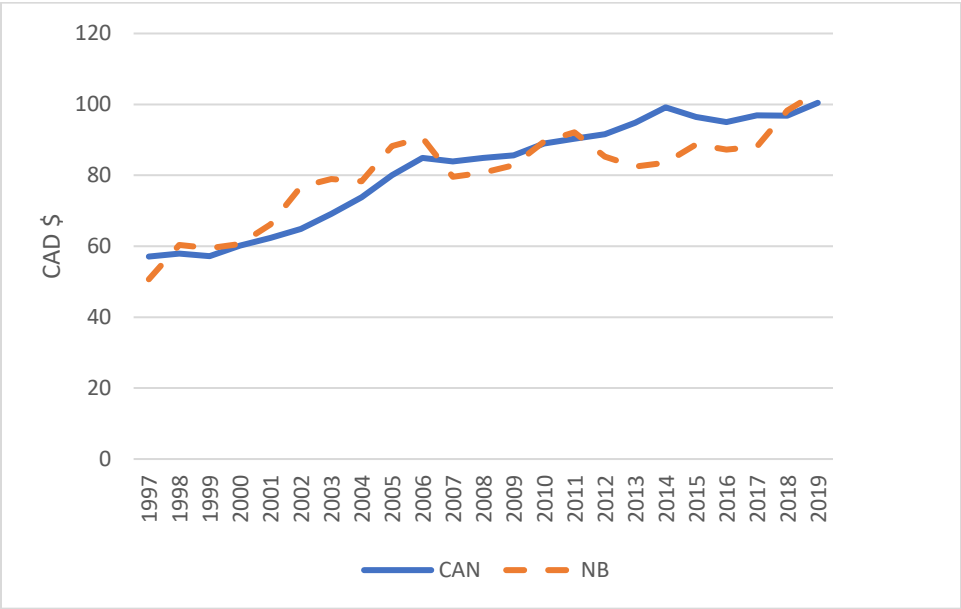
Between 1997 and 2006 New Brunswick experienced a growth rate of labour productivity in this industry of 7.78 percent per year. In Canada growth was slower at a rate of 4.21 percent per year. Then, between 2006 and 2013 New Brunswick's labour productivity in this sector decreased at a rate of 3.57 percent per year, whereas in Canada there was slight growth of 0.09 percent annually. Since 2013 New Brunswick has continued to surpass the growth rate of Canada for labour productivity in this sector.

Chart 23: Output Per Hour for the Information and Cultural Industry (BS51) in Canada and New Brunswick

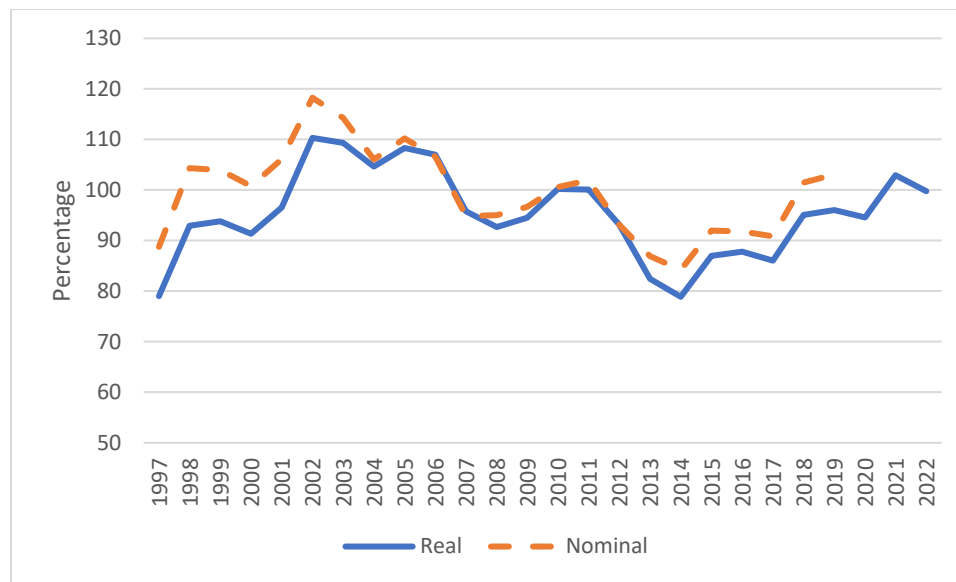
Panel A: Real Output Per Hour, 1997=100, 1997-2022



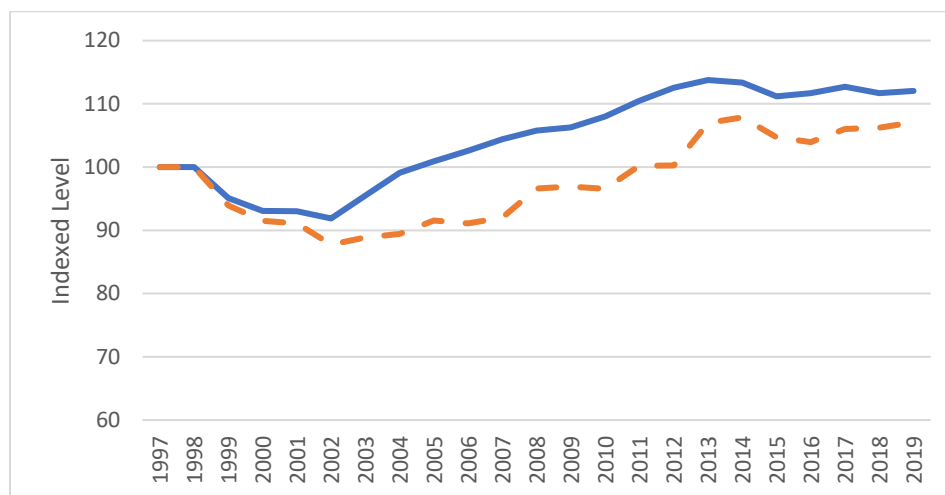
Panel B: Nominal Output Per Hour, 1997-2019



Panel C: Output per Hour as a Percentage of National Average, 1997-2022



Panel D: Price Deflator, 1997=100, 1997-2019



Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-0033)

There are large differences in the output structure of the information and cultural sector in Canada and New Brunswick, which has impacted productivity growth. The sector is dominated by the telecommunications sub-industry in New Brunswick. In 2022 this sub-industry comprises 80.6 percent of the total real value added in the sector (Table 26). In Canada it only made-up 58.0 percent of the real value added in the sector in 2022. The higher growth in real output per hour throughout the period is partially due to New Brunswick's higher reliance on the telecommunications sub-industry. The real output per hour in this sub-industry has grown fastest of all sub-industries in this sector, at a rate of 2.95 percent in New Brunswick between 1997 and 2022 (Table 27). This fast growth of the real output per hour of a highly important part of New Brunswick's information and cultural industry has aided its rapid growth in this sector (Chart 24).



Table 26: Sub-Industries of Informational and Cultural Industries [BS51] Real Value Added as a Share of Informational and Cultural Industries [BS51] Value Added and Level of Real Output per Hour in New Brunswick and Canada, 1997 and 2022 (expressed in percent)

	Percent of Real Value Added				Level of Real Output per Hour			
	CAN		NB		CAN		NB	
	1997	2022	1997	2022	1997	2022	1997	2022
Publishing industries (except internet) [BS511]	21.5	18.2	12.3	8.0	52.3	72.0	32.2	39.0
Motion picture and sound recording industries [BS512]	9.8	7.3	4.0	1.2	51.3	31.8	48.5	25.5
Broadcasting (except internet) [BS515]	7.0	3.6	4.8	1.1	53.5	70.1	39.1	28.4
Telecommunications [BS517]	57.1	58.0	74.9	80.6	77.5	156.8	59.0	122.1
Data processing, hosting, and related services [BS518]	3.8	9.1	3.3	8.5	93.5	86.7	58.5	74.8
Other information services [BS519]	0.8	3.9	0.6	0.7	18.2	55.2	21.0	39.3
Total	100.0	100.0	100.0	100.0				
Sector as a % of GDP	2.3	3.3	2.1	3.0				

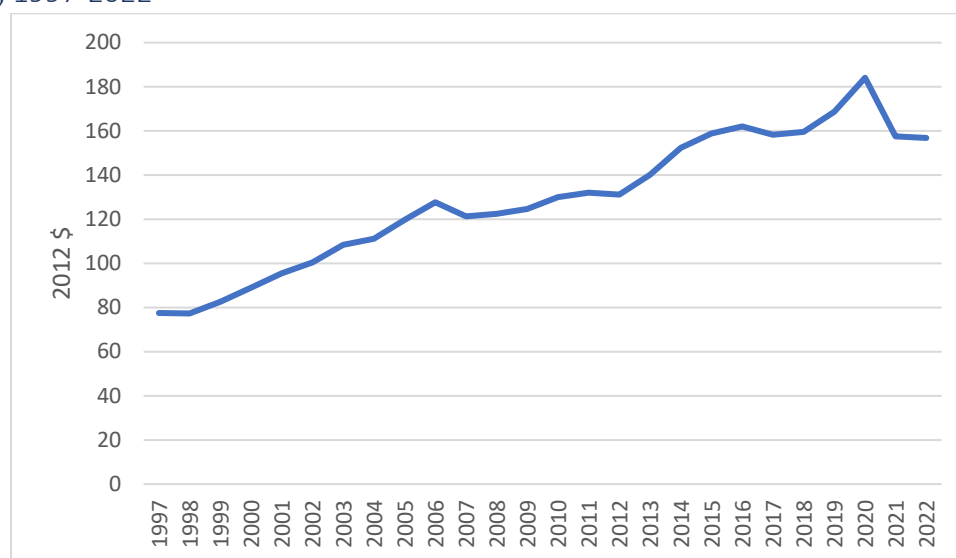
Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-0033)

Table 27: Real Output Per Hour of Informational and Cultural Industries (BS51) in New Brunswick and Canada, 1997-2022 and selected sub-periods (average annual growth rates expressed in percent)

	1997-2022		2000-2008		2008-2019		2019-2022	
	CAN	NB	CAN	NB	CAN	NB	CAN	NB
Information and cultural industries [BS51]	1.48	2.44	2.74	2.93	1.00	1.33	-2.72	-1.47
Publishing industries (except internet) [BS511]	1.29	0.77	2.05	0.25	1.32	-1.73	-2.30	1.14
Motion picture and sound recording industries [BS512]	-1.89	-2.54	-0.30	-7.49	-4.02	0.44	-2.01	0.00
Broadcasting (except internet) [BS515]	1.09	-1.27	1.06	-1.70	2.32	0.50	-4.19	-6.99
Telecommunications [BS517]	2.86	2.95	4.06	4.42	2.96	1.41	-2.41	-2.19
Data processing, hosting, and related services [BS518]	-0.30	0.99	1.50	1.04	1.22	1.77	-3.90	-0.66
Other information services [BS519]	4.54	2.54	3.56	-12.38	0.08	9.29	-5.50	-11.29

Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-0033)

Chart 24: Real Output per Hour of the Telecommunications Sub-Industry (BS517) in New Brunswick, 1997-2022



Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-0033)

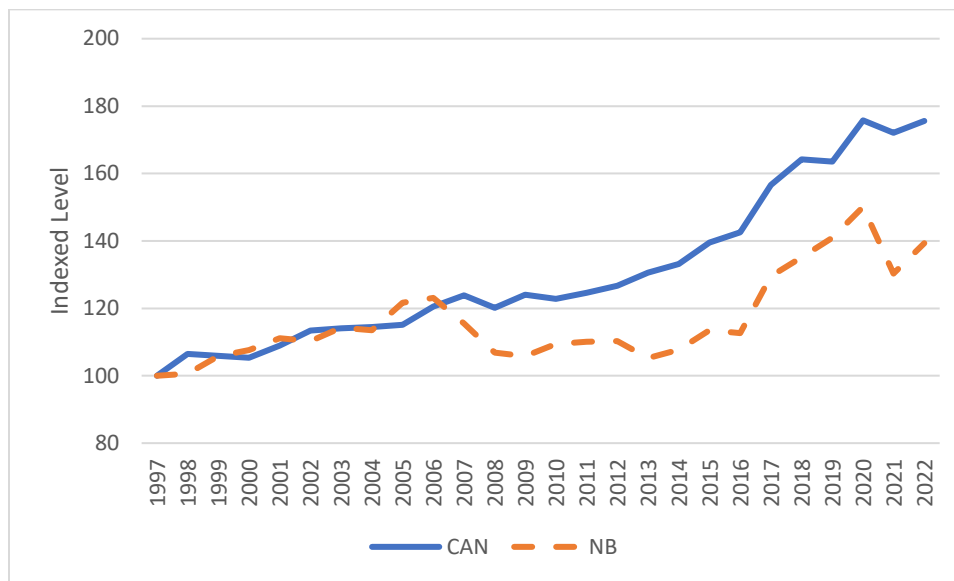
### E. Finance and Insurance

In 2022 New Brunswick's finance and insurance had a real value added of \$1,902 million (2012 dollars). This is 5.6 percent of all industry real value added for the province. In the same year, the real output per hour was \$79.6 (2012 dollars). This is 88.8 percent of the national value of \$89.6 (2012 dollars).

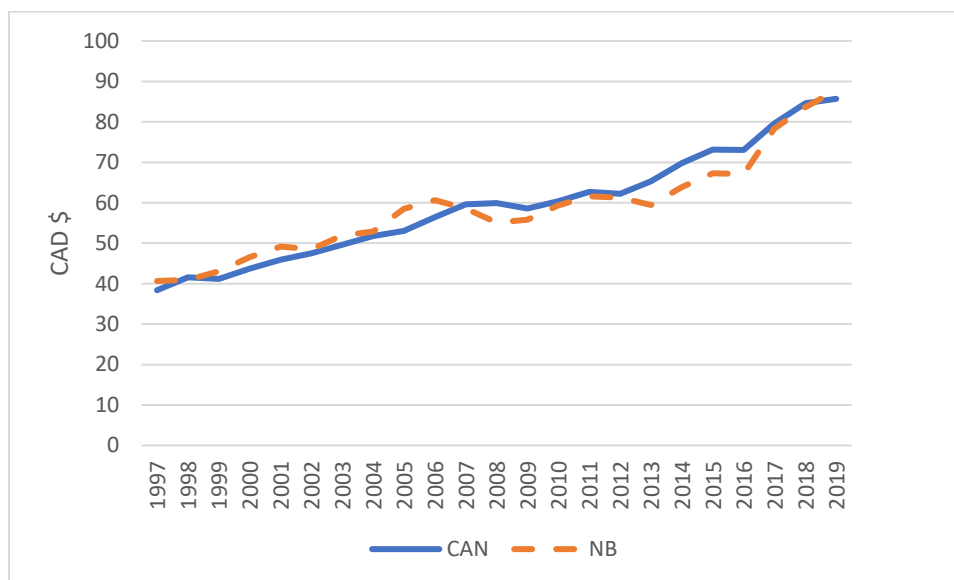
Between 1987 and 2022 real output per hour of finance and insurance holding companies experienced growth at a rate of 1.33 percent per year (Chart 25). This is slow in comparison to the national growth rate of 2.28 percent annually. Between 2000 and 2008 Canada's value grew at a rate of 1.66 percent per year, whereas New Brunswick experienced decreases of 0.08 percent per year. In the most recent sub-period, between 2019 and 2022 New Brunswick has experienced decreases of 0.04 percent a year, while Canada has grown at a rate of 2.96 percent per year.

Chart 25: Output Per Hour for the Finance and Insurance Industry (BS5B) in Canada and New Brunswick

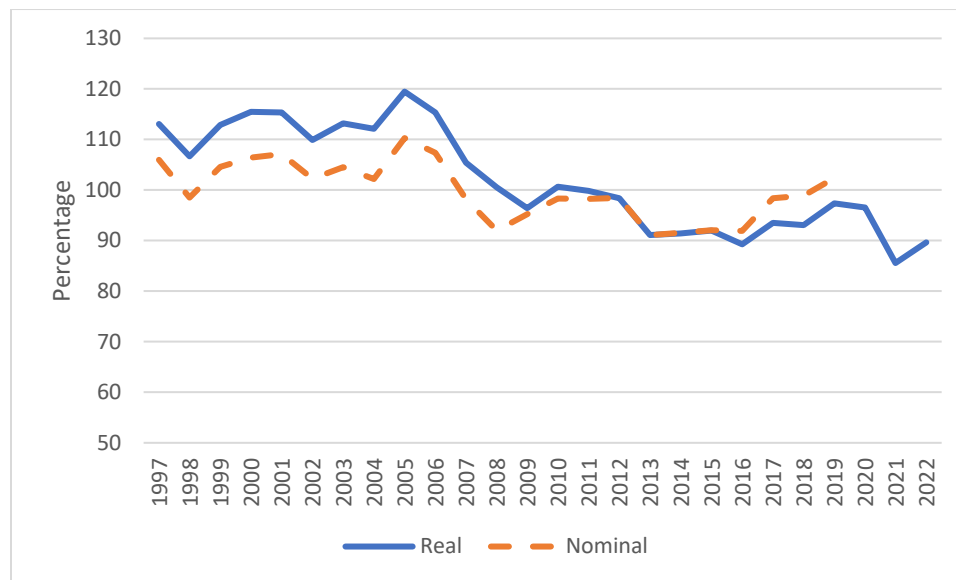
Panel A: Real Output Per Hour, 1997=100, 1997-2022



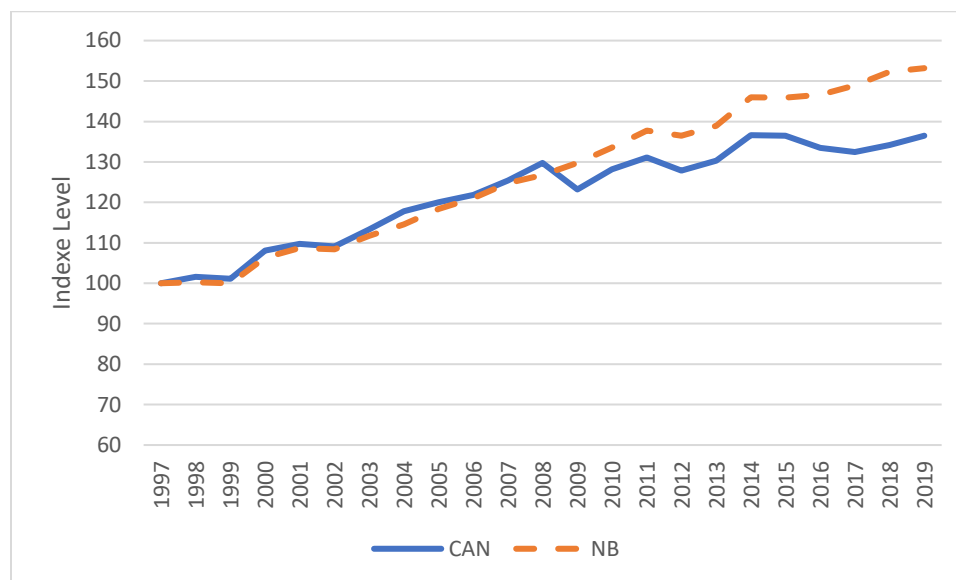
Panel B: Nominal Output Per Hour, 1997-2019



Panel C: Output per Hour as a Percentage of National Average, 1997-2022



Panel D: Price Deflator, 1997=100, 1997-2019



Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-0033)

When studying the sector of finance and insurance in New Brunswick and Canada two sub-industries play a large role in producing the value added of this sector for both. Depository credit intermediation and monetary authorities was 53.0 percent of the total real value added of the sector in 2022 in New Brunswick (Table 28). Insurance carriers and related activities made up 31.5 percent of the real value added. These two sub-industries will be the main sectors to study to understand the slow growth of New Brunswick in comparison to Canada.

Table 28: Sub-Industries of Finance and Insurance [BS5B] Real Value Added as a Share of Finance and Insurance [BS5B] Real Value Added in New Brunswick and Canada, 1997 and 2022 (expressed in percent)

	Percent of Real Value Added				Level of Real Output per Hour			
	CAN		NB		CAN		NB	
	1997	2022	1997	2022	1997	2022	1997	2022
Depository credit intermediation and monetary authorities [BS52B]	50.7	53.9	48.4	53.0	46.9	104.0	54.7	84.7
Non-depository credit intermediation [BS5222]	4.4	3.5	4.5	3.2	84.6	80.1	63.5	79.3
Activities related to credit intermediation [BS5223]	0.9	2.1	0.5	1.9	54.2	48.3	43.6	45.8
Insurance carriers and related activities [BS524]	32.9	23.5	43.8	31.5	59.6	86.5	59.6	81.6
Financial investment services, funds, and other financial vehicles [BS52A]	11.1	16.9	2.8	10.5	53.7	71.1	57.7	61.5
Total	100.0	100.0	100.0	100.0				
Sector as a % of GDP	6.0	7.0	5.1	5.6				

Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-0033)

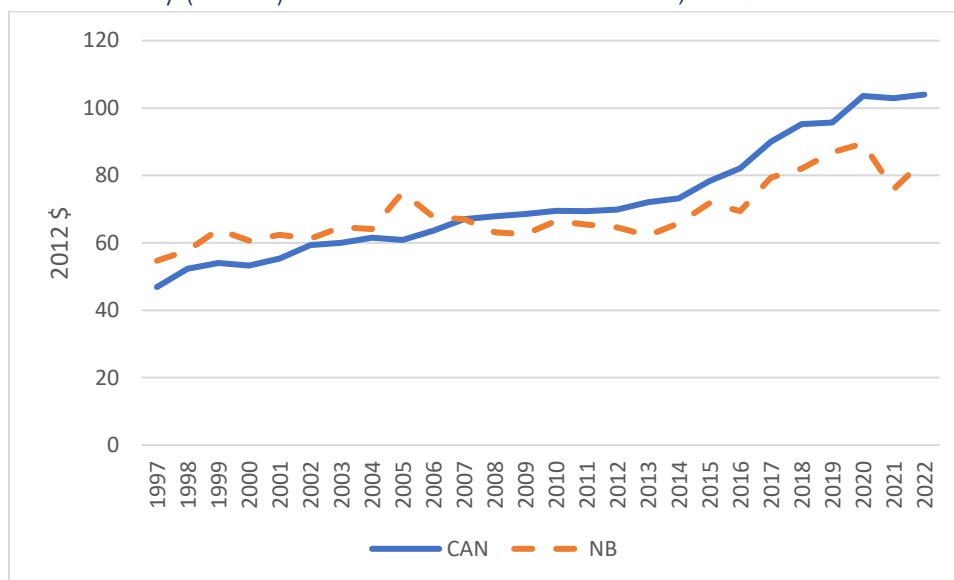
Table 29: Real Output Per Hour of Finance and Insurance (BS5B) in New Brunswick and Canada, 1997-2022 and selected sub-periods (average annual growth rates expressed in percent)

	1997-2022		2000-2008		2008-2019		2019-2022	
	CAN	NB	CAN	NB	CAN	NB	CAN	NB
Finance and Insurance [BS5B]	2.28	1.33	1.66	-0.08	2.84	2.55	2.96	-0.04
Depository credit intermediation and monetary authorities [BS52B]	3.24	1.76	3.07	0.49	3.17	2.95	2.81	-0.85
Non-depository credit intermediation [BS5222]	-0.22	0.89	-2.60	-0.40	3.35	4.28	-2.04	5.41
Activities related to credit intermediation [BS5223]	-0.46	0.20	-3.42	-8.90	1.70	1.11	-3.89	-0.43
Insurance carriers and related activities [BS524]	1.50	1.26	2.59	1.77	0.35	0.59	0.66	-1.00
Financial investment services, funds, and other financial vehicles [BS52A]	1.13	0.26	-0.29	-6.06	3.52	5.04	7.90	5.15

Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-0033)

In the sub-industry of depository credit intermediation and monetary authorities, the sub-industry with the largest share of total real value added in this sector, has experienced decreases in labour productivity in recent years (Table 29). Canada has experienced growth. Between 2019 and 2022 New Brunswick's value has decreased at a rate of 0.85 percent per year. Canada has experienced growth of 2.81 percent per year (Chart 26).

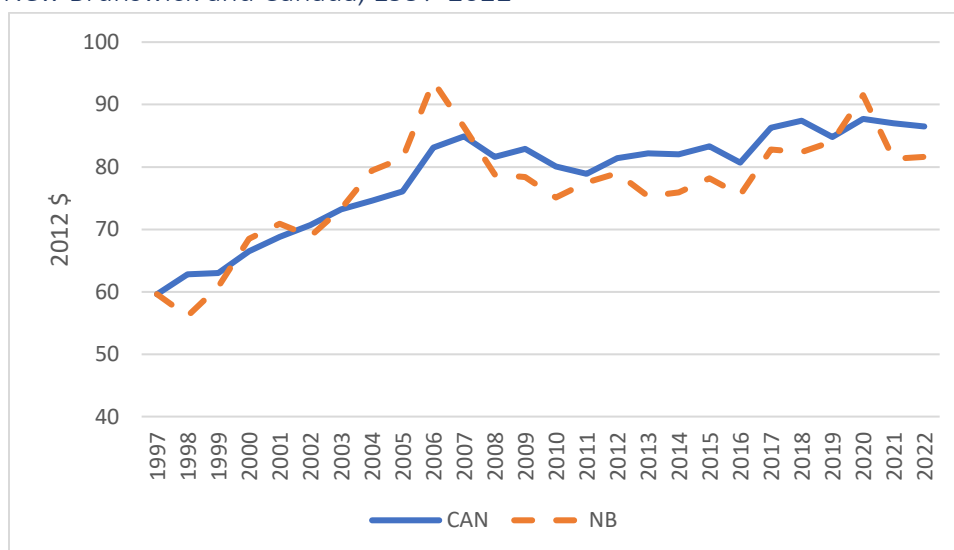
Chart 26: Real Output per Hour of the Depository Credit Intermediation and Monetary Authorities Sub-Industry (BS52B) in New Brunswick and Canada, 1997-2022



Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-0033)

The sub-industry of insurance carriers and related activities has also decreased in New Brunswick in the most recent sub-period, between 2019 and 2022, by 1.00 percent per year. In Canada, there was growth of 0.66 percent per year with the decreases in real output per hour of both most important sub-industries of the finance and insurance sector in New Brunswick they have experienced much slower growth throughout the period and decreasing labour productivity in the most recent sub-period (Chart 27).

Chart 27: Real Output per Hour of the Insurance Carriers and Related Activities Sub-Industry (BS524) in New Brunswick and Canada, 1997-2022



Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-0033)

#### F. Real Estate, Rental, and Leasing Industry

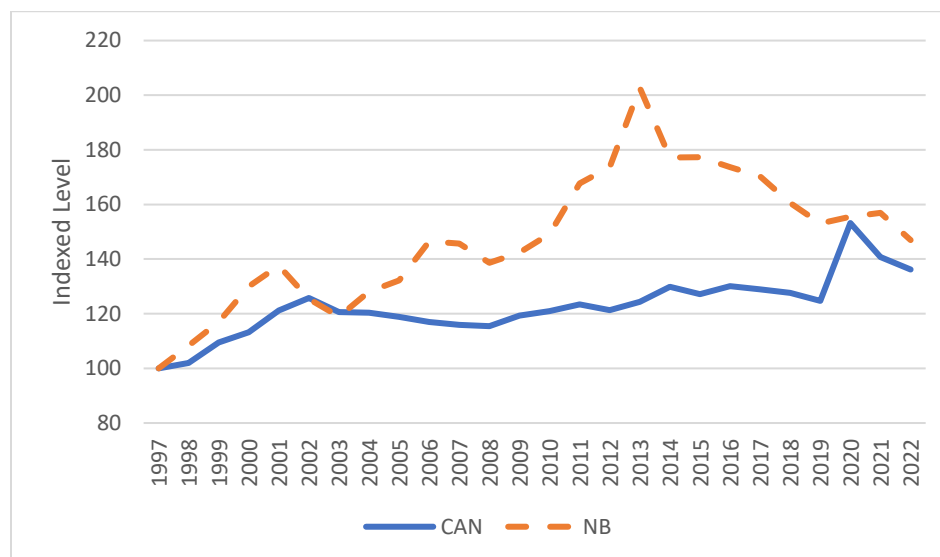
In 2022 the real value added in the real estate, rental, and leasing sector was \$1,085 million (2012 dollars) in New Brunswick. This comprises 3.2 percent of real value added in all industries in the province. In the same year, the labour productivity in New Brunswick in this sector was \$135.9 (2012 dollars). This is 92.6 percent of the national value of \$146.7 (2012 dollars).

In the whole period, New Brunswick experienced slightly higher growth than Canada of real output per hour. Between 1997 and 2022 the real output per hour in New Brunswick grew at a rate of 1.55 percent annually (Chart 28). In Canada, growth was 1.24 percent per year. In the most recent sub-period New Brunswick has experienced decreases of 1.36 percent per year, but Canada has grown at a rate of 2.99 percent per year.

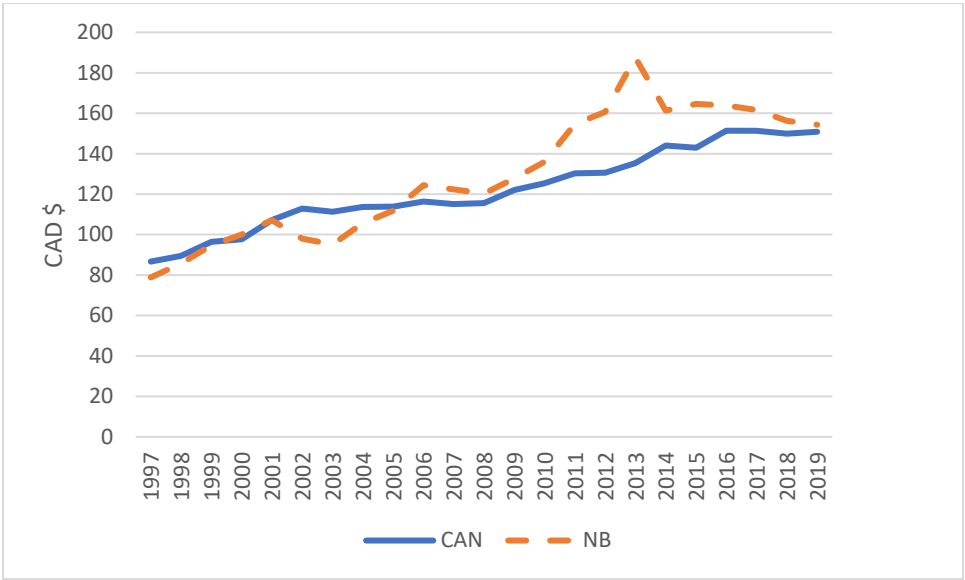
Between 1997 and 2013 the sector of real estate, rental, and leasing experienced rapid increases of labour productivity in New Brunswick at a rate of 4.52 percent per year. In Canada productivity growth was slower at a rate of 1.37 percent per year. In 2012 labour productivity in this industry in New Brunswick was 140.0 percent of the national value. Then, between 2012 and 2022 New Brunswick experienced decreases of labour productivity in the sector at a rate of 1.66 percent per year. In Canada growth of real output per hour in the industry stayed similar to the first period at a rate of 1.17 percent per year. In 2022 New Brunswick's labour productivity in the sector was only 92.6 percent of Canada's. Between 1997 and 2022 Canada has experienced relatively stable growth, whereas New Brunswick experienced rapid growth until 2012, then decreases in labour productivity.

Chart 28: Output Per Hour for the Real Estate, Rental, and Leasing Industry (BS53) in Canada and New Brunswick

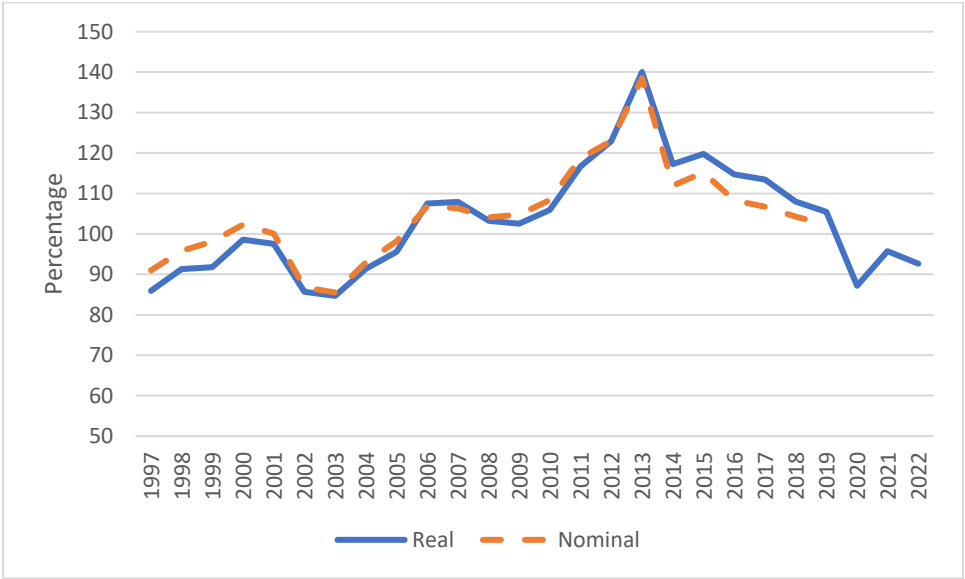
Panel A: Real Output Per Hour, 1997=100, 1997-2022



Panel B: Nominal Output Per Hour, 1997-2019

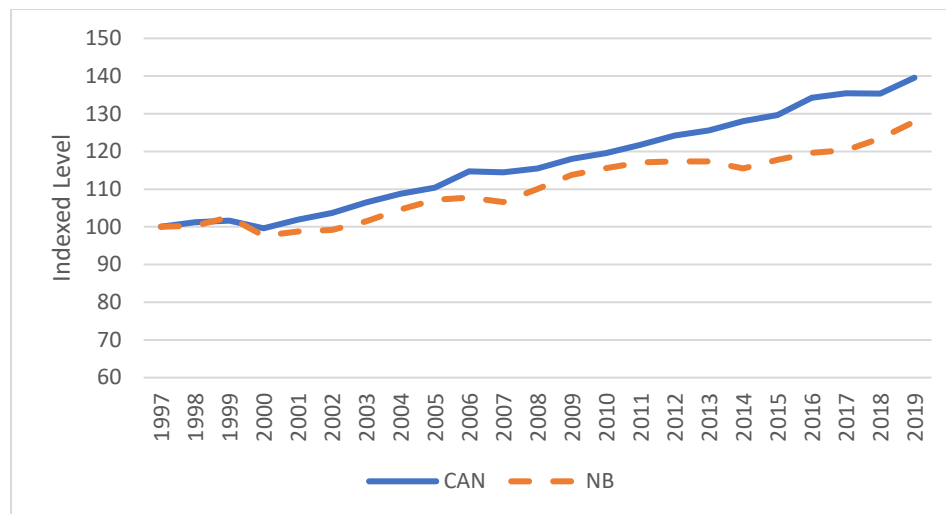


Panel C: Output as a Percentage of National Value, 1997-2022





Panel D: Price Deflator, 1997=100, 1997-2019



Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-0033)

The overall output structure is similar in Canada and New Brunswick in the real estate, rental, and leasing industry (Table 30). The composition therefore had little effect on labour productivity level and growth during the period.

Lessors of real estate had the highest share of real value added in the real estate, rental, and leasing sector in New Brunswick and Canada in 1997 and 2022. In 2022 it comprised 76.6 percent of the real value added in the sector in New Brunswick. This sub-industry follows the trend of the sector. In New Brunswick real output per hour in this sub-industry increased at a rate of 5.40 percent annually between 1997 and 2012. Then, between 2012 and 2022 labour productivity decreased at a rate of 8.01 percent annually (Chart 29).

Table 30: Sub-Industries of the Real Estate, Rental, and Leasing Industry [BS53] Real Value Added as a Share of the Real Estate, Rental, and Leasing Industry [BS53] Real Value Added and Level of Real Output per Hour in New Brunswick and Canada, 1997 and 2022 (expressed in percent)

	Percent of Real Value Added				Level of Real Output per Hour			
	CAN		NB		CAN		NB	
	1997	2022	1997	2022	1997	2022	1997	2022
Lessors of real estate [BS5311]	69.9	72.9	70.8	76.6	247.9	376.1	190.0	302.4
Offices of real estate agents and brokers and activities related to real estate [BS531A]	20.3	13.0	15.2	12.9	59.2	39.3	50.4	46.4
Rental and leasing services [BS532]	9.0	11.8	12.1	9.0	33.0	84.2	31.9	48.7
Lessors of non-financial intangible assets (except copyrighted works) [BS533]	0.8	2.3	1.9	1.6	63.8	140.4	180.2	77.3
Total	100.0	100.0	100.0	100.0				
Sector as a % of GDP	4.0	4.1	2.9	3.2				

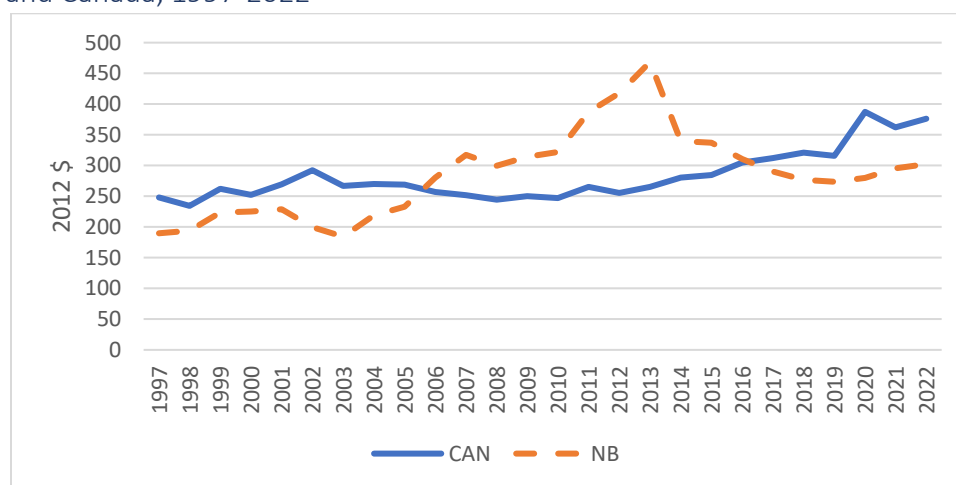
Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-0033)

Table 31: Real Output Per Hour of Real Estate, Rental, and Leasing Industry (BS53) in New Brunswick and Canada, 1997-2022 and selected sub-periods (average annual growth rates expressed in percent)

	1997-2022		2000-2008		2008-2019		2019-2022	
	CAN	NB	CAN	NB	CAN	NB	CAN	NB
Real estate, rental, and leasing [BS53]	1.24	1.55	0.24	0.82	0.71	0.90	2.99	-1.36
Lessors of real estate [BS5311]	1.68	1.88	-0.39	3.63	2.36	-0.82	5.98	3.42
Offices of real estate agents and brokers and activities related to real estate [BS531A]	-1.63	-0.33	-3.54	-1.83	-3.68	0.34	1.67	-3.85
Rental and leasing services [BS532]	3.82	1.71	6.25	4.07	3.72	1.25	-3.77	-9.95
Lessors of non-financial intangible assets (except copyrighted works) [BS533]	3.21	-3.33	8.08	0.91	2.34	-2.18	5.29	-8.47

Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-0033)

Chart 29: Real Output per Hour in the Lessors of Real Estate (BS5311) Sub-Industry in New Brunswick and Canada, 1997-2022



Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-0033)

### G. Professional, Scientific, and Technical Services

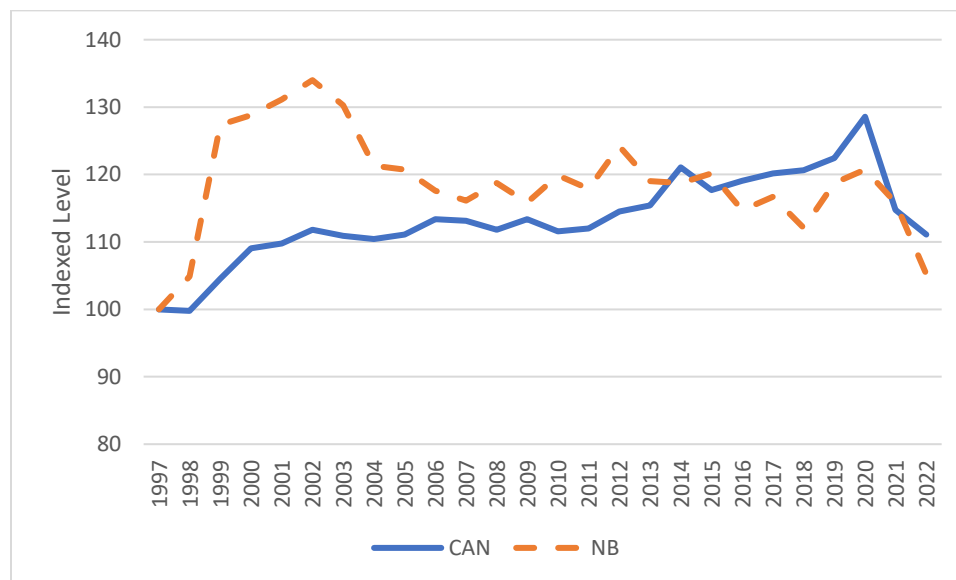
In 2022 the real value added of the professional, scientific, and technical services sector was \$1,120 million (2012 dollars). That is 3.3 percent of all industry real value added. The real output per hour in this sector in New Brunswick was \$36.5 (2012 dollars). This is 74.5 percent of the national value of \$49.0 (2012 dollars).

Between 1997 and 2022 the growth of real output per hour has increased in New Brunswick by only 0.20 percent per year. In recent years, between 2019 and 2022, New Brunswick and Canada have both experienced rapid decreases (Chart 30). New Brunswick has decreased at a rate of 3.96 percent per year and Canada has decreased by 3.19 percent annually.

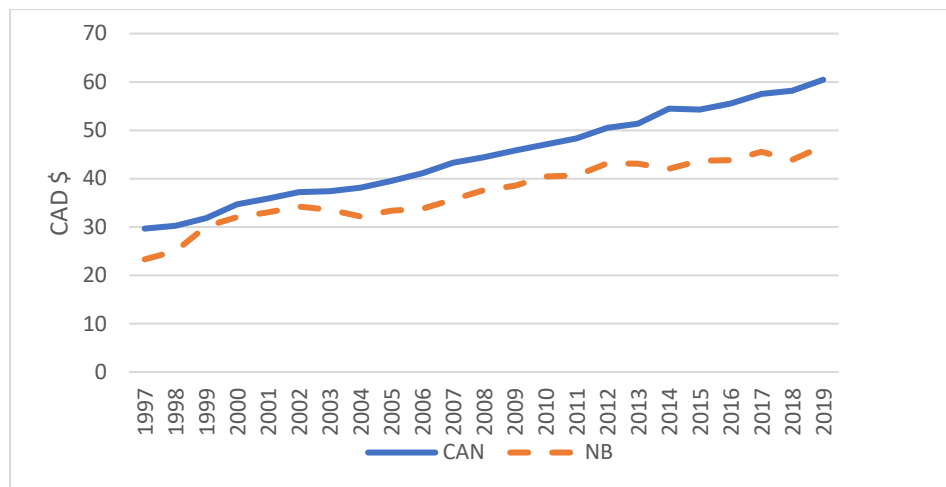
New Brunswick experienced rapid growth of labour productivity in this sector between 1997 and 2002 of 6.03 percent per year. During this period, in Canada growth of real value added was much slower, at a rate of 2.25 percent annually. Then, between 2002 and 2007, real output per hour decreased by 2.82 percent per year in New Brunswick, while Canada's value grew slightly at 0.24 percent annually. Since 2007 growth of labour productivity in professional, scientific, and technical services in Canada and New Brunswick have been similar. In New Brunswick the value decrease at a rate of 0.66 percent per year and in Canada decreases were 0.12 percent per year.

Chart 30: Output Per Hour for the Professional, Scientific, and Technical Services Industry (BS54) in Canada and New Brunswick

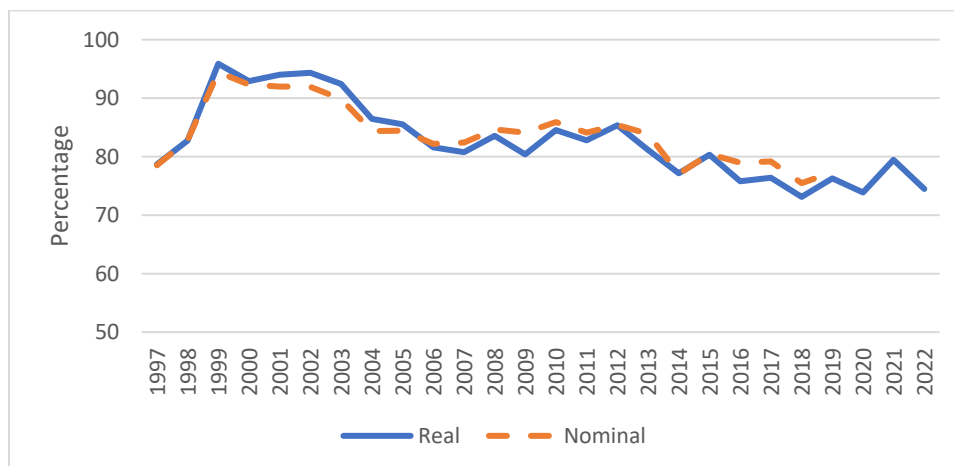
Panel A: Real Output Per Hour, 1997=100, 1997-2022



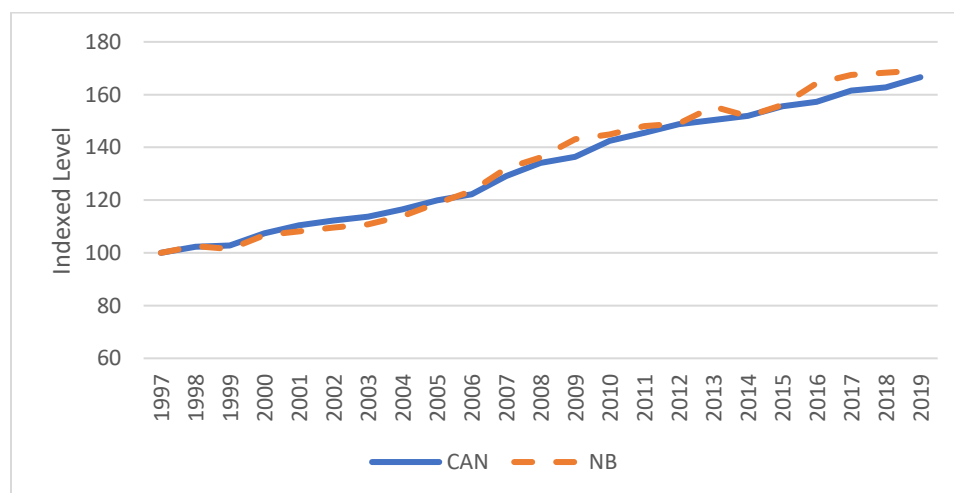
Panel B: Nominal Output Per Hour, 1997-2019



Panel C: Output per Hour as a Percentage of the National Value, 1997-2022



Panel D: Price Deflator, 1997=100, 1997-2019



Source: Statistics Canada Table: 36-10-0480-01 (formerly CANSIM 383-0033)

The output structure of the professional, scientific, and technical industry is somewhat similar in Canada and New Brunswick (Table 32). It does not seem that the composition of the industry that has led to New Brunswick's much lower level of labour productivity in the sector in comparison to Canada. In 2022, real output per hour in New Brunswick was lower than in Canada for all sub-industries. The difference is extremely large in scientific research development, which has a labour productivity of \$44.5 per hour (2012 dollars) in Canada and \$24.6 per hour (2012 dollars) in New Brunswick in 2022. Computer systems design and related services also had a large gap with a value of \$52.1 pr hour (2012 dollars) in Canada and \$34.0 per hour (2012 dollars) in New Brunswick in 2022 (see appendix table 5).

Table 32: Sub-Industries of Professional, Scientific, and Technical Service Industry [BS54] Real Value Added as a Share of Professional, Scientific, and Technical Service Industry [BS54] Real Value Added and Level of Real Output per Hour in New Brunswick and Canada, 1997 and 2022 (expressed in percent)

	Percent of Real Value Added				Level of Real Output per Hour			
	CAN		NB		CAN		NB	
	1997	2022	1997	2022	1997	2022	1997	2022
Legal, accounting, and related services [BS541A]	32.1	20.5	34.7	29.5	50.8	48.1	33.9	44.1
Architectural, engineering, and related services [BS5413]	25.6	20.3	21.3	26.2	47.7	50.9	45.2	42.8
Scientific research and development [BS541B]	23.2	22.3	24.2	17.3	42.8	44.5	30.1	24.6
Computer systems design and related services [BS5415]	12.0	32.5	16.8	25.1	33.5	52.1	36.0	34.0
Advertising, public relations, and related services [BS5418]	6.1	4.4	3.0	1.9	43.2	39.5	39.5	37.7
Total	100.0	100.0	100.0	100.0				
Sector as a % of GDP	4.3	6.2	2.6	3.3				

Source: Statistics Canada Table: 36-10-0480-01 (formerly CANSIM 383-0033)

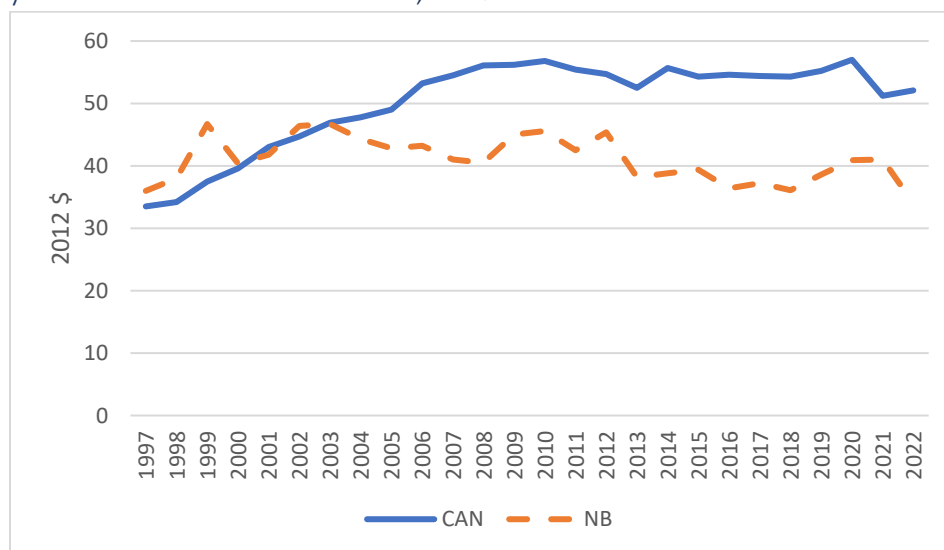
Table 33: Real Output Per Hour of Professional, Scientific, and Technical Services Industry (BS54) in New Brunswick and Canada, 1997-2022 and selected sub-periods (average annual growth rates expressed in percent)

	1997-2022		2000-2008		2008-2019		2019-2022	
	CAN	NB	CAN	NB	CAN	NB	CAN	NB
Professional, scientific, and technical services industry [BS54]	0.42	0.20	0.31	-1.01	0.83	0.00	-3.19	-3.96
Legal, accounting, and related services [BS541A]	-0.22	1.06	-0.50	-1.22	0.12	2.07	-3.84	-3.84
Architectural, engineering, and related services [BS5413]	0.26	-0.22	0.72	-0.39	0.75	-0.56	-4.59	-5.37
Scientific research and development [BS541B]	0.16	-0.80	-1.83	-1.16	1.90	-2.50	-3.36	-2.08
Computer systems design and related services [BS5415]	1.78	-0.23	4.45	0.03	-0.15	-0.44	-1.91	-4.14
Advertising, public relations, and related services [BS5418]	0.23	-0.19	-1.90	-6.13	1.30	2.36	-3.78	0.18

Source: Statistics Canada Table: 36-10-0480-01 (formerly CANSIM 383-0033)

Interestingly, the only sub-industry of this sector that had a higher real output per hour in New Brunswick in comparison to Canada in 1997 was computer systems design and related services (Chart 31). Between 1997 and 2022 New Brunswick's value decreased by 0.23 percent per year, whereas Canada's value increased quickly at a rate of 1.78 percent per year (Table 33).

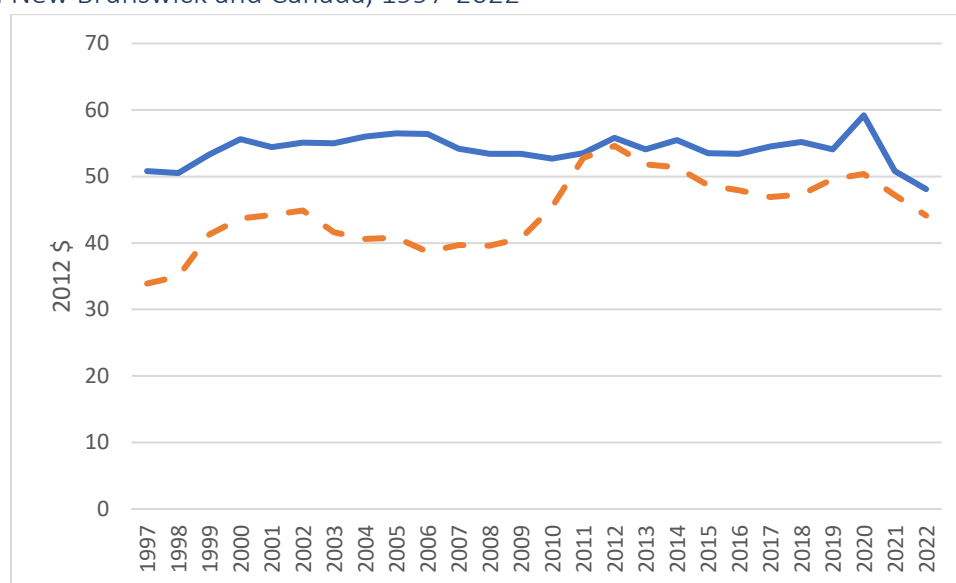
Chart 31: Real Output per Hour in the Computer Systems Design and Related Services (BS5415) Sub-Industry in New Brunswick and Canada, 1997-2022



Source: Statistics Canada Table: 36-10-0480-01 (formerly CANSIM 383-0033)

As mentioned, both New Brunswick and Canada have experienced decreases in the labour productivity of professional, scientific, between 2019 and 2022. Legal, accounting, and related services are important to both Canada, with 20.5 percent of real value added of the sector, and New Brunswick with 29.5 percent. Labour productivity of this sub-industry has decreased at a rate of 3.84 percent in both Canada and New Brunswick between 2019 and 2022 (Chart 32).

Chart 32: Real Output per Hour in the Legal, Accounting, and Related Services (BS541A) Sub-Industry in New Brunswick and Canada, 1997-2022



Source: Statistics Canada Table: 36-10-0480-01 (formerly CANSIM 383-0033)

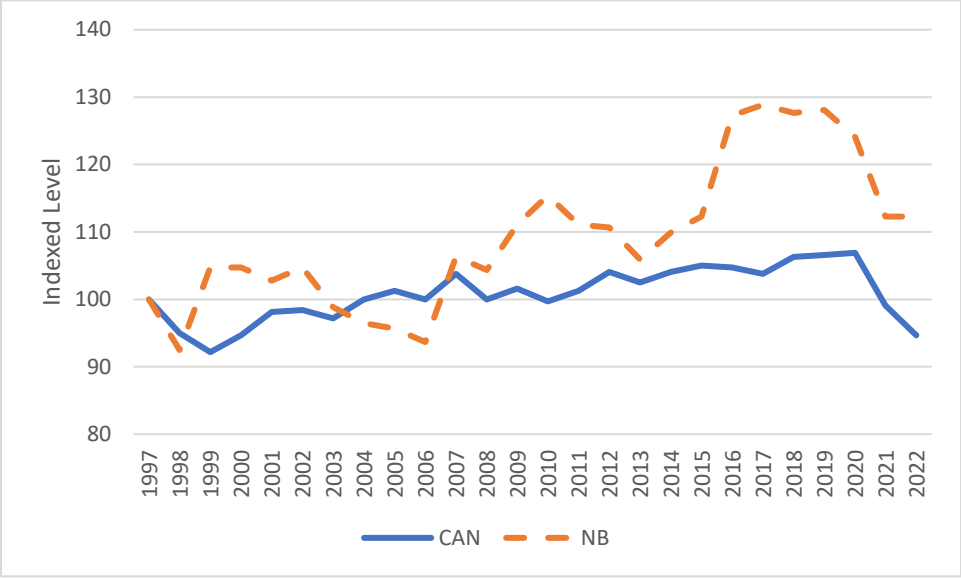
#### H. Administrative and Support, Waste Management, and Remediation Services

In 2022 the sector of administrative and support, waste management, and remediation services had a real value added of \$939 million (2012 dollars). This comprises 2.8 percent of the real value added of all industries in New Brunswick. The real output per hour was \$28.4 (2012 dollars) in New Brunswick, which is 94.0 percent of Canada's labour productivity value of \$30.2 (2012 dollars).

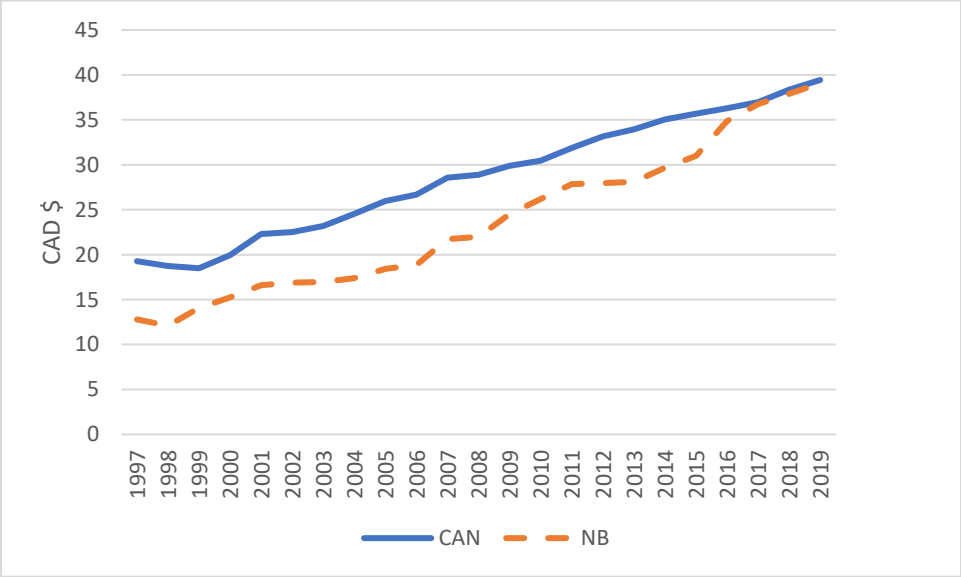
Between 1997 and 2022 the real output per hour in New Brunswick has increased at a rate of 0.46 percent per year (Chart 33). This is slightly higher than the national growth rate, which decreased at a rate of 0.22 percent per year. In recent years, between 2019 and 2022 New Brunswick has experienced fast decreases of 4.30 percent per year. Canada's labour productivity decreased, at a rate of 3.87 percent per year.

Between 2013 and 2019 labour productivity in the administrative and support, waste management, and remediation services industry increased much more rapidly in New Brunswick than in Canada. The growth rate of real output per hour of this sector during this period in New Brunswick was 3.21 percent annually, whereas in Canada the growth rate was only 0.65 percent per year. Since 2019 both Canada and New Brunswick have experienced similar decreases in labour productivity in this industry, as mentioned above,

Chart 33: Output Per Hour for the Administrative and Support, Waste Management, and Remediation Services Industry (BS56) in Canada and New Brunswick  
 Panel A: Real Output Per Hour, 1997=100, 1997-2022

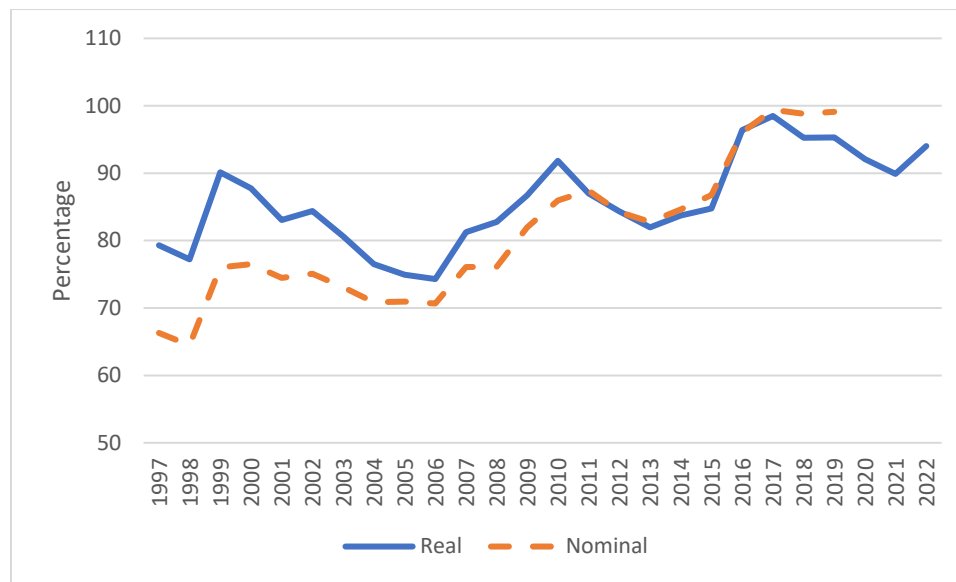


Panel B: Nominal Output Per Hour, 1997-2019

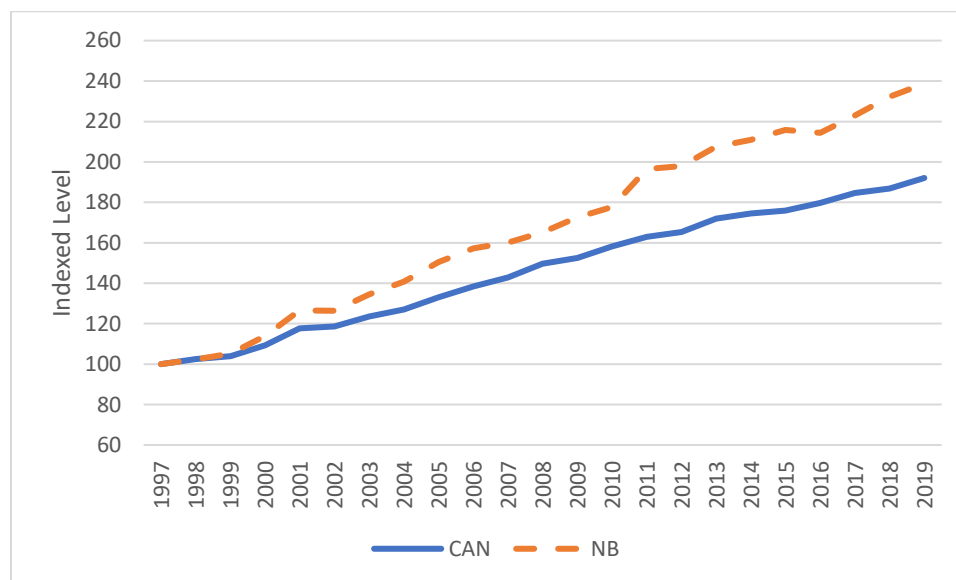




Panel C: Output Per Hour as a Percentage of National Value, 1997-2022



Panel D: Price Deflator, 1997=100, 1997-2019



Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-0033)

The composition of sub-industries in the sector of administrative and support, waste management, and remediation services differs greatly between Canada and New Brunswick (Table 34). Business support services are much more important in New Brunswick than Canada, making up 31.7 percent of total real value added in the industry in New Brunswick and only 9.9 percent in Canada. Also, office administrative services make up 29.2 percent of real value added in the sector in New Brunswick, but only 12.9 percent in Canada.

Table 34: Sub-Industries of Administrative and Support, Waste Management, and Remediation Services Industry (BS56) Real Value Added as a Share of Administrative and Support, Waste Management, and Remediation Services Industry (BS56) Real Value Added in New Brunswick and Canada, 1997 and 2022 (expressed in percent)

	Percent of Real Value Added				Level of Real Output per Hour			
	CAN		NB		CAN		NB	
	1997	2022	1997	2022	1997	2022	1997	2022
Office administrative services [BS5611]	9.8	12.9	26.9	29.2	43.4	51.0	37.0	59.7
Employment services [BS5613]	19.3	17.1	8.5	5.1	30.8	26.3	24.0	19.2
Business support services [BS5614]	6.1	9.9	12.9	31.7	33.0	30.2	34.1	28.6
Travel arrangement and reservation services [BS5615]	8.9	3.8	3.8	1.6	37.5	30.0	45.9	22.4
Investigation and security services [BS5616]	8.8	10.2	9.8	6.3	20.2	18.5	13.7	15.0
Services to buildings and dwellings [BS5617]	21.1	17.8	24.9	9.9	22.1	17.7	19.9	12.2
Facilities and other support services [BS561A]	20.2	14.1	8.5	6.5	81.0	81.2	30.6	56.1
Waste management and remediation services [BS562]	5.7	14.2	4.7	9.6	40.6	66.1	18.0	43.7
Total	100.0	100.0	100.0	100.0				
Sector as a % of GDP	2.4	2.3	2.1	2.8				

Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-0033)

Table 35: Real Output Per Hour of Administrative and Support, Waste Management, and Remediation Services Industry (BS56) in New Brunswick and Canada, 1997-2022 and selected sub-periods (average annual growth rates expressed in percent)

	1997-2022		2000-2008		2008-2019		2019-2022	
	CAN	NB	CAN	NB	CAN	NB	CAN	NB
Administrative support, waste management, and remediation [BS56]	-0.22	0.46	0.69	-0.05	0.58	1.88	-3.87	-4.30
Office administrative services [BS5611]	0.65	1.93	-0.95	-6.88	2.99	7.64	-0.9	-5.03
Employment services [BS5613]	-0.63	-0.89	-0.93	-1.71	0.09	-1.37	-4.29	-0.52
Business support services [BS5614]	-0.35	-0.7	0.11	-0.22	1.43	3.11	-4.34	-6.51
Travel arrangement and reservation services [BS5615]	-0.89	-2.83	-1.24	-4.35	0.79	1.46	-5.01	-10.46
Investigation and security services [BS5616]	-0.35	0.36	1.89	1.89	-0.52	0.68	-5.47	-6.07
Services to buildings and dwellings [BS5617]	-0.88	-1.94	0.95	-0.2	-1.00	-1.72	-3.51	-4.02
Facilities and other support services [BS561A]	0.01	2.45	1.26	-2.04	0.32	-1.29	-0.69	5.26

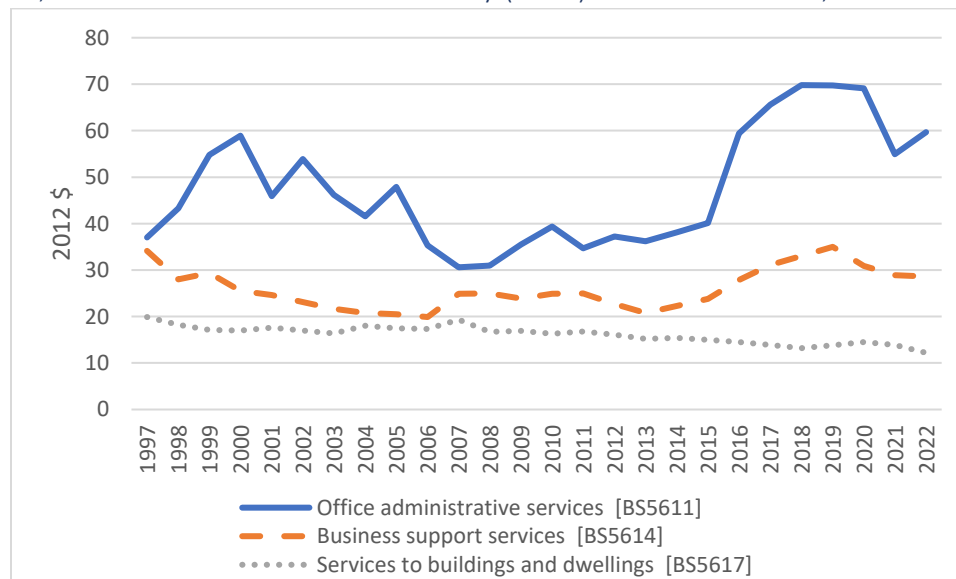
Waste management and remediation services [BS562]	1.97	3.61	4.34	5.01	0.93	3.51	-1.09	-2.54
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Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-0033)

New Brunswick experienced faster labour productivity growth throughout the period between 1997 and 2022, for two main reasons. First, office administrative services are much more important in New Brunswick than in Canada. During the period this was one of the only sub-industries that experienced growth in labour productivity. In New Brunswick, this growth was 1.93 percent per year and in Canada, it was lower at 0.65 percent per year. Second, between 1997 and 2022 services to buildings and dwellings become much less important in New Brunswick. During the same period, this sub-industry experienced decreases of 1.94 percent per year in New Brunswick and -0.88 percent per year in Canada (Chart 34).

The large decreases in labour productivity of the sector in both Canada and New Brunswick between 2019 and 2022 is due to decreases in the labour productivity of all sub-industries in Canada and all sub-industries except for one in New Brunswick. In New Brunswick the largest two industries experienced labour productivity decreases at a fast rate. Between 2019 and 2022 office administrative services labour productivity decreased at a rate of 5.03 percent per year and business support services labour productivity decreased at a rate of 6.51 percent per year (Table 35).

Chart 34: Real Output Per Hour in Major Sub-Industries of the Administrative and Support, Waste Management, and Remediation Services Industry (BS56) in New Brunswick, 1997-2022



Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-0033)

#### I. Educational Services

In 2022 the real value added of private educational services was only 0.2 percent of all industries' real value added. This is a value of \$70 million (2012 dollars). The labour

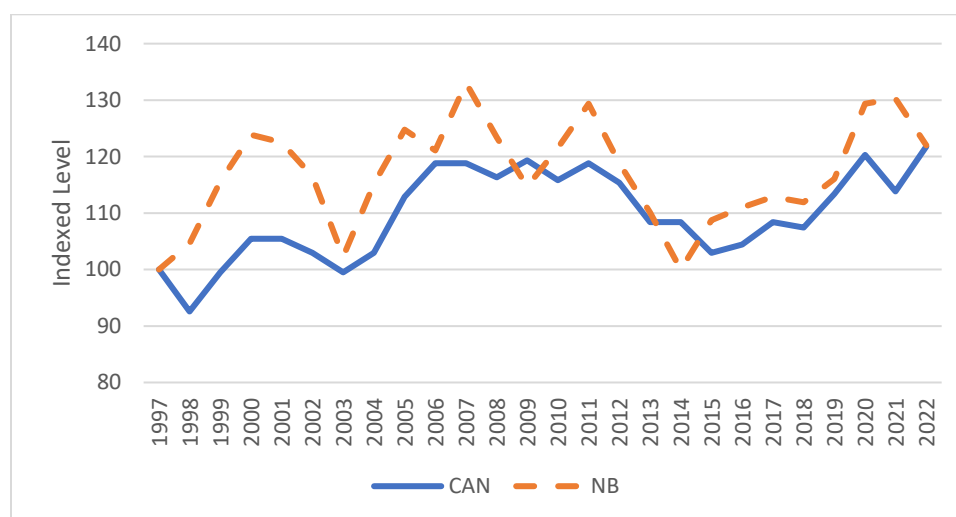
productivity was \$26.6 per hour (2012 dollars) in New Brunswick, which 108.1 percent of the labour productivity in Canada of \$24.6 (2012 dollars).

Between 1997 and 2022 labour productivity in New Brunswick has increased at a rate of 0.80 percent per year in the educational services sector. In Canada growth has been similar at 0.79 percent per year. Although Canada and New Brunswick have followed similar trends in real output per hour throughout the period New Brunswick has always had a higher productivity level than Canada except for one year, 2014 (Chart 35).

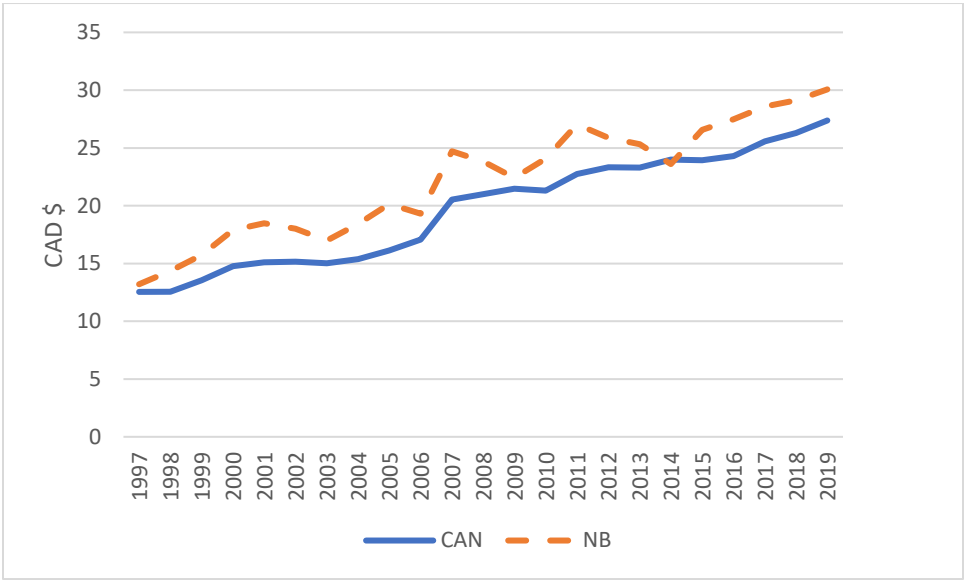
Educational services only include private and independent schools. For the 2020-2021 school year only 1.5 percent of New Brunswick students went to a private or independent school. In Canada, 7.5 percent of students went to private schools. When private schools are highly selective, as they are in New Brunswick, the higher tuition per student will lead to higher measured labour productivity. New Brunswick is one of the only two provinces outside of Ontario and British Colombia that has one of the top 15 most expensive private schools in the country. This may be why New Brunswick's labour productivity is above the national level.

Chart 35: Output Per Hour for the Educational Services Industry (BS61) in Canada and New Brunswick

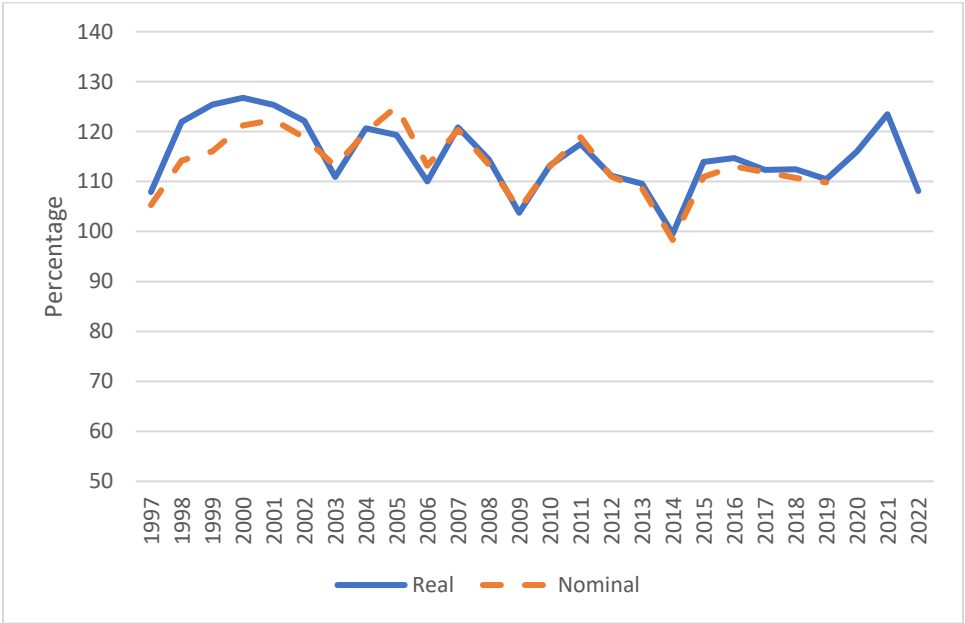
Panel A: Real Output Per Hour, 1997=100, 1997-2022



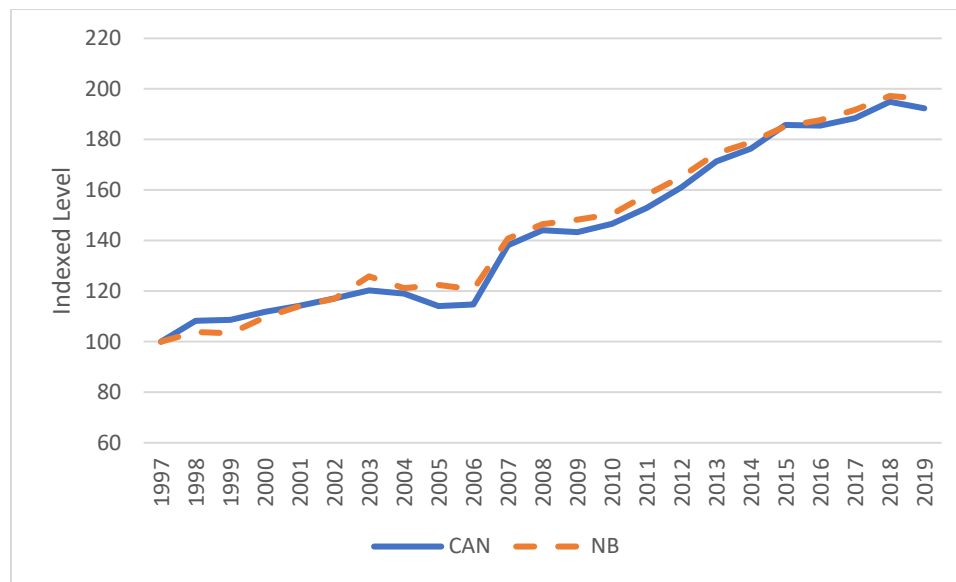
Panel B: Nominal Output Per Hour, 1997-2019



Panel C: Output Per Hour as a Percentage of the National Value, 1997-2022



Panel D: Price Deflator, 1997=100, 1997-2019



Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-0033)

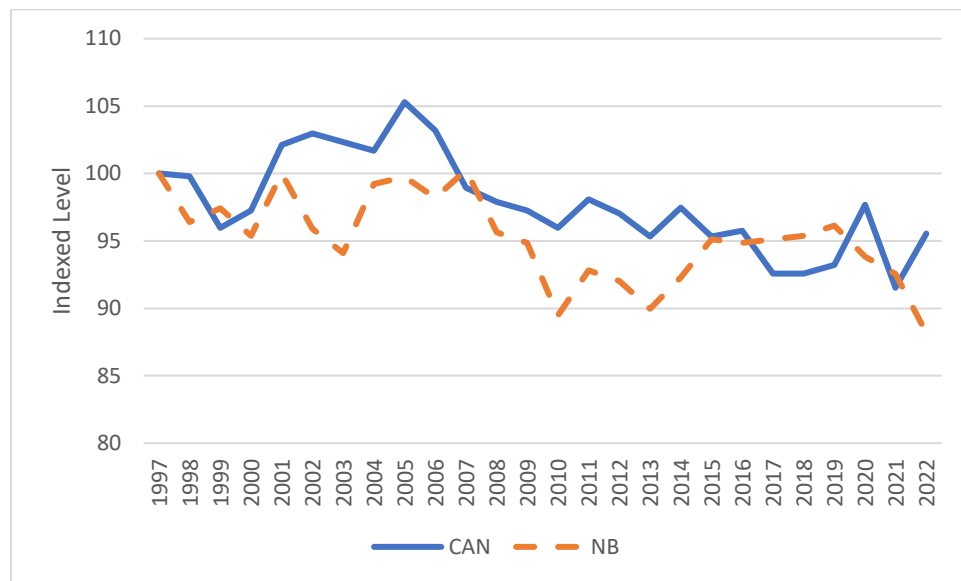
#### J. Health Care and Social Assistance

In 2022 the real value added in the health care and social assistance sector, provided by the business sector, was 2.9 percent of all industry real value added in New Brunswick. The value was \$972 million (2012 dollars). Real output per hour in New Brunswick is \$34.3 (2012 dollars). This value is 76.1 percent of the Canadian value of \$45.1 (2012 dollars).

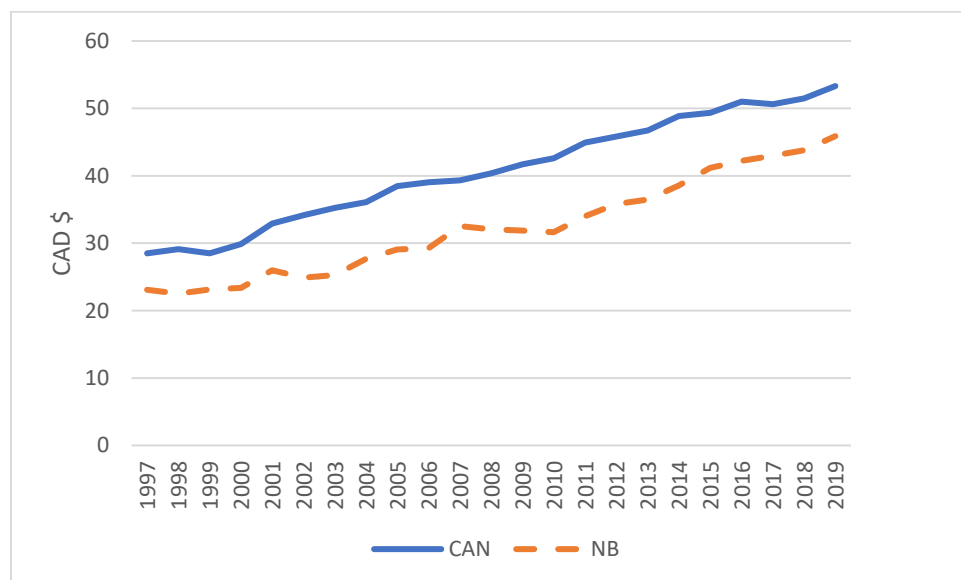
Between 1997 and 2022 New Brunswick's labour productivity decreased at a rate of 0.50 percent per year. In Canada, the decrease was smaller at a rate of 0.18 percent annually. In the most recent sub-period, between 2019 and 2022 real output per hour in New Brunswick decreased rapidly at 2.84 percent per year. During the same period, in Canada there was a growth rate of 0.83 percent annually (Chart 36). Throughout the entire period New Brunswick's labour productivity was below that of Canada.

Chart 36: Output Per Hour for the Health Care and Social Assistance Industry (BS62) in Canada and New Brunswick

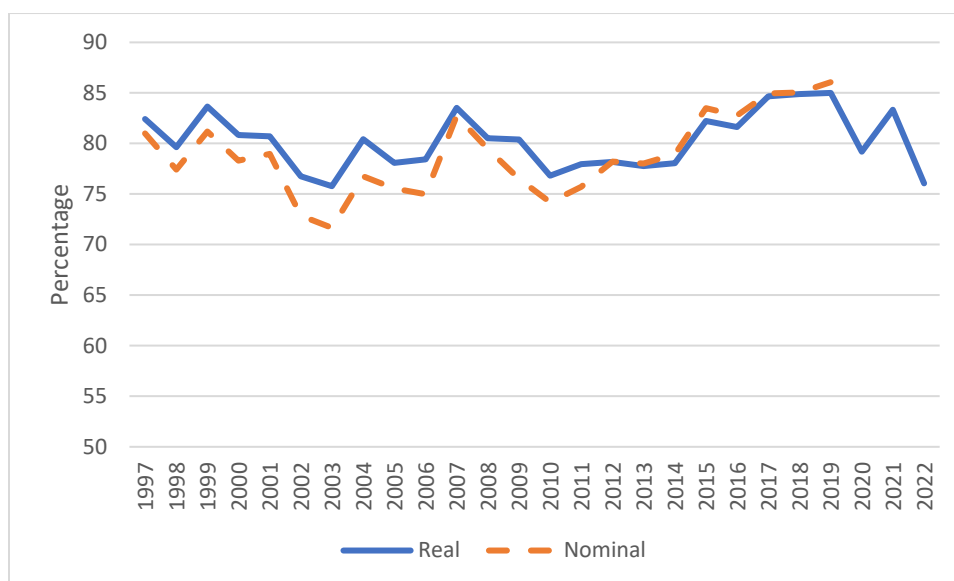
Panel A: Real Output Per Hour, 1997=100, 1997-2022



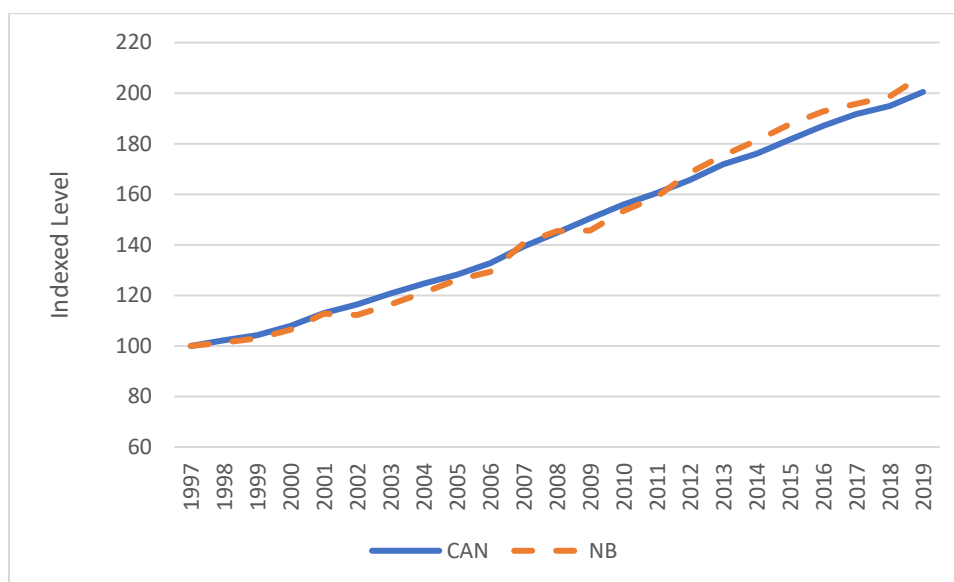
Panel B: Nominal Output Per Hour, 1997-2019



Panel C: Output Per Hour as a Percentage of the National Value, 1997-2022



Panel D: Price Deflator, 1997=100, 1997-2019



Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-0033)

The output structure of the health care and social assistance industry is similar between Canada and New Brunswick (Table 36). Offices of physicians are the most important sub-industry in both Canada and New Brunswick. In Canada, they make up 42.4 percent of the total value added in the sector in 2022. In New Brunswick, they make up slightly more at 43.3 percent.

The labour productivity in the sub-industry of offices of physicians grew at a slower rate in New Brunswick than in Canada throughout the period. In New Brunswick, the value increased



at a rate of 0.21 percent per year. In Canada, labour productivity growth was faster at 0.70 percent per year (Table 35). This led to slower growth of the overall sector in New Brunswick.

Table 36: Sub-Industries of Health Care and Social Assistance [BS62] Real Value Added as a Share of Health Care and Social Assistance [BS62] Real Value Added and Level of Real Output per Hour in New Brunswick and Canada, 1997 and 2022 (expressed in percent)

	Percent of Real Value Added				Level of Real Output per Hour			
	CAN		NB		CAN		NB	
	1997	2022	1997	2022	1997	2022	1997	2022
Offices of physicians [BS6211]	41.7	42.4	54.4	43.2	81.4	96.8	86.7	91.3
Offices of dentists [BS6212]	19.6	17.1	13.1	14.6	68.6	54.2	58.0	61.1
Miscellaneous ambulatory health care services [BS621A]	18.6	19.7	13.6	16.7	38.9	28.9	37.5	32.2
Nursing and residential care facilities [BS623]	10.5	12.5	10.2	13.9	29.3	31.7	19.1	24.1
Social assistance [BS624]	9.7	8.3	8.7	11.5	19.9	21.6	9.1	10.5
Total	100.0	100.0	100.0	100.0				
Sector as a % of GDP	2.9	2.5	2.9	2.9				

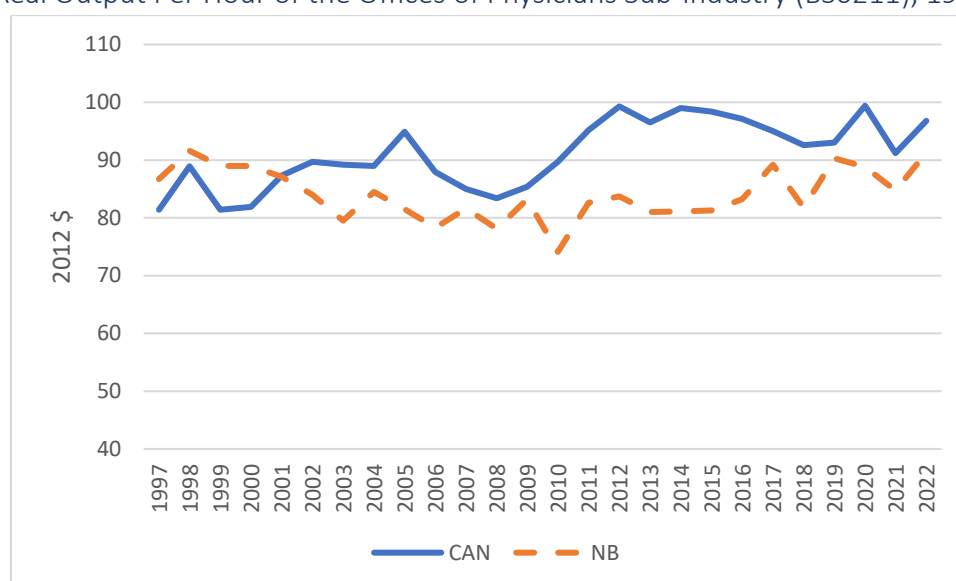
Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-0033)

Table 37: Real Output Per Hour of Health Care and Social Assistance [BS62] in New Brunswick and Canada, 1997-2022 and selected sub-periods (average annual growth rates expressed in percent)

	1997-2022		2000-2008		2008-2019		2019-2022	
	CAN	NB	CAN	NB	CAN	NB	CAN	NB
Health care and social assistance [BS62]	-0.18	-0.50	0.08	0.03	-0.44	0.05	0.83	-2.84
Offices of physicians [BS6211]	0.70	0.21	0.23	-1.62	1.00	1.33	1.34	0.37
Offices of dentists [BS6212]	-0.94	0.21	-0.45	1.63	-0.86	0.58	0.12	2.28
Miscellaneous ambulatory health care services [BS621A]	-1.18	-0.61	-0.39	-2.83	-2.03	2.03	-1.67	-3.02
Nursing and residential care facilities [BS623]	0.32	0.93	0.25	2.70	0.27	3.06	0.86	-7.55
Social assistance [BS624]	0.33	0.57	2.02	3.15	0.45	-1.25	1.59	-2.99

Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-0033)

Chart 37: Real Output Per Hour of the Offices of Physicians Sub-Industry (BS6211), 1997-2022



Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-0033)

Offices of physicians have been the biggest sub-industry in this sector in both Canada and New Brunswick every year. Nevertheless, in 1997 when New Brunswick had a higher labour productivity level in offices of physicians than Canada, the province still had much lower labour productivity level in the health care and social assistance sector, in comparison to Canada. This is due to the extremely low labour productivity levels in the two other sub-industries.

First, nursing and residential care facilities currently make up 14.4 percent of New Brunswick's real value added in the sector. In 1997 New Brunswick's labour productivity 65.2 percent of the national level. The difference between the labour productivity is not quite as large in 2022, as New Brunswick's level of real output per hour in the nursing and residential care facilities sub-industry is 76.0 percent of the national level.

Second, social assistance in 2022 made up 11.6 percent of the total value added in the sector in New Brunswick. The labour productivity is very low in comparison to the national value. In 1997 New Brunswick's level was 45.7 percent of Canada's. In 2022 the situation had not improved much. New Brunswick's level of labour productivity in social assistance was 48.6 percent of the national level.

#### K. Art, Entertainment, and Recreation

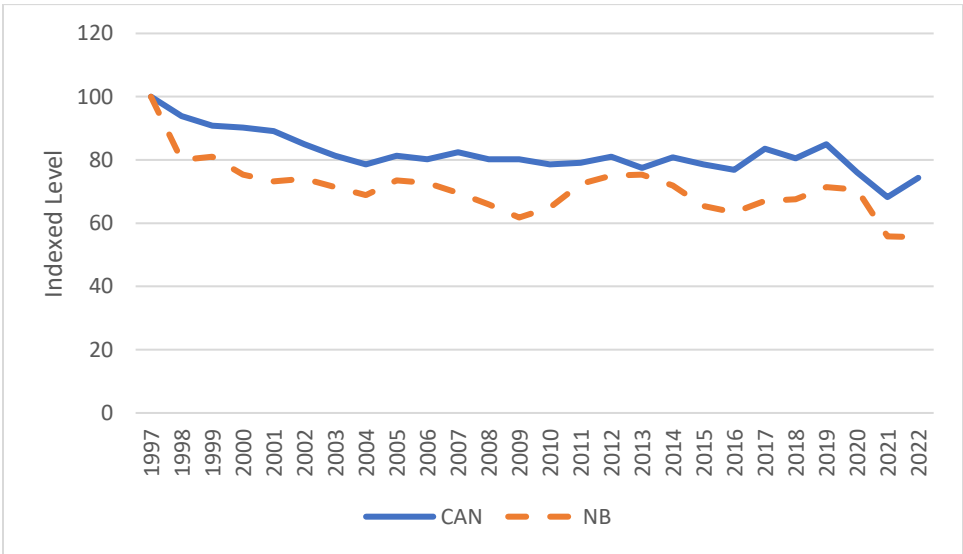
In 2022 the real value added from the art, entertainment, and recreation sector was \$114 million (2012 dollars). This is only 0.3 percent of all industries' real value added. In the same year, the real output per hour in New Brunswick was \$21.4 (2012 dollars), which was 80.1 percent of the national value of \$26.7 (2012 dollars).

Real output per hour decreased between 1997 and 2022 in both New Brunswick and Canada (Chart 38). Decreases in New Brunswick were larger at 2.32 percent per year, whereas Canada only decreased by 1.18 percent per year. In the most recent sub-period, New Brunswick

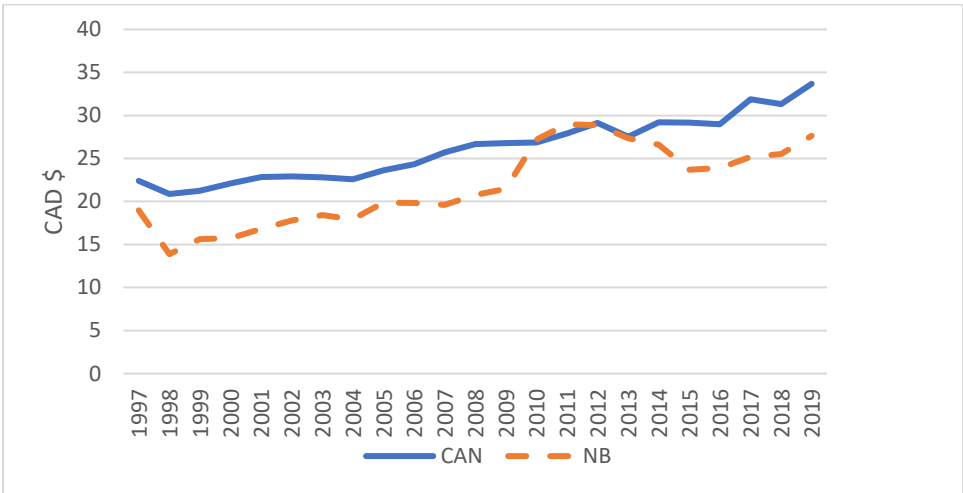
experienced great decreases of 8.02 percent per year. Between 2019 and 2022 Canada also had strong negative growth of 4.34 percent per year.

Chart 38: Output Per Hour for the Art, Entertainment, and Recreation Industry (BS71) in Canada and New Brunswick

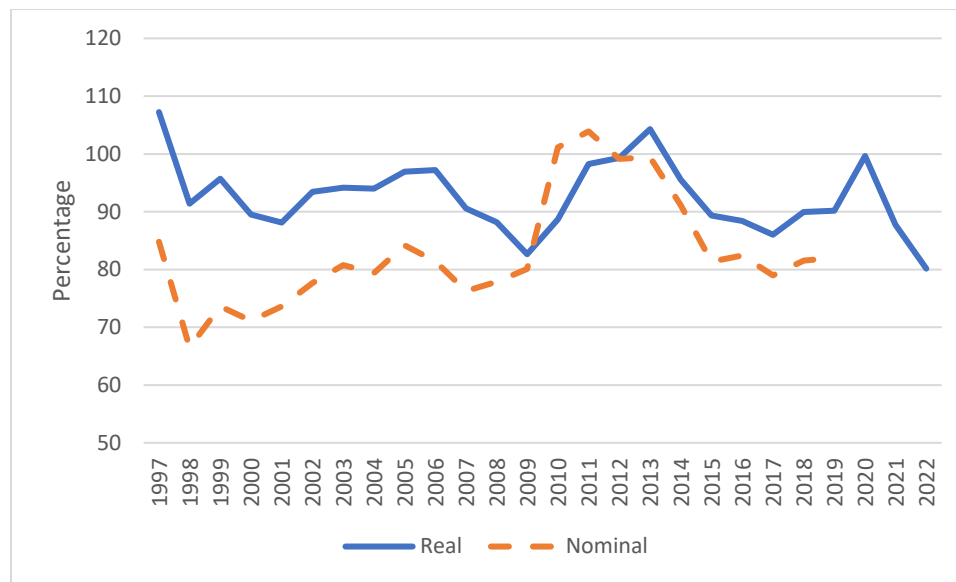
Panel A: Real Output Per Hour, 1997=100, 1997-2022



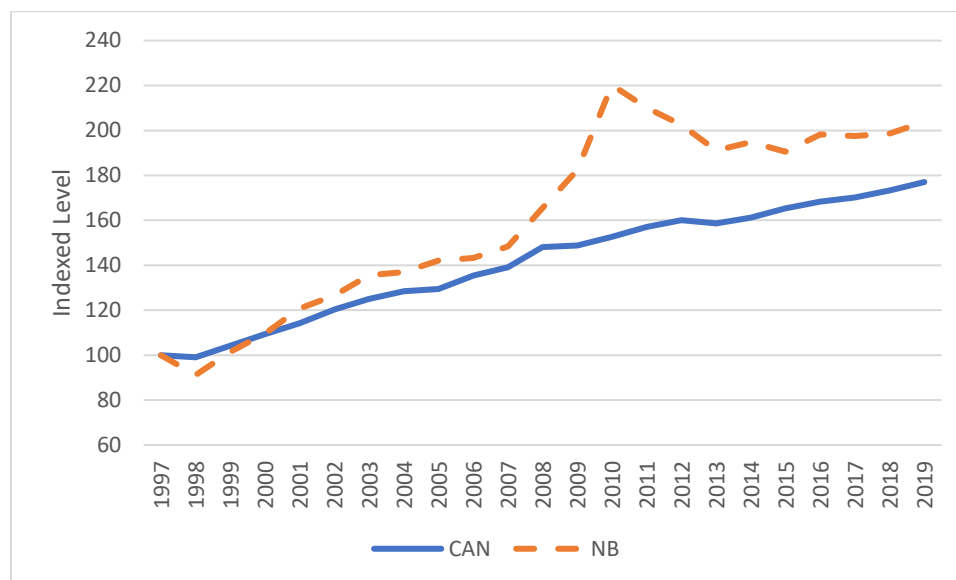
Panel B: Nominal Output Per Hour, 1997-2019



Panel C: Output Per Hour as a Percentage of the National Value, 1997-2022



Panel D: Price Deflator, 1997=100, 1997-2019



Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-0033)

New Brunswick has a very different output structure of the arts, entertainment, and recreation industry than Canada (Table 38). 46.2 percent of the sectors' real value added is from gambling in New Brunswick, but only 23.4 percent of Canada's sector is comprised of gambling industries. The main reason for the decline of New Brunswick's labour productivity levels throughout the period is due to the sub-industry of gambling (Table 39). The real output per hour of this sub-industry has decreased at a rate of 6.96 percent per year in New Brunswick (Chart 39).

In 1990 New Brunswick became the first province to allow video lottery terminals and electric gambling machines. This created high profits for the provincial government and private businesses. In 1997 New Brunswick was one of only three provinces where video lottery terminals were legal and there was no cap on the number of video lottery terminals. In 1999 sentiments towards these machines were negative with 62 percent of people in Atlantic Canada surveyed saying that the machines should be banned (Canada West Foundation, 2000). Due to these sentiments the province reviewed the video lottery terminal program. In 1999 a cap on the number of video lottery terminals per site was announced. It was also announced that private companies would no longer operate the video lottery terminals. Instead, the Atlantic Lottery Corporation would take over operations. In 2001 there was even a referendum held where 46.9 percent of voters in New Brunswick voted for these machines to be banned (HLT Advisory, 2006). Due to these negative sentiments and restrictions surrounding these machines the real output per hour decreased quickly during this sub-period.

Table 38: Sub-Industries of Arts, Entertainment, and Recreation [BS71] Real Value Added as a Share of Arts, Entertainment, and Recreation [BS71] Real Value Added and Level of Real Output per Hour in New Brunswick and Canada, 1997 and 2022 (expressed in percent)

	Percent of Real Value Added				Level of Real Output per Hour			
	CAN		NB		CAN		NB	
	1997	2022	1997	2022	1997	2022	1997	2022
Performing arts, spectator sports and related industries, and heritage institutions [BS71A]	52.2	34.9	31.6	13.8	41.0	24.6	37.5	11.5
Gambling industries [BS7132]	17.8	23.4	51.7	46.2	45.7	39.4	222.7	36.7
Amusement and recreation industries [BS713A]	30.0	41.7	16.7	40.0	27.4	24.1	15.7	18.4
Total	100.0	100.0	100.0	100.0				
Sector as a % of GDP	0.9	0.5	0.7	0.3				

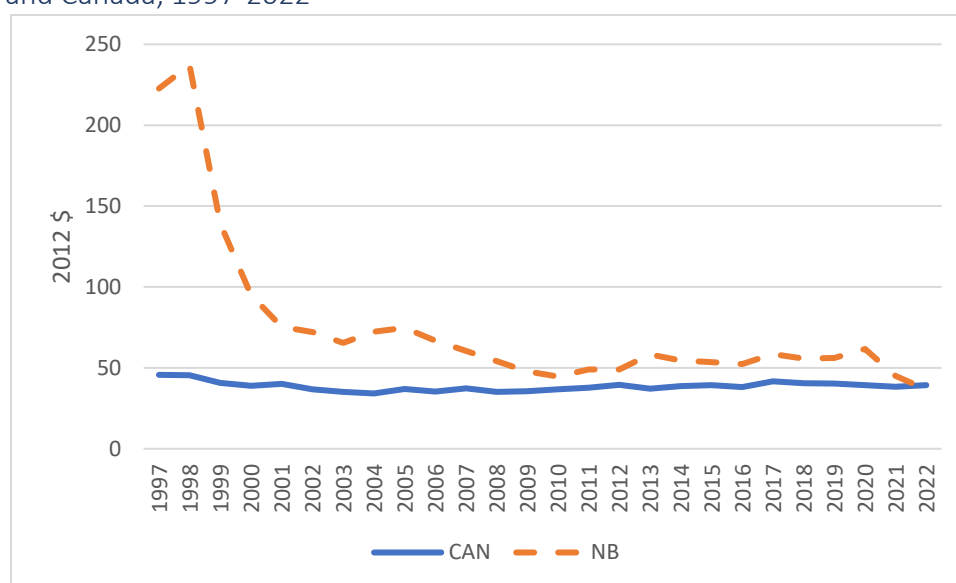
Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-0033)

Table 39: Real Output Per Hour of Arts, Entertainment, and Recreation [BS71] in New Brunswick and Canada, 1997-2022 in selected sub-periods (average annual growth rates expressed in percent)

	1997-2022		2000-2008		2008-2019		2019-2022	
	CAN	NB	CAN	NB	CAN	NB	CAN	NB
Arts, entertainment, and recreation [BS71]	-1.18	-2.32	-1.46	-1.64	0.52	0.72	-4.34	-8.02
Performing arts, spectator sports and related industries, and heritage institutions [BS71A]	-2.02	-4.62	-3.37	-4.20	1.43	-1.49	-6.81	-7.44
Gambling industries [BS7132]	-0.59	-6.96	-1.24	-6.81	1.26	0.35	-0.83	-13.24
Amusement and recreation industries [BS713A]	-0.51	0.64	0.62	1.74	-0.78	0.90	-3.48	-6.21

Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-0033)

Chart 39: Real Output Per Hour of the Gambling Industries (BS7132) Sub-Industry in New Brunswick and Canada, 1997-2022



Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-0033)

#### L. Accommodation and Food Service

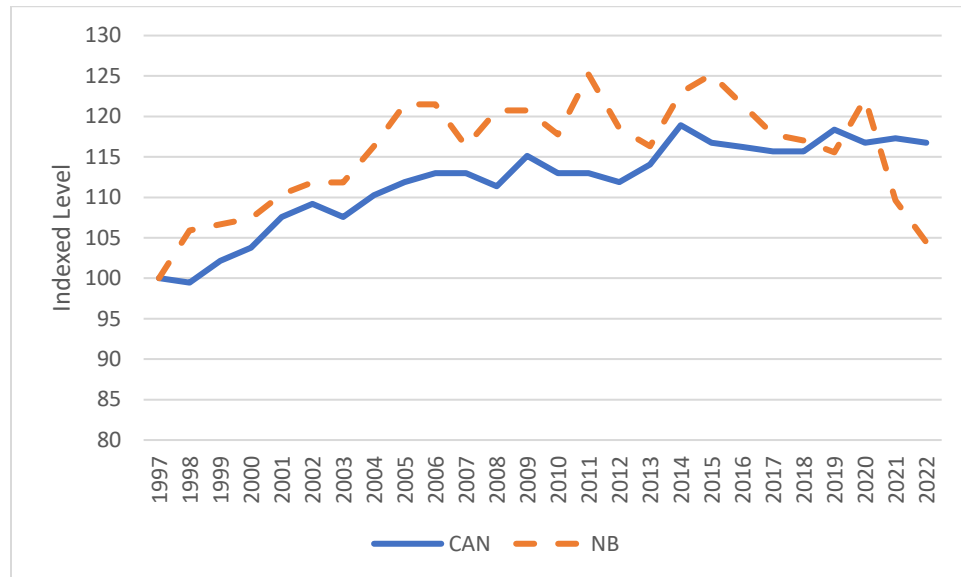
In 2022 the accommodation and food service were 2.3 percent of all industries' real value added. This is a value of \$570 million (2012 dollars). The real output per hour was \$14.1 (2012 dollars) in New Brunswick, which is 65.3 percent of the national value of \$21.6 (2012 dollars).

Between 1997 and 2022 real output per hour in this sector has increased at a rate of 0.17 percent per year in New Brunswick. This is slower than the national growth rate of 0.62 percent per year. New Brunswick had strong decreases in labour productivity between 2019 and 2022 at

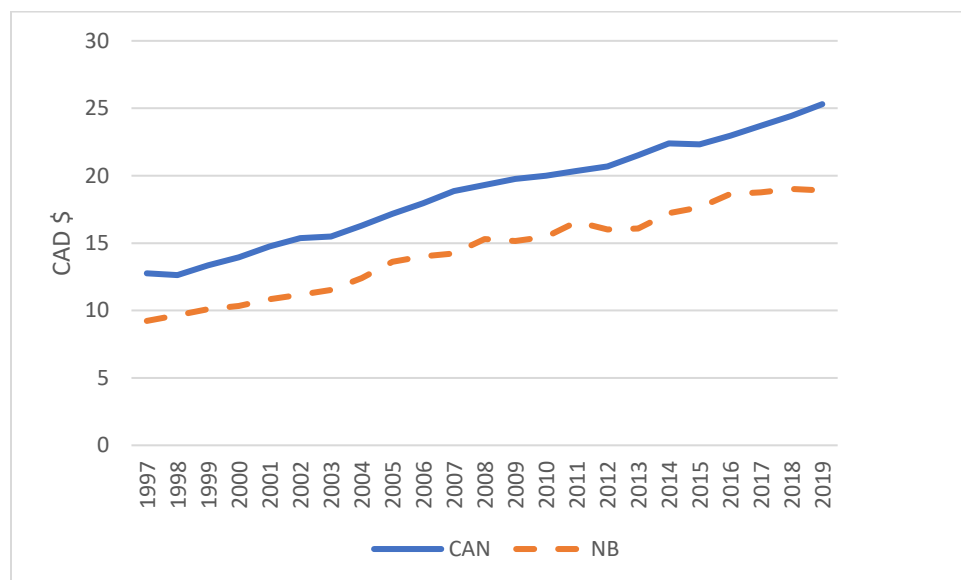
a rate of 3.31 percent per year (Chart 40). Between 2019 and 2022 Canada has experienced slight declines of real output per hour at a rate of 0.46 percent annually. The large decrease in labour productivity in New Brunswick happened between 2020 and 2022 when labour productivity decreased by 7.56 percent per year. In Canada labour productivity in this industry did not change during this period.

Chart 40: Output Per Hour for the Accommodation and Food Services Industry (BS72) in Canada and New Brunswick

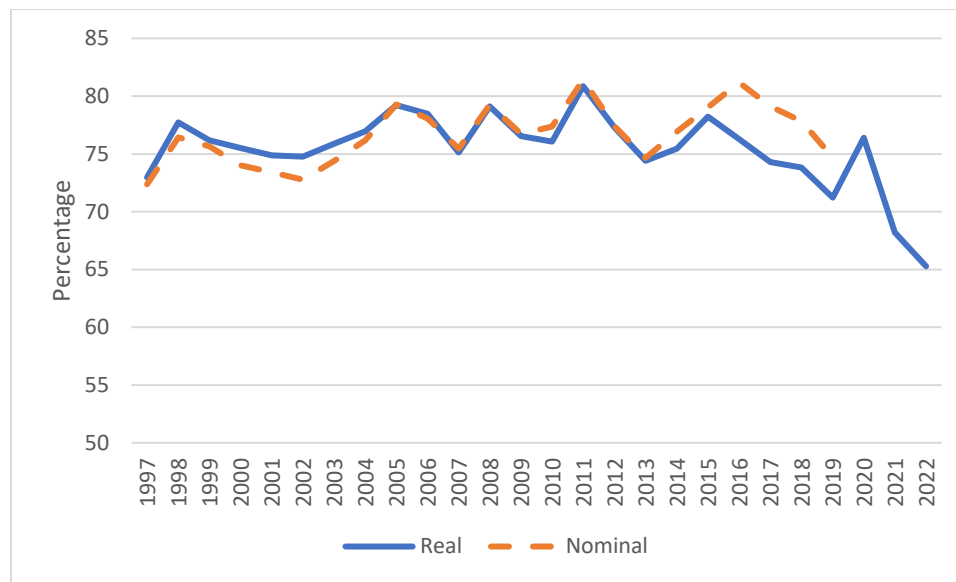
Panel A: Real Output Per Hour, 1997=100, 1997-2022



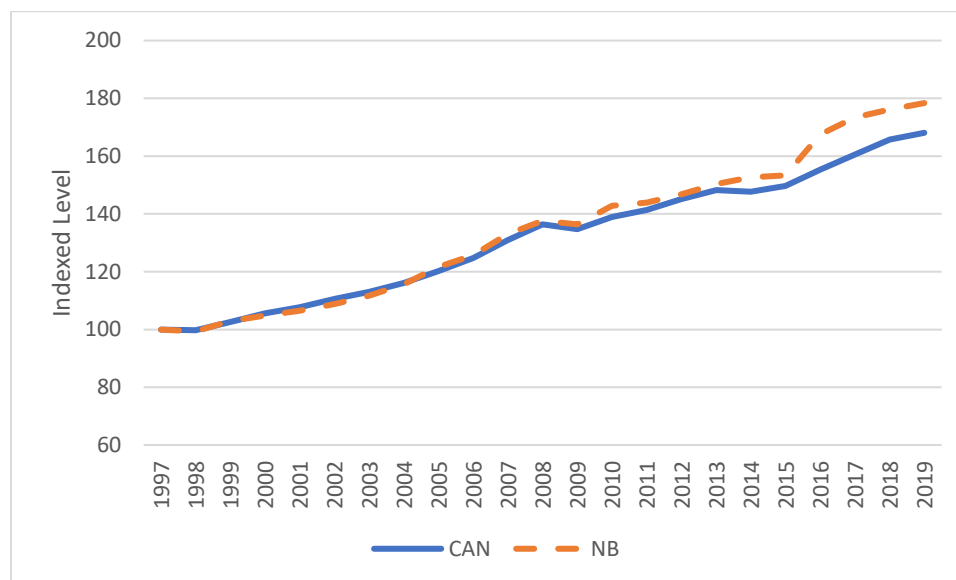
Panel B: Nominal Output Per Hour, 1997-2019



Panel C: Output Per Hour as a Percentage of the National Value, 1997-2022



Panel D: Price Deflator, 1997=100, 1997-2019



Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-0033)

The output structure of the accommodation and food services industry is similar in both New Brunswick and Canada (Table 40). Food services and drinking places is the most important sub-industry in New Brunswick and Canada. Between 2019 and 2022 the labour productivity of food services and drinking places in New Brunswick decreased at a rate of 4.32 percent per year, whereas in Canada decreases in labour productivity was only 0.92 percent per year (Chart 41, Table 41). This is largely due to a large increase in total hours worked between 2019 and 2022.



Table 40: Sub-Industries of Accommodation and Food Services [BS72] Real Value Added as a Share of Accommodation and Food Services [BS72] Real Value Added and Level of Real Output per Hour in New Brunswick and Canada, 1997 and 2022 (expressed in percent)

	Percent of Real Value Added				Level of Real Output per Hour			
	CAN		NB		CAN		NB	
	1997	2022	1997	2022	1997	2022	1997	2022
Traveller accommodation [BS7211]	28.8	25.2	24.0	26.4	25.7	40.6	16.9	23.7
RV (recreational vehicle) parks, recreational camps, and rooming and boarding houses [BS721A]	3.9	5.4	4.8	3.6	35.0	55.7	35.2	33.2
Food services and drinking places [BS722]	67.4	69.4	71.2	70.0	16.1	12.2	17.7	12.0
Total	100.0	100.0	100.0	100.0				
Sector as a % of GDP	2.2	1.8	2.3	1.7				

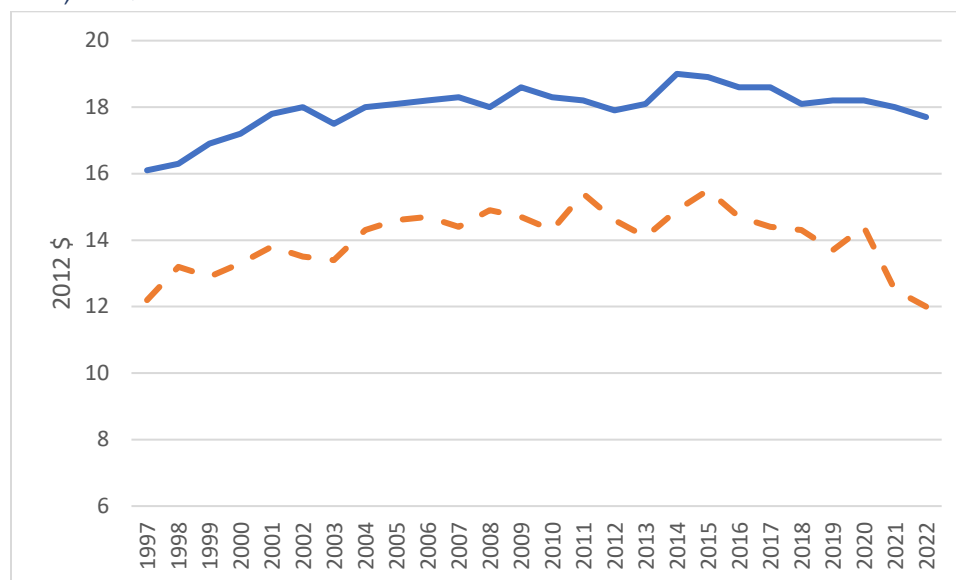
Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-0033)

Table 41: Real Output Per Hour of Accommodation and Food Services [BS72] in New Brunswick and Canada, 1997-2022 and selected sub-periods (average annual growth rates expressed in percent)

	1997-2022		2000-2008		2008-2019		2019-2022	
	CAN	NB	CAN	NB	CAN	NB	CAN	NB
Accommodation and food services [BS72]	0.62	0.17	0.88	1.47	0.56	-0.40	-0.46	-3.31
Traveller accommodation [BS7211]	1.85	1.36	1.54	2.35	3.10	1.05	0.50	0.86
RV (recreational vehicle) parks, recreational camps, and rooming and boarding houses [BS721A]	1.88	-0.23	2.34	-3.99	0.94	2.63	5.67	1.45
Food services and drinking places [BS722]	0.38	-0.07	0.57	1.43	0.10	-0.76	-0.92	-4.32

Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-0033)

Chart 41: Real Output Per Hour of the Food Services and Drinking Places (BS722) in Canada and New Brunswick, 1997-2022



Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-0033)

### M. Other Private Services

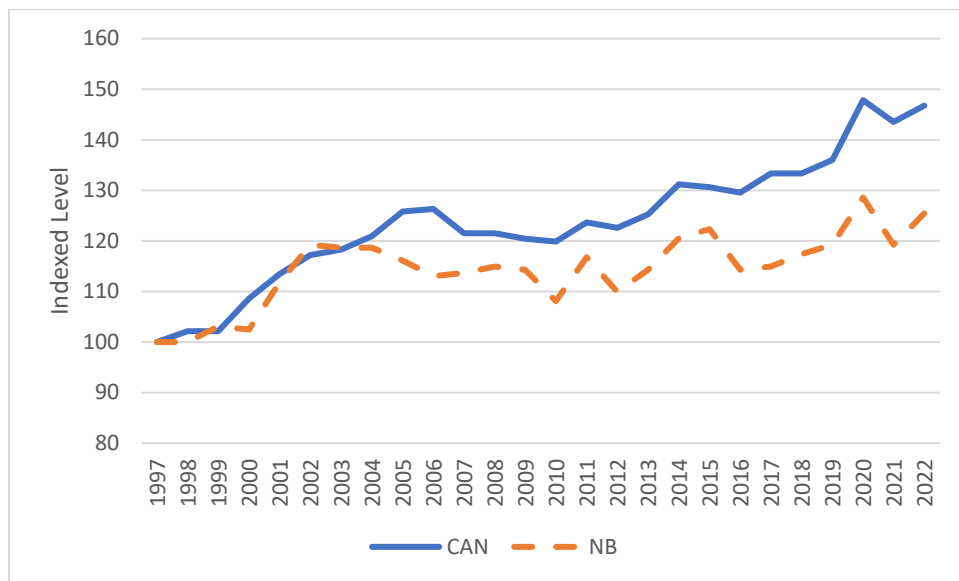
Other private services make up 1.2 percent of the total real value added in the province of New Brunswick in 2022. This is a value of \$415 million (2012 dollars). In this same year, the labour productivity in this sector in New Brunswick was \$20.2 (2012 dollars). This is 74.0 percent of Canada's value of \$27.3 (2012 dollars).

Between 1997 and 2022 real output per hour in the other private services sector has increased at a rate of 0.91 percent per year in New Brunswick (Chart 42). This is slower than the national growth rate of labour productivity in Canada of 1.55 percent annually. In the most recent sub-period, between 2019 and 2022, both New Brunswick and Canada have experienced fast growth. In New Brunswick, this growth was 1.71 percent per year. In Canada, it was even faster at 2.57 percent annually.

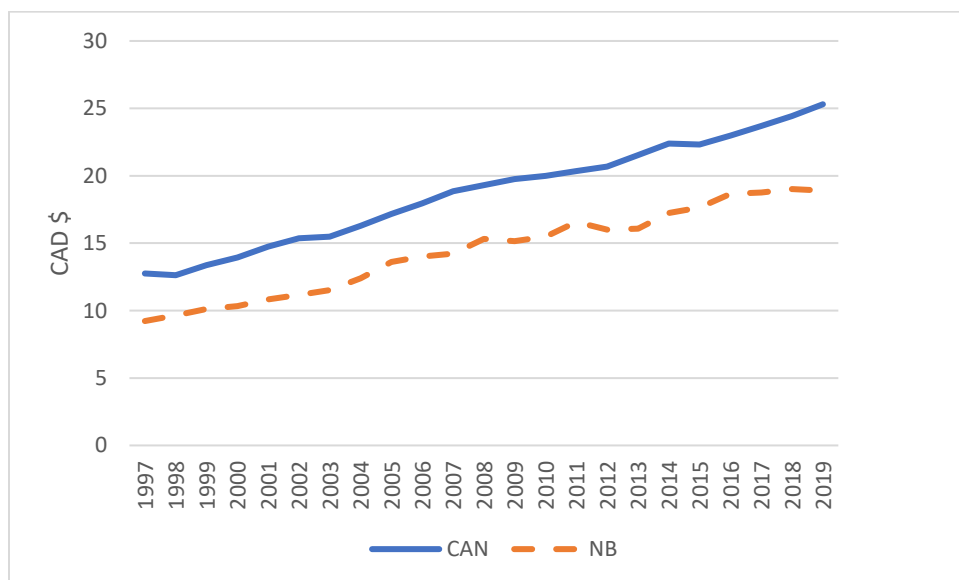
Since 2003, New Brunswick has been falling behind the national growth rate of labour productivity in the industry of other private services. Between 2003 and 2022 New Brunswick experienced a growth rate of labour productivity of 0.30 percent per year, while Canada grew at a rate of 1.14 percent per year. In 2003 New Brunswick's level of real output per hour in the industry was 86.8 percent of the national level and in 2022 it was only 74.0 percent of the Canadian labour productivity level in the other private services industry.

Chart 42: Output Per Hour for the Other Private Services Industry (BS81) in Canada and New Brunswick

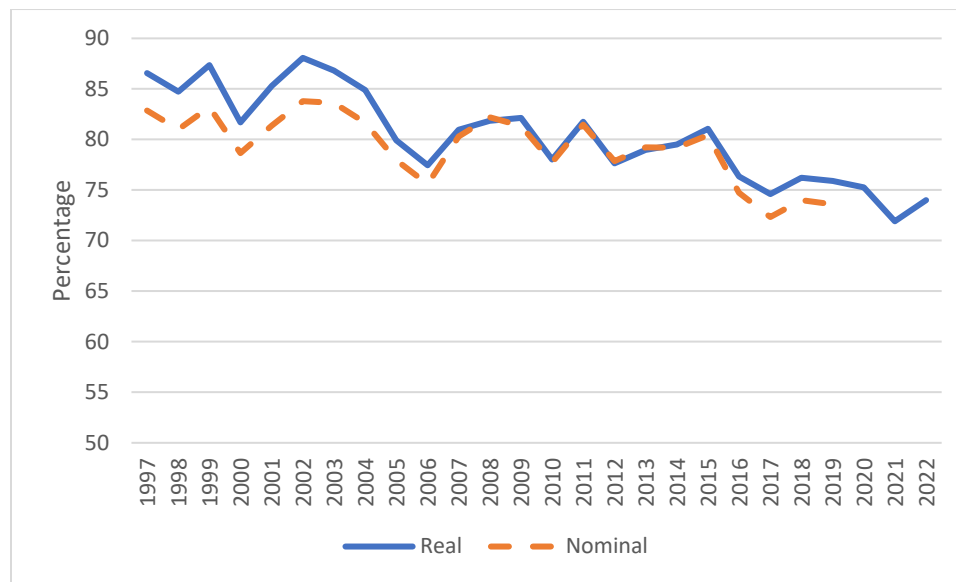
Panel A: Real Output Per Hour, 1997=100, 1997-2022



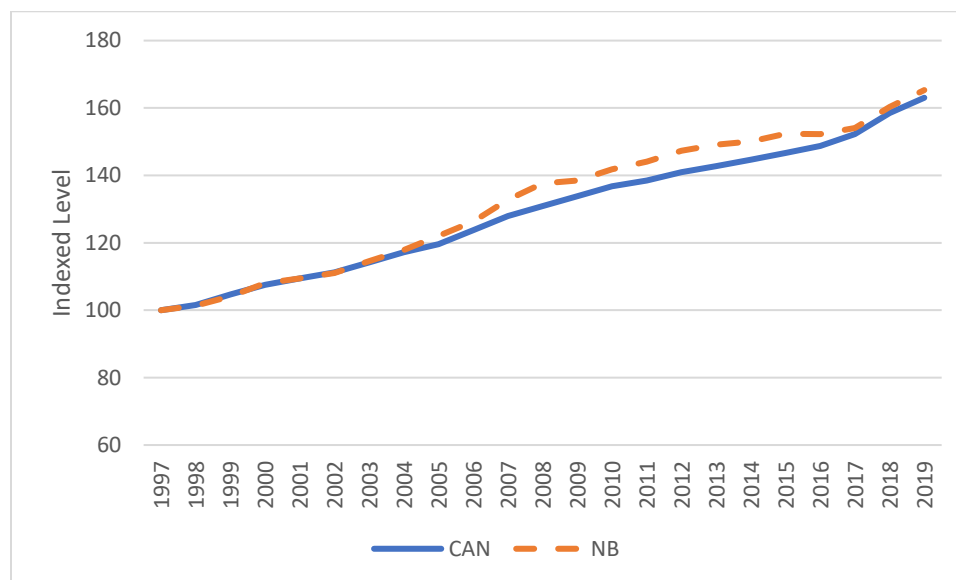
Panel B: Nominal Output Per Hour, 1997-2019



Panel C: Output per Hour as a Percentage of the National Value, 1997-2022



Panel D: Price Deflator, 1997=100, 1997-2019



Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-0033)

In both New Brunswick and Canada, the most important sub-industry in the sector of other private services is repair and maintenance (Table 42). In New Brunswick, it makes up 62.6 percent of real value added in the sector. In Canada it makes up 58.5 percent of real value added. New Brunswick's slow growth in comparison to Canada is largely due to slow growth in this sub-industry (Table 43). Between 1997 and 2022 labour productivity growth of repair and maintenance in New Brunswick has been 0.99 percent per year. In Canada growth was faster at 2.11 percent per year (Chart 43).

As mentioned, between 2003 and 2022 New Brunswick has fallen behind Canada substantially in labour productivity of this sector. Repair and maintenance have also influenced this trend. During this sub-period labour productivity of this sub-industry has grown at a rate of 0.29 percent in New Brunswick. In Canada growth was much faster at 1.76 percent annually.

Table 42: Sub-Industries of Other Private Services [BS81] Real Value Added as a Share of Other Private Services [BS81] Real Value Added and Level of Real Output per Hour in New Brunswick and Canada, 1997 and 2022 (expressed in percent)

	Percent of Real Value Added				Level of Real Output per Hour			
	CAN		NB		CAN		NB	
	1997	2022	1997	2022	1997	2022	1997	2022
Repair and maintenance [BS811]	40.7	58.5	45.6	62.6	19.3	32.5	18.9	24.2
Personal services and private households [BS81A]	49.5	41.5	54.4	37.4	17.4	21.6	14.3	15.6
Professional and similar organizations [BS813B]	9.8	14.9	6.1	11.5	25.1	31.2	19.4	23.2
Total	100.0	100.0	100.0	100.0				
Sector as a % of GDP	1.4	1.3	1.4	1.2				

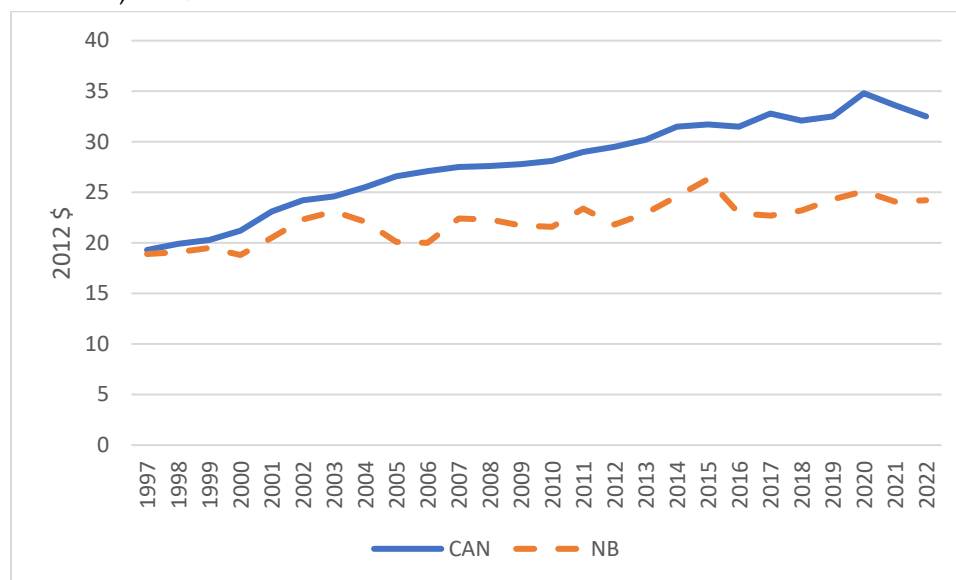
Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-0033)

Table 43: Real Output Per Hour of Other Private Services [BS81] in New Brunswick and Canada, 1997-2022 and selected sub-periods (average annual growth rates expressed in percent)

	1997-2022		2000-2008		2008-2019		2019-2022	
	CAN	NB	CAN	NB	CAN	NB	CAN	NB
Other private services [BS81]	1.55	0.91	1.41	1.44	1.03	0.34	2.57	1.71
Repair and maintenance [BS811]	2.11	0.99	3.35	2.16	1.50	0.78	0.00	-0.14
Personal services and private households [BS81A]	0.87	0.35	0.34	0.85	-0.15	-0.80	5.49	3.67
Professional and similar organizations [BS813B]	0.87	0.72	-1.64	-2.71	2.74	2.25	-3.01	-1.67

Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-0033)

Chart 43: Real Output Per Hour of the Repair and Maintenance (BS811) Sub-Industry in Canada and New Brunswick, 1997-2022



Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-0033)

## VI. Output per Hour in Non-Business Industries

Non-business industries include both non-profit institutions serving households and the government sector. Non-business industries make up 34.9 percent of the total real value added in the total economy in New Brunswick, compared to 26.6 percent in Canada.

### A. Non-Profit Institutions Serving Households

In 2022 the real value added of the non-profit institutions serving households comprised 10.3 percent of all industry real value added in New Brunswick. The real value added was \$3,478 million (2012 dollars). Labour productivity in the same year was \$184.3 per hour (2012 dollars) in New Brunswick. New Brunswick's labour productivity value was 92.5 percent of the Canadian value of \$199.3 per hour (2012 dollars).

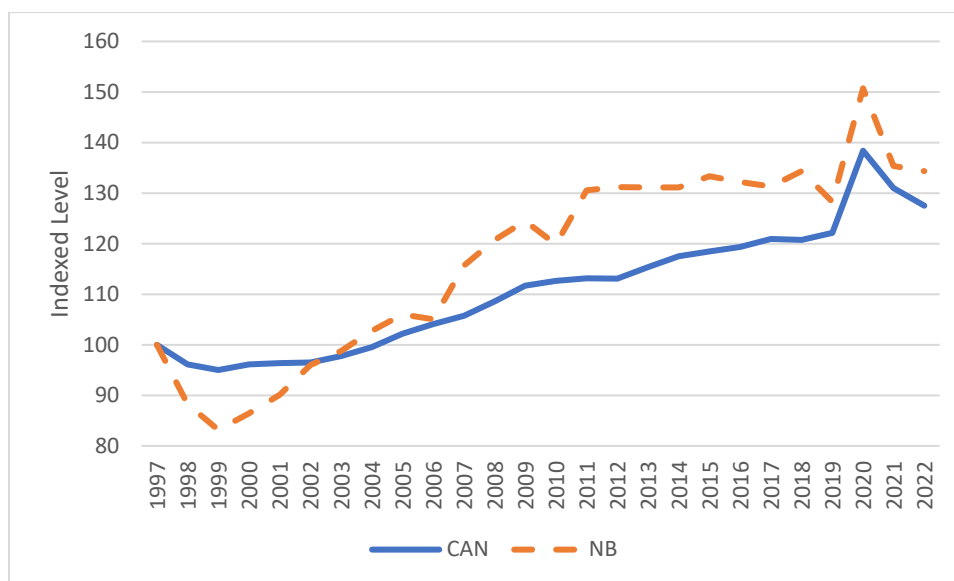
Between 1997 and 2022 growth of real output per hour of non-profit institutions serving households in New Brunswick was 1.19 percent annually. Growth nationally was 0.98 percent per year. In the most recent sub-period, between 2019 and 2022, New Brunswick has experienced growth of 1.55 percent per year. Canada's growth was similar at 1.45 percent annually.

Between 1999 and 2012 New Brunswick experience growth of labour productivity of non-profit institutions at a much faster rate than in Canada. During this period real output per hour increased at a rate of 3.57 percent per year in New Brunswick and only 1.25 percent per year in Canada. Then, between 2012 and 2022 growth of labour productivity in the sector has slowed in New Brunswick to 0.24 percent per year. In Canada the growth rate of real output per hour in the industry was similar to the previous period and grew at a rate of 1.21 percent per year. This led to differing trends of growth throughout the period, but an overall growth rate

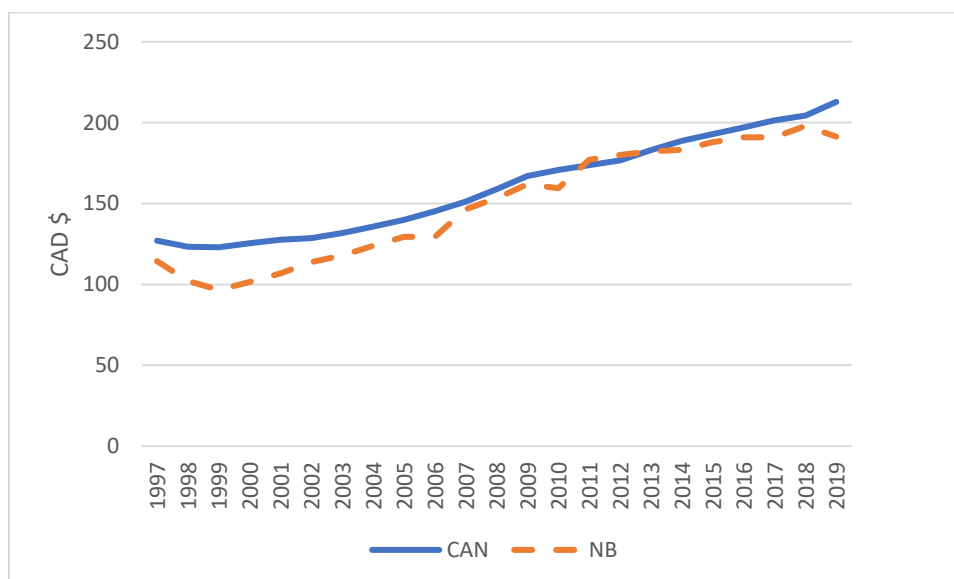
between 1997 and 2022 of labour productivity in the non-profit institutions industry that is similar in New Brunswick and Canada.

Chart 44: Output Per Hour for the Non-Profit Institutions Serving Households Industry (NP) in Canada and New Brunswick

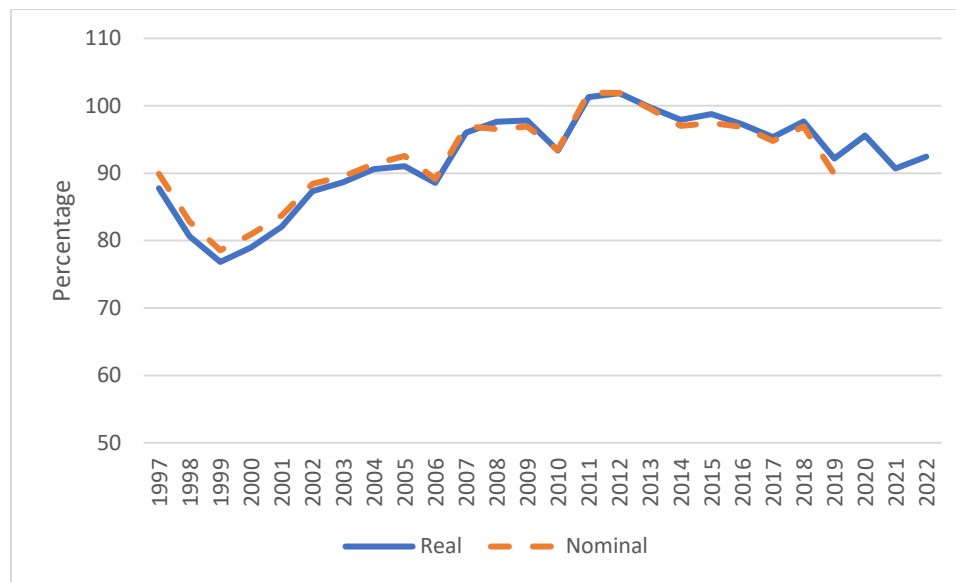
Panel A: Real Output Per Hour, 1997=100, 1997-2022



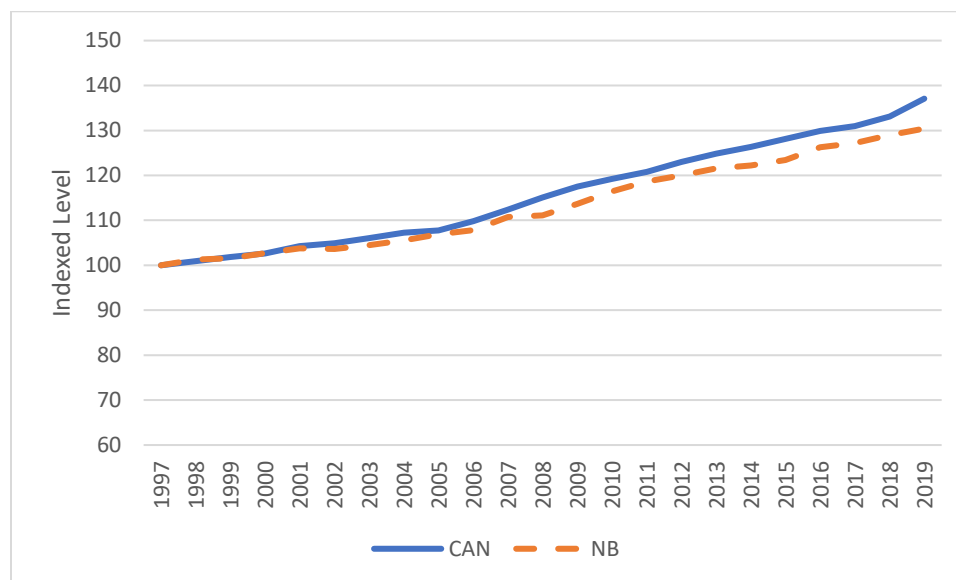
Panel B: Nominal Output Per Hour, 1997-2019



Panel C: Output per Hour as a Percentage of National Value, 1997-2022



Panel D: Price Deflator, 1997=100, 1997-2019



Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-0033)

Labour productivity in the non-profit sector greatly increased in 2020 in both New Brunswick and Canada due to the pandemic. In New Brunswick, real output only fell by 0.02 percent, but total hours worked fell by 14.90 percent. In New Brunswick, this caused an increase of labour productivity from \$176.0 per hour (2012 dollars) to \$206.8 per hour (2012 dollars). Since 2020, the value of labour productivity of this sector in both New Brunswick and Canada has fallen (Chart 44).



## B. Government Sector

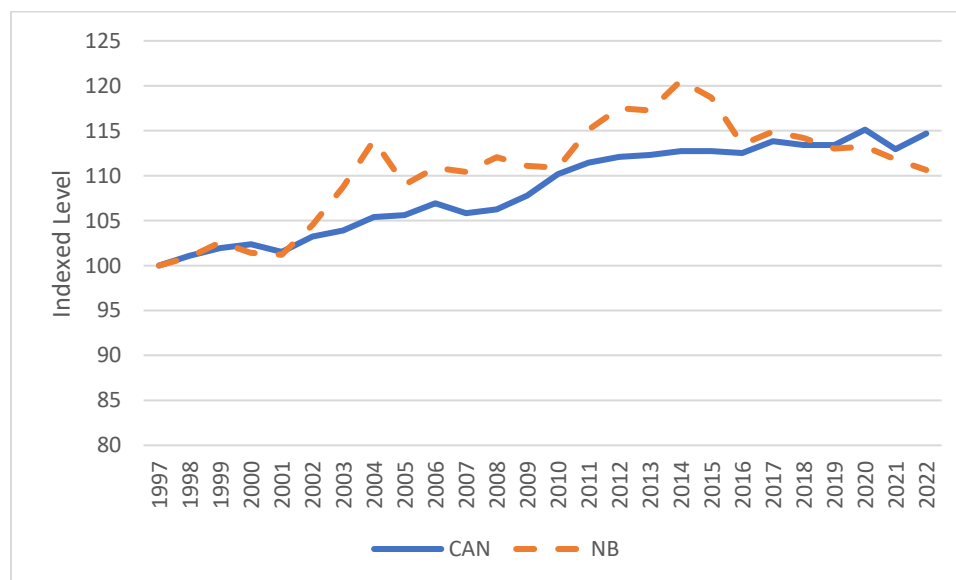
The real value added of the government sector was \$7,856 million (2012 dollars) in 2022. This is 23.2 percent of all industry value added in New Brunswick. Real output per hour in New Brunswick was \$46.8 (2012 dollars) in 2022, which is 88.1 percent of the national value of \$53.1 (2012 dollars).

Real output per hour in this sector has grown slowly for both New Brunswick and Canada throughout the period. Between 1997 and 2022 New Brunswick has grown at a rate of 0.41 percent per year. Canada grew slightly faster at a rate of 0.55 percent per year (Chart 45). In recent years labour productivity has been decreasing in New Brunswick. In the most recent sub-period, between 2019 and 2022, the real value per hour in New Brunswick has been decreasing at a rate of 0.70 percent annually. Canada has continued slow growth at 0.38 percent per year.

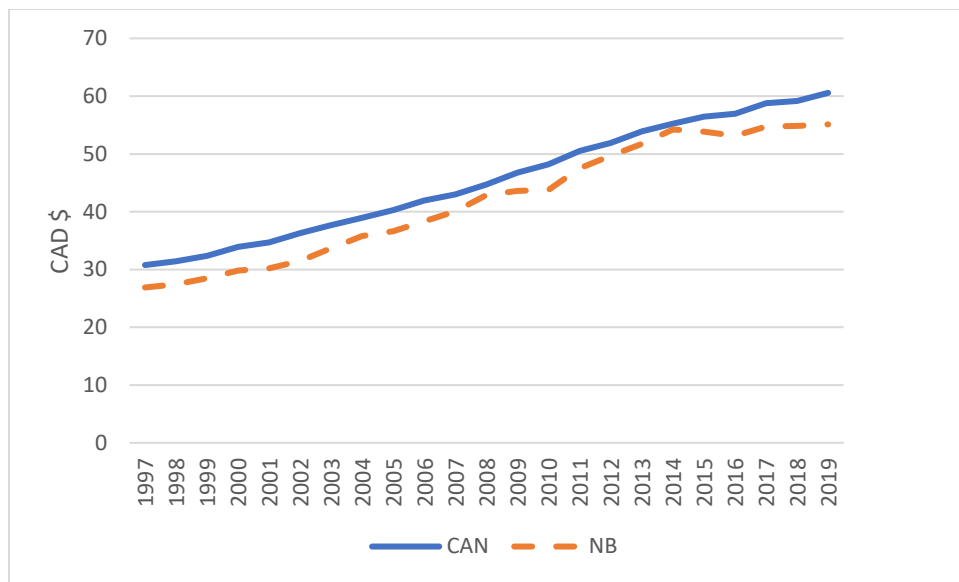
Between 2001 and 2014 New Brunswick achieved a higher growth rate of labour productivity in the government sector industry than Canada. New Brunswick's labour productivity in the sector increased at a rate of 1.26 percent per year, whereas in Canada growth was 0.75 percent per year. Since 2014 New Brunswick has experienced decreases of real output per hour for the government sector, but Canada has continued to grow slowly (1.07 percent per year decrease in New Brunswick, 0.21 percent decrease per year in Canada). In 2014, real output per hour in the government sector in New Brunswick was 97.7 percent of the Canadian level. By 2022 New Brunswick's level had fallen to 88.1 percent of the Canadian level of labour productivity in the government sector.

Chart 45: Output Per Hour for the Government Sector Industry (GS00) in Canada and New Brunswick

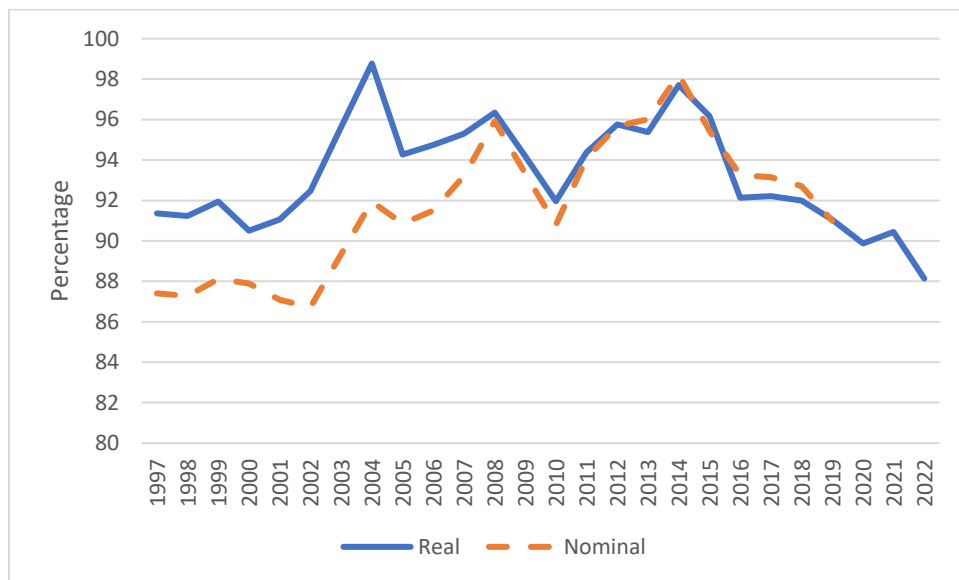
Panel A: Real Output Per Hour, 1997=100, 1997-2022



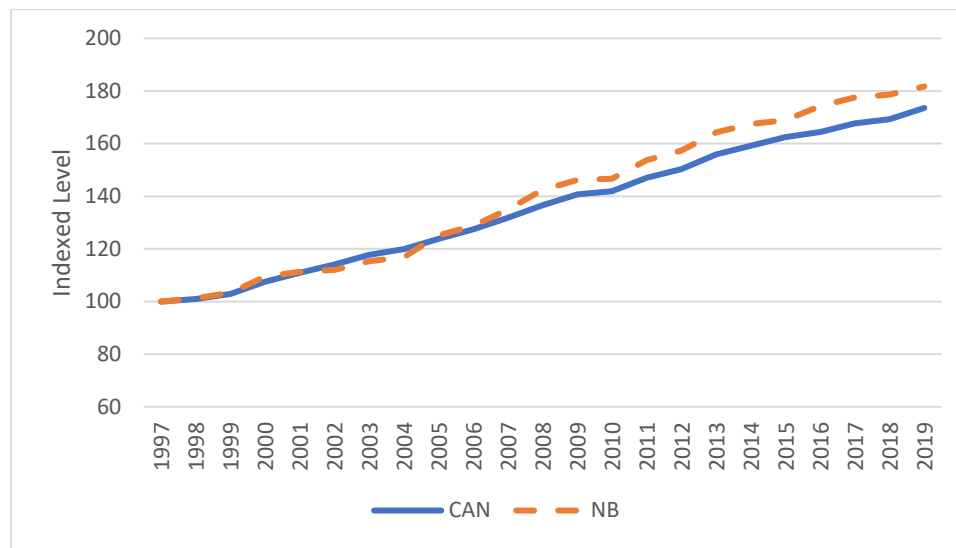
Panel B: Nominal Output Per Hour, 1997-2019



Panel C: Output as a Percentage of the National Value, 1997-2022



Panel D: Price Deflators, 1997=100, 1997-2019



Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-0033)

The output structure of the government sector differs between Canada and New Brunswick. The most important sub-industry in this sector in New Brunswick is provincial and territorial government services at 32.8 percent of total value added in this sector in 2022 (Table 44). Government educational services and hospitals are also important to study. Across Canada, government educational services are the most important at 29.7 percent of real value added in the sector.

Table 44: Composition of Real Value Added of the Government Sector [GS00] and Level of Real Output per Hour in New Brunswick and Canada, 1997 and 2022 (expressed in percent)

	Percent of Real Value Added				Level of Real Output per Hour			
	CAN		NB		CAN		NB	
	1997	2022	1997	2022	1997	2022	1997	2022
Government educational services [GS610]	30.5	29.7	24.3	9.5	44.9	53.3	40.2	58.2
Government health services [GS620]	17.6	19.9	22.6	25.2	34.4	33.2	33.9	35.2
Federal government services (excluding defence) [GS911A00]	12.9	13.5	13.2	16.9	69.2	79.9	57.9	65.5
Defence services [GS911100]	4.9	3.7	8.1	6.2	38.1	56.5	39.2	32.2
Provincial and territorial government services [GS912]	17.9	16.2	22.7	32.8	53.7	83.5	55.0	55.8
Municipal government services [GS913000]	14.9	15.6	8.05	8.1	55.6	61.2	42.4	53.3
Aboriginal government services [GS914000]	1.4	1.4	1.1	1.2	29.2	28.8	20.2	21.7
Total	100.0	100.0	100.0	100.0				
Sector as a % of GDP	16.7	17.1	21.9	24.6				

Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-0033)

The most important sub-industry in New Brunswick, provincial and territorial government services have experienced slow growth of labour productivity, at a rate of 0.06 percent per year between 1997 and 2022. Both educational services and health services have experienced faster growth between 1997 and 2022 in New Brunswick than Canada. Labour productivity in educational services grew at a rate of 1.49 percent per year in New Brunswick and 0.69 percent per year in Canada. In health services labour productivity decreased in Canada at a rate of 0.14 percent per year, where in New Brunswick growth was 0.15 percent per year (Table 45).

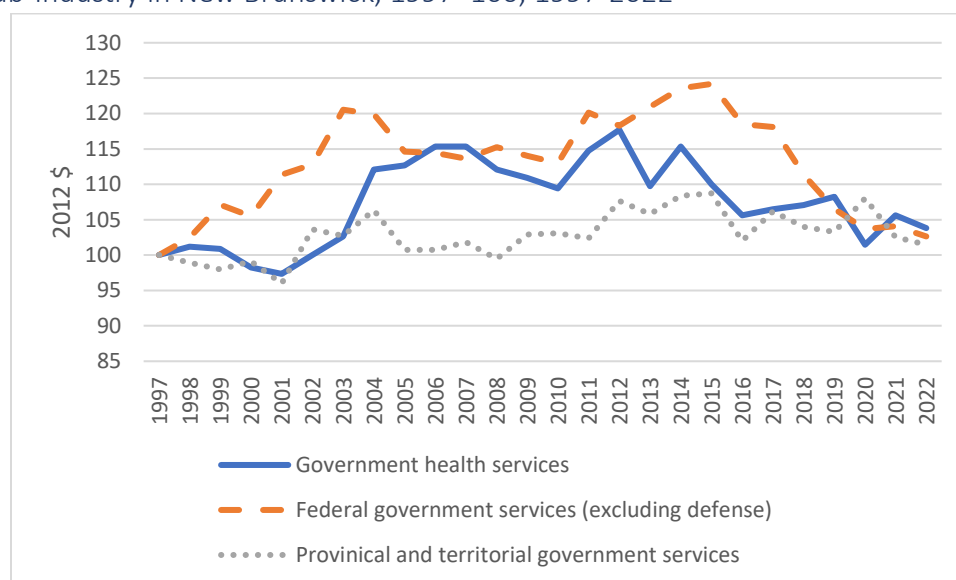
Table 45: Real Output Per Hour of the Government Sector [GS00] in New Brunswick and Canada, 1997-2022 in selected sub-periods (average annual growth rates expressed in percent)

	1997-2022		2000-2008		2008-2019		2019-2022	
	CAN	NB	CAN	NB	CAN	NB	CAN	NB
Government sector [GS00]	0.55	0.41	0.47	1.25	0.59	0.08	0.38	-1.15
Government educational services [GS610]	0.69	1.49	0.49	1.64	1.14	1.48	0.25	1.90
Government health services [GS620]	-0.14	0.15	0.25	1.66	-0.82	-0.32	0.30	-1.38
Federal government services [GS911]	1.03	0.10	1.19	1.11	0.34	-0.71	0.98	-1.22
Provincial and territorial government services [GS912]	1.78	0.06	1.03	0.05	3.01	0.34	0.36	-0.59
Local, municipal, and aboriginal government services [GS91B]	0.31	0.74	-0.58	2.04	0.73	-0.33	0.60	1.29

Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-0033)

As mentioned, since 2014 labour productivity in New Brunswick has been decreasing in the government sector. All three of the largest sub-industry of the government sector have experienced decreases of labour productivity between 2014 and 2022. Federal government services (excluding defence) have experienced the largest decrease of labour productivity of 2.29 percent per year. Government health services labour productivity decreased during the period at a rate of 1.30 percent per year. Lastly, provincial, and territorial government services labour productivity decreased at a rate of 0.82 percent per year between 2014 and 2022. In Canada all three of these sub-industries experienced slow labour productivity growth during the period.

Chart 46: Real Output Per Hour in the Government Health Services (GS620) Sub-Industry, Federal Government Services (GS911] Sub-Industry, and Provincial and Territorial Government Services (GS912) Sub-Industry in New Brunswick, 1997=100, 1997-2022



Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-0033)

## VII. Conclusion

This report has provided an extensive analysis of labour productivity in New Brunswick and Canada from 1997 to 2022. Real output per hour at the total economy level has been lower in New Brunswick than Canada every year during the period. In 2022 labour productivity in New Brunswick was 80.5 percent of the Canadian value. Growth of real output per hour between 1997 and 2022 has been close in New Brunswick and Canada. New Brunswick has experienced growth at a rate of 1.05 percent per year. Canada has grown slightly faster at a rate of 1.12 percent annually.

As explored in the report, increases in labour productivity can lead to improvements for both businesses and workers. This can lead to higher overall standards of living. It is for this reason that it is important to study the labour productivity gap between New Brunswick and Canada.

The purpose of sectoral analysis is used to identify sectors that have contributed to the low labour productivity in New Brunswick. First, the mining and oil and gas extraction sector has become increasingly unimportant in New Brunswick after the closure of both the Sussex Potash Mine and the Brunswick Mine during this period. In 1997 it was 7.1 percent of all industries' real value added. In 2022 it was only 0.8 percent. Labour productivity has fallen by a rate of 4.16 percent per year in New Brunswick in this sector. In Canada decreases were only 0.33 percent per year. This is still the sector with the highest labour productivity in Canada.

Second, manufacturing makes up the highest percentage of all industries' real value added. The growth of labour productivity in this sector has been slow in New Brunswick at a rate

of 0.75 percent per year. In Canada, growth is faster at 1.38 percent annually. Growth in New Brunswick was especially slow between 2004 and 2019.

Third, poor performance in non-business industries in comparison to Canada is due to the government sector. New Brunswick has had lower labour productivity than the national value every year between 1997 and 2022. New Brunswick has grown slower in the period as well.

Nevertheless, throughout the period important sectors have surpassed the national labour productivity. In the sector of agriculture, forestry, fishing, and hunting; and the sector of utilities New Brunswick has a higher level of labour productivity than Canada. In other sectors, New Brunswick has caught up with Canada through high levels of growth. This includes the transportation and warehousing sector, and information and cultural industries.

This paper explored the differences between New Brunswick and Canada's real output per hour by sector to try and understand the reasons behind New Brunswick's low labour productivity.

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## Appendix Tables

Table A1: Peak-to-Peak Real Output Per Hour for All the Industries in Canada and New Brunswick, 1997, 2000, 2008, 2015, 2019, 2022 (Average Annual Growth Rates)

	1997-2022		2000-2008		2008-2019	
	CAN	NB	CAN	NB	CAN	NB
All industries	1.12	1.05	0.97	1.34	1.03	0.61
Business sector industries	1.19	1.12	1.00	1.11	1.05	0.57
Goods-Producing Businesses	1.22	1.03	0.53	0.44	1.13	0.12
Agriculture, forestry, fishing and hunting [BS11]	3.86	<b>5.25</b>	1.85	3.57	3.73	3.50
Mining and oil and gas extraction [BS21]	-0.33	-4.16	-4.57	-2.56	1.52	-7.95
Utilities [BS22]	0.66	<b>1.89</b>	1.05	-1.40	0.93	6.08
Construction [BS23]	0.26	<b>0.66</b>	-0.03	0.25	0.43	0.11
Manufacturing [BS3A]	1.38	0.75	1.09	-0.92	0.87	-0.04
Service-Producing Businesses	1.38	1.27	1.61	1.70	1.13	0.87
Wholesale trade [BS41]	2.65	2.60	3.23	6.74	2.05	-0.94
Retail trade [BS4A]	2.34	1.91	2.89	1.81	1.28	1.15
Transportation and warehousing [BS4B]	0.62	<b>2.04</b>	1.37	2.54	0.46	1.79
Information and cultural industries [BS51]	1.48	<b>2.44</b>	2.74	2.93	1.00	1.33
Finance and insurance, and holding companies [BS5B]	2.28	1.33	1.66	-0.08	2.84	2.55
Real estate, rental and leasing [BS53]	1.24	<b>1.55</b>	0.24	0.82	0.71	0.90
Professional, scientific and technical services [BS54]	0.42	0.20	0.31	-1.01	0.83	0.00
Administrative and support, waste management and remediation services [BS56]	-0.22	<b>0.46</b>	0.69	-0.05	0.58	1.88
Educational services [BS61]	0.79	<b>0.80</b>	1.24	-0.05	-0.23	-0.56
Health care and social assistance [BS62]	-0.18	-0.50	0.08	0.03	-0.44	0.05
Arts, entertainment and recreation [BS71]	-1.18	-2.32	-1.46	-1.64	0.52	0.72
Accommodation and food services [BS72]	0.62	0.17	0.88	1.47	0.56	-0.40
Other private services [BS81] 12	1.55	0.91	1.41	1.44	1.03	0.34
Non-business sector industries	0.85	0.71	0.82	1.82	0.94	0.44
Non-profit institutions serving households [NP]	0.98	<b>1.19</b>	1.54	4.27	1.08	0.55
Government sector [GS00]	0.55	0.41	0.47	1.25	0.59	0.08
ICT Sectors	3.08	2.13	5.46	2.85	1.59	0.34

Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-0033)



Table A2: Non-Peak-to-Peak Real Output Per Hour for All the Industries in Canada and New Brunswick, 1997, 2000, 2008, 2019, 2022 (Average Annual Growth Rates)

	1997-2022		1997-2000		2008-2015		2015-2019		2019-2022		2020-2022	
	CAN	NB	CAN	NB	CAN	NB	CAN	NB	CAN	NB	CAN	NB
All industries	1.12	1.05	2.53	1.98	1.15	0.78	0.80	0.32	0.44	0.97	-3.05	-1.39
Business sector industries	1.19	1.12	3.16	2.97	1.14	0.39	0.89	0.89	0.23	1.30	-3.69	-1.32
Goods-Producing Businesses	1.22	1.03	4.53	2.28	1.39	-0.87	0.66	1.88	0.13	4.81	-3.03	4.66
Agriculture, forestry, fishing and hunting [BS11]	3.86	5.25	9.67	6.99	4.70	4.06	2.06	2.53	4.05	14.91	2.22	21.97
Mining and oil and gas extraction [BS21]	-0.33	-4.16	3.73	1.22	1.80	-11.79	1.03	-0.83	0.54	0.70	-2.73	-1.91
Utilities [BS22]	0.66	1.89	-0.91	0.84	0.66	6.60	1.39	5.19	0.24	-3.11	-2.50	2.05
Construction [BS23]	0.26	0.66	0.78	1.10	0.73	-1.57	-0.10	3.13	-0.13	3.35	-6.21	0.00
Manufacturing [BS3A]	1.38	0.75	5.82	4.95	1.17	-0.48	0.36	0.74	-0.31	4.07	-1.70	3.30
Service-Producing Businesses	1.37	1.27	2.57	3.15	1.11	1.15	1.15	0.39	0.41	-0.20	-3.71	-3.84
Wholesale trade [BS41]	2.65	2.60	5.46	5.80	2.73	-0.43	0.87	-1.82	0.51	1.78	-3.27	-3.06
Retail trade [BS4A]	2.34	1.91	4.57	6.37	0.85	2.50	2.04	-1.16	2.62	0.61	-0.14	-3.76
Transportation and warehousing [BS4B]	0.62	2.04	1.46	-0.12	1.03	2.93	-0.53	-0.19	-1.59	3.84	-0.67	8.70
Information and cultural industries [BS51]	1.48	2.44	4.23	9.39	1.12	0.20	0.81	3.33	-2.72	-1.47	-6.91	-4.39
Finance and insurance, and holding companies [BS5B]	2.28	1.33	1.73	2.46	2.16	0.87	4.05	5.55	2.39	-0.39	-0.06	-3.67
Real estate, rental and leasing [BS53]	1.24	1.55	4.21	9.12	1.39	3.57	-0.48	-3.60	2.99	-1.36	-5.71	-2.82
Professional, scientific and technical services [BS54]	0.42	0.20	2.94	8.81	0.74	0.17	1.00	-0.30	-3.19	-3.96	-7.04	-6.67
Administrative and support, waste management and remediation services [BS56]	-0.22	0.46	-1.81	1.56	0.70	1.05	0.37	3.35	-3.87	-4.30	-5.89	-4.90
Educational services [BS61]	0.79	0.80	1.78	7.39	-1.73	-1.79	2.43	1.65	2.42	1.68	0.62	-2.88
Health care and social assistance [BS62]	-0.18	-0.50	-0.93	-1.57	-0.38	-0.08	-0.56	0.27	0.83	-2.84	-1.09	-3.06
Arts, entertainment and recreation [BS71]	-1.18	-2.32	-3.36	-9.01	-0.30	-0.11	1.98	2.21	-4.34	-8.02	-1.11	-11.30
Accommodation and food services [BS72]	0.62	0.17	1.25	2.41	0.68	0.52	0.35	-1.98	-0.46	-3.31	0.00	-7.56
Other private services [BS81] 12	1.55	0.91	2.79	0.82	1.04	0.90	1.01	-0.64	2.57	1.71	-0.36	-1.22
Non-business sector industries	0.85	0.71	0.84	0.00	1.28	1.31	0.35	-1.07	0.60	-0.49	-0.95	-1.84
Non-profit institutions serving households [NP]	0.98	1.19	-1.32	-4.74	1.26	1.42	0.76	-0.96	1.45	1.55	-4.01	-5.60
Government sector [GS00]	0.55	0.41	0.79	0.47	0.85	0.82	0.14	-1.20	0.38	-0.70	-0.19	-1.15
ICT Sectors	3.08	2.13	4.72	11.40	1.90	-0.51	1.05	1.84	0.66	-2.01	0.06	-5.85

Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-0033)

Table A3: Nominal Output Per Hour for All the Industries, New Brunswick as a Percentage of Canada, 1997, 2000, 2008, 2015, 2019

	1997	2000	2008	2015	2019
All industries	82.4	81.0	78.4	82.7	81.1
Business sector industries	80.6	79.3	73.3	77.5	77.1
Goods-Producing Businesses	83.8	80.5	74.4	68.0	74.7
Agriculture, forestry, fishing and hunting [BS11]	107.8	101.3	80.7	78.6	94.9
Mining and oil and gas extraction [BS21]	56.7	34.9	49.9	46.4	34.0
Utilities [BS22]	72.4	82.1	58.2	83.4	89.2
Construction [BS23]	75.1	76.2	76.0	71.7	78.7
Manufacturing [BS3A]	92.9	99.6	84.9	77.9	78.7
Service-Producing Industries	78.4	76.5	76.1	77.9	79.4
Wholesale trade [BS41]	81.7	83.3	94.6	76.4	67.5
Retail trade [BS4A]	95.0	100.4	94.3	96.3	85.2
Transportation and warehousing [BS4B]	75.8	71.8	72.7	84.5	88.7
Information and cultural industries [BS51]	88.8	100.8	95.0	92.0	103.0
Finance and insurance, and holding companies [BS5B]	106.0	106.4	92.0	93.0	102.4
Real estate, rental and leasing [BS53]	91.0	102.3	104.1	115.2	102.3
Professional, scientific and technical services [BS54]	78.5	92.3	84.7	80.5	77.3
Administrative and support, waste management and remediation services [BS56]	66.3	76.5	76.1	86.8	99.1
Educational services [BS61]	105.3	121.2	113.4	110.9	109.8
Health care and social assistance [BS62]	81.0	78.3	79.5	83.5	86.1
Arts, entertainment and recreation [BS71]	84.8	71.1	77.9	81.4	82.0
Accommodation and food services [BS72]	72.4	74.0	79.3	79.0	74.7
Other private services [BS81] 12	82.9	78.7	82.2	80.4	73.6
Non-business sector industries	82.8	82.0	90.1	90.6	85.5
Non-profit institutions serving households [NP]	89.9	80.9	96.6	97.4	89.9
Government sector [GS00]	87.4	87.9	95.9	95.4	91.0
ICT Sectors	117.9	140.3	113.6	96.6	99.0

Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-003)

Table A4: Total Compensation per Hour Worked for All the Industries for New Brunswick and Canada, 1997 and 2022

	Canada			New Brunswick		
	1997	2022	Absolute Change	1997	2022	Absolute Change
All industries	19.42	43.08	23.66	16.03	35.86	19.83
Business sector industries	18.38	41.26	22.88	14.69	31.70	17.01
Goods-Producing Businesses	20.87	46.57	25.70	17.49	35.62	18.13
Agriculture, forestry, fishing and hunting [BS11]	9.02	23.22	14.20	12.08	24.74	12.66
Mining and oil and gas extraction [BS21]	28.41	69.82	41.41	26.99	48.62	21.63
Utilities [BS22]	34.78	77.81	43.03	25.39	69.29	43.90
Construction [BS23]	22.66	44.84	22.18	17.47	34.75	17.28
Manufacturing [BS3A]	22.42	47.50	25.08	18.84	35.87	17.03
Service-Producing Businesses	17.05	39.11	22.06	13.36	30.11	16.75
Wholesale trade [BS41]	21.00	48.00	27.00	15.27	34.03	18.76
Retail trade [BS4A]	12.91	29.47	16.56	10.90	24.16	13.26
Transportation and warehousing [BS4B]	18.47	37.69	19.22	14.95	33.02	18.07
Information and cultural industries [BS51]	25.22	57.36	32.14	21.84	47.43	25.59
Finance and insurance, and holding companies [BS5B]	24.35	57.23	32.88	22.22	48.78	26.56
Real estate, rental and leasing [BS53]	18.02	40.05	22.03	11.72	36.35	24.63
Professional, scientific and technical services [BS54]	23.53	51.37	27.84	18.31	42.84	24.53
Administrative and support, waste management and remediation services [BS56]	13.63	31.13	17.50	10.03	28.85	18.82
Educational services [BS61]	12.03	26.06	14.03	14.10	28.33	14.23
Health care and social assistance [BS62]	18.11	37.41	19.30	16.40	29.24	12.84
Arts, entertainment and recreation [BS71]	12.96	29.35	16.39	12.03	25.90	13.87
Accommodation and food services [BS72]	10.08	23.30	13.22	7.58	17.22	9.64
Other private services [BS81]	10.81	26.87	16.06	9.34	20.58	11.24
Non-business sector industries	23.45	49.46	26.01	20.16	46.47	26.31
Non-profit institutions serving households [NP]	14.98	33.14	18.16	11.48	25.25	13.77
Government sector [GS00]	24.58	52.03	27.45	21.04	48.86	27.82
ICT Sectors	25.43	58.44	33.01	21.96	48.98	27.02

Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-003)

Table A5: Real Output per Hour for All the Industries and Sub-Industries for New Brunswick and Canada, 1997 and 2022 (2012 \$)

	Canada			New Brunswick		
	1997	2022	Average Annual Growth Rate	1997	2022	Average Annual Growth Rate
All industries	46.3	61.1	1.12	37.9	49.2	1.05
Business sector industries	42.9	57.6	1.19	33.8	44.6	1.12
Goods-Producing Businesses	57.0	77.1	1.22	47.1	60.9	1.03
Agriculture, forestry, fishing and hunting [BS11]	23.5	60.5	3.86	16.9	60.7	5.25
Crop and animal production [BS11A]	22.4	67.2	4.49	14.3	77.0	6.97
Greenhouse, nursery and floriculture production [BS1114]	22.6	82.0	5.29	10.0	208.7	12.92
Crop production (except greenhouse, nursery and floriculture production) [BS111A]	44.1	111.5	3.78	24.9	79.5	4.75
Aquaculture [BS1125]	23.2	51.9	3.27	13.4	77.4	7.27
Animal production (except aquaculture) [BS112A]	9.9	24.0	3.61	11.5	33.6	4.38
Forestry and logging [BS113]	30.0	49.0	1.98	20.4	75.5	5.37
Fishing, hunting and trapping [BS114]	27.2	34.0	0.90	16.4	32.1	2.72
Support activities for agriculture and forestry [BS115]	23.9	40.1	2.09	20.6	36.1	2.27
Mining and oil and gas extraction [BS21]	318.5	293.5	-0.33	278.6	96.4	-4.16
Oil and gas extraction [BS211]	909.8	686.7	-1.12	0.0	67.6	N/A
Mining and quarrying (except oil and gas) [BS212]	214.6	205.3	-0.18	275.8	141.8	-2.63
Support activities for mining and oil and gas extraction [BS213]	76.9	76.9	0.00	266.5	37.3	-7.56
Utilities [BS22]	174.6	205.9	0.66	144.9	231.3	1.89
Electric power generation, transmission and distribution [BS2211]	189.6	204.3	0.30	146.2	234.3	1.90
Natural gas distribution [BS2212]	112.9	247.5	3.19	0.0	234.6	N/A
Water, sewage and other systems [BS2213]	75.0	76.8	0.09	76.3	86.5	0.50
Construction [BS23]	46.6	49.7	0.26	38.8	45.7	0.66
Residential building construction [BS23A]	41.4	50.6	0.81	32.8	46.5	1.41
Non-residential building construction [BS23B]	48.8	45.1	-0.31	50.1	40.9	-0.81
Engineering construction [BS23C]	61.8	56.5	-0.36	49.6	55.1	0.42
Repair construction [BS23D]	35.7	42.8	0.73	25.6	37.2	1.51
Other activities of the construction industry [BS23E]	57.1	143.0	3.74	67.6	101.3	1.63
Manufacturing [BS3A]	44.9	63.2	1.38	44.9	54.1	0.75
Food manufacturing [BS311]	44.8	58.8	1.09	34.8	42.4	0.79
Beverage and tobacco product manufacturing [BS312]	141.3	68.4	-2.86	101.9	101.6	-0.01
Textile and textile product mills [BS31A]	27.9	45.1	1.94	27.9	28.8	0.13
Clothing and leather and allied product manufacturing [BS31B]	18.2	30.4	2.07	21.5	15.8	-1.22
Wood product manufacturing [BS321]	20.4	47.3	3.42	20.8	38.2	2.46
Paper manufacturing [BS322]	47.5	61.7	1.05	79.6	89.7	0.48
Printing and related support activities [BS323]	36.4	49.1	1.20	26.6	27.3	0.10
Petroleum and coal product manufacturing [BS324]	667.0	360.1	-2.44	1343.4	242.9	-6.61
Chemical manufacturing [BS325]	95.9	122.8	0.99	126.5	45.2	-4.03
Plastics and rubber products manufacturing [BS326]	36.1	54.0	1.62	36.8	42.9	0.62
Non-metallic mineral product manufacturing [BS327]	50.5	71.5	1.40	48.2	50.3	0.17
Primary metal manufacturing [BS331]	60.5	76.7	0.95	45.9	206.0	6.19
Fabricated metal product manufacturing [BS332]	39.2	43.6	0.43	28.7	32.5	0.50
Machinery manufacturing [BS333]	40.5	61.7	1.70	28.3	45.0	1.87
Computer and electronic product manufacturing [BS334]	36.9	66.3	2.37	45.2	67.4	1.61
Electrical equipment, appliance and component manufacturing [BS335]	40.5	54.3	1.18	17.0	24.2	1.42
Transportation equipment manufacturing [BS336]	45.0	62.2	1.30	30.3	31.1	0.10
Furniture and related product manufacturing [BS337]	27.4	39.5	1.47	24.5	25.9	0.22
Miscellaneous manufacturing [BS339]	37.1	49.2	1.14	33.7	28.5	-0.67

Service-Producing Businesses	35.4	49.7	1.37	27.8	38.1	1.27
Wholesale trade [BS41]	34.1	65.5	2.65	25.5	48.4	2.60
Farm product wholesaler-distributors [BS411]	38.1	57.7	1.67	35.0	61.1	2.25
Petroleum product wholesaler-distributors [BS412]	40.7	166.8	5.80	43.6	231.6	6.91
Food, beverage and tobacco wholesaler-distributors [BS413]	32.2	50.8	1.84	15.9	48.2	4.54
Personal and household goods wholesaler-distributors [BS414]	37.8	93.4	3.68	35.8	53.8	1.64
Motor vehicle and parts wholesaler-distributors [BS415]	39.9	79.5	2.80	25.3	33.9	1.18
Building material and supplies wholesaler-distributors [BS416]	33.8	47.4	1.36	24.4	55.2	3.32
Machinery, equipment and supplies wholesaler-distributors [BS417]	37.1	69.0	2.51	23.1	36.8	1.88
Miscellaneous wholesaler-distributors [BS418]	23.6	63.5	4.04	21.2	42.6	2.83
Wholesale electronic markets, and agents and brokers [BS419]	32.6	45.5	1.34	20.1	40.5	2.84
Motor vehicle and parts dealers [BS441]	25.8	37.7	1.53	21.9	26.0	0.69
Retail trade [BS4A]	19.5	34.8	2.34	17.2	27.6	1.91
Furniture and home furnishings stores [BS442]	21.2	31.4	1.58	16.5	25.2	1.71
Electronics and appliance stores [BS443]	15.3	41.5	4.07	15.6	28.1	2.38
Building material and garden equipment and supplies dealers [BS444]	25.0	34.3	1.27	25.6	30.1	0.65
Food and beverage stores [BS445]	19.8	25.9	1.08	17.0	18.9	0.42
Health and personal care stores [BS446]	21.0	39.5	2.56	30.4	44.8	1.56
Gasoline stations [BS447]	23.6	54.8	3.43	14.3	26.3	2.47
Clothing and clothing accessories stores [BS448]	16.3	37.9	3.43	14.7	27.4	2.52
Sporting goods, hobby, book and music stores [BS451]	11.3	31.9	4.24	10.8	33.7	4.66
General merchandise stores [BS452]	20.3	33.7	2.05	14.2	25.5	2.37
Miscellaneous store retailers [BS453]	12.8	34.3	4.02	11.4	31.0	4.08
Non-store retailers [BS454]	16.6	41.7	3.75	12.3	46.7	5.48
Transportation and warehousing [BS4B]	38.2	44.6	0.62	27.1	44.9	2.04
Air transportation [BS481]	42.7	68.1	1.88	71.5	106.9	1.62
Rail transportation [BS482]	49.9	102.6	2.93	41.8	152.2	5.31
Water transportation [BS483]	77.4	66.1	-0.63	21.8	29.9	1.27
Truck transportation [BS484]	20.8	33.3	1.90	24.0	40.4	2.10
Transit, ground passenger and scenic and sightseeing transportation [BS482]	30.4	27.1	-0.46	20.2	27.1	1.18
Support activities for transportation [BS488]	63.7	49.1	-1.04	59.7	46.8	-0.97
Pipeline transportation [BS486]	580.7	608.6	0.19	0.0	707.1	N/A
Postal service and couriers and messengers [BS49A]	28.8	26.2	-0.38	18.2	22.4	0.83
Warehousing and storage [BS493]	39.4	33.2	-0.68	24.6	35.4	1.47
Information and cultural industries [BS51]	64.3	92.9	1.48	50.8	92.7	2.44
Publishing industries (except internet) [BS511]	52.3	72.0	1.29	32.2	39.0	0.77
Motion picture and sound recording industries [BS512]	51.3	31.8	-1.89	48.5	25.5	-2.54
Broadcasting (except internet) [BS515]	53.5	70.1	1.09	39.1	28.4	-1.27
Telecommunications [BS517]	77.5	156.8	2.86	59.0	122.1	2.95
Data processing, hosting, and related services [BS518]	93.5	86.7	-0.30	58.5	74.8	0.99
Other information services [BS519]	18.2	55.2	4.54	21.0	39.3	2.54
Finance and insurance, and holding companies [BS5B]	49.1	86.2	2.28	55.5	77.3	1.33
Depository credit intermediation and monetary authorities [BS52B]	46.9	104.0	3.24	54.7	84.7	1.76
Non-depository credit intermediation [BS5222]	84.6	80.1	-0.22	63.5	79.3	0.89
Activities related to credit intermediation [BS5223]	54.2	48.3	-0.46	43.6	45.8	0.20
Insurance carriers and related activities [BS524]	59.6	86.5	1.50	59.6	81.6	1.26
Financial investment services, funds and other financial vehicles [BS52A]	53.7	71.1	1.13	57.7	61.5	0.26
Holding companies [BS551113]	32.6	22.6	-1.45	54.2	21.8	-3.58
Real estate, rental and leasing [BS53]	107.7	146.7	1.24	92.5	135.9	1.55
Real estate [BS531]	144.0	162.8	0.49	126.5	167.7	1.13
Rental and leasing services [BS532]	33.0	84.2	3.82	31.9	48.7	1.71
Lessors of non-financial intangible assets (except copyrighted works) [BS533]	63.8	140.4	3.21	180.2	77.3	-3.33

Professional, scientific and technical services [BS54]	44.1	49.0	0.42	34.7	36.5	0.20
Legal, accounting and related services [BS541A]	50.8	48.1	-0.22	33.9	44.1	1.06
Architectural, engineering and related services [BS5413]	47.7	50.9	0.26	45.2	42.8	-0.22
Other professional, scientific and technical services including scientific research and development [BS541B]	42.8	44.5	0.16	30.1	24.6	-0.80
Computer systems design and related services [BS5415]	33.5	52.1	1.78	36.0	34.0	-0.23
Advertising, public relations, and related services [BS5418]	43.2	45.7	0.23	39.5	37.7	-0.19
Administrative and support, waste management and remediation services [BS56]	31.9	30.2	-0.22	25.3	28.4	0.46
Office administrative services [BS5611]	43.4	51.0	0.65	37.0	59.7	1.93
Employment services [BS5613]	30.8	26.3	-0.63	24.0	19.2	-0.89
Business support services [BS5614]	33.0	30.2	-0.35	34.1	28.6	-0.70
Travel arrangement and reservation services [BS5615]	37.5	30.0	-0.89	45.9	22.4	-2.83
Investigation and security services [BS5616]	20.2	18.5	-0.35	13.7	15.0	0.36
Services to buildings and dwellings [BS5617]	22.1	17.7	-0.88	19.9	12.2	-1.94
Facilities and other support services [BS561A]	81.0	81.2	0.01	30.6	56.1	2.45
Waste management and remediation services [BS562]	40.6	66.1	1.97	18.0	43.7	3.61
Educational services [BS61]	20.2	24.6	0.79	21.8	26.6	0.80
Health care and social assistance [BS62]	47.2	45.1	-0.18	38.9	34.3	-0.50
Offices of physicians [BS6211]	81.4	96.8	0.70	86.7	91.3	0.21
Offices of dentists [BS6212]	68.6	54.2	-0.94	58.0	61.1	0.21
Miscellaneous ambulatory health care services [BS621A]	38.9	28.9	-1.18	37.5	32.2	-0.61
Nursing and residential care facilities [BS623]	29.3	31.7	0.32	19.1	24.1	0.93
Social assistance [BS624]	19.9	21.6	0.33	9.1	10.5	0.57
Arts, entertainment and recreation [BS71]	35.9	26.7	-1.18	38.5	21.4	-2.32
Performing arts, spectator sports and related industries, and heritage institutions [BS71A] 18	41.0	24.6	-2.02	37.5	11.5	-4.62
Gambling industries [BS7132]	45.7	39.4	-0.59	222.7	36.7	-6.96
Amusement and recreation industries [BS713A]	27.4	24.1	-0.51	15.7	18.4	0.64
Accommodation and food services [BS72]	18.5	21.6	0.62	13.5	14.1	0.17
Traveller accommodation [BS7211]	25.7	40.6	1.85	16.9	23.7	1.36
RV (recreational vehicle) parks, recreational camps, and rooming and boarding houses [BS721A]	35.0	55.7	1.88	35.2	33.2	-0.23
Food services and drinking places [BS722]	16.1	17.7	0.38	12.2	12.0	-0.07
Other private services [BS81]	18.6	27.3	1.55	16.1	20.2	0.91
Repair and maintenance [BS811]	19.3	32.5	2.11	18.9	24.2	0.99
Personal services and private households [BS81A]	17.4	21.6	0.87	14.3	15.6	0.35
Professional and similar organizations [BS813B]	25.1	31.2	0.87	19.4	23.2	0.72
Non-business sector industries	59.0	72.9	0.85	50.8	60.7	0.71
Non-profit institutions serving households [NP]	156.3	199.3	0.98	137.2	184.3	1.19
Government Sector Industries [GS00]	46.3	53.1	0.55	42.3	46.8	0.41
Government educational services [GS610]	44.9	53.3	0.69	40.2	58.2	1.49
Government health services [GS620]	34.4	33.2	-0.14	33.9	35.2	0.15
Federal government services [GS911]	56.6	73.1	1.03	49.2	50.5	0.10
Provincial and territorial government services [GS912]	53.7	83.5	1.78	55.0	55.8	0.06
Local, municipal and aboriginal government services [GS91B]	51.7	55.9	0.31	37.4	45.0	0.74
ICT Sectors	38.4	81.9	3.08	44.3	74.9	2.12

Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-003)

Table A6: Real Value Added for All the Industries as a Percentage of All Industries Real Value Added for New Brunswick and Canada, 1997 and 2022

	Canada		New Brunswick	
	1997	2022	1997	2022
All industries	100.00	100.00	100.00	100.00
Business sector industries	74.1	73.1	68.8	65.1
Goods-Producing Businesses	33.9	27.0	30.9	24.5
Agriculture, forestry, fishing and hunting [BS11]	2.3	1.9	2.5	3.4
Mining and oil and gas extraction [BS21]	8.6	7.2	6.7	0.8
Utilities [BS22]	2.6	1.9	4.1	4.1
Construction [BS23]	6.2	7.0	6.3	6.9
Manufacturing [BS3A]	14.2	9.0	11.3	9.3
Service-Producing Businesses	38.8	42.8	35.7	38.1
Wholesale trade [BS41]	4.1	5.0	3.6	3.5
Retail trade [BS4A]	4.0	4.9	4.5	6.2
Transportation and warehousing [BS4B]	4.2	3.7	5.3	4.2
Information and cultural industries [BS51]	2.3	3.3	2.1	3.0
Finance and insurance, and holding companies [BS5B]	6.0	7.0	5.1	5.6
Real estate, rental and leasing [BS53]	4.0	4.1	2.9	3.2
Professional, scientific and technical services [BS54]	4.3	6.2	2.6	3.3
Administrative and support, waste management and remediation services [BS56]	2.4	2.3	2.1	2.8
Educational services [BS61]	0.1	0.2	0.2	0.2
Health care and social assistance [BS62]	2.9	2.5	2.9	2.9
Arts, entertainment and recreation [BS71]	0.9	0.5	0.7	0.3
Accommodation and food services [BS72]	2.2	1.8	2.3	1.7
Other private services [BS81]	1.4	1.3	1.4	1.2
Non-business sector industries	25.9	26.6	31.2	34.9
Non-profit institutions serving households [NP]	8.1	9.9	8.1	10.7
Government sector [GS00]	17.9	16.7	24.8	24.2
ICT Sectors	2.4	5.4	2.4	4.1

Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-003)

Table A7: Contribution of Industries to the All-Industries' Labour Productivity Growth in Canada and New Brunswick, 1997-2022

	Average Share of Nominal Value-Added		Average Annual Growth Rate, 1997-2022		Total Contribution to Growth		Percentage of Contribution to Growth	
	CAN	NB	CAN	NB	CAN	NB	CAN	NB
All industries	100.00	100.00	1.12	1.05	1.12	1.05	100.00	100.00
Business sector industries	74.78	67.68	1.19	1.12	0.89	0.76	79.46	72.19
Goods-Producing Businesses	30.34	27.66	1.22	1.03	0.37	0.28	33.05	27.13
Agriculture, forestry, fishing and hunting [BS11]	2.09	2.93	3.86	5.25	0.08	0.15	7.20	14.63
Mining and oil and gas extraction [BS21]	7.91	3.75	-0.33	-4.16	-0.03	-0.16	-2.33	-14.88
Utilities [BS22]	2.21	4.10	0.66	1.89	0.01	0.08	1.30	7.39
Construction [BS23]	6.57	6.60	0.26	0.66	0.02	0.04	1.52	4.15
Manufacturing [BS3A]	11.58	10.27	1.38	0.75	0.16	0.08	14.26	7.34
Service-Producing Businesses	40.71	36.91	1.37	1.27	0.56	0.47	49.80	44.64
Wholesale trade [BS41]	4.51	3.55	2.65	2.6	0.12	0.09	10.68	8.79
Retail trade [BS4A]	4.47	5.35	2.34	1.91	0.10	0.10	9.33	9.74
Transportation and warehousing [BS4B]	3.96	4.75	0.62	2.04	0.02	0.10	2.19	9.23
Information and cultural industries [BS51]	2.77	2.55	1.48	2.44	0.04	0.06	3.67	5.92
Finance and insurance, and holding companies [BS5B]	6.47	5.33	2.28	1.33	0.15	0.07	13.17	6.76
Real estate, rental and leasing [BS53]	4.06	3.05	1.24	1.55	0.05	0.05	4.49	4.50
Professional, scientific and technical services [BS54]	5.24	2.93	0.42	0.2	0.02	0.01	1.97	0.56
Administrative and support, waste management and remediation services [BS56]	2.31	2.44	-0.22	0.46	-0.01	0.01	-0.45	1.07
Educational services [BS61]	0.17	0.21	0.79	0.8	0.00	0.00	0.12	0.16
Health care and social assistance [BS62]	2.72	2.87	-0.18	-0.5	0.00	-0.01	-0.44	-1.37
Arts, entertainment and recreation [BS71]	0.68	0.53	-1.18	-2.32	-0.01	-0.01	-0.72	-1.18
Accommodation and food services [BS72]	1.99	2.03	0.62	0.17	0.01	0.00	1.10	0.33
Other private services [BS81]	1.37	1.31	1.55	0.91	0.02	0.01	1.89	1.14
Non-business sector industries	25.22	32.32	0.98	1.19	0.25	0.38	22.07	36.63
Non-profit institutions serving households [NP]	8.60	8.96	0.55	0.41	0.05	0.04	4.23	3.50
Government sector [GS00]	16.61	23.36	3.08	2.13	0.51	0.50	45.69	47.38
ICT Sectors	3.73	3.12	0.85	0.71	0.03	0.02	2.83	2.11

Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-003)



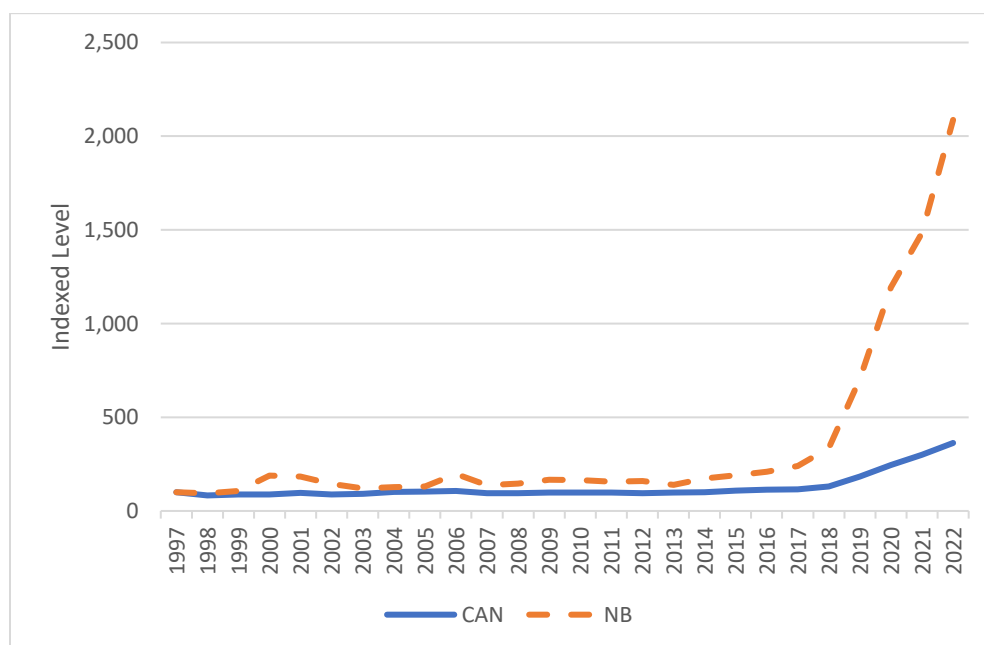
## Appendix 1: The Astonishing Increase of Labour Productivity of Greenhouse, Nursery, and Floriculture Production [BS1114]

Labour productivity of the agriculture, forestry, fishing, and hunting NAICS industry has grown at a rate of 5.25 percent between 1997 and 2022 in New Brunswick. This growth is largely driven by the sub-industry of greenhouse, nursery, and floriculture production, which comprised 49.8 percent of the real value added in this industry in 2022. In 1997 this sub-industry only comprised 4.6 percent of real value added. Greenhouse, nursery, and floriculture products have experienced an increase in labour productivity at a rate of 12.92 percent per year between 1997 and 2022. This is due to fast growth in real value added between 1997 and 2022 of 13.08 percent per year, with the growth of total hours worked increasing by only 0.13 percent per year. Almost all the growth in labour productivity was after 2018. The real output per hour increased from \$33.6 (2012 dollars per hour) in 2018 to \$70.5 (2012 dollars per hour) in 2019. Since then, between 2019 and 2022, labour productivity has continued to increase at a rate of 43.59 percent per year in New Brunswick to \$208.7 (2012 dollars per hour).

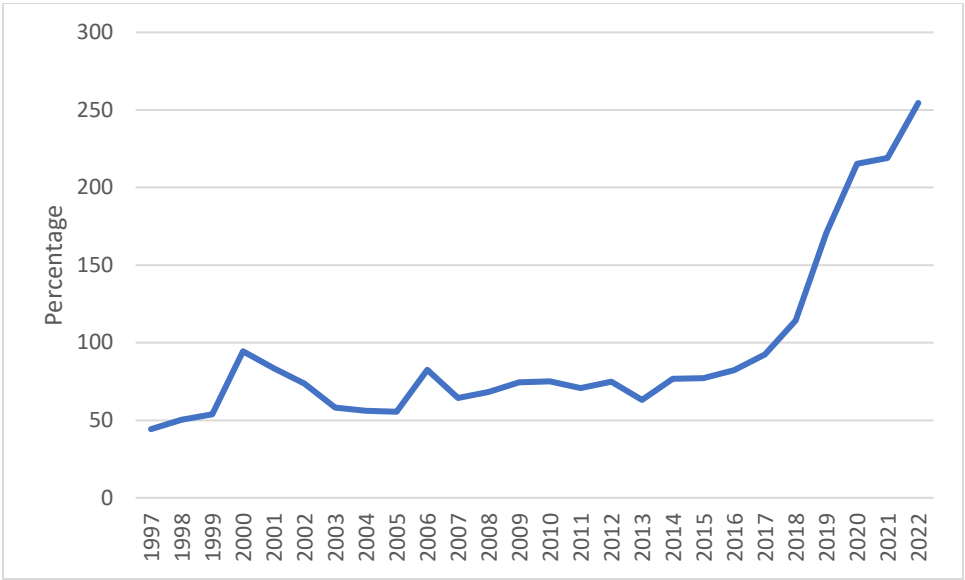
When analyzing the national trend, it is clear in Chart A1 that Canada experienced an increase in labour productivity in this sub-industry at the same time as New Brunswick. Between 2019 and 2022 Canadian labour productivity in the sub-industry of greenhouse, nursery and floriculture production increased rapidly, at a rate of 25.69 percent per year.

Chart A1: Trends of Greenhouse, Nursery and Floriculture Production [BS1114] Sub-Industry in New Brunswick and Canada, 1997-2022

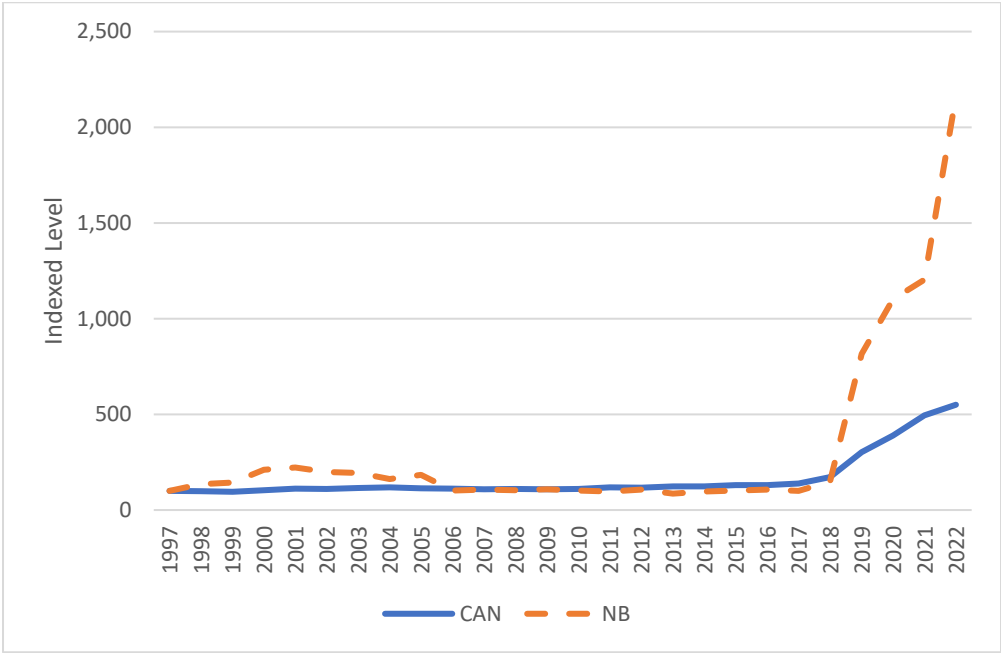
Panel A: Real Output per Hour, 1997=100



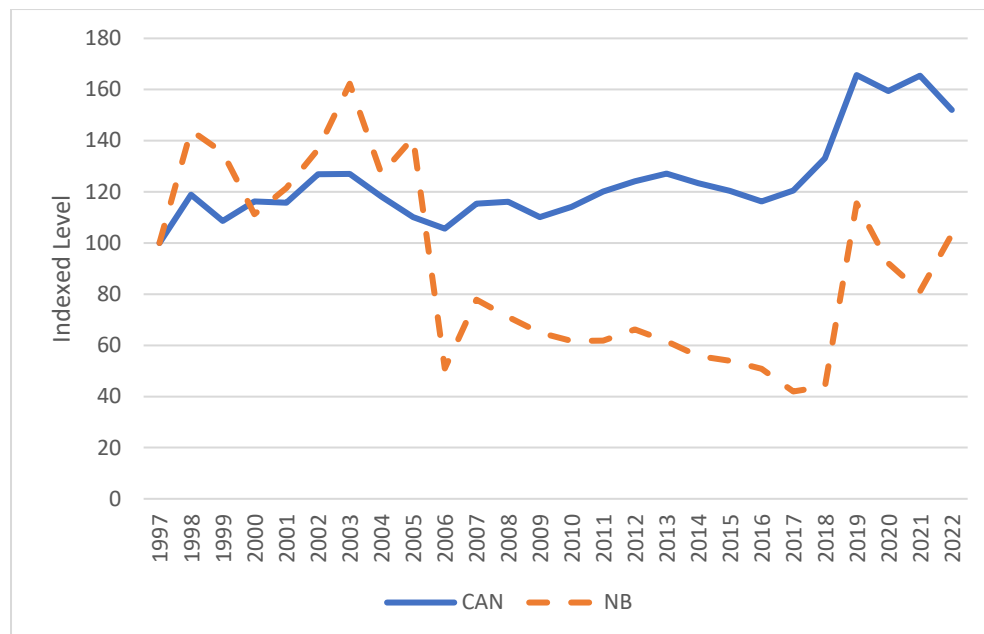
Panel B: Real Output per Hour, New Brunswick as a Percentage of Canada



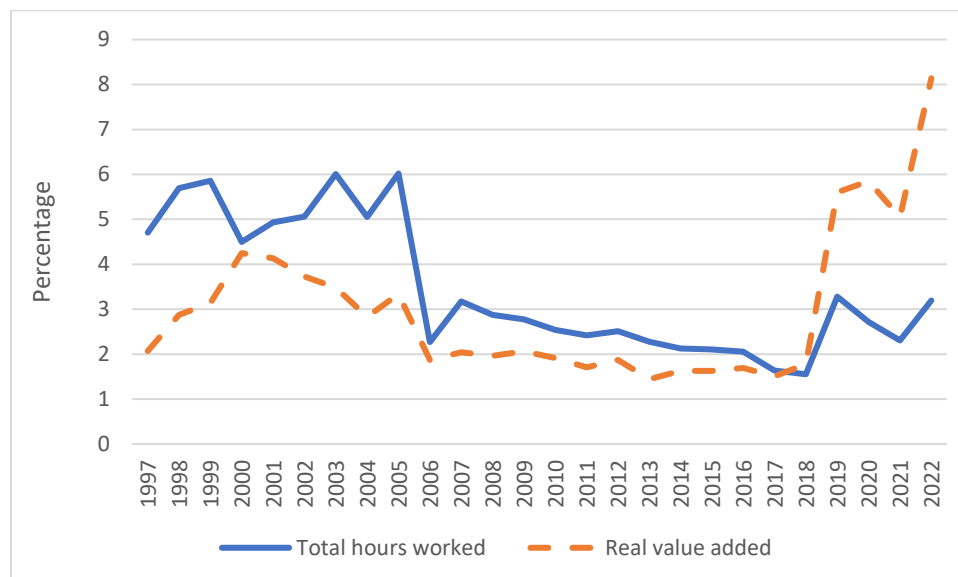
Panel C: Real Value Added, 1997=100



Panel D: Total Hours Worked, 1997=100



Panel E: Total Hours Worked and Real Value Added, New Brunswick as a Percent of Canada



Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-003)

When comparing with other provinces, New Brunswick's greenhouse, nursery, and floriculture sub-industry had the highest average annual growth rate of labour productivity between 1997 and 2022 with a growth rate of 12.92 percent annually, the highest average annual growth rate between 2018 and 2022 with a growth rate of 57.87 percent per year, and the highest labour productivity in 2022 with a value of \$208.7 (2012 dollars per hour). Nevertheless, many other provinces had high growth in labour productivity. Nova Scotia experienced growth of 8.65 percent per year between 1997 and 2022 and 43.18 percent per year between 2018 and 2022.

Quebec had a growth rate of 8.31 percent per year between 1997 and 2022 and 51.14 percent per year between 2018 and 2022. Also, Ontario and British Colombia both have high levels of labour productivity in 2022. Ontario had a value of \$134.5 (2012 dollars per hour) and British Colombia had a value of \$133.4 (2012 dollars per hour). Although New Brunswick does have the highest labour productivity in this sub-industry, table 1 shows that many other provinces have experienced similar trends throughout the period.

Table A1: Real Output per Hour of the Greenhouse, Nursery and Floriculture Production [BS1114] Sub-Industry in all Provinces, 1997, 2018, 2019, and 2022

	1997	2018	2019	2022	Average Annual Growth Rate 1997-2022 (%)	Average Annual Growth Rate 2018-2022 (%)
Canada	22.6	29.4	41.3	82.0	5.29	29.23
Newfoundland and Labrador	10.0	11.4	13.2	39.9	5.69	36.78
Prince Edward Island	13.3	45.2	55.8	73.7	7.09	13.00
Nova Scotia	14.9	28.2	50.4	118.5	8.65	43.18
New Brunswick	10.0	33.6	70.5	208.7	12.92	57.87
Quebec	15.9	22.4	53.9	116.9	8.31	51.14
Ontario	34.2	38.4	58.0	134.5	5.63	36.80
Manitoba	19.8	19.0	31.3	43.9	3.24	23.29
Saskatchewan	9.9	16.9	97.0	50.7	6.75	31.61
Alberta	35.4	30.0	102.8	101.3	4.30	35.56
British Colombia	19.2	35.4	60.5	133.4	8.06	39.33

Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-003)

The real value added of greenhouse, nursery, and floriculture production as a share of the real value of agriculture, forestry, fishing, and hunting has increased in most provinces between 1997 and 2022 and every province between 2018 and 2022. New Brunswick has experienced the largest absolute change in this percentage between 1997 and 2022 of an increase of 64.6 percentage points. They have also experienced the largest percentage point increase between 2018 and 2022 of 74.3 percentage points. Nevertheless, other provinces have also experienced large increases in this value/ Ontario has also experienced an increase in the share of real value added between 1997 and 2022 of 47.0 percentage points. Between 2018 and 2022 British Colombia's share of real value added has increased by 51.2 percentage points. In Canada, between 1997 and 2022 the share of greenhouse, nursery, and floriculture production has increased by 14.4 percentage points. Table 2 shows that many other provinces displayed increases in this percentage similarly to New Brunswick.

Table A2: Real Value Added of Greenhouse, Nursery, and Floriculture Production [BS1114] as a Share of Real Value Added of Crop Production [BS111] in all Provinces, 1997, 2018, 2019, and 2022 (expressed in percent)

	1997	2018	2019	2022	Absolute Change 1997-2022	Absolute Change 2018-2022
Canada	7.9	7.9	13.1	22.3	14.4	14.4
Newfoundland and Labrador	61.3	11.2	13.3	50.3	-11.0	39.1
Prince Edward Island	3.1	8.8	18.4	25.1	22.0	16.3
Nova Scotia	75.4	19.4	40.6	73.0	-2.4	53.6
New Brunswick	23.4	13.7	52.5	88.0	64.6	74.3
Quebec	7.4	6.6	17.4	36.7	29.3	30.1
Ontario	22.9	24.7	43.5	69.9	47.0	45.2
Manitoba	1.7	1.2	2.2	3.2	1.5	2.0
Saskatchewan	0.2	0.3	2.0	1.7	1.5	1.4
Alberta	3.2	3.1	17.0	17.3	14.1	14.2
British Colombia	61.6	20.7	39.6	71.9	10.3	51.2

Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-003)

The total number of hours worked in the greenhouse, nursery, floriculture production sub-industry as a share of the total hours worked in crop production industry has increased by 4.1 percentage points in New Brunswick between 1997 and 2022. This is a much smaller increase than the percentage point change for real value added of 64.6 percentage points. Since real value added grew much faster this led to an increase in labour productivity. Most provinces experienced much higher increases in value added percentages than hours worked throughout the period. In Canada between 1997 and 2022 the change in the percentage of real value added in real value added and total hours worked were similar. Real value added experienced a 14.4 percentage point increase, whereas total hours worked experienced a 14.1 percentage points increase. Nevertheless, between 2018 and 2022 the percentage point change in the share of the real value added of this sub-industry increased by 14.4 percentage points, whereas for total hours work the change was only 2.4 percentage points. This shows that overall, the much smaller changes in total hours worked of greenhouse, nursery, and floriculture production as a share of total hours worked in crop production in comparison to real value-added percentages led to increases in labour productivity throughout Canada since 2018.

Table A3: Total Hours Worked of Greenhouse, Nursery, and Floriculture Production [BS1114] as a Share of Total Hours Worked of Crop Production [BS111] in all Provinces, 1997, 2018, 2019, and 2022 (expressed in percent)

	1997	2018	2019	2022	Absolute Change 1997-2022	Absolute Change 2018-2022
Canada	13.8	25.5	28.8	28.0	14.1	2.4
Newfoundland and Labrador	36.1	44.6	39.9	44.2	8.1	-0.4
Prince Edward Island	12.0	6.3	10.6	9.2	-2.8	2.9
Nova Scotia	40.6	21.9	27.3	27.6	-13.0	5.7
New Brunswick	43.7	22.5	44.6	47.8	4.1	25.3
Quebec	20.0	22.7	24.7	24.7	4.6	2.0
Ontario	19.7	39.3	43.2	41.1	21.4	1.8
Manitoba	4.5	8.4	8.5	9.9	5.4	1.5
Saskatchewan	2.5	2.9	3.0	4.5	1.9	1.5
Alberta	5.4	13.9	20.7	23.0	17.6	9.1
British Colombia	42.5	43.5	47.6	48.3	5.8	4.8

Source: Statistics Canada, Table: 36-10-0480-01 (formerly CANSIM 383-003)

There have been significant increases in the real value added, and therefore the labour productivity of almost all provinces since 2018. New Brunswick experienced the highest growth in this sub-industry of 12.92 percent per year between 1997 and 2022 and 57.87 percent annually between 2018 and 2022. Nova Scotia, Quebec, British Colombia, and Ontario are all other important provinces in this sub-industry and have contributed to growth of greenhouse, nursery, and floriculture production in Canada of 5.29 percent per year between 1997 and 2022 and 29.23 percent annually between 2018 and 2022.

A change in labour productivity of this high magnitude is normally due to a significant economic shock or the opening or closing of a production facility. Nevertheless, it is clear through the high growth rates of labour productivity outside of New Brunswick that this is not simply a provincial phenomenon. This was experienced throughout the country. There are two main questions to be asked about this significantly high growth of labour productivity. The first is how have those working in the sub-industry of the greenhouse, nursery, and floriculture production has been able to increase their productivity by 25.69 percent per year between 2019 and 2022 throughout Canada? Second, why is this affecting New Brunswick at a significantly higher level than other provinces? The change in the values presented above is too large to be driven by a single production plant. Labour productivity in this sub-industry has also increased in many provinces. No answer has been found to understand these questions and no further breakdown of the labour productivity of the sub-industry of greenhouses, nursery, floriculture production is currently available.