



*Centre for the  
Study of Living Standards  
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# The New Brunswick Economy: Past Performance and Future Directions

**Andrew Sharpe**

Centre for the Study of Living Standards

Presented at

Atlantic Association of Applied Economists (AAAE) Webinar

May 11<sup>th</sup>, 2022, 10:30am ADT

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## III. Economic Growth Performance

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- C. Innovation

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- B. Participation Rate
- C. Job Vacancy Rate

## V. Living Standards and Economic Well-being

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# Members of the CSLS-AIPR Panel on the Future of the New Brunswick Economy

- **Mike Horgan**, CSLS Board member and Senior Advisor at Bennett Jones and former Deputy Minister of Finance and President of ACOA; co-chair;
- **Herb Emery**, Vaughn Chair of Regional Development, University of New Brunswick. Executive Director, Atlantic Institute for Policy Research; co-chair
- **Don Drummond**, CSLS Chair and Queen's University, former TD Chief Economist and Associate Deputy Minister of Finance;
- **Alex Leblanc**, CEO, New Brunswick Business Council;
- **Gaetan Thomas**, CEO, Conseil économique du Nouveau Brunswick;
- **Robert Campbell**, former President of Mount Allison University;
- **Adriene O'Pray**, Executive Director, McKenna Institute, University of New Brunswick

# CSLS Reports on the New Brunswick Economy

- ["Innovation in New Brunswick" \(August 2020\)](#)
- ["The Productivity Performance of New Brunswick Manufacturing: A Detailed Analysis, 1997-2019" \(June 2021\)](#)
- ["North Versus South: Income Disparities in New Brunswick, 2000-2019" \(October 2021\)](#)
- ["Richer and Fairer: New Brunswick Income Trends, 1976-2019" \(October 2021\)](#)
- ["Turning the Tide: Demographic Developments in New Brunswick, 1951-2020" \(October 2021\)](#)
- ["The Index of Economic Well-being for New Brunswick, 1981-2019" \(October 2021\)](#)
- Covid-19 Labour Market Developments in New Brunswick Compared to Canada (forthcoming)
- An Assessment of Labour Market Trends in New Brunswick (forthcoming)
- An Assessment of the Fiscal Situation in New Brunswick (forthcoming)
- An Analysis of the Aggregate Productivity Performance of the New Brunswick Economy (forthcoming)

# Preliminary Program for the CSLS-AIPR Invitational Workshop

## “The New Brunswick Economy: The Way Forward,”

June 9-10, 2022, Delta Hotel, Fredericton, New Brunswick

### Thursday, June 9

7:00 Workshop Dinner with speaker David Campbell (Jubia Consulting)

“Back to Basics: A Sustainable Growth Agenda for New Brunswick Requires a Boost in Exports” confirmed

### Friday, June 10

8:45-10:15 Session 1: “The New Brunswick Economy” Context for the Way Forward

“The Economic and Social Performance of the New Brunswick Economy: Strengths and Weaknesses” Andrew Sharpe (CSLS)

“An Historical Perspective on Regional Economic Policy in New Brunswick” Herb Emery (UNB)

10:15-10:30 Break

10:30-12:00 Session 2 Panel “The Emerging Economy For New Brunswick: Green, Blue., Digital?”

12:00-1:30 Lunch with Keynote Speaker

Tony Venables (Oxford University and University of Manchester) “Regional Disparities, Growth and Inclusiveness: An Overview) confirmed

# Preliminary Program for the CSLS-AIPR Invitational Workshop

## “The New Brunswick Economy: The Way Forward,”

June 9-10, 2022, Delta Hotel, Fredericton, New Brunswick

### Friday, June 10 (continued)

1:30- 3:00 Session 3: “Growing the Supply Side of the Economy: Immigration, Workforce Development, Innovation and Productivity”

3:00-3:15 Break

3:15- 4:45 Session 4 Panel “Economic Opportunities and Challenges Posed by the Movement to a Net Zero Economy

4:45 - 5:00 Closing Remarks on the Way Forward for New Brunswick Herb Emery (UNB)

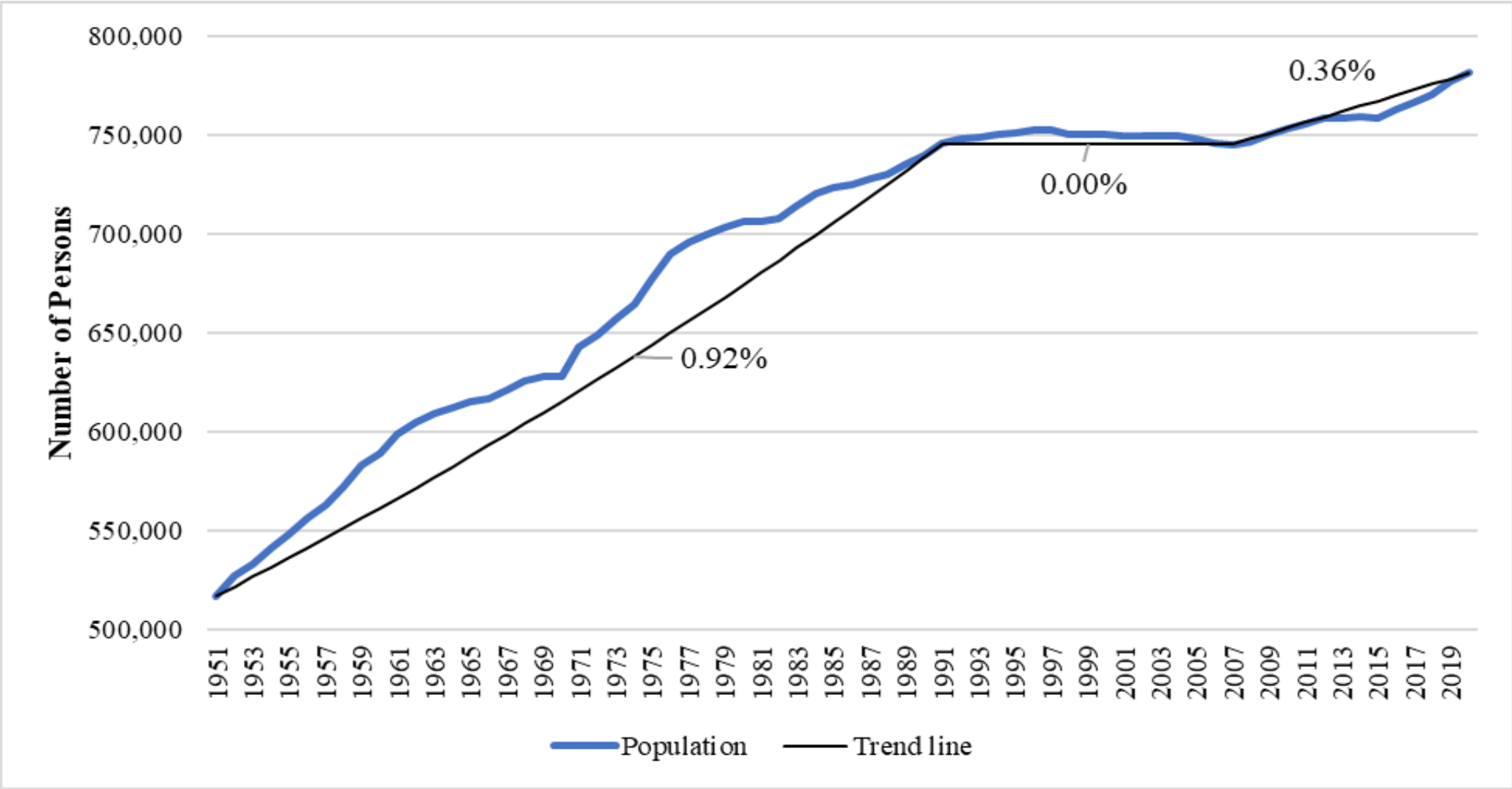
For an updated program go to <http://www.csls.ca/events/CSLS-AIPR.pdf>

For an invitation to the workshop, contact Andrew Sharpe at [andrew.sharpe@csls.ca](mailto:andrew.sharpe@csls.ca)

## Section II: The Demographic Situation

# Trends in Population Size in New Brunswick and in Canada, 1951-2020

## Panel A: Population of New Brunswick, 1951-2020

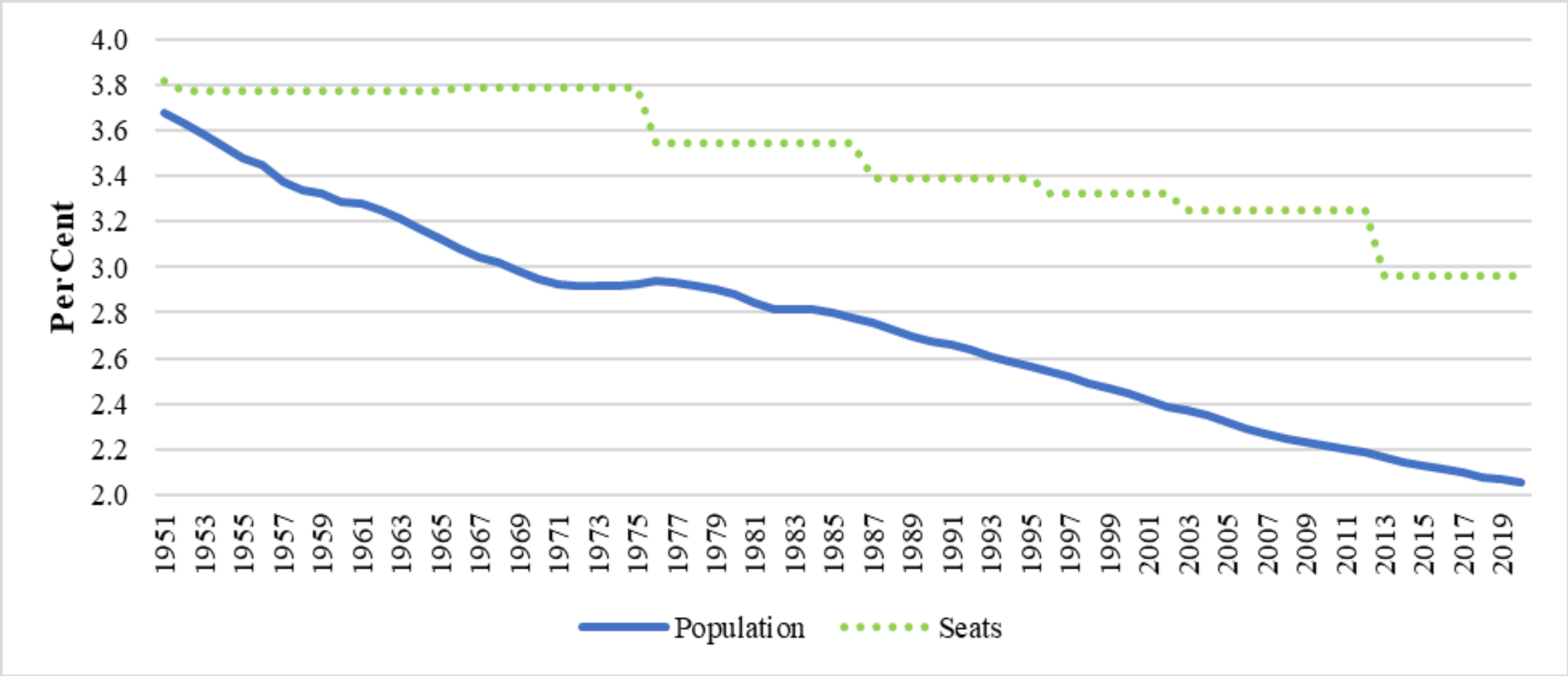


Source, population: Statistics Canada. Table 17-10-0009-01. Population on July 1 (Quarter 3); source, seats in the House of Commons: Parliament of Canada, [https://lop.parl.ca/sites/ParInfo/default/en\\_CA/ElectionsRidings/Ridings](https://lop.parl.ca/sites/ParInfo/default/en_CA/ElectionsRidings/Ridings)



# Trends in Population Size in New Brunswick and in Canada, 1951-2020

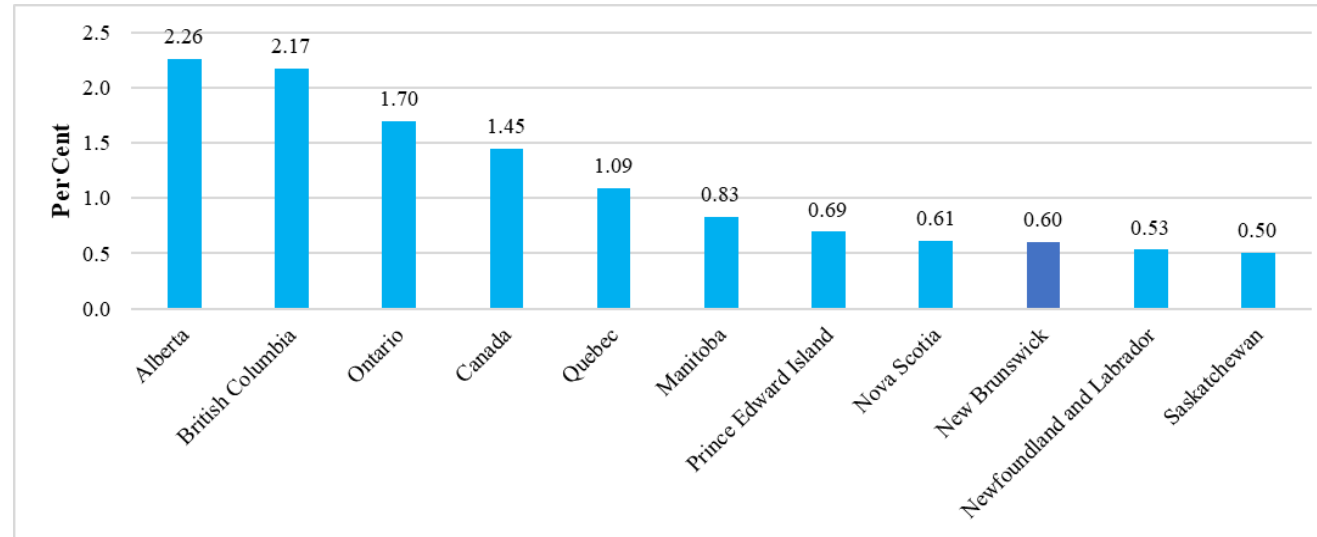
**Panel B: New Brunswick’s Share of the Canadian Population Compared to New Brunswick’s Share of Seats in the House of Commons, 1951-2020**



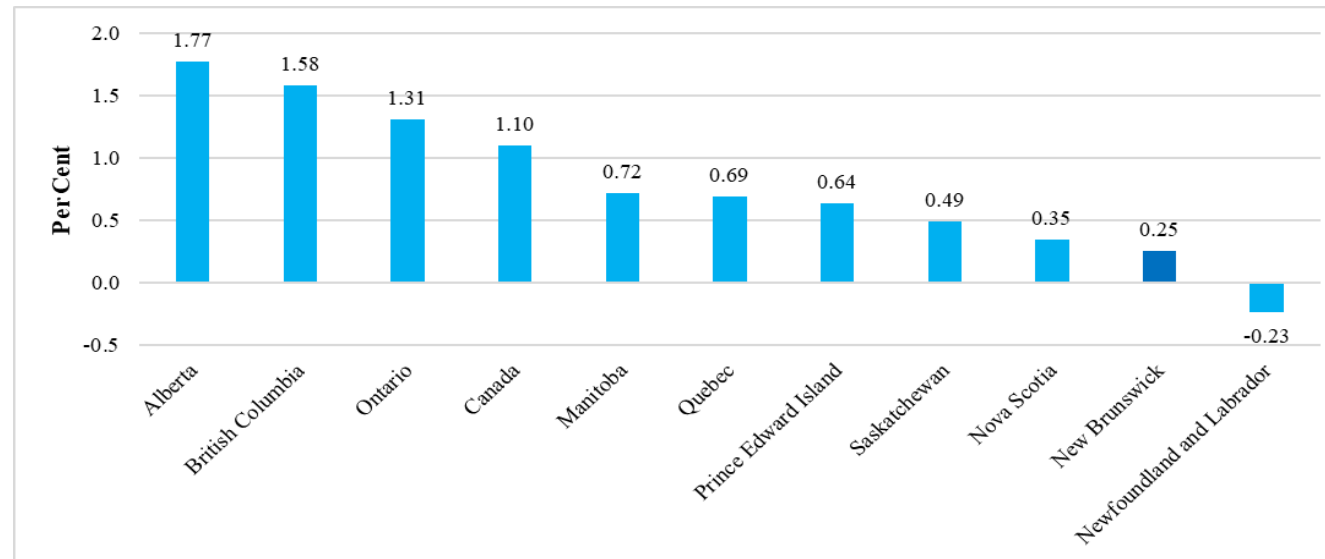
Source, population: Statistics Canada. Table 17-10-0009-01. Population on July 1 (Quarter 3); source, seats in the House of Commons: Parliament of Canada, [https://lop.parl.ca/sites/ParlInfo/default/en\\_CA/ElectionsRidings/Ridings](https://lop.parl.ca/sites/ParlInfo/default/en_CA/ElectionsRidings/Ridings)

# Population Growth by Province, Canada, 1951-2020 (Compound Annual Growth Rates)

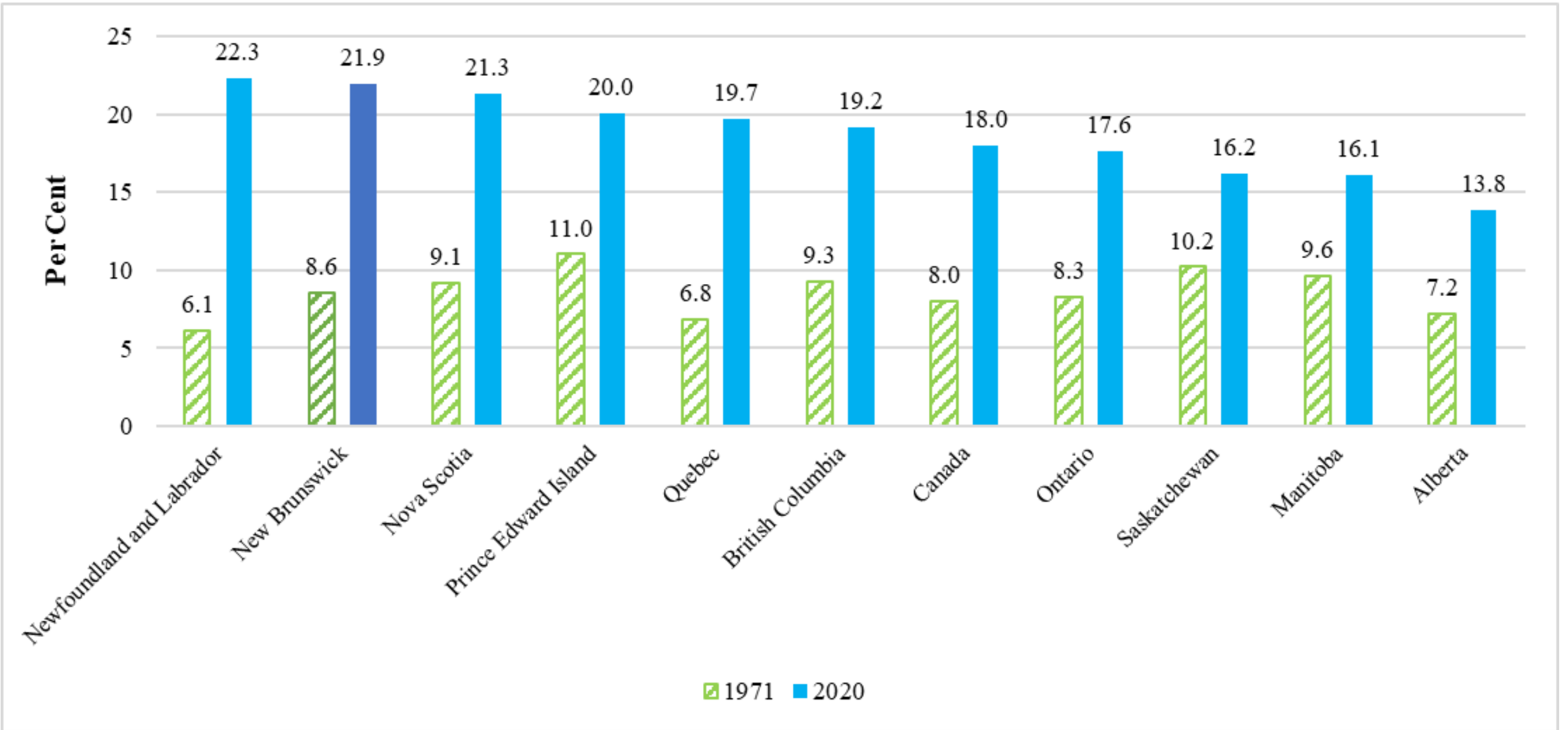
## Panel A: Population Growth Between 1951 and 2020



## Panel B: Population Growth Between 1980 and 2020

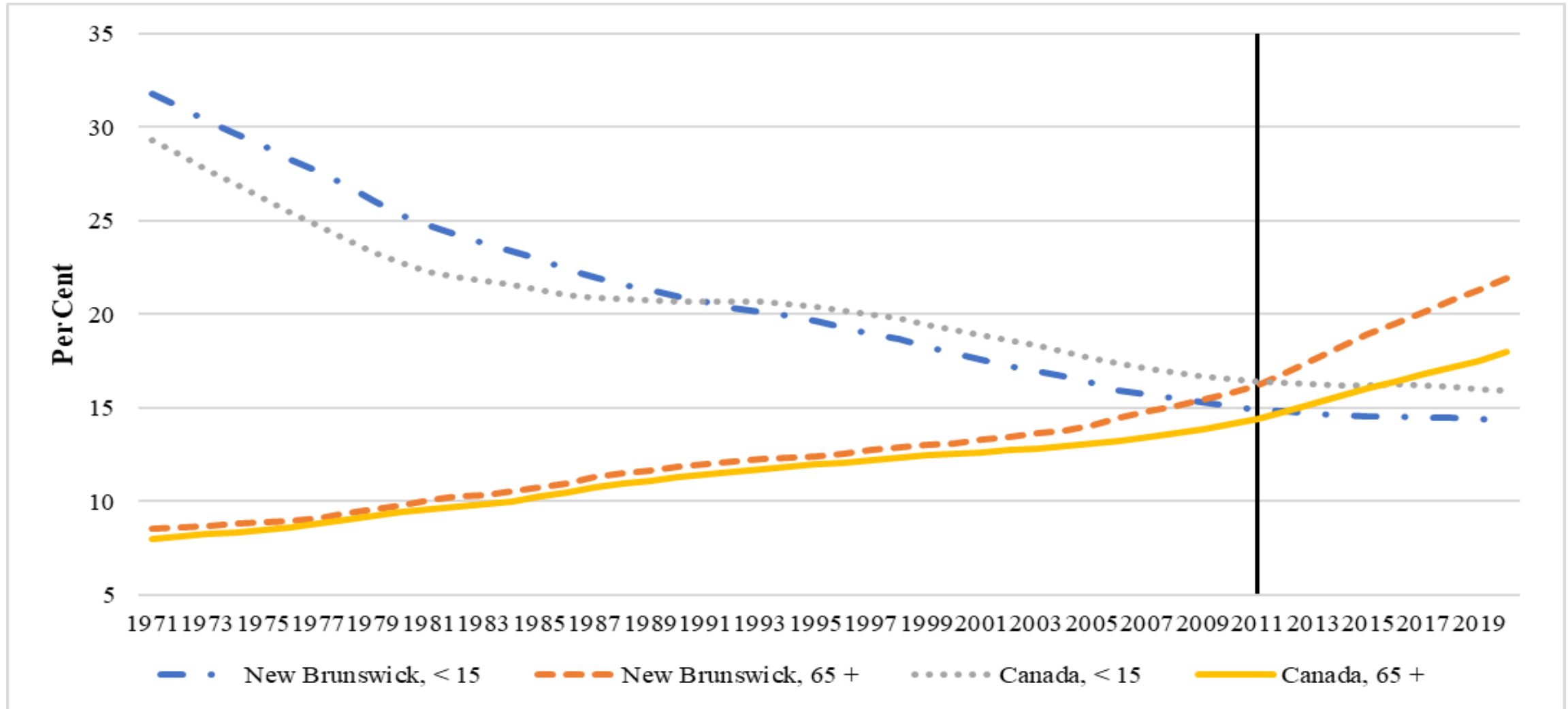


## Share of Persons 65 and Older in the Total Population by Province, Canada, 1971 and 2020



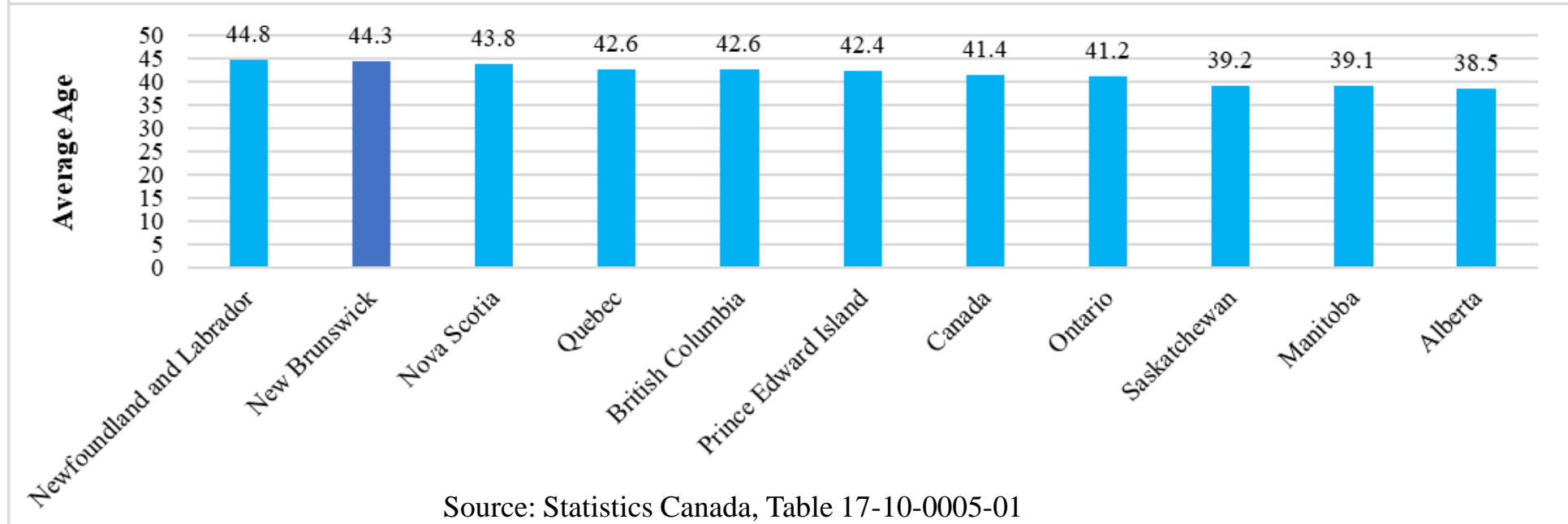
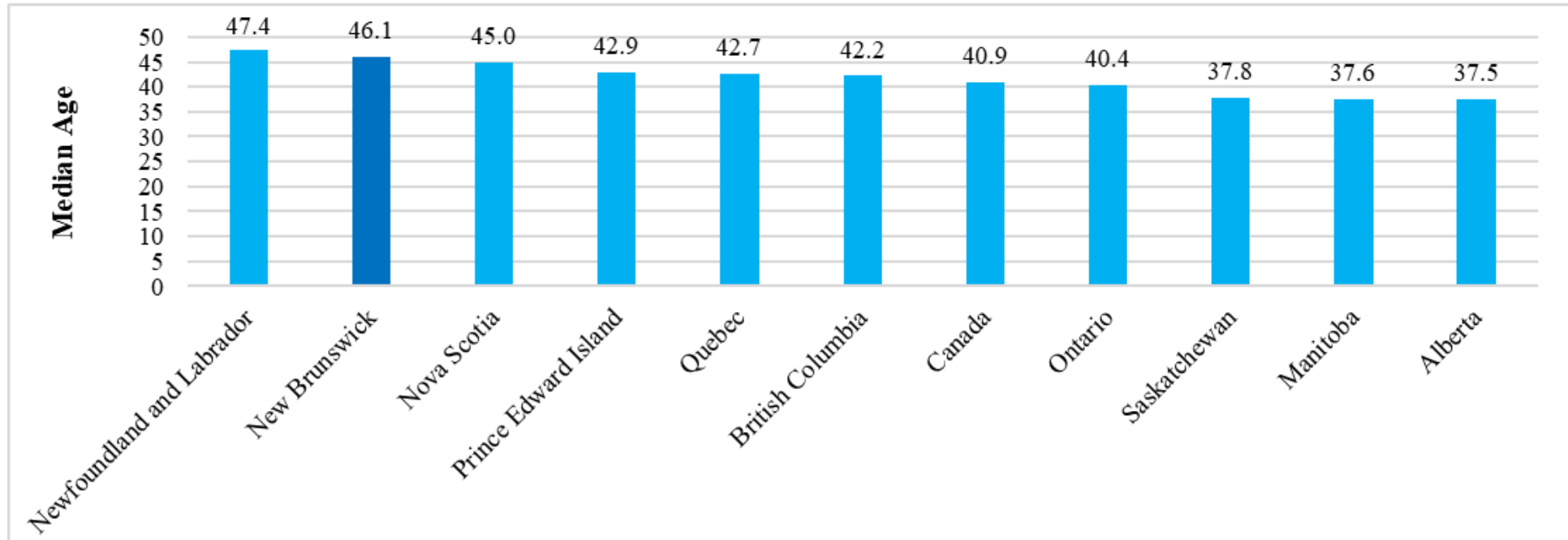
# Population by Age Group, New Brunswick and Canada, 1971-2020

## Panel A: Share of Persons Under 15 and of Persons 65 and Older in the Total Population, New Brunswick and Canada, 1971-2020



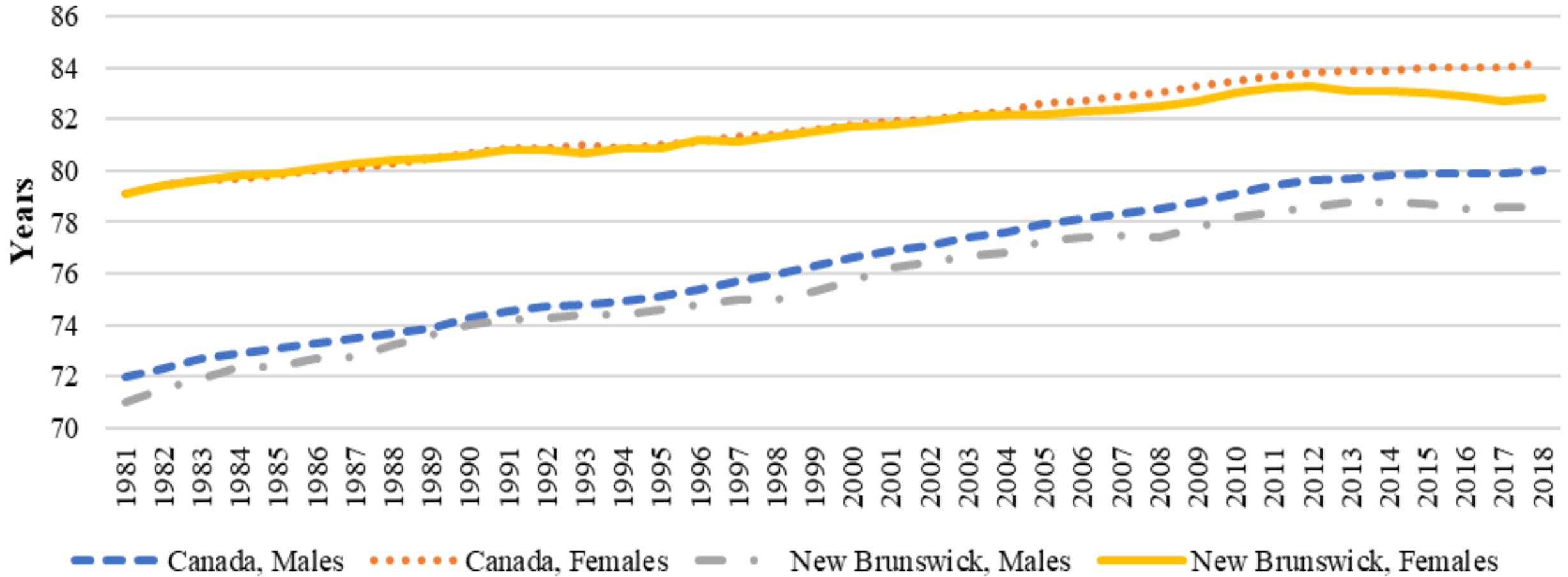
Source: Statistics Canada, Table 17-10-0005-01

## Median and Average Age by Province, Canada, 2020



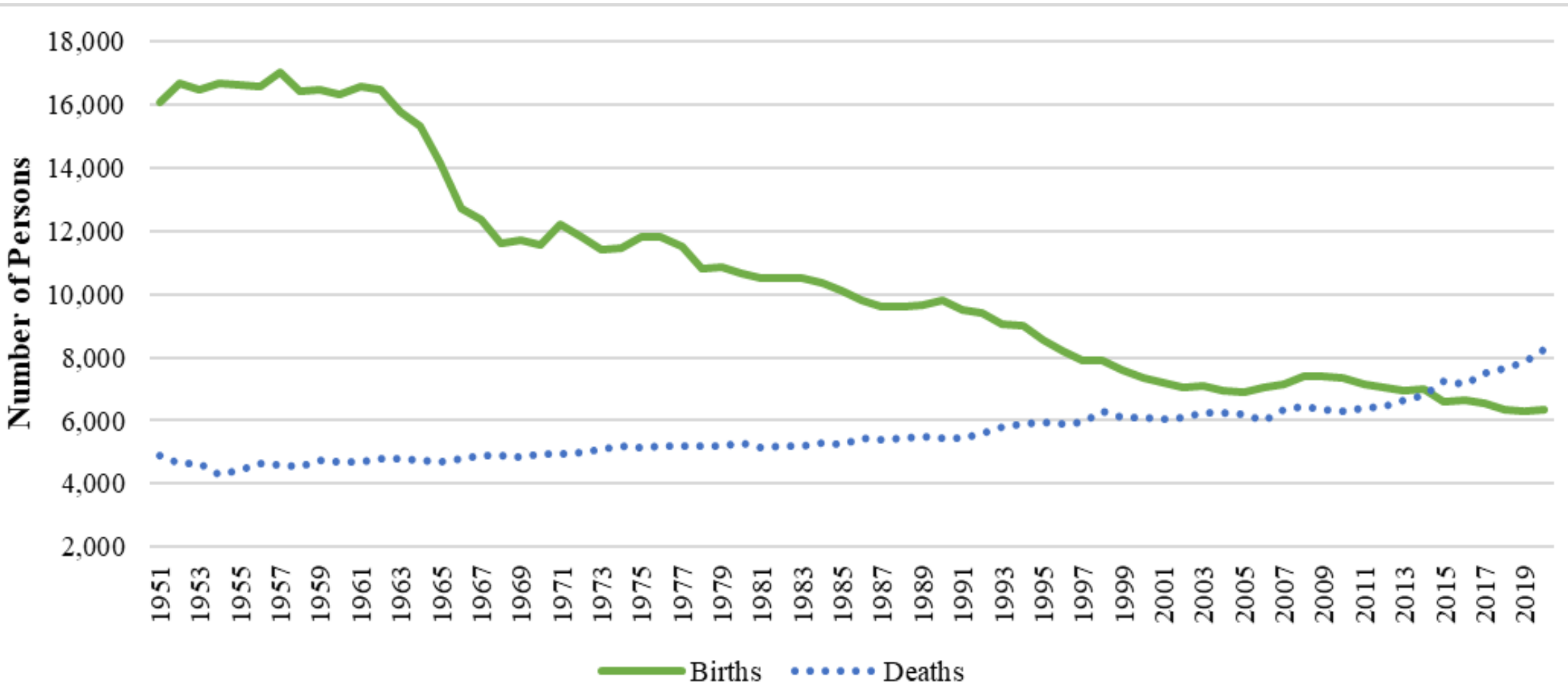
Source: Statistics Canada, Table 17-10-0005-01

## Life Expectancy at Birth, New Brunswick and Canada, 1981-2019



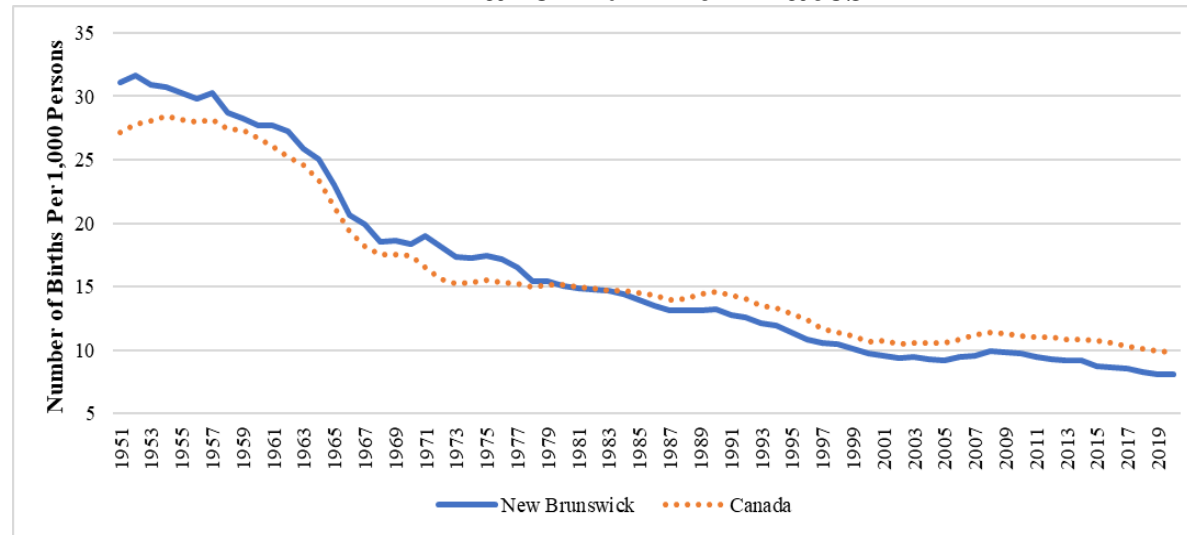
Note: Each year refers to an estimate of the average life expectancy over a three-year period centered on the year in question. Source: Statistics Canada, Table 13-10-0114-01

# Number of Births and Deaths in New Brunswick, 1951-2020

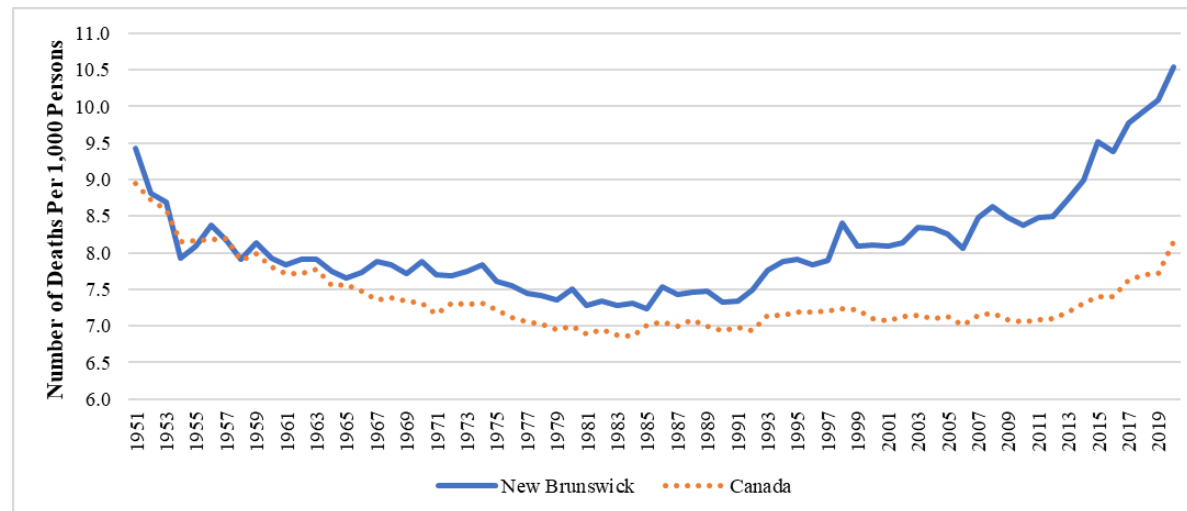


# Birth and Death Rates in New Brunswick and in Canada, 1951-2020

## Panel A: Birth Rates



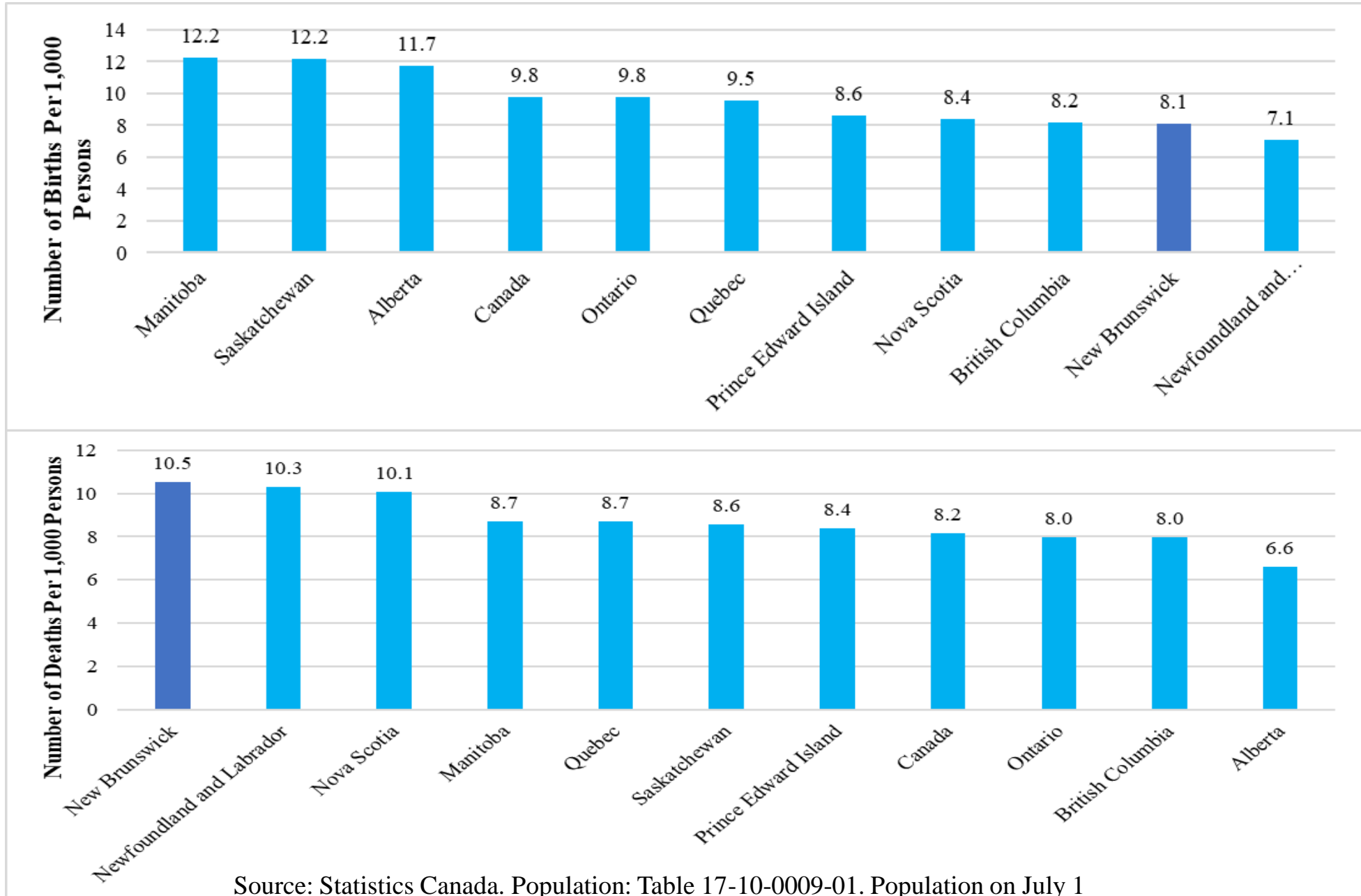
## Panel B: Death Rates



Source: Statistics Canada. Population: Table 17-10-0009-01. Population on July 1 (Quarter 3); Births and deaths: Table 17-10-0059-01

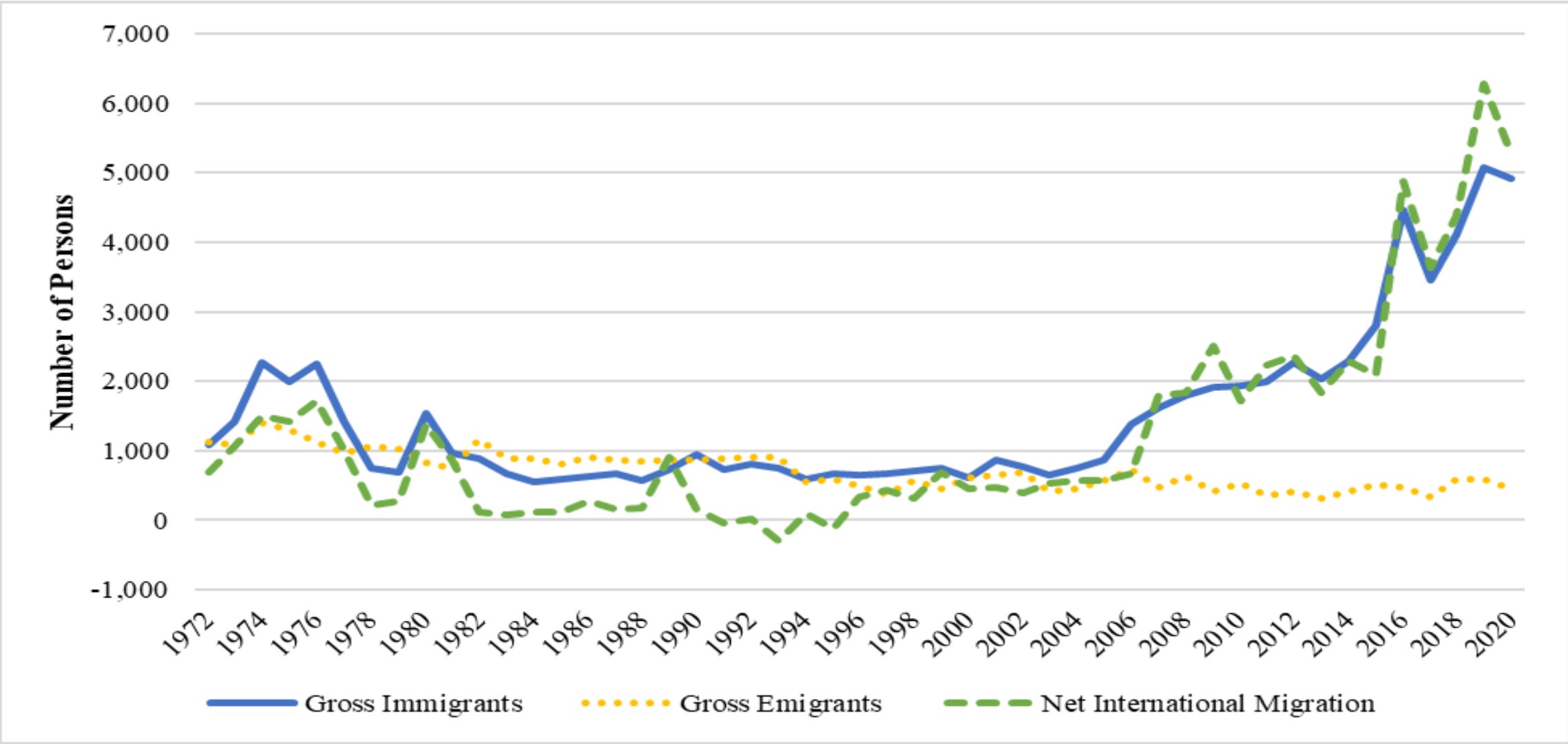


## Birth and Death Rates by Province, Canada, 2020



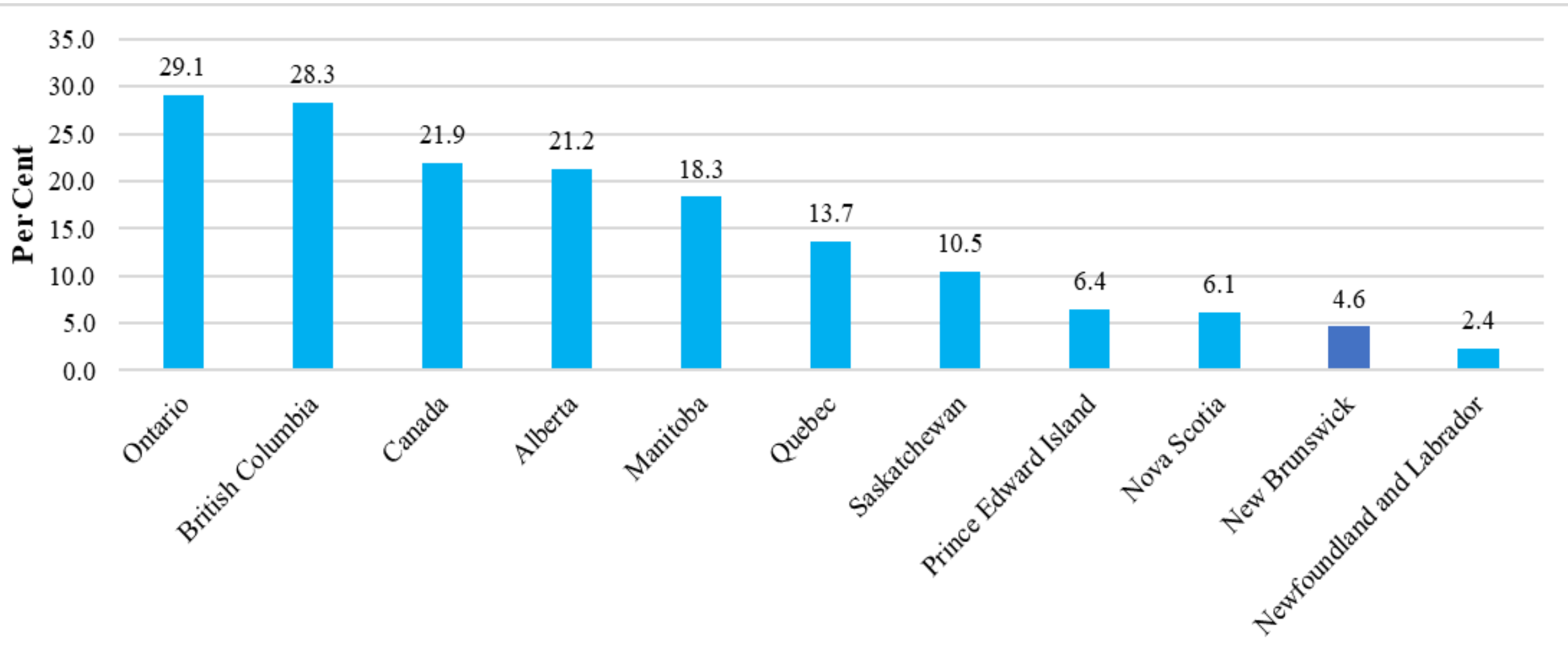
Source: Statistics Canada. Population: Table 17-10-0009-01. Population on July 1 (Quarter 3); Births and deaths: Table 17-10-0059-01

# International Migration, New Brunswick, All Ages, 1972-2020

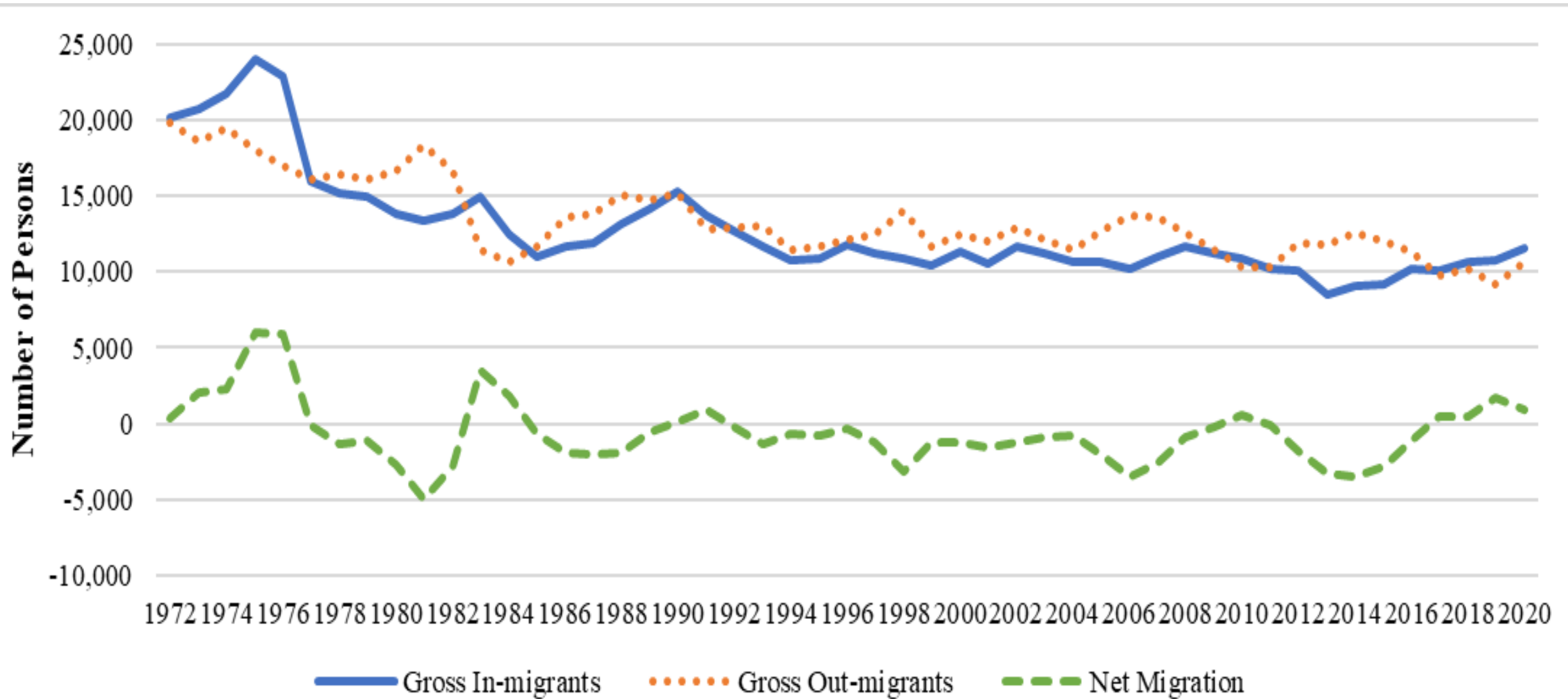


Source: Statistics Canada, Table 17-10-0014-01

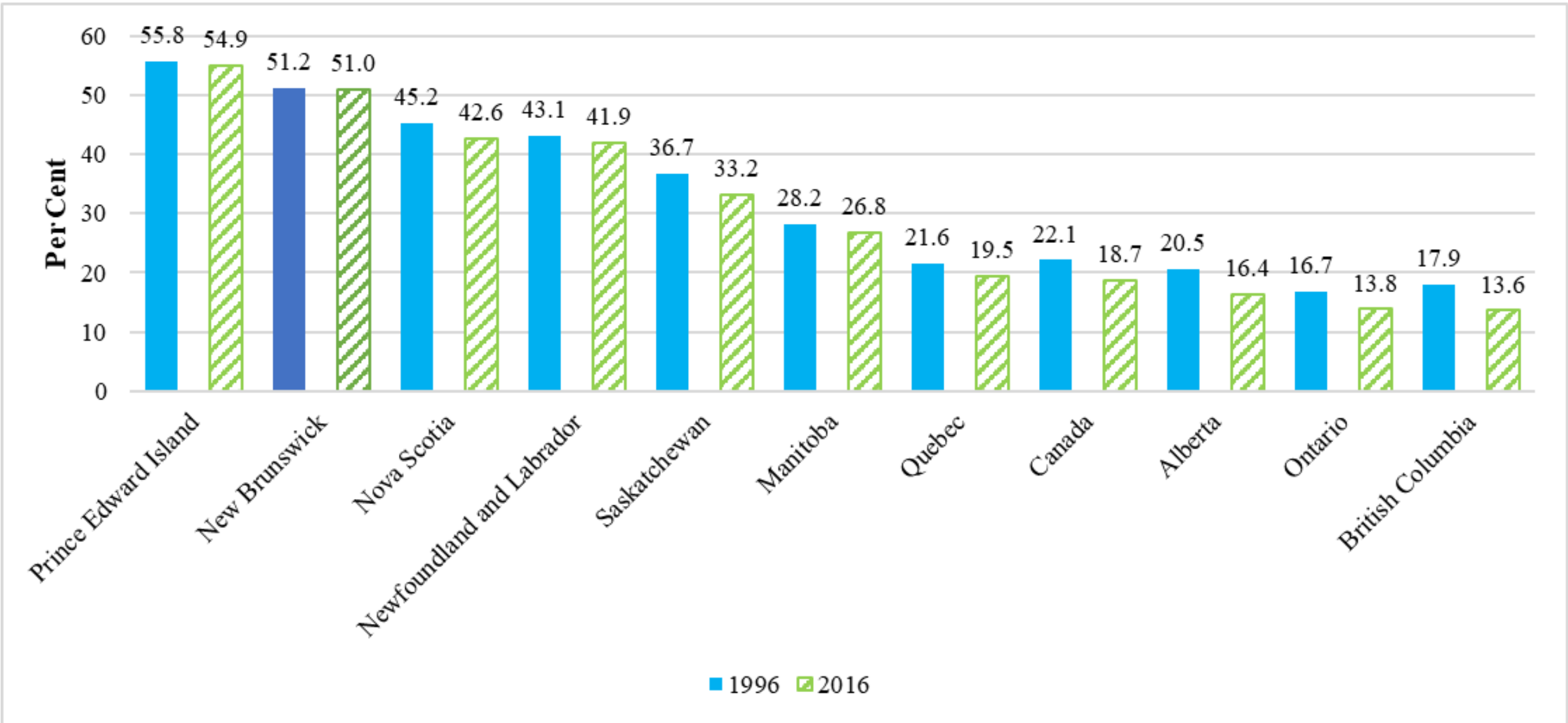
## Share of Immigrants (Foreign-Born Persons) in the Total Population, by Province, Canada, 2016



# Interprovincial Migration, New Brunswick, 1972-2020

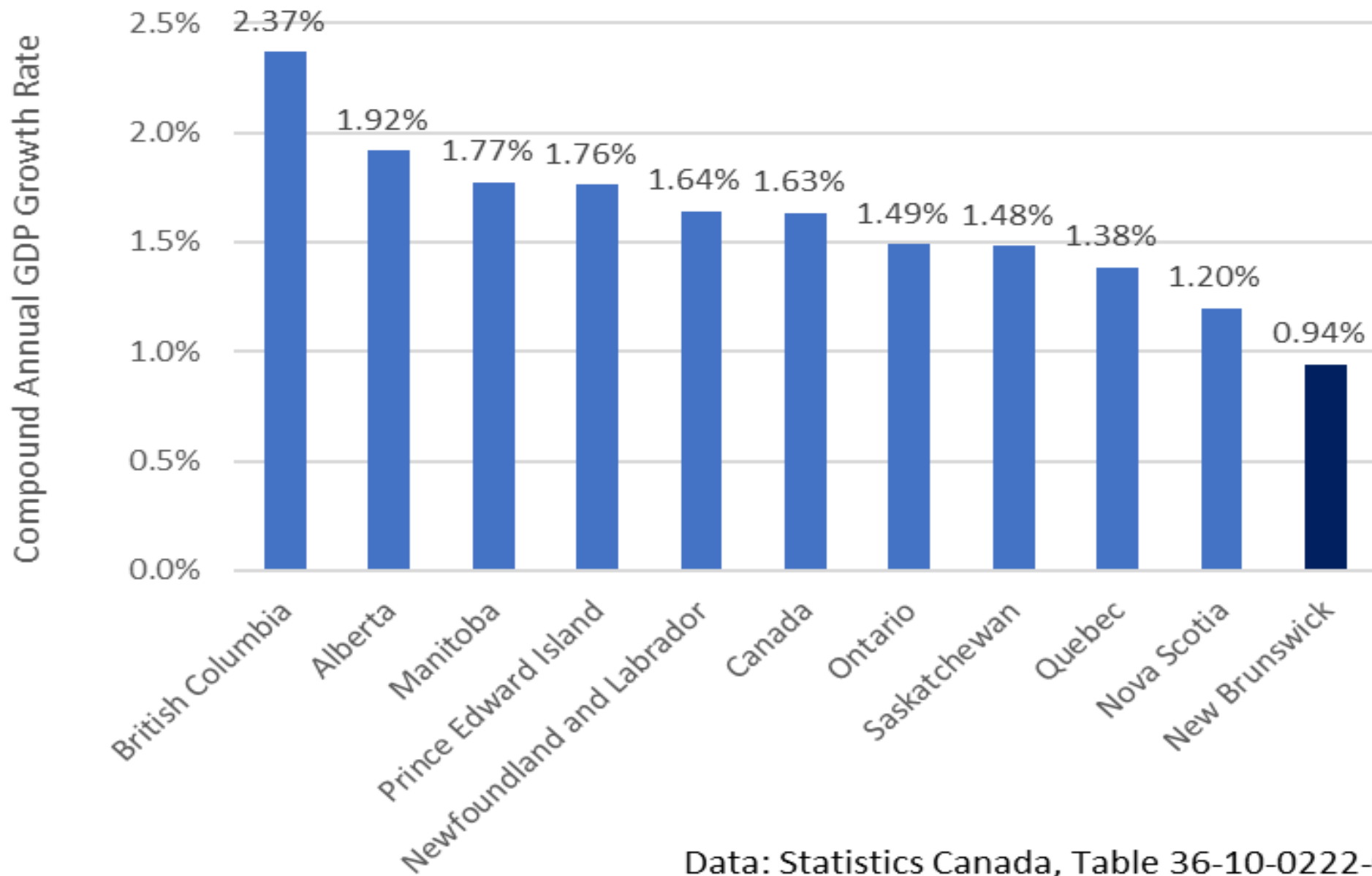


## Share of the Population Living in Rural Areas by Province, Canada, 1996 and 2016



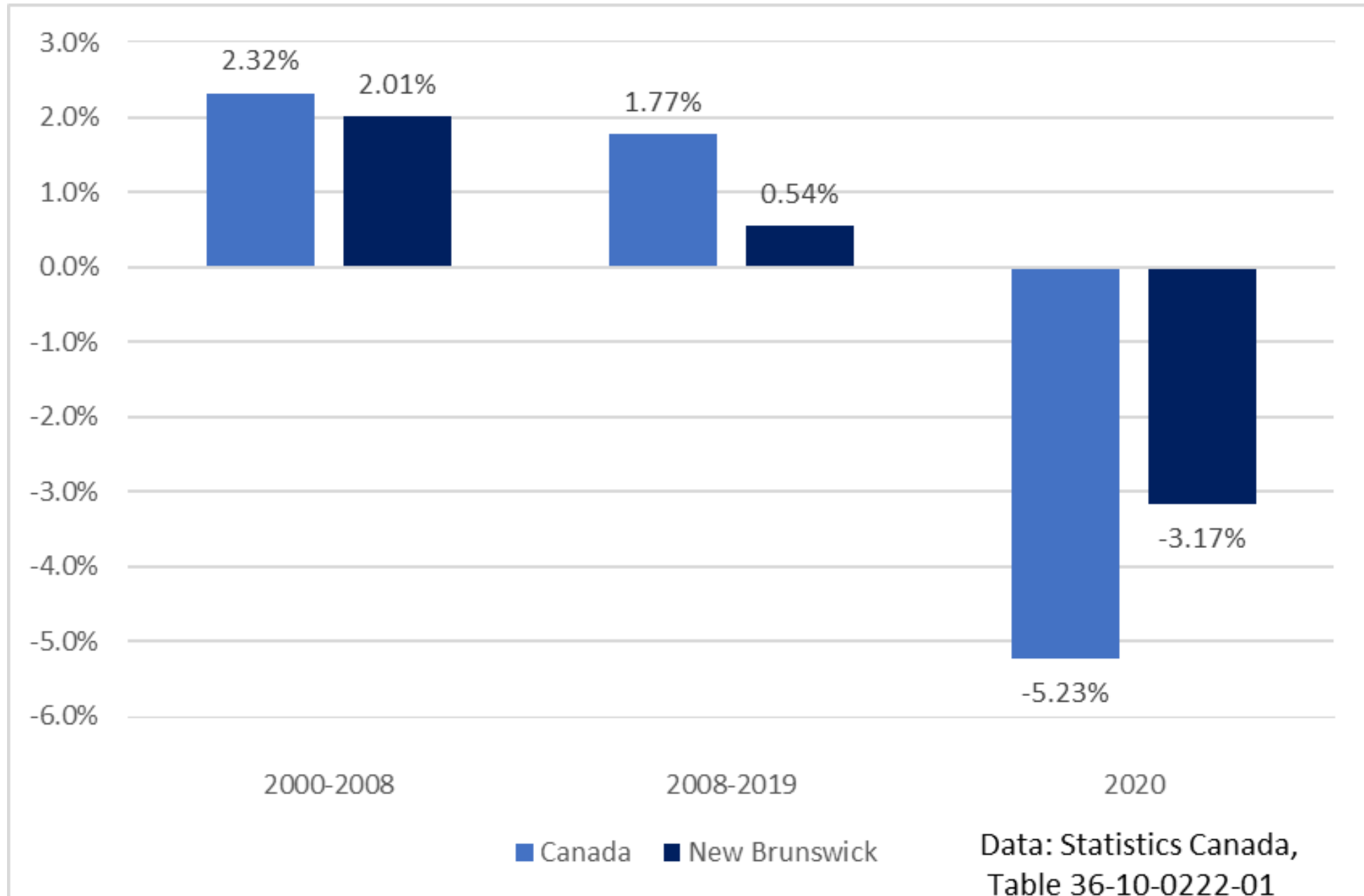
## Section III: Economic Growth Performance

## Economic Growth by Province, 2000-2020



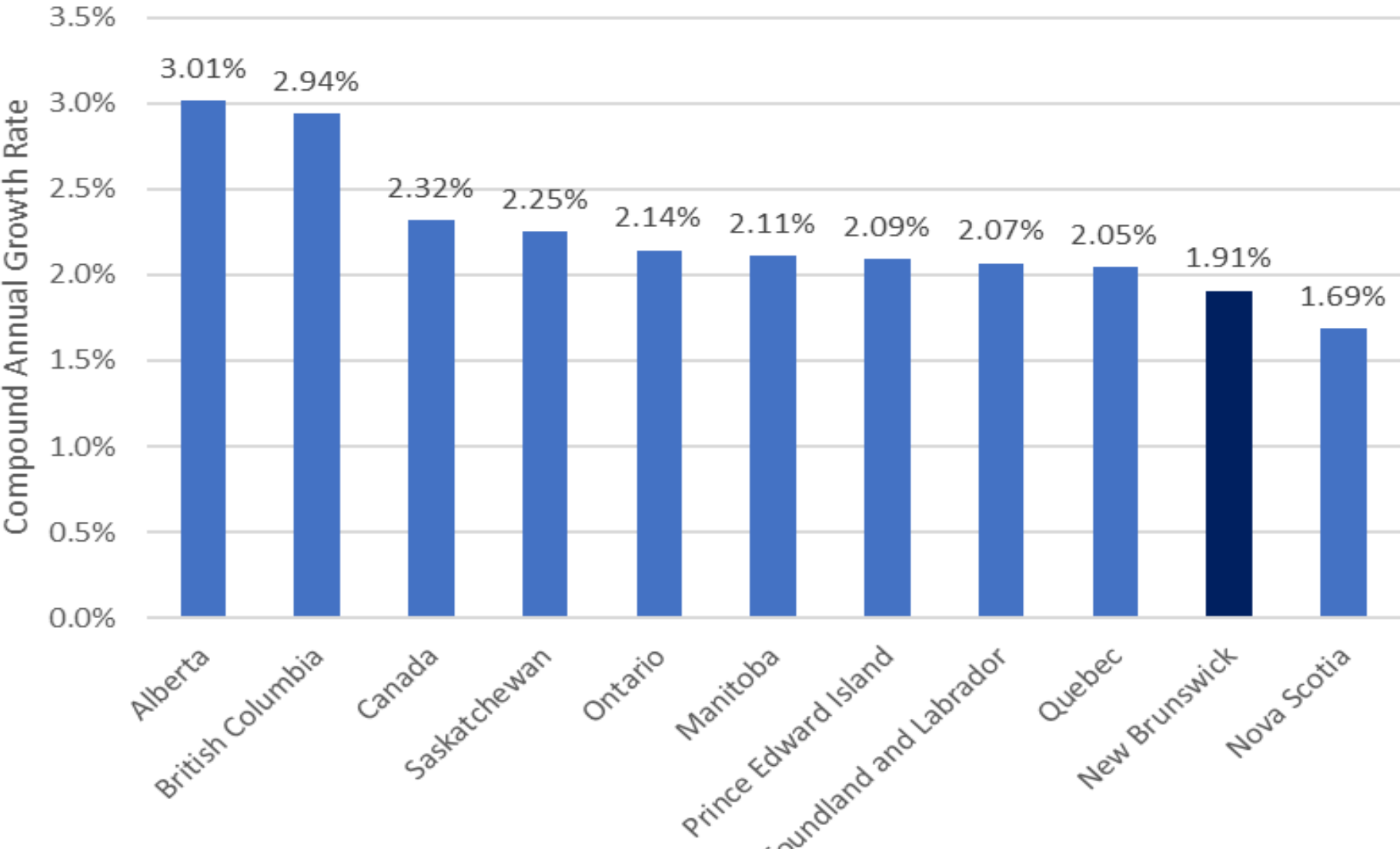
Data: Statistics Canada, Table 36-10-0222-01

## New Brunswick Economic Growth vs. National Average



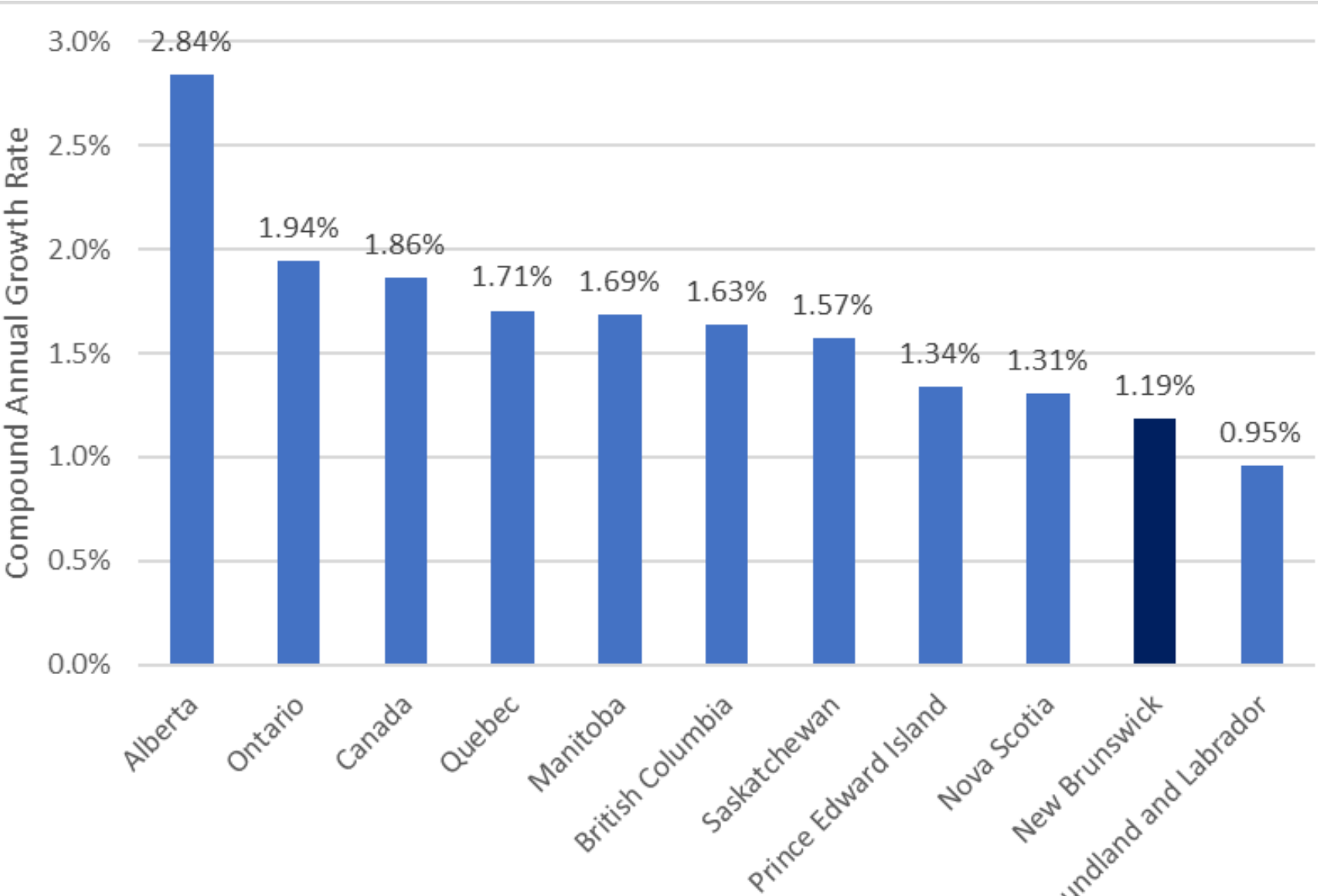


# Household Consumption Growth by Province, 2000-2020



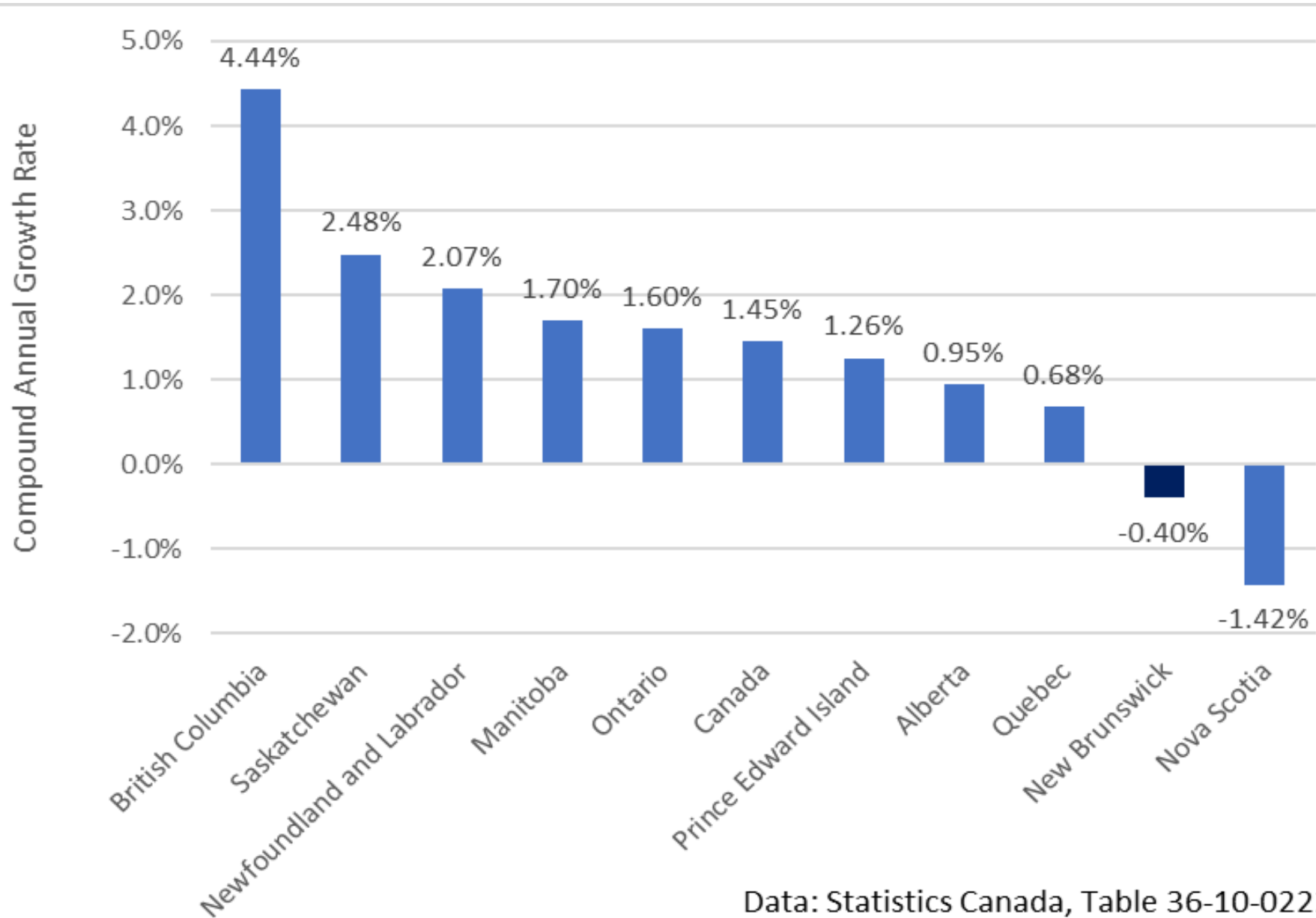
Data: Statistics Canada, Table 36-10-0222-01

# Government Consumption Growth by Province, 2000-2020



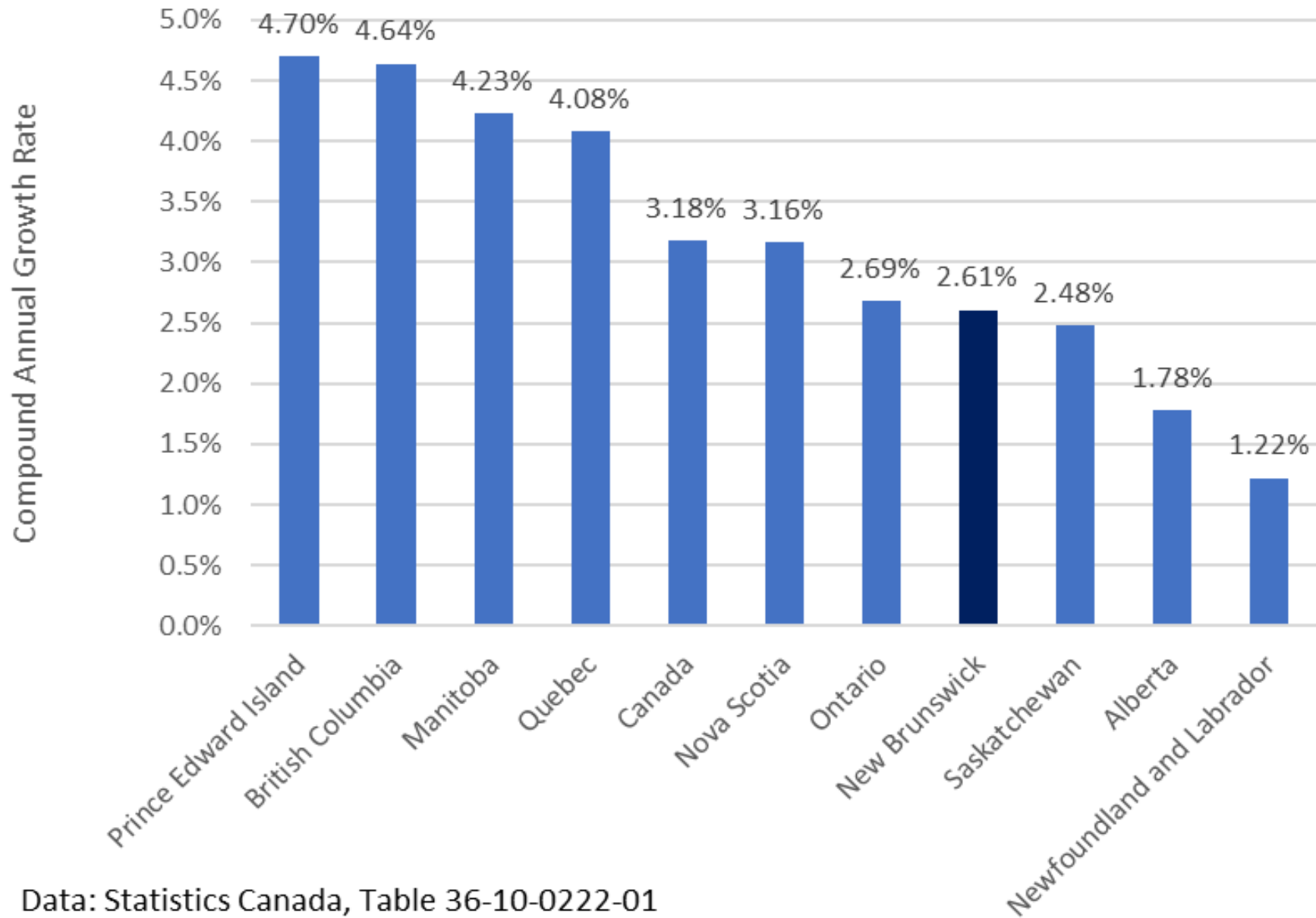
Data: Statistics Canada, Table 36-10-0222-01

## Business Non-Residential Investment Growth by Province, 2000-2020



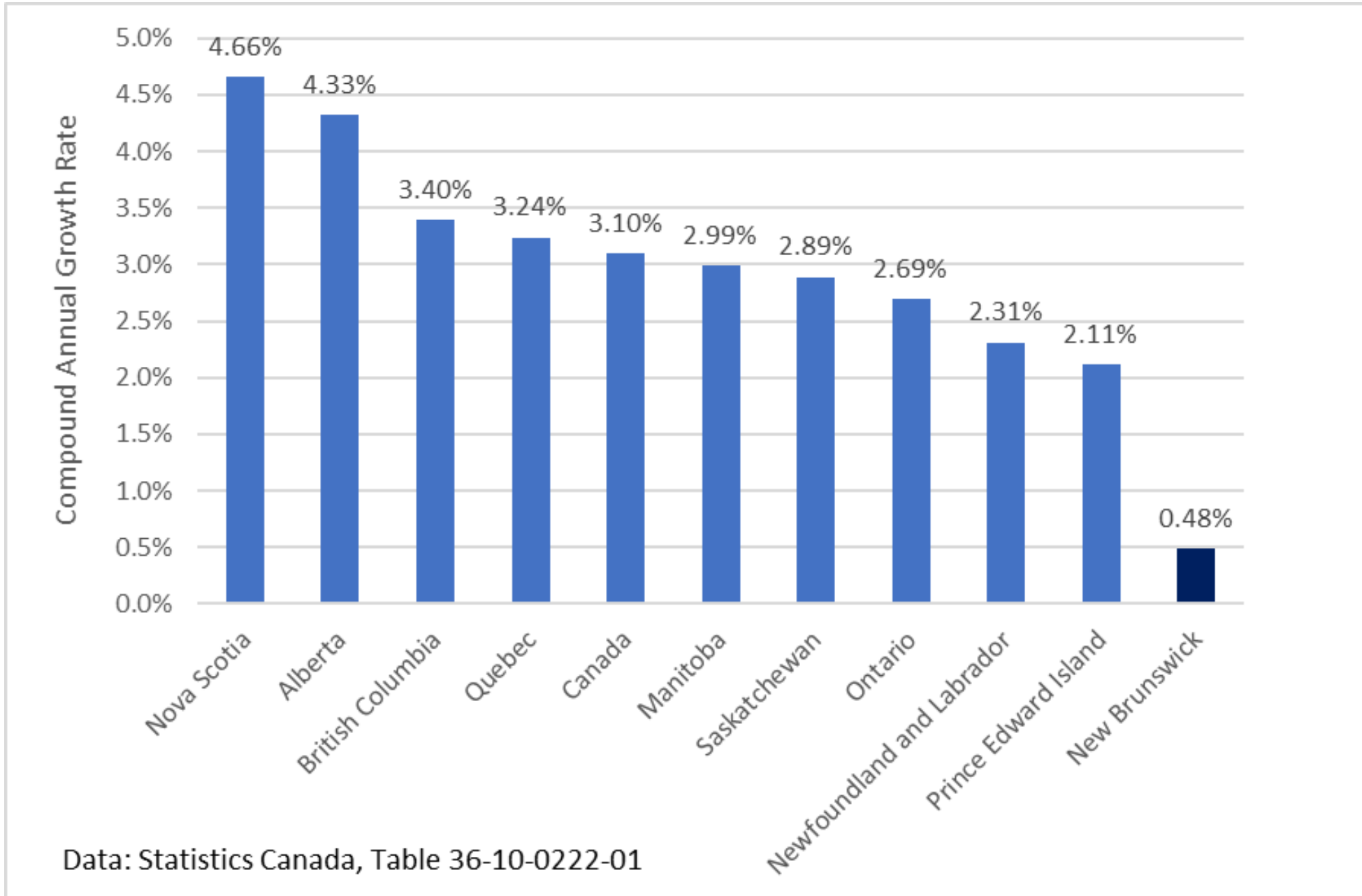
Data: Statistics Canada, Table 36-10-0222-01

## Residential Investment Growth by Province, 2000-2020

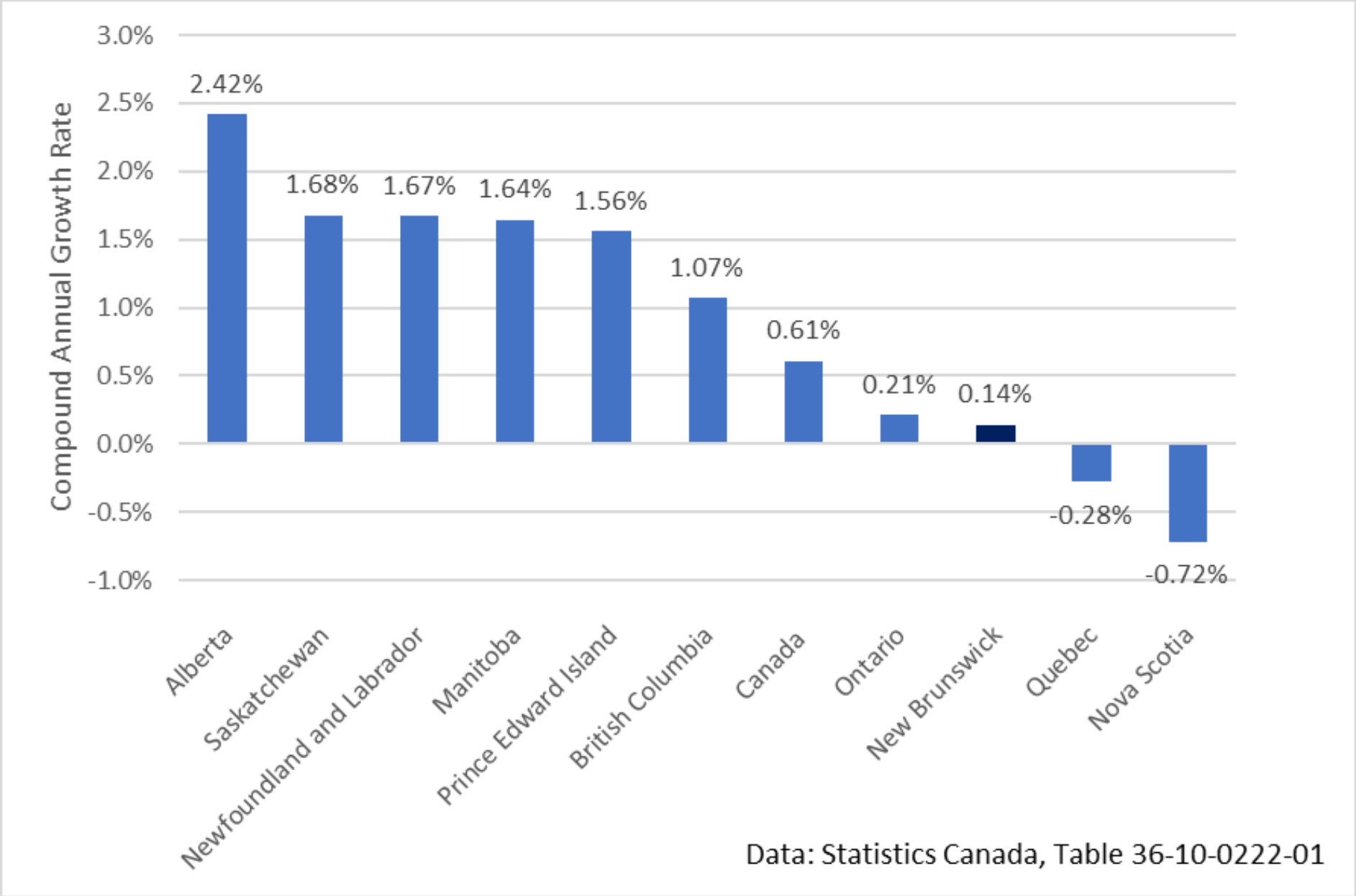


Data: Statistics Canada, Table 36-10-0222-01

## Governmental Investment Growth by Province, 2000-2020

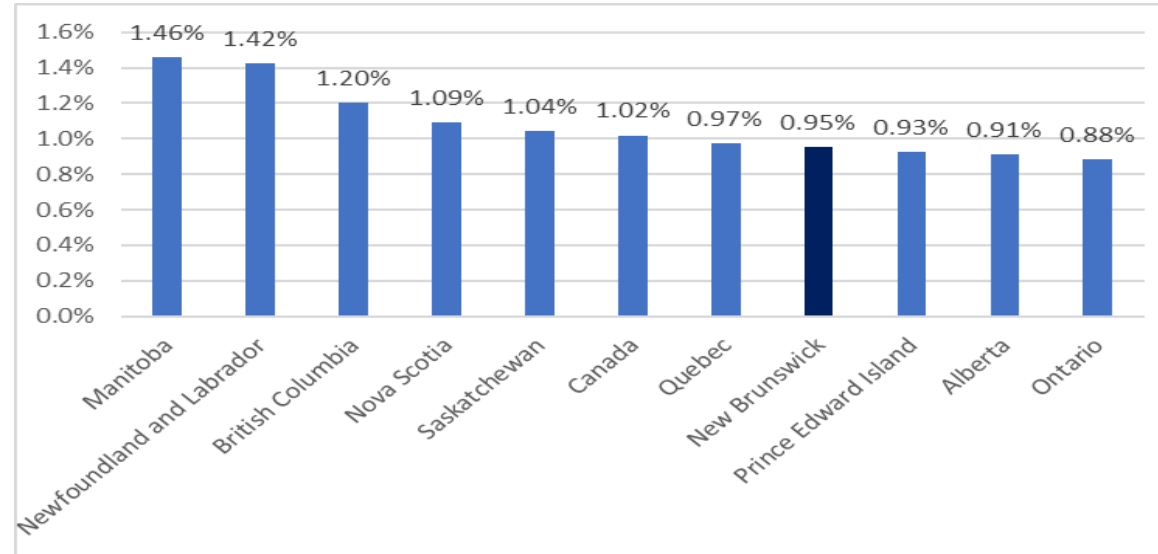


# Export Growth by Province, 2000-2020

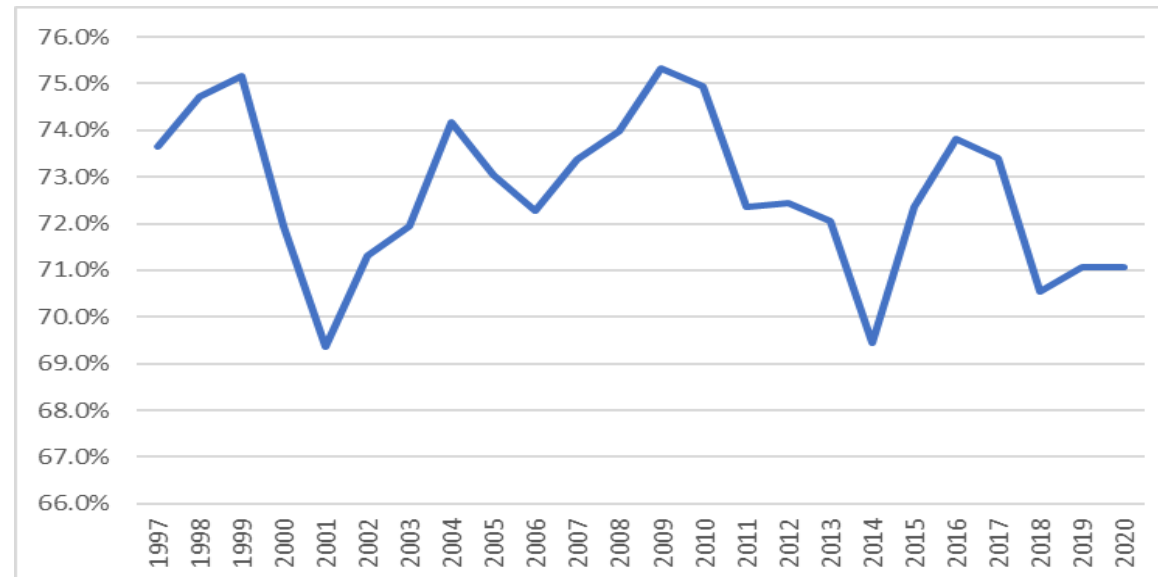


# Labour Productivity Growth

## Panel A: Growth by Province, 2000 - 2019



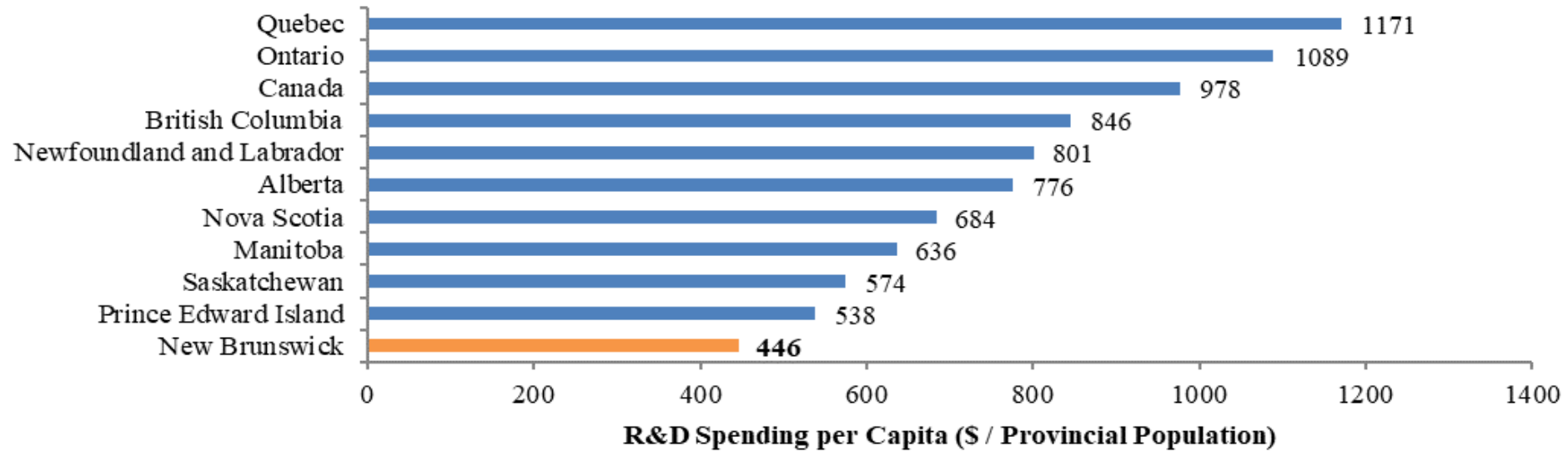
## Panel B: New Brunswick Labour Productivity as a Percentage of Canadian Average, 1997 - 2020



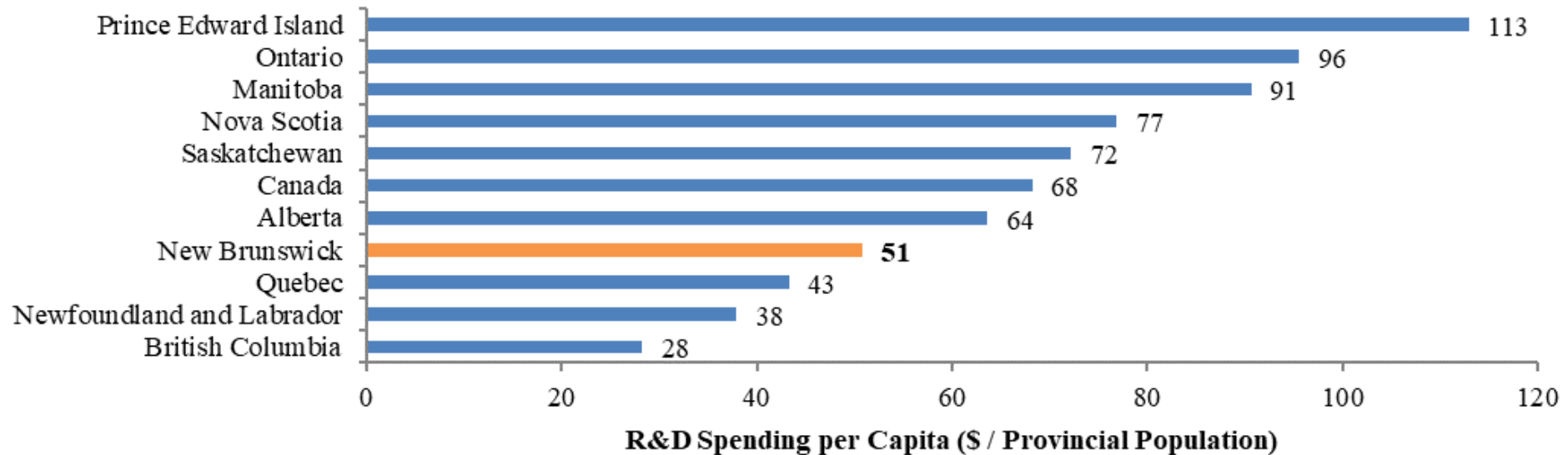
Source: Statistics Canada, Table 36-10-0480-01

# R&D Spending per Capita by Performer Sector and Province, 2017

## Panel A: Total R&D Spending



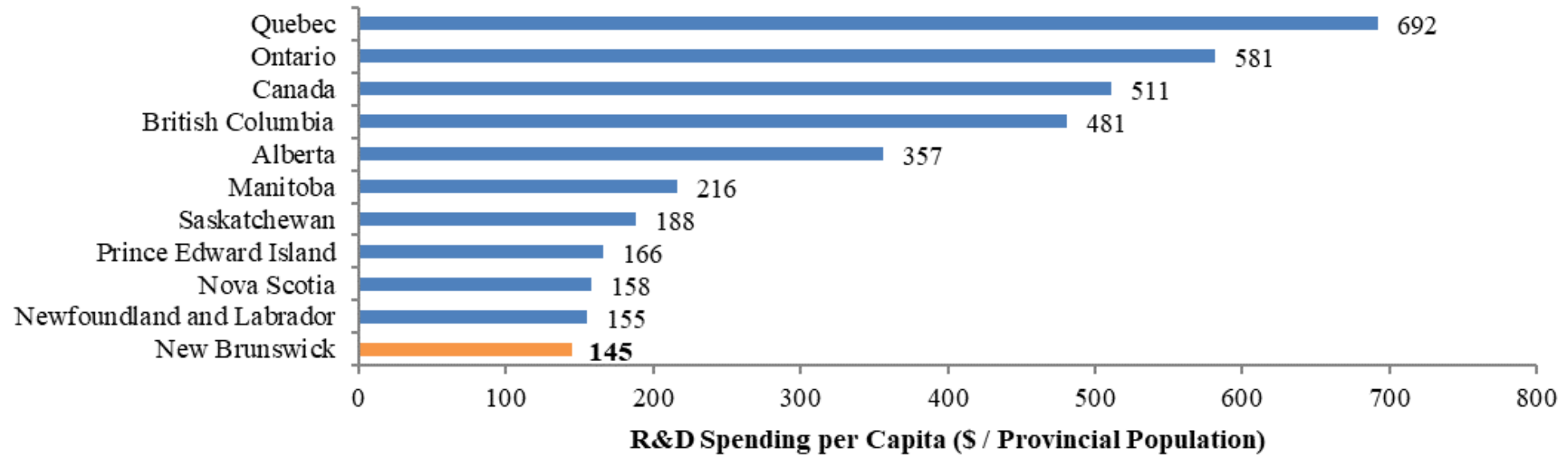
## Panel B: Government



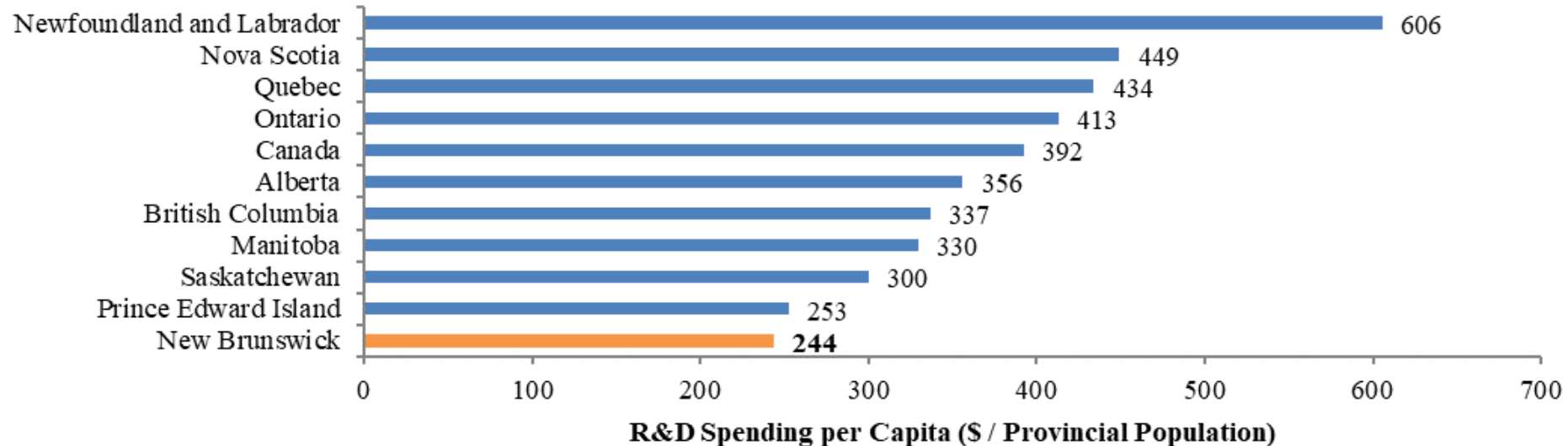


# R&D Spending per Capita by Performer Sector and Province, 2017

## Panel C: Business



## Panel D: Higher Education



## Summary of the Level of Innovation in New Brunswick by Indicator

Indicator	Findings
R&D Spending	<ul style="list-style-type: none"> <li>• R&amp;D spending per capita: Ranked low among provinces and below national average for total spending and for all performer sectors</li> <li>• % of GDP: Ranked low among provinces and below national average for total spending and for all performer sectors</li> <li>• % of total R&amp;D spending: Ranked high in the higher education and government sectors; ranked low in business sector</li> </ul>
R&D Personnel	<ul style="list-style-type: none"> <li>• % of total employment: Ranked low among provinces and below national average for total R&amp;D personnel and for all performer sectors</li> <li>• % of total R&amp;D personnel: Ranked high in the higher education and government sectors; ranked low in business sector</li> </ul>
Patents	<ul style="list-style-type: none"> <li>• Number of patents: Ranked low among provinces</li> </ul>
Firm-Based Innovation Statistics	<ul style="list-style-type: none"> <li>• % of innovative firms: Ranked last among regions</li> <li>• % of firms that use advanced technologies: Ranked last among regions</li> <li>• Least likely to have firms implement any type of innovation</li> </ul>

## Summary of the Level of Innovation in New Brunswick by Indicator

Indicator	Findings
<b>Non-Residential Fixed Capital Investment</b>	<ul style="list-style-type: none"> <li>• % of GDP: Ranked low among provinces and below national average for total investment and 2 of 4 investment types (engineering construction, and intellectual property products)</li> <li>• % of total investment: Ranked low among provinces for 2 of 4 investment types (engineering construction and intellectual property products)</li> </ul>
<b>Investment in Intellectual Property Products</b>	<ul style="list-style-type: none"> <li>• % of GDP: Ranked low among provinces and below national average in 2 of 3 types of IPP (mineral exploration and evaluation, and R&amp;D)</li> <li>• % of total IPP investment: Ranked low among provinces and below national average in 2 of 3 types of IPP (mineral exploration and evaluation, and R&amp;D)</li> </ul>
<b>Business Entry</b>	<ul style="list-style-type: none"> <li>• Gross and net entry rates: Ranked low among the provinces and below the national average</li> </ul>

## Summary of the Trends in Innovation in New Brunswick by Indicator

Indicator	Findings
R&D Spending	<ul style="list-style-type: none"> <li>• Absolute change: Improved from 1981 to 2017 for total spending and all performer sectors, except the government sector</li> <li>• Relative change: Improved from 1981 to 2017 for total spending and all performer sectors, except the government sector</li> </ul>
R&D Personnel	<ul style="list-style-type: none"> <li>• Absolute change: Improved from 2000 to 2013 for total personnel and all performer sectors, except the government sector</li> <li>• Relative change: Improved from 2000 to 2013 for total personnel and all performer sectors, except the government sector</li> </ul>
Patents	<ul style="list-style-type: none"> <li>• Absolute change: Improved from 1980 to 2016</li> </ul>
Firm-Based Innovation Statistics	<ul style="list-style-type: none"> <li>• Absolute change: Improved from period 2010-2012 to 2015-2017</li> </ul>

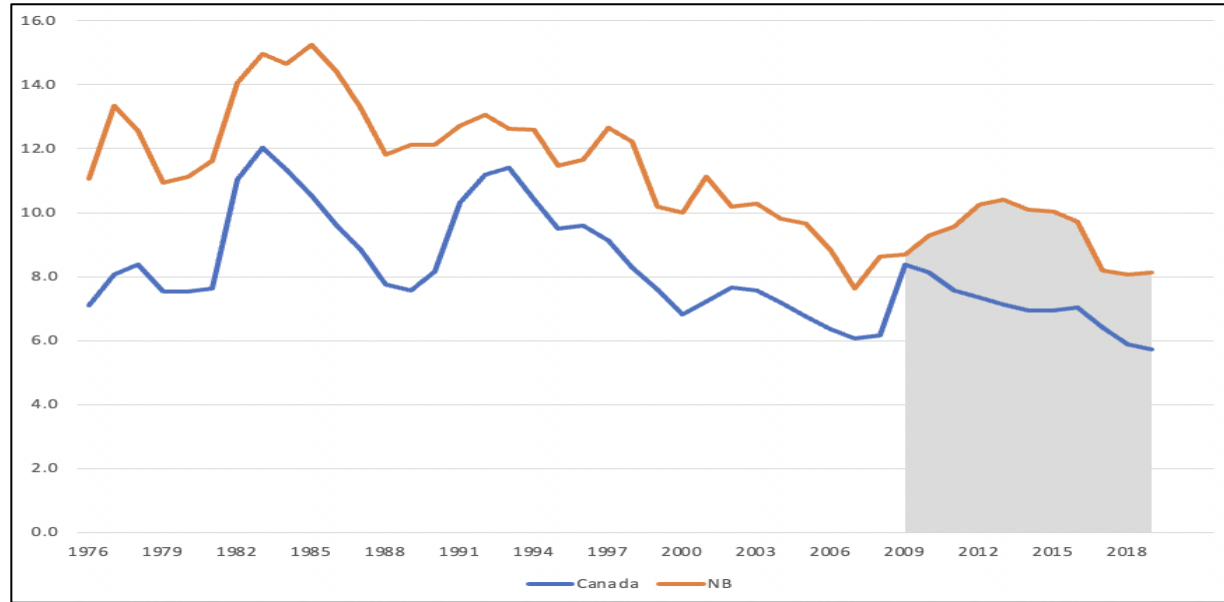
## Summary of the Trends in Innovation in New Brunswick by Indicator

Indicator	Findings
<b>Non-Residential Fixed Capital Investment</b>	<ul style="list-style-type: none"> <li>• Absolute change: Deteriorated from 1981 to 2018 for total investment and all performer sectors, except intellectual property products</li> <li>• Relative change: Deteriorated from 1981 to 2018 for total investment and all performer sectors, except intellectual property products</li> </ul>
<b>Investment in Intellectual Property Products</b>	<ul style="list-style-type: none"> <li>• Absolute change: Improved from 1981 to 2018 for all types of IPP, except mineral exploration and evaluation</li> <li>• Relative change: Deteriorated from 1981 to 2018 for all types of IPP, except total IPP and mineral exploration and evaluation</li> </ul>
<b>Business Entry</b>	<ul style="list-style-type: none"> <li>• Absolute change: Number of active businesses deteriorated from 2002 to 2017</li> </ul>

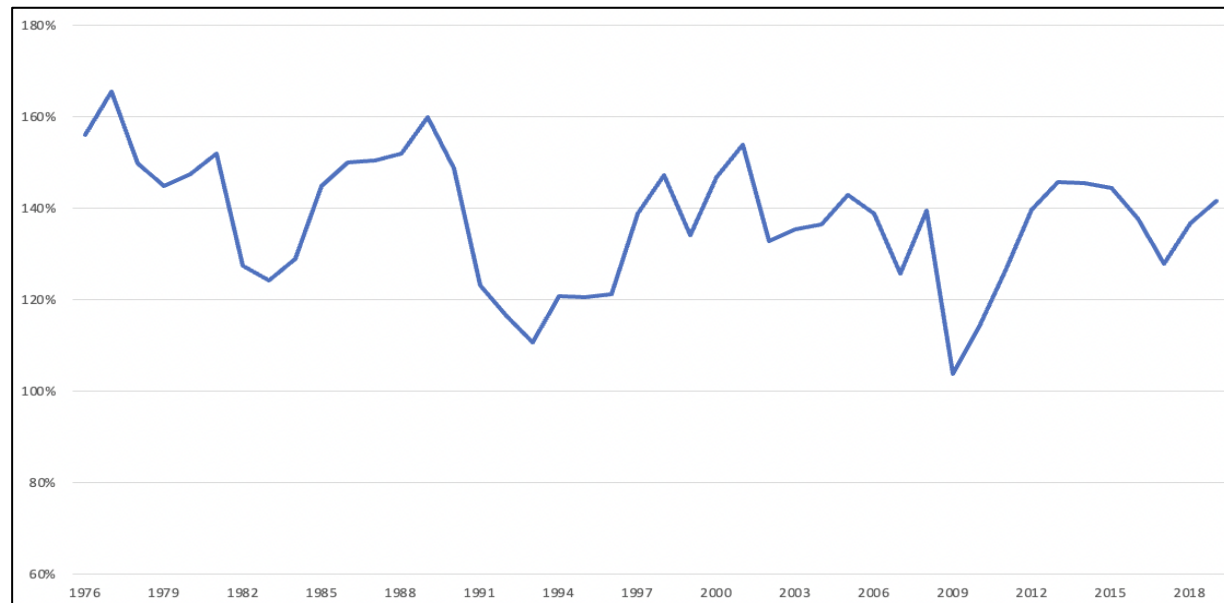
## Section IV: Labour Market Performance

# New Brunswick Unemployment Rates

## Panel A: Unemployment Rate, New Brunswick & Canada

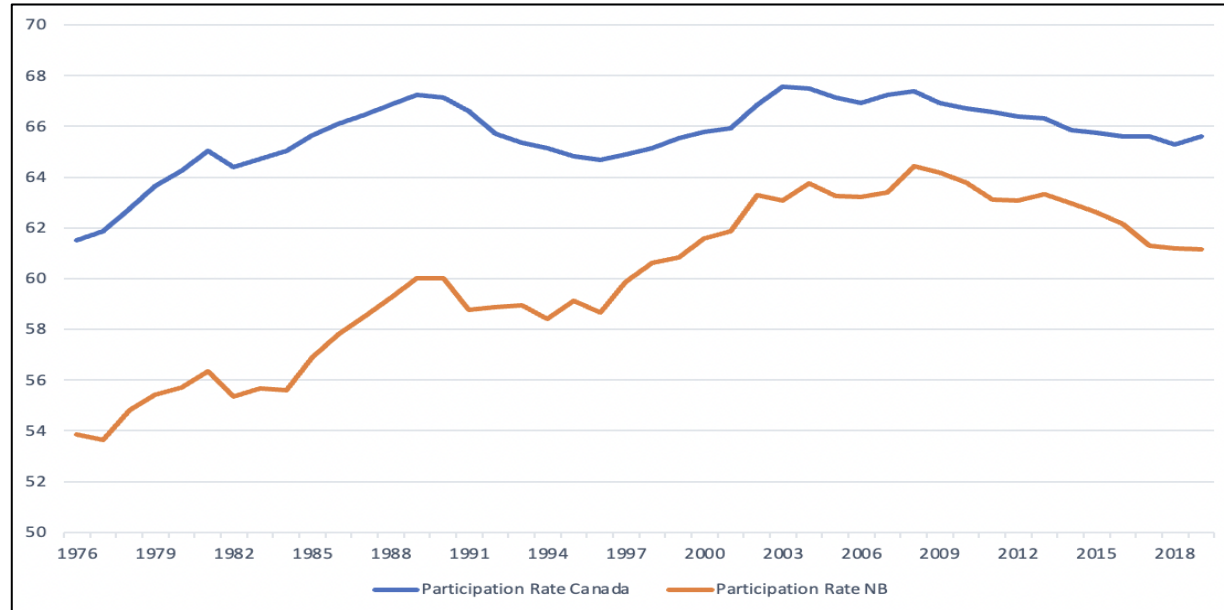


## Panel B: New Brunswick Unemployment Rate as a Percentage of Canadian Average

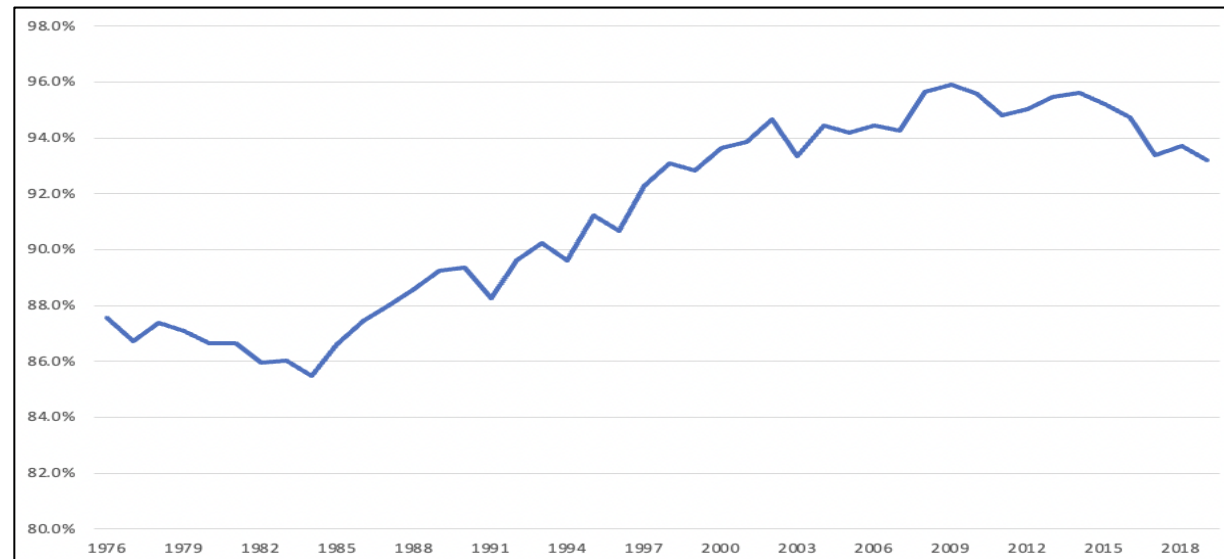


# New Brunswick Labour Force Participation Rates

## Panel A: New Brunswick and Canada Participation Rate, 1976-2019



## Panel B: New Brunswick Participation Rate as a Percentage of Canadian Average



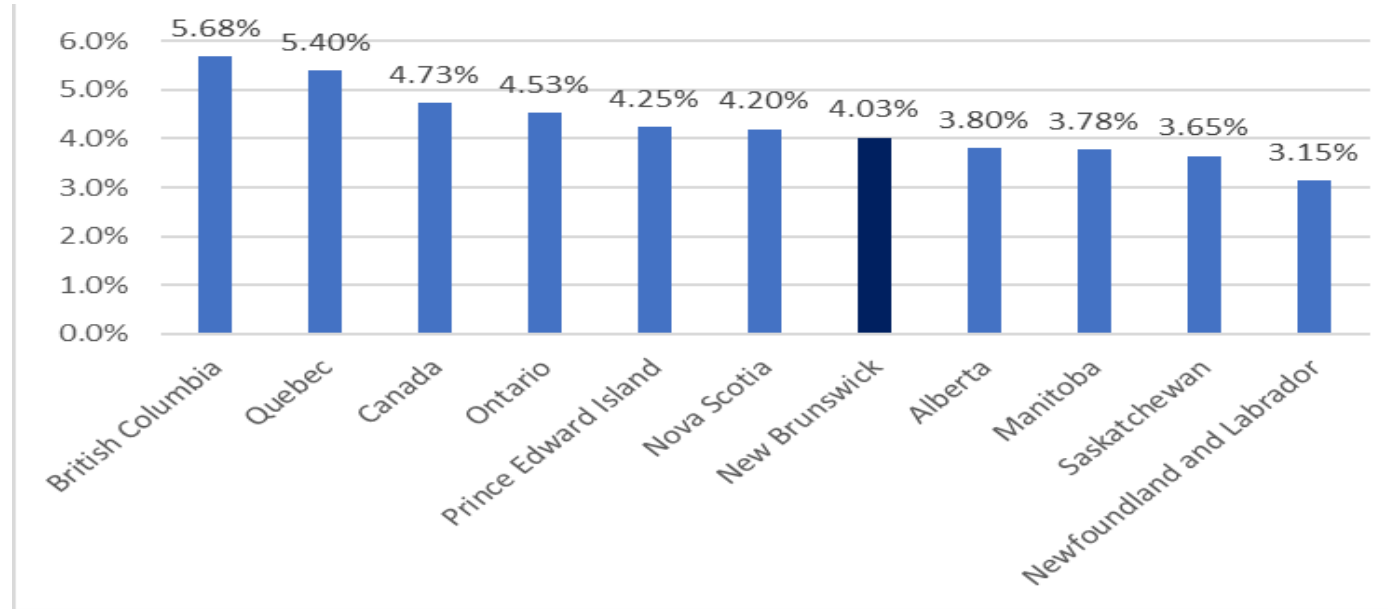


## Shift Share Analysis of Participation Rate for New Brunswick and Canada, 2019

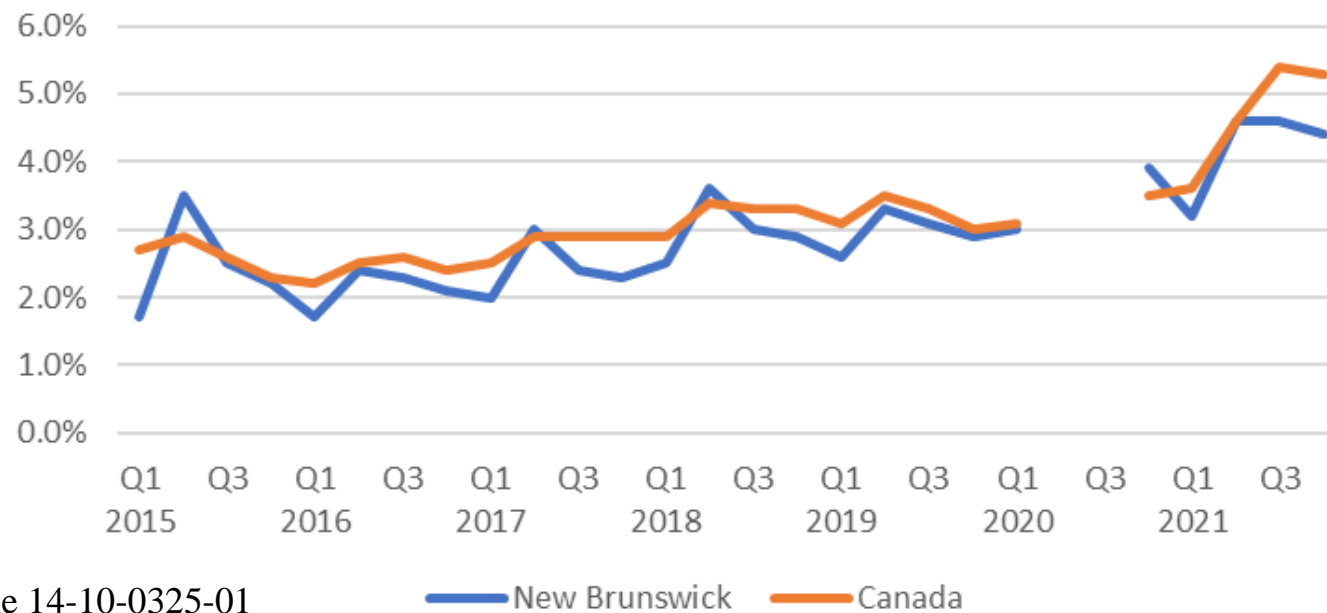
Region and Age Groups	Participation Rate (%)	Proportion of Labour Force	Total
<b>New Brunswick</b>			
15-24	66.8	12.7%	8.46
25-54	86.3	43.7%	37.71
55+	34.3	43.6%	14.97
			<b>61.14</b>
<b>Canada</b>			
15-24	64.9	14.5%	9.43
25-54	87.3	47.9%	41.83
55+	37.9	37.6%	14.23
			<b>65.49</b>
<b>NB with CAD Population</b>			
15-24	66.8	14.5%	9.71
25-54	86.3	47.9%	41.35
55+	34.3	37.6%	12.88
			<b>63.94</b>

# Job Vacancy Rate

## Panel A: Job Vacancy Rate by Province, 2021

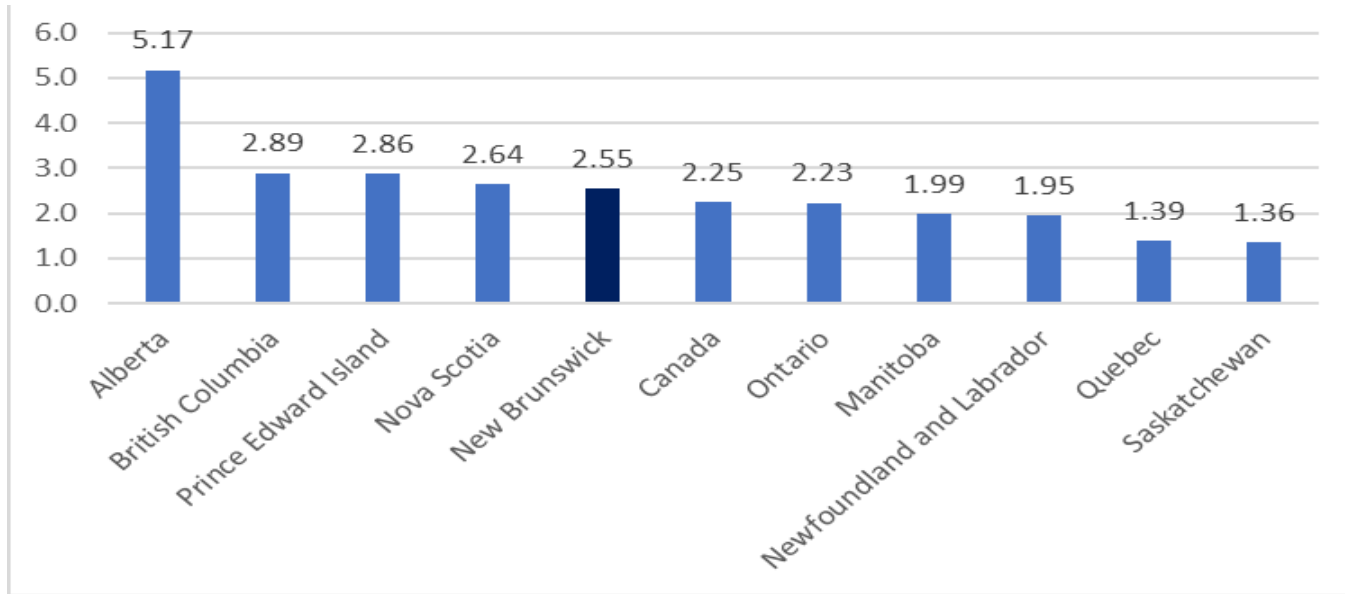


## Panel B: New Brunswick Job Vacancy Rate versus Canadian Average, 2015:Q1 – 2021:Q4

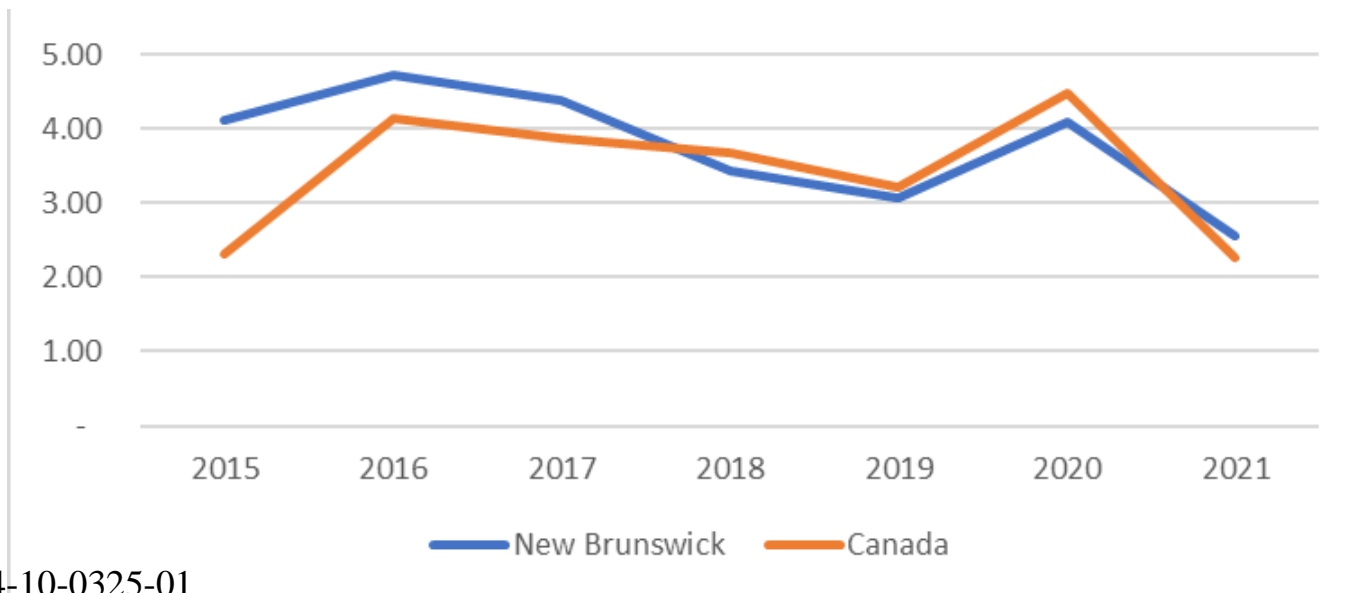


# Unemployment / Job Vacancy (UV) Ratio

## Panel A: UV Ratio by Province



## Panel B: New Brunswick UV Ratio versus Canadian Average, 2015 - 2021



## Section V: Living Standards and Economic Well-being

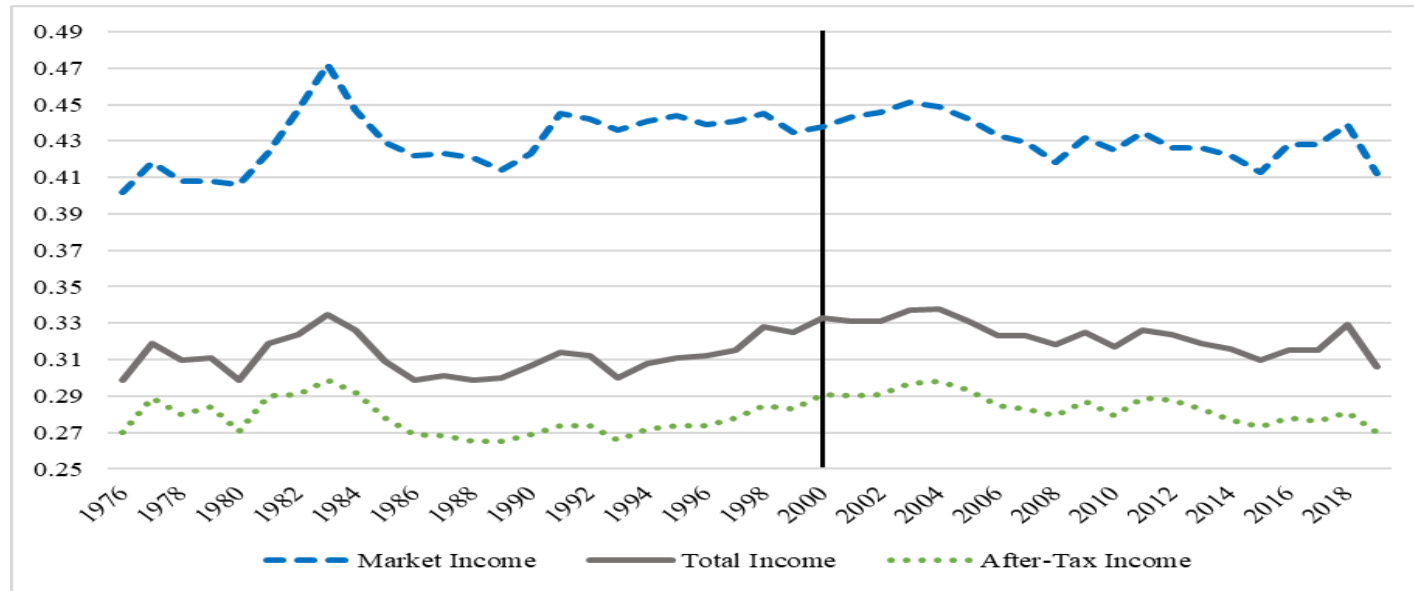
# Real Income Disparities Between New Brunswick and Canada, 1981, 2000, and 2019

Variable	1981			2000			2019		
	NB	CA	NB/CA	NB	CAN	NB/CA	NB	CA	NB/CA
GDP Per Capita (chained 2012 dollars)	23,920	35,108	68.1	36,220	47,172	76.8	43,209	55,922	77.3
GDP Per Worker (chained 2012 dollars)	65,572	77,078	85.1	81,978	98,069	83.6	92,960	110,732	84.0
Personal Income Per Capita (2012 dollars)	22,152	30,876	71.7	30,913	37,542	82.3	40,456	46,165	87.6
Personal Disposable Income Per Capita (2012 dollars)	15,495	20,791	74.5	20,438	24,099	84.8	27,230	30,298	89.9
Median After-Tax Income (all economic units) (2019 dollars)	45,800	54,600	83.9	45,800	50,700	90.3	56,400	62,900	89.7
Average After-Tax Income (all economic units) (2019 dollars)	51,400	60,600	84.8	53,400	61,900	86.3	65,400	77,200	84.7
Average After Tax Income of the Top 1% (2019 dollars)*	155,666	217,005	71.7	218,997	384,478	57.0	263,140	431,958	60.9
Average After-Tax Income of the Bottom 10% (2019 dollars)	10,200	10,700	95.3	9,800	8,200	119.5	12,100	11,400	106.1
Gini Coefficient of Adjusted Market Income	0.424	0.369	114.9	0.438	0.439	99.8	0.412	0.421	97.9
Gini Coefficient of Adjusted Total Income	0.319	0.313	101.9	0.333	0.362	92.0	0.306	0.338	90.5
Gini Coefficient of Adjusted After-Tax Income	0.290	0.285	101.8	0.291	0.317	91.8	0.270	0.299	90.3
LICO	15.0	11.6	129.3	9.2	12.5	73.6	4.5	6.5	69.2
LIM	20.5	12.0	170.8	14.8	12.8	115.6	14.9	12.1	123.1
MBM (2006 (2008-base), 2015 and 2019 (2018-base))	19.2	15.6	123.1	16.1	14.5	111.0	9.4	10.1	93.1

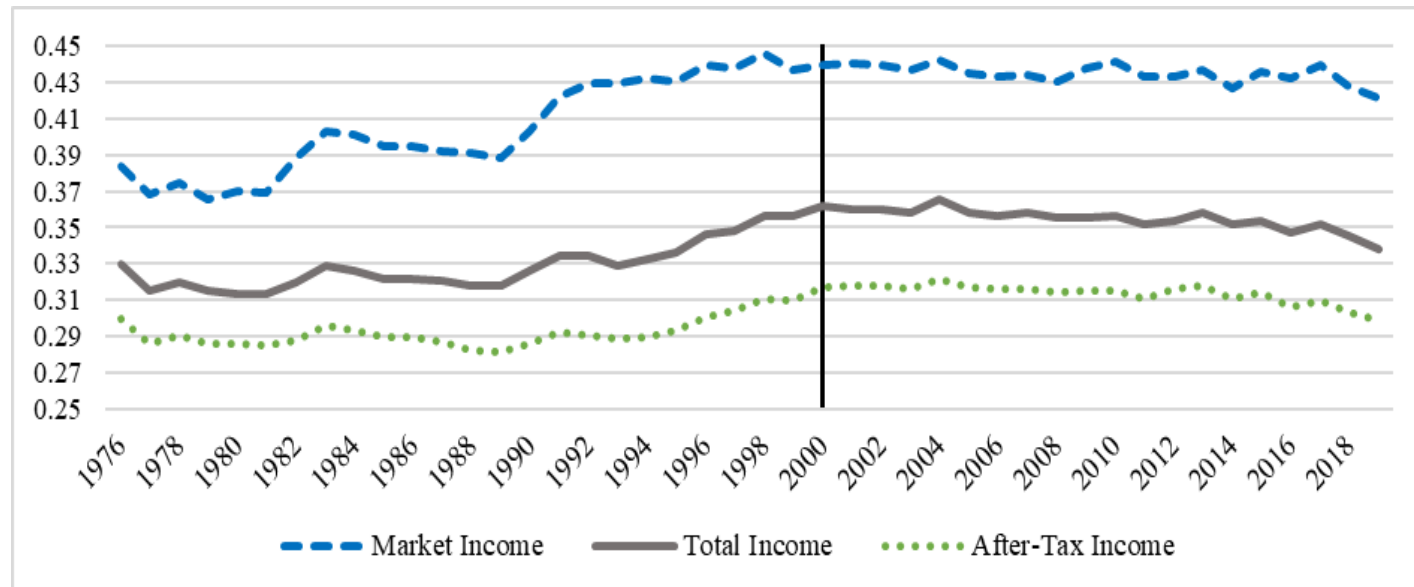
\*1982, 2000, and 2009

# Gini Coefficients of Adjusted Incomes in New Brunswick and Canada, 1976-2019

## Panel A: Gini Coefficients in New Brunswick

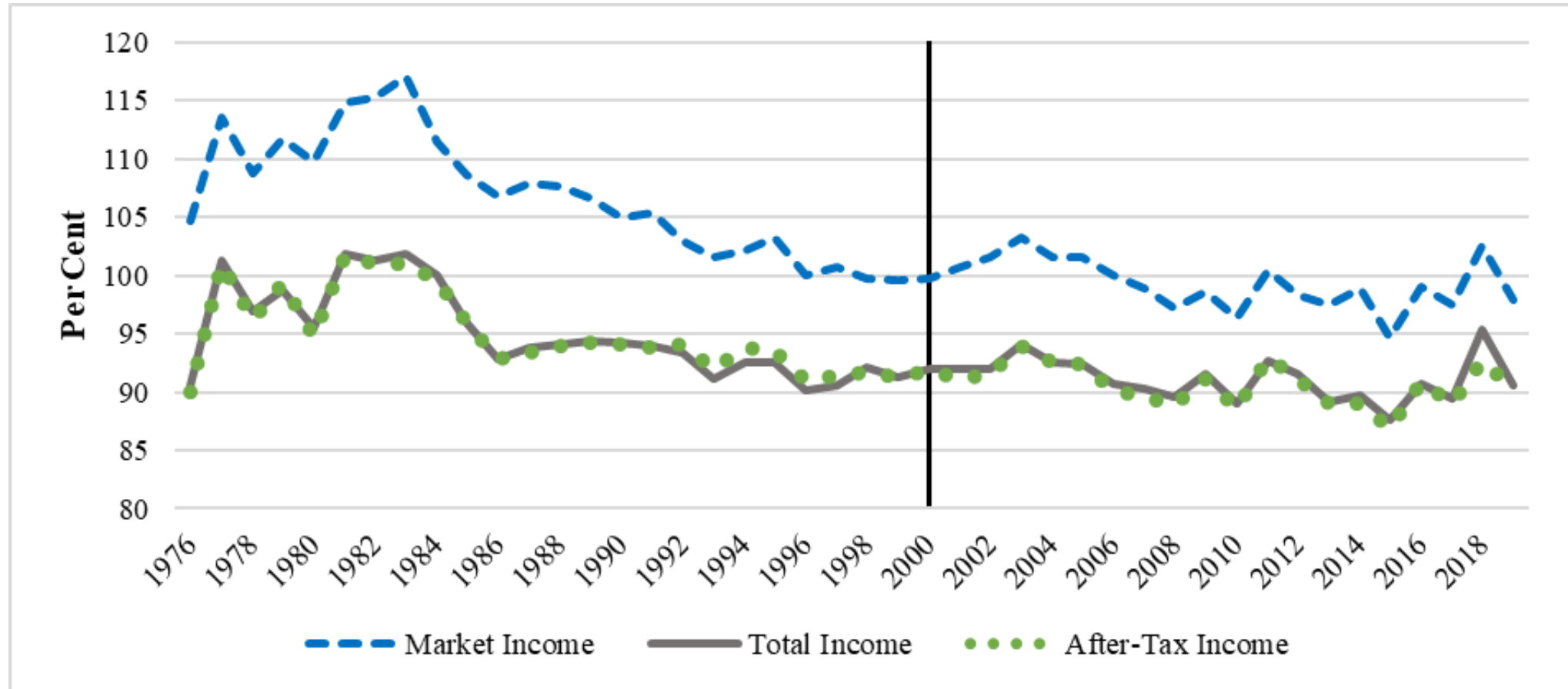


## Panel B: Gini Coefficients in Canada



# Gini Coefficients of Adjusted Incomes in New Brunswick and Canada, 1976-2019

**Panel C: New Brunswick Gini Coefficients of Adjusted Incomes as Proportions of Canadian Gini Coefficients of Adjusted Incomes, 1976-2019**



## Gini Coefficients of Adjusted Incomes in New Brunswick and Canada, 1976, 2000, and 2019

### Panel A: Gini Coefficients in New Brunswick and Canada

Adjusted Income	1976		2000		2019	
	CA	N.B.	CA	N.B.	CA	N.B.
Market Income	0.384	0.402	0.439	0.438	0.421	0.412
Total Income	0.330	0.299	0.362	0.333	0.338	0.306
After-Tax Income	0.300	0.270	0.317	0.291	0.299	0.270

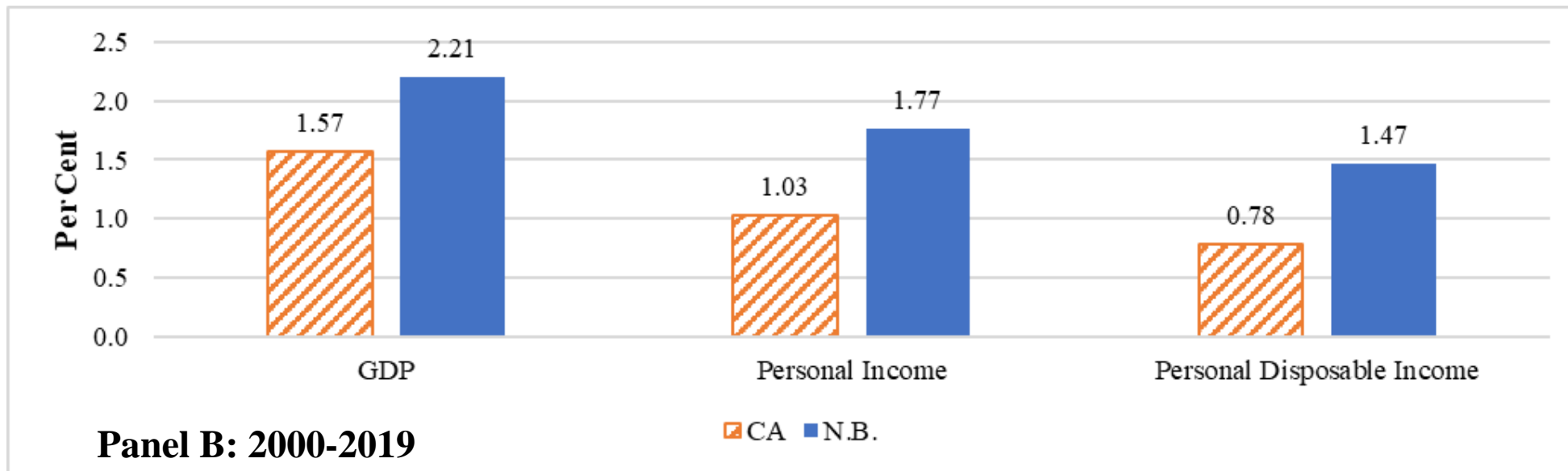
### Panel B: Gini Coefficients in New Brunswick as Proportions of Gini Coefficients in Canada

Adjusted Income	1976	2000	2019
Market Income	104.7	99.8	97.9
Total Income	90.6	92.0	90.5
After-Tax Income	90.0	91.8	90.3

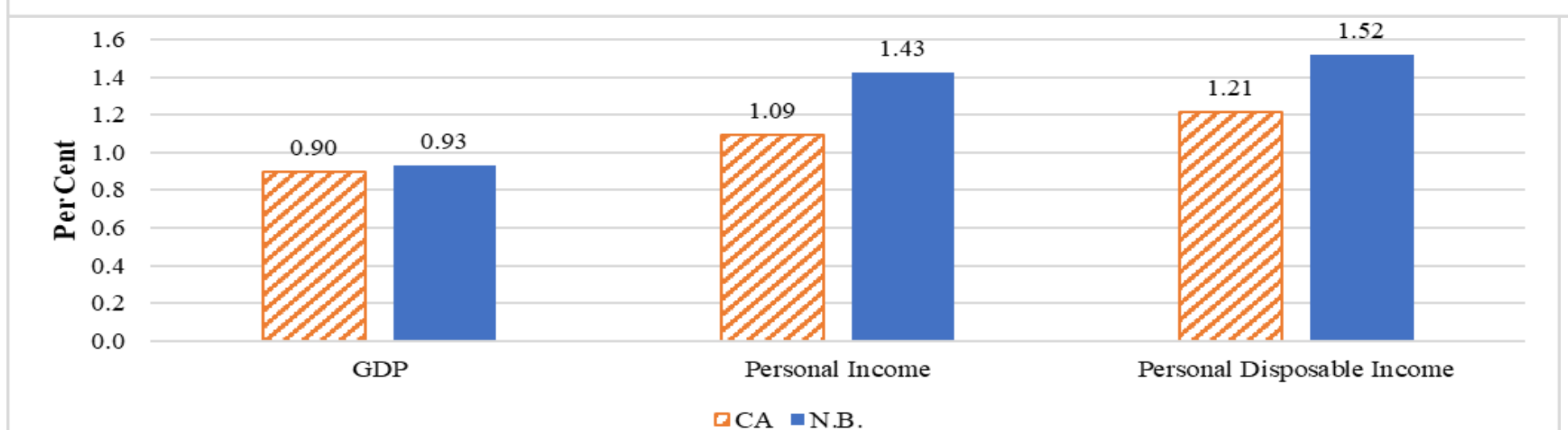


# Growth in New Brunswick's and Canada's Real Per Capita GDP, Personal Income, and Personal Disposable Income, 1981-2019 (Compound Annual Growth Rates)

**Panel A: 1981-2000**



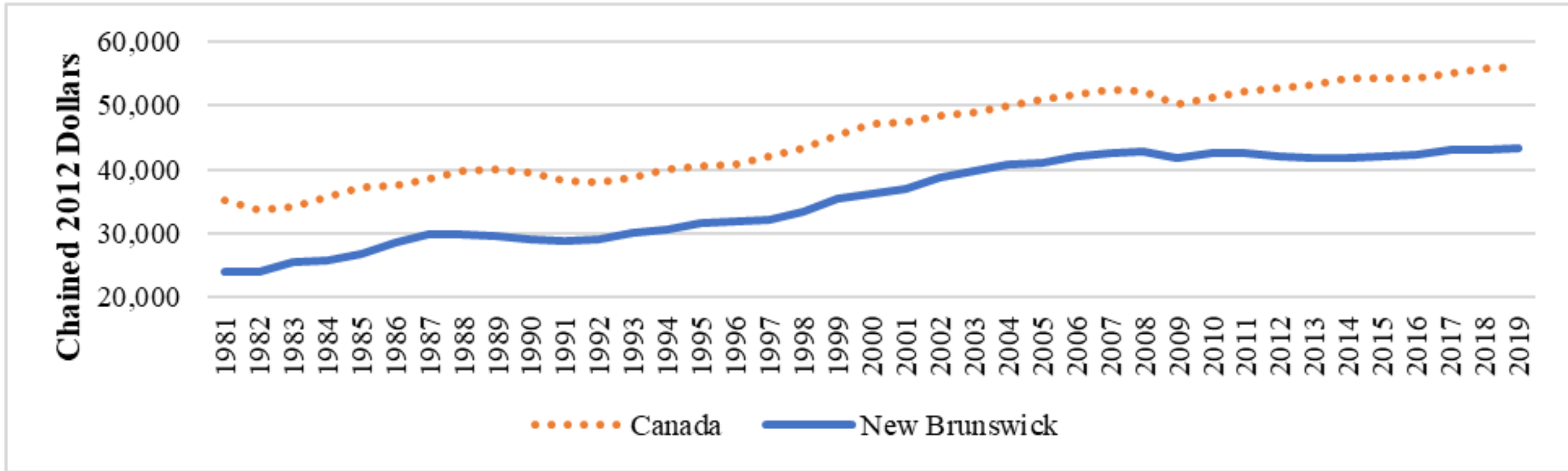
**Panel B: 2000-2019**



Sources: GDP: Statistics Canada, Table: 36-10-0222-01; Personal income: Statistics Canada, Table 36-10-; Personal disposable income: Statistics Canada, Table 36-10-0224-01; CPI: Statistics Canada, Table 18-10-0005-01; Population: Statistics Canada, Table 17-10-0005-01

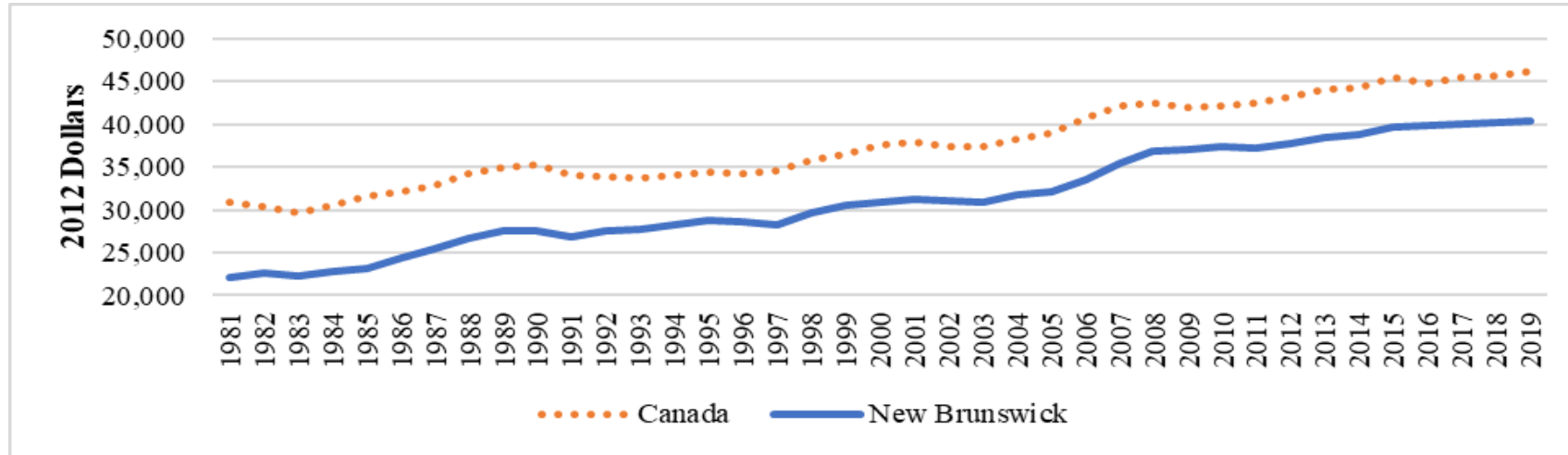
# Trends in Real GDP per Capita and Personal Income Per Capita in New Brunswick and in Canada, 1981-2019

## Panel A: Real GDP Per Capita in New Brunswick and in Canada

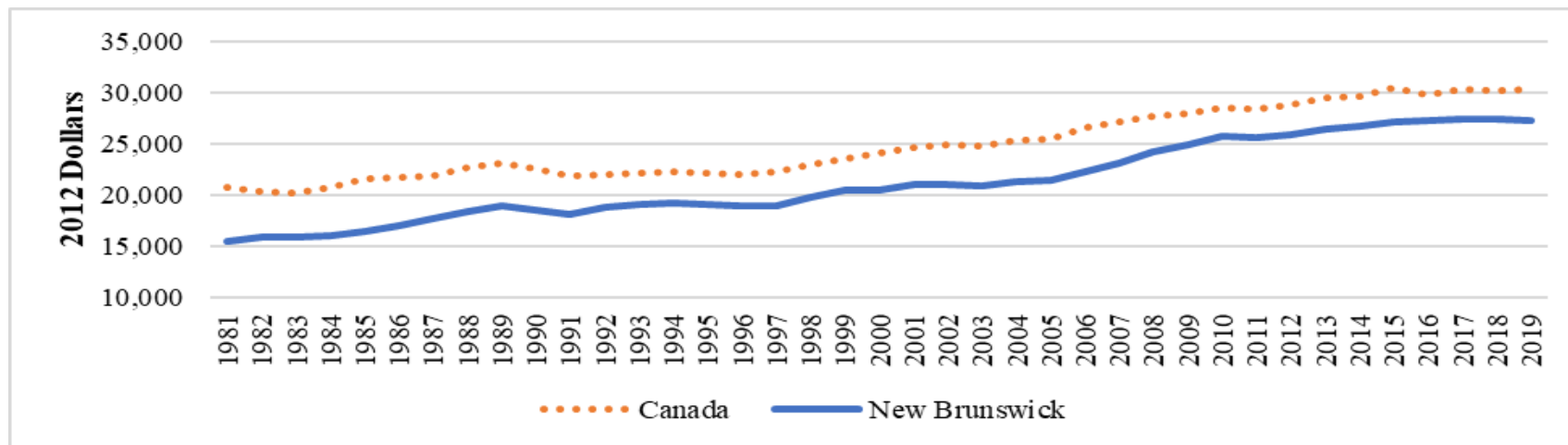


# Trends in Real GDP per Capita and Personal Income Per Capita in New Brunswick and in Canada, 1981-2019

## Panel B: Real Personal Income Per Capita in New Brunswick and in Canada

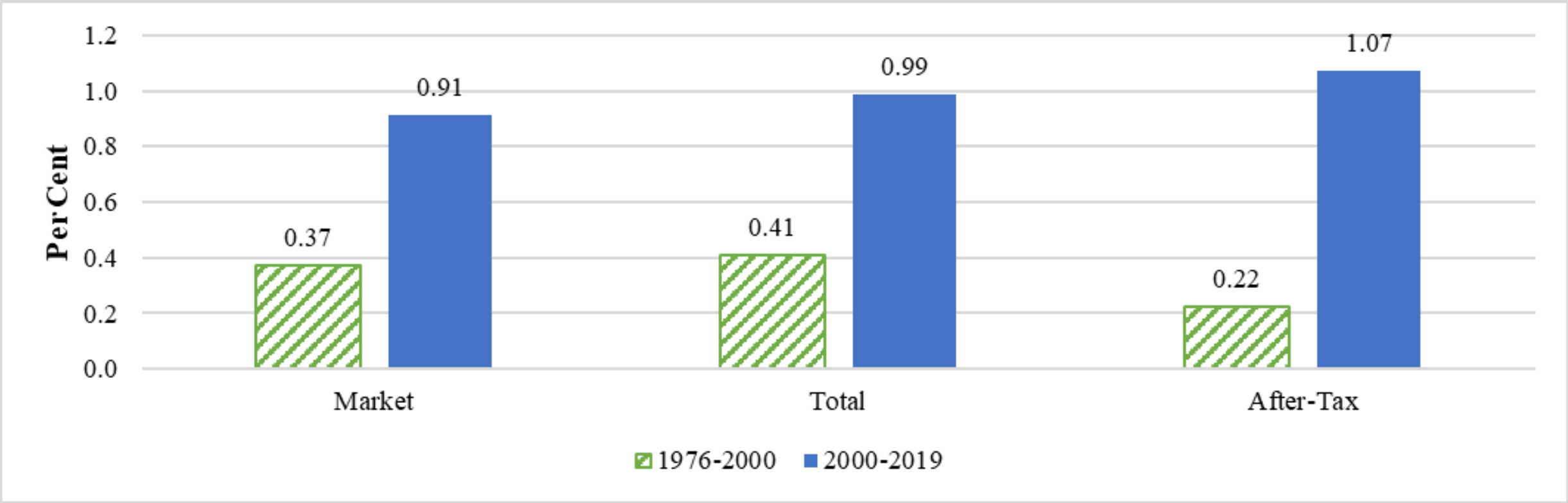


## Panel C: Real Personal Disposable Income Per Capita in New Brunswick and in Canada



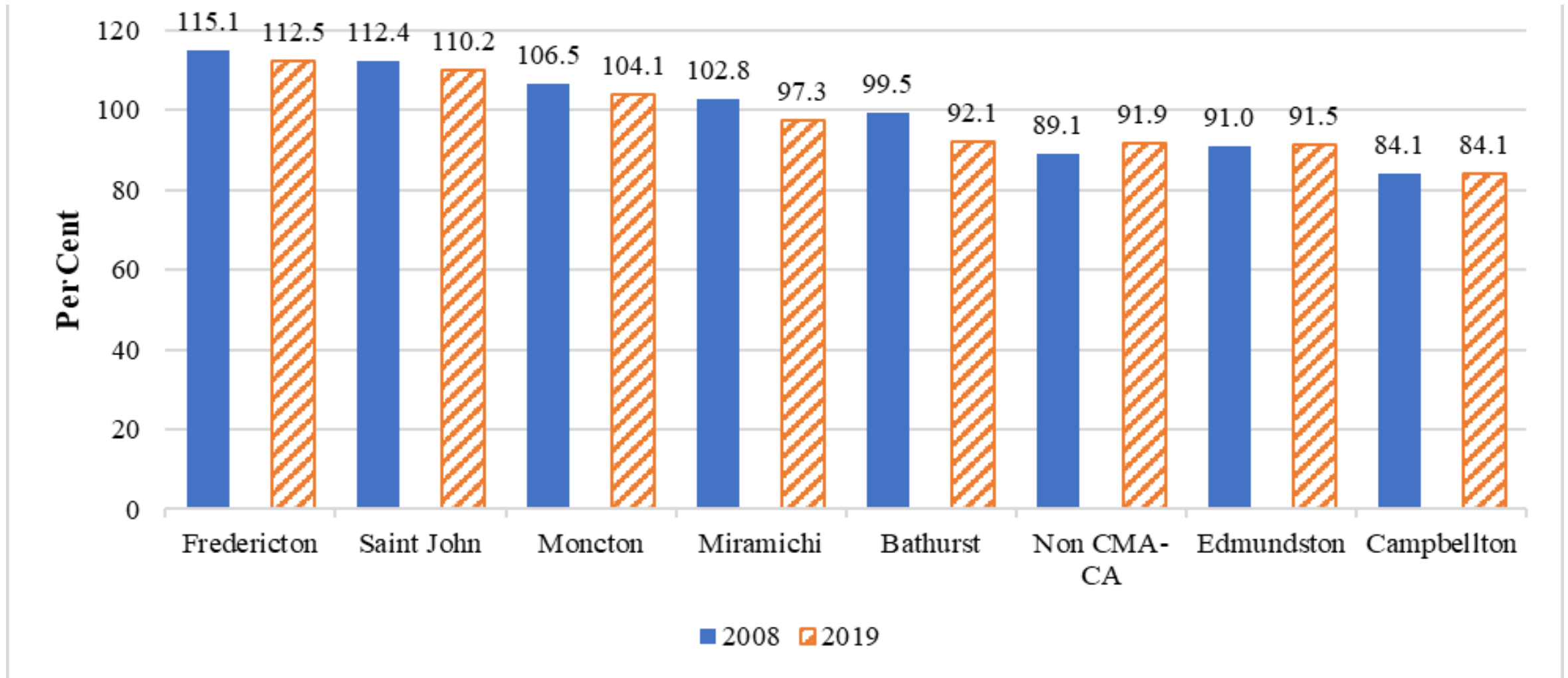
Sources: Personal income: Statistics Canada, Table 36-10-0226-01; CPI: Statistics Canada, Table 18-10-0005-01; Population: Statistics Canada, Table 17-10-0005-01. Personal disposable income: Statistics Canada, Table 36-10-0224-01; CPI: Statistics Canada, Table 18-10-0005-01; Population: Statistics Canada, Table 17-10-0005-01

# Growth in Average Income in New Brunswick, 1976-2000 and 2000-2019 (Compound Annual Growth Rates)

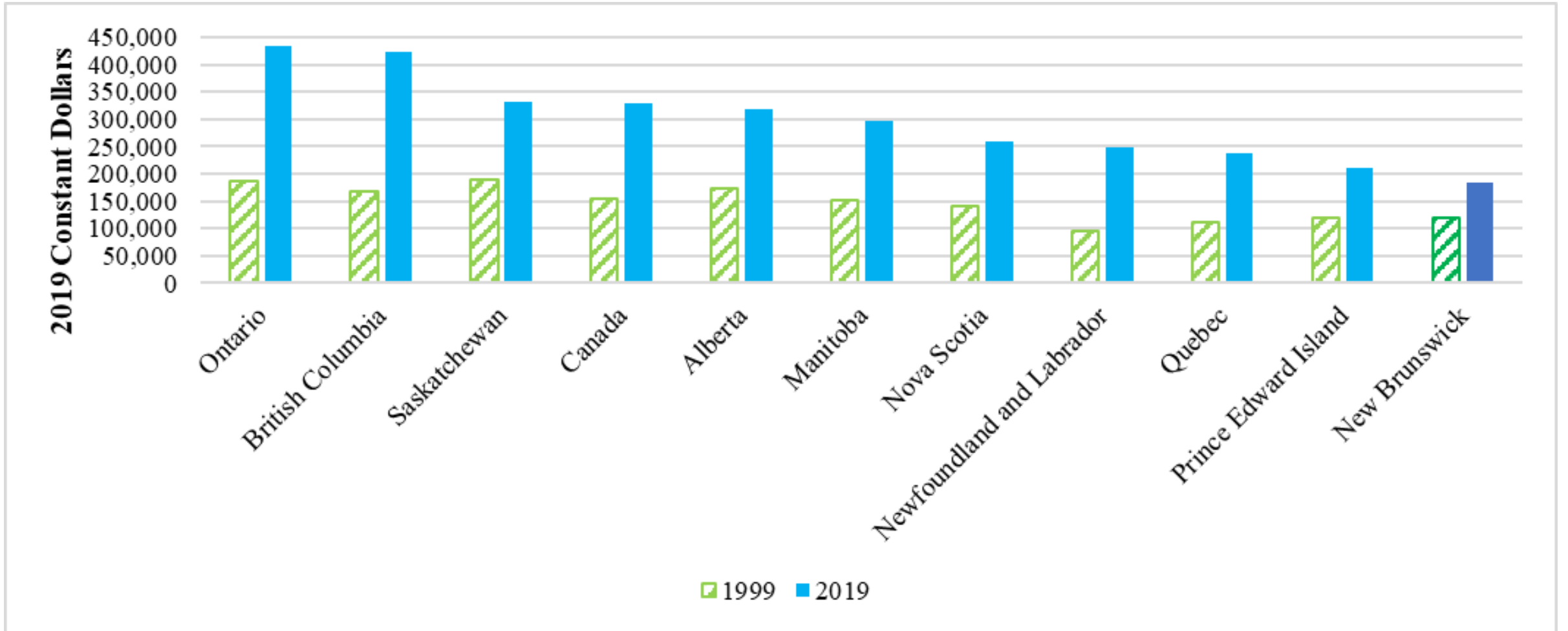


Source: Statistics Canada, Table 11-10-0190-01

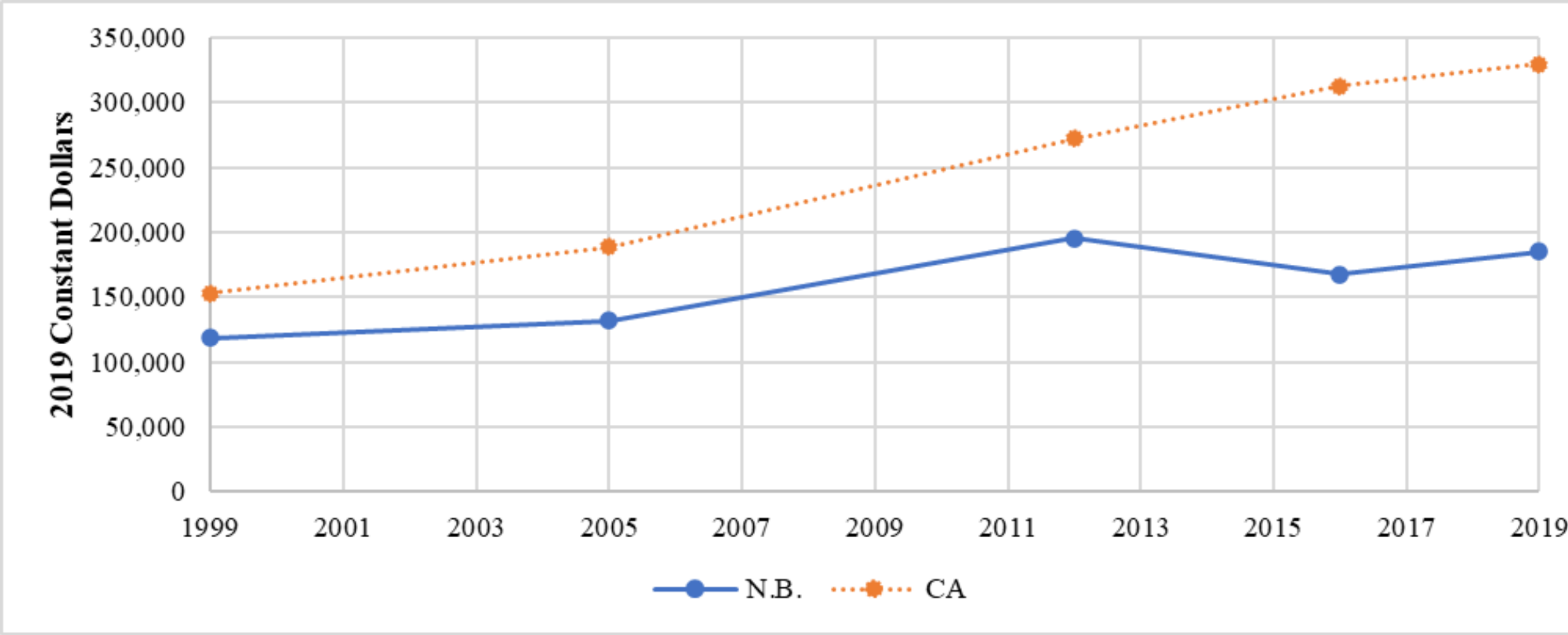
## Average Total Income of Census Family Units as a Proportion of Provincial Average by CMA and CA, New Brunswick, 2008 and 2019



## Median Net Worth by Province, Canada, 1999 and 2019

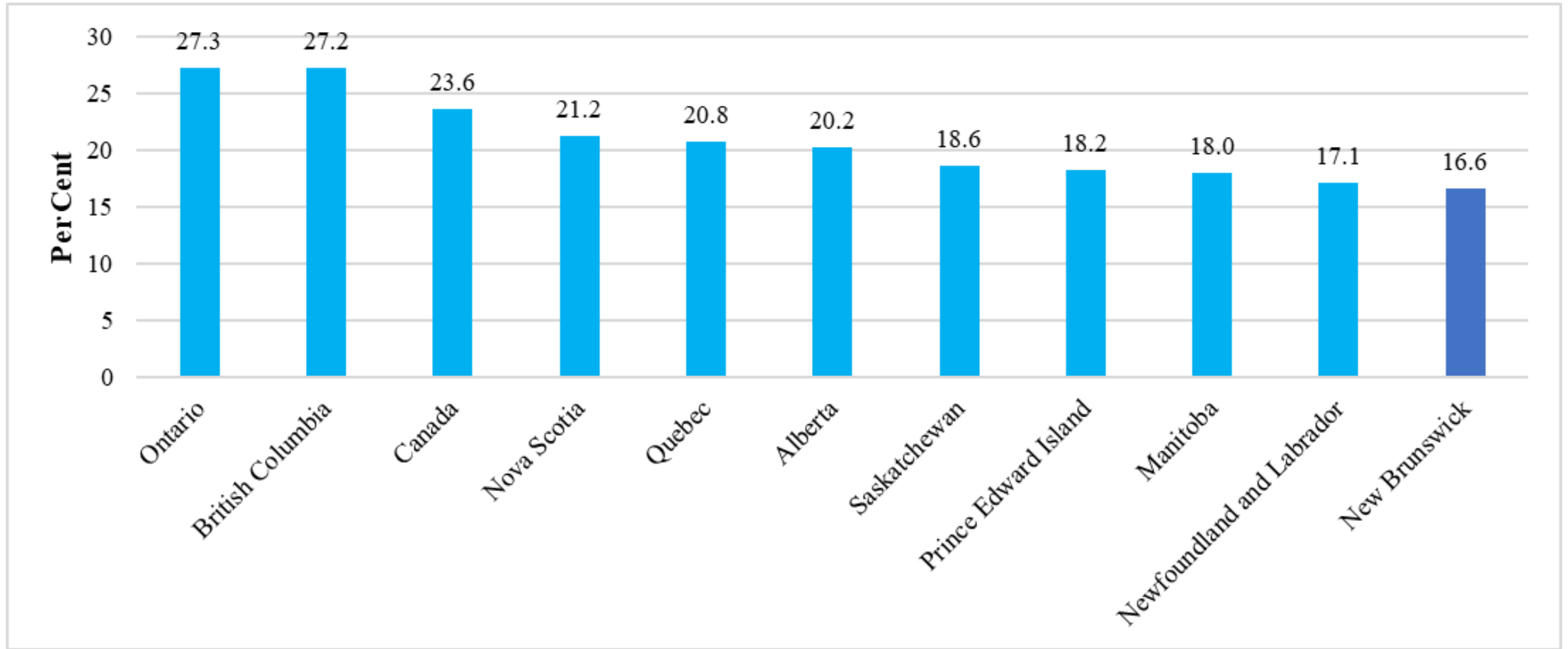


# Median Net Worth in New Brunswick and in Canada, 1999-2019



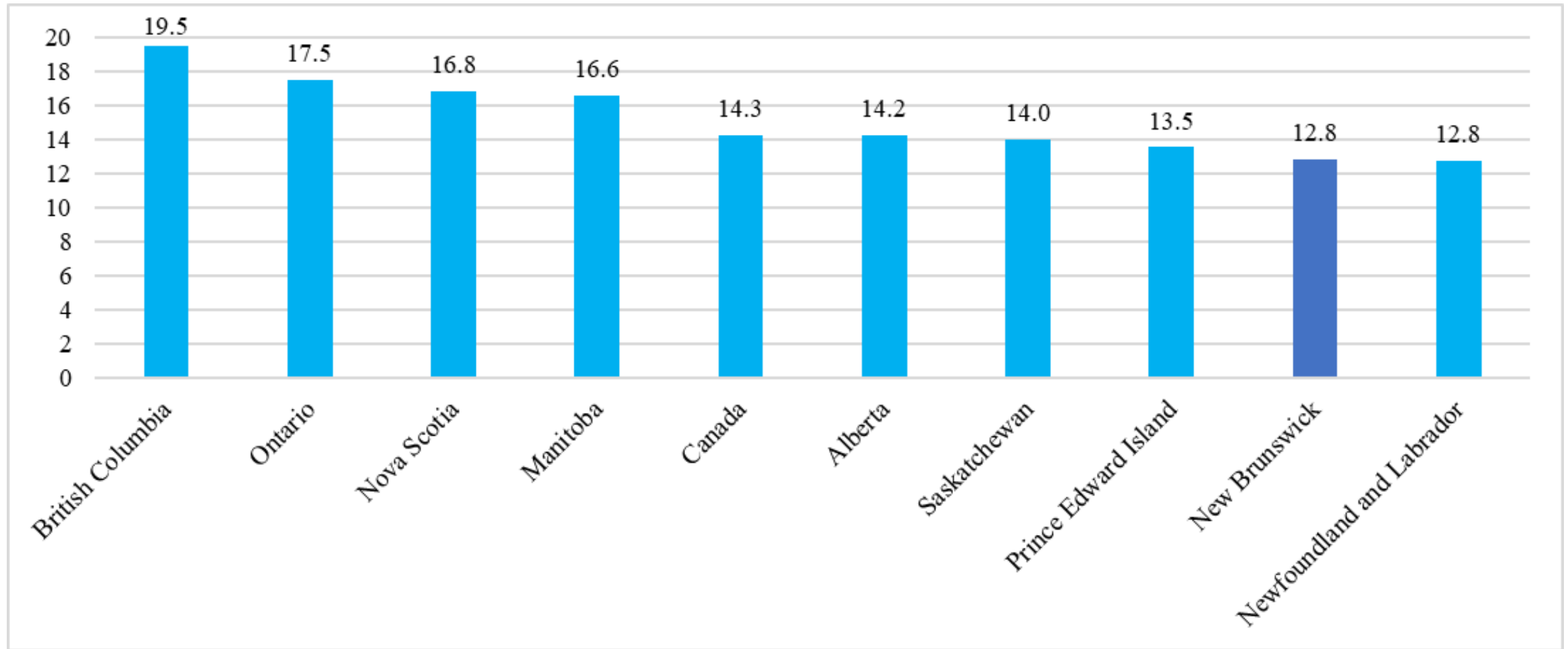
Source: Statistics Canada, Table 11-10-0016-01

## Per Cent of Households Spending 30% or More of Their Income on Housing by Province, Canada, 2015

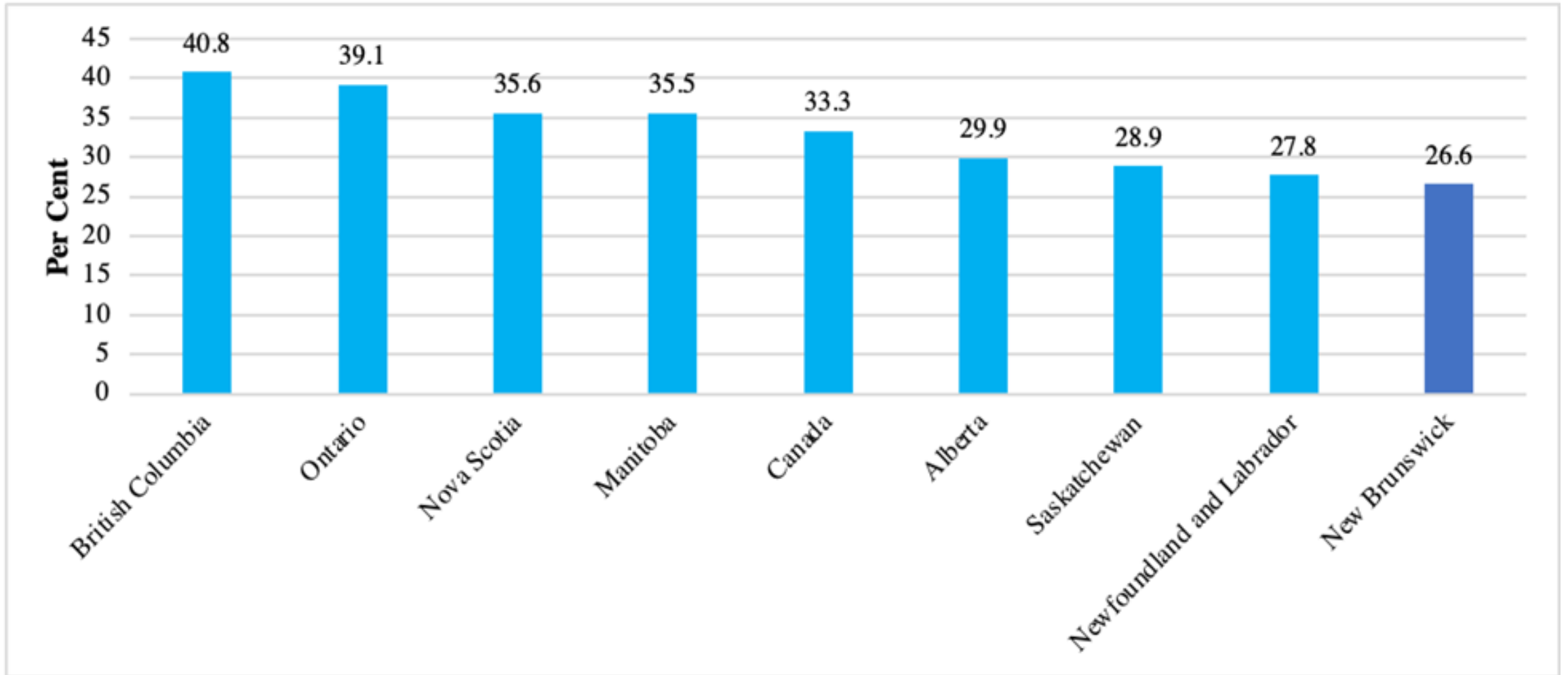




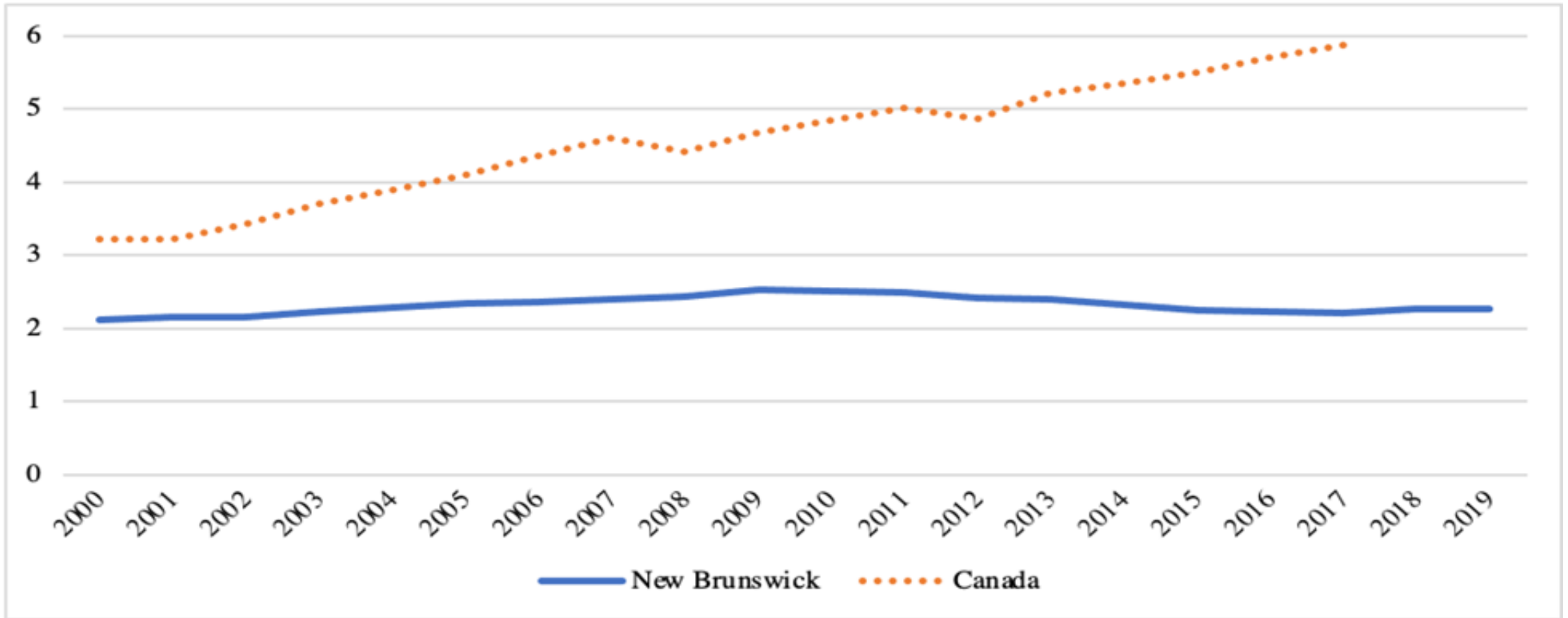
## Average Annual Rent of a Two-Bedroom Apartment as a Per Cent of Pre-Tax Median Income, by Province, Canada, 2019



## Proportion of Wages Full-Time Workers Aged 15-24 Spend on a One-Bedroom Apartment, by Province, Canada, 2019



# Ratio of MLS Average Residential Prices to Median Pre-Tax Census Family Income, New Brunswick and Canada, 2000-2019



# VI. Future Directions

## A. General Economic Trends Affecting NB Economy

- 1) Underlying pace of technological progress and trend labour productivity growth
- 2) Commodity prices

## B. Factors Favourable to the NB Economy

- 1) Increased possibility of remote work
- 2) Low NB housing prices
- 3) Increased immigration targets for Canada
- 4) Rebound in tourism following pandemic

## C. Public Policy Directions for New Brunswick

- 1) Relative importance placed on further economic growth, employment opportunities and material living standards versus perceived high quality of life
- 2) Government attitude toward resources development (e.g. allowable cut, aquaculture development, pipelines) and social license
- 3) Appropriateness of creating a provincial urban growth pole (like Halifax) by focusing growth on one of the three NB major cities (e.g., one major NB airport)
- 4) Sustainability of NB government finances given dependence on federal transfers.
- 5) Policies to boost abysmal private investment performance
- 6) Policies to increase business sector R&D
- 7) Policies to promote export growth
- 8) Policies to slow fiscal burden of the aging population