

Measuring Labour Markets in Canada and the United States

2019 Edition



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Measuring Labour Markets in Canada and the United States 2019 Edition

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Executive Summary

Labour markets are the mechanism through which we allocate one of our most valuable and productive resources: human work, effort, creativity, and ingenuity. Labour markets match human skills, supplied by individuals seeking to earn a living, with the demand for labour by firms, governments, and households.

Because labour markets are important, the public is often inundated with news stories, usually about changes in employment levels or unemployment rates. However, such stories do not generally provide a clear picture of how a jurisdiction's labour market is performing. There is a need for a comprehensive measure of the performance of labour markets to allow comparisons, which is the first step toward understanding differences in labour market conditions and addressing possible problems.

Measuring Labour Markets in Canada and the United States: 2019 Edition is the latest installment in ongoing research to assess the performance of labour markets. Indicators such as job creation, unemployment, and labour output are used to assess the performance of labour markets in the Canadian provinces and US states over the three-year period from 2016 to 2018. The study calculates an Index of Labour Market Performance, which is a composite measure of labour market performance based on eight equally weighted indicators: [1] average annual total employment growth, [2] average annual private-sector employment growth, [3] average total employment rate, [4] average private-sector employment rate, [5] average unemployment rate, [6] average long-term unemployment, [7] average share of involuntary part-time workers, and [8] average output per worker. The index scores range from zero to 100. A higher score means a jurisdiction has a stronger performing labour market while a lower index score indicates a labour market with weaker performance.

Overall, Canada underperformed relative to the United States on the Index of Labour Market Performance. All Canadian provinces are ranked in the bottom half of the 60 jurisdictions, including the traditional economic engines of Canada, Alberta (ranked 53rd, with an index score of 45.8 out of 100) and Ontario (ranked 50th, with a score of 48.8 out of 100).

British Columbia (ranked 31st, score of 58.8) and Quebec (48th, 50.6) are the highest performing Canadian provinces, but neither is in the top half of jurisdictions on the overall index. Nine out of 10 Canadian provinces are in the bottom third (lowest 20 out of 60) of the index and three of the four lowest-ranked jurisdictions are Canadian provinces: New Brunswick, Nova Scotia, and Newfoundland & Labrador

Colorado topped the list of US states and Canadian provinces for overall labour market performance over the three-year period. The state's strong performance in total employment, private-sector employment rate, unemployment rate, and share of involuntary part-time workers enabled it to achieve the highest overall index score of 81.0 out of 100.

Introduction

Labour markets are the mechanism through which society allocates one of our most valuable and productive resources: human work, effort, creativity, and ingenuity. Labour markets match human skills, supplied by individuals seeking to earn a living, with the demand for labour by firms, governments, and households. Because labour markets are important, the public is often inundated with news stories, usually about changes in employment levels or unemployment rates. However, such stories do not generally provide a comprehensive picture of how a jurisdiction's labour market is performing and there is a need for an aggregated measure of the performance of labour markets to allow comparisons, the first step toward understanding differences in labour market conditions and addressing possible problems.

This study is the latest edition of *Measuring Labour Markets in Canada and the United States*, which provides an overview of labour market conditions in the two countries over the three-year period from 2016 to 2018. [1] The next section of the report presents the results for the 10 Canadian provinces and 50 US states [2] on the overall Index of Labour Market Performance. This is followed by a presentation and discussion of the results on the eight indicators that make up the index. Appendix A provides methodological details and Appendix B examines indicators of labour-market performance not included in the Index.

[1] The most recent previous edition was Lammam, MacIntyre, Hasan, and Palacios, 2018. The authors of that report developed the methodology used in this report, and this edition of the report updates their work with more recent data. Any errors, however, are the responsibility of this edition's authors.

[2] Throughout this study, US states are often described as belonging to a geographical region. Definitions for these geographical regions come from the United States Census Bureau's *Geographic Areas Reference Manual* (US, Dep't of Commerce, Bureau of the Census, 1994). In this manual, the United States is divided into four major regions: West, Midwest, Northeast, and South. Each of these regions is further subdivided. The **West** consists of the Pacific region (Alaska, Hawaii, Washington, Oregon, and California) and the Mountain region (Idaho, Montana, Wyoming, Nevada, Utah, Colorado, Arizona, and New Mexico). The **Midwest** consists of the West North Central region (North Dakota, South Dakota, Minnesota, Nebraska, Iowa, Kansas, and Missouri) and the East North Central region (Wisconsin, Illinois, Indiana, Ohio, and Michigan). The East North Central group of states is often referred to as the Industrial Belt; the two terms are used interchangeably throughout the study. The **Northeast** region consists of the New England region (Maine, Vermont, New Hampshire, Massachusetts, Connecticut, and Rhode Island) and the Middle Atlantic region (New York, New Jersey, and Pennsylvania). The **South** consists of the West South Central region (Oklahoma, Texas, Arkansas, and Louisiana), the East South Central region (Kentucky, Tennessee, Mississippi, and Alabama), and the South Atlantic region (Maryland, Delaware, West Virginia, Virginia, North Carolina, South Carolina, Georgia, and Florida).

Index of Labour Market Performance

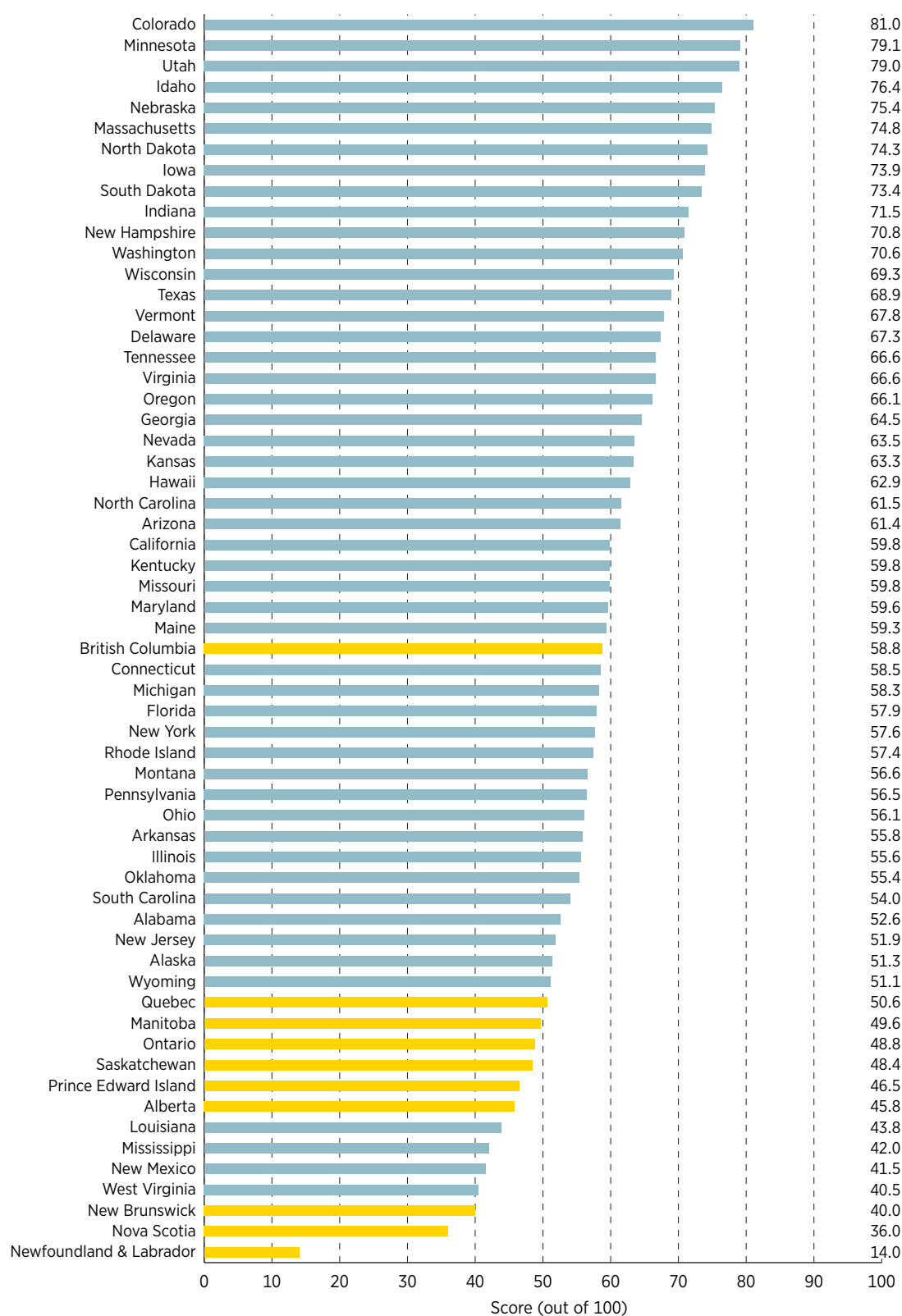
The Index of Labour Market Performance is a comprehensive measure of labour market performance at the state/provincial level in Canada and the United States (p. 3). It is based on the following eight indicators: (1) average annual total employment growth; (2) average annual private-sector employment growth; (3) average total employment rate; (4) average private-sector employment rate; (5) average unemployment rate; (6) average long-term unemployment; (7) average share of involuntary part-time workers; and (8) average output per worker (or average labour productivity). It is important to consider all eight indicators for a complete perspective on the performance of the labour market in any of the 60 jurisdictions included in the index. Examining any one indicator in isolation can lead to incomplete conclusions. For a summary of provincial and state scores and rankings, see table 1 (pp. 4–7)

A comprehensive index is also valuable for comparisons among jurisdictions, as it allows us to rank the overall performance of jurisdictions based on a scoring system with values ranging from zero to 100. For each indicator, the lowest possible score is zero, which signals weak relative performance, and the highest possible score is 100, which signals strong relative performance. The scores of the eight indicators are averaged, with all eight indicators receiving equal weight, to obtain an overall index score. The jurisdictions are then ranked according to their final score. For a more detailed explanation of the methodology, see Appendix A (p. 26). [3]

The data for the individual indicators are calculated using a three-year average (2016–2018) to measure recent performance—minimizing recent anomalous data, while avoiding reliance on information that no longer reflects the performance of a given jurisdiction.

[3] For each indicator, except average output per worker, mean sample estimates were provided by Statistics Canada and the US Bureau of Labor Statistics from their respective labour force and current population surveys.

Index of Labour Market Performance (score out of 100), 2016–2018



Sources: see Indicators 1, 2, 3, 4, 5, 6, 7, and 8.

Table 1: Summary of provincial and state scores (out of 100) and rankings

	Index of Labour Market Performance, 2018		Indicator 1 Average total employment growth, 2016–2018		Indicator 2 Average private employment growth, 2016–2018		Indicator 3 Average total employment rate, 2016–2018	
	Score	Rank	%	Rank	%	Rank	%	Rank
Alberta	45.8	53	0.4	46	–0.6	57	66.8	5
British Columbia	58.8	31	2.6	9	2.9	7	61.4	24
Manitoba	49.6	49	0.6	38	0.7	39	63.4	16
New Brunswick	40.0	58	0.2	51	0.4	48	56.4	51
Newfoundland & Labrador	14.0	60	–1.5	59	–2.6	60	51.2	59
Nova Scotia	36.0	59	0.6	38	0.4	48	56.8	49
Ontario	48.8	50	1.5	20	1.4	24	60.9	29
Prince Edward Island	46.5	52	1.3	24	2.3	12	59.6	39
Quebec	50.6	48	1.3	24	1.4	24	60.6	32
Saskatchewan	48.4	51	–0.2	55	–0.1	54	64.9	12
Alabama	52.6	44	1.4	21	1.7	21	54.1	57
Alaska	51.3	46	–0.6	57	0.1	52	61.3	26
Arizona	61.4	25	3.2	2	2.3	12	57.7	48
Arkansas	55.8	40	1.0	28	1.0	34	55.9	54
California	59.8	26	1.7	15	1.7	21	59.3	41
Colorado	81.0	1	3.3	1	3.6	1	66.1	9
Connecticut	58.5	32	0.9	32	1.2	30	63.0	17
Delaware	67.3	16	1.6	19	2.2	15	60.0	36
Florida	57.9	34	2.8	6	3.4	4	56.8	49
Georgia	64.5	20	3.0	3	3.0	6	60.1	35
Hawaii	62.9	23	0.6	38	0.5	44	60.7	30
Idaho	76.4	4	3.0	3	3.4	4	61.9	21
Illinois	55.6	41	0.4	46	0.5	44	61.4	24
Indiana	71.5	10	1.7	15	1.9	18	62.3	20
Iowa	73.9	8	0.1	52	0.9	36	66.7	6
Kansas	63.3	22	0.1	52	–0.2	55	64.3	14
Kentucky	59.8	26	1.7	15	3.5	2	56.1	52
Louisiana	43.8	54	–0.4	56	–0.4	56	55.7	55
Maine	59.3	30	1.1	26	0.9	36	61.2	27
Maryland	59.6	29	1.0	28	1.2	30	64.4	13

(out of 60), labour market performance, 2016–2018

Indicator 4 Average private-sector employment rate, 2016–2018		Indicator 5 Average unemployment rate, 2016–2018		Indicator 6 Average long-term unemployment, 2016–2018		Indicator 7 Average share of involuntary part-time workers, 2016–2018		Indicator 8 Average output per worker, 2015–2017	
%	Rank	%	Rank	%	Rank	%	Rank	CA\$2017	Rank
43.0	49	6.5	55	24.1	42	4.7	56	143,298	24
39.5	53	4.3	26	17.5	15	4.3	50	114,278	52
38.7	55	4.8	39	14.7	6	4.5	55	108,438	56
36.1	57	7.0	58	16.8	10	3.7	38	100,813	57
32.4	60	11.8	60	18.9	23	5.5	60	141,622	28
35.1	59	6.8	56	17.6	16	4.8	58	94,024	59
40.0	52	5.1	47	18.8	22	4.9	59	114,685	51
35.2	58	7.9	59	12.3	2	4.3	50	88,820	60
39.3	54	5.1	47	17.2	13	3.9	43	98,211	58
37.2	56	5.2	50	18.5	18	4.0	46	137,647	34
45.9	47	4.7	36	24.2	44	3.0	16	127,361	44
46.9	46	6.8	56	20.1	28	4.2	49	193,154	3
50.1	37	5.0	45	21.1	33	3.9	43	129,302	42
47.4	44	3.8	17	19.6	26	2.9	11	119,771	49
51.3	30	4.8	39	24.6	46	4.4	53	189,220	5
57.0	9	3.1	6	21.3	35	3.0	16	150,376	18
54.5	14	4.7	36	28.4	55	4.4	53	186,241	6
52.3	23	4.3	26	24.1	42	3.5	30	203,076	2
50.3	35	4.2	23	28.9	56	4.0	46	127,350	45
51.9	28	4.7	36	27.7	54	3.4	28	146,755	21
49.5	38	2.6	1	21.0	31	3.0	16	165,960	12
53.8	18	3.3	9	11.6	1	3.2	22	112,390	55
54.4	15	5.0	45	27.4	53	3.7	38	167,195	10
55.3	12	3.8	17	16.1	8	2.8	7	136,489	36
57.3	7	3.1	6	12.5	3	2.5	4	140,486	31
54.7	13	3.7	15	18.6	21	2.8	7	138,755	32
48.4	42	4.8	39	22.2	40	3.3	26	130,414	41
47.1	45	5.4	52	25.8	50	3.5	30	149,352	19
53.1	20	3.5	13	19.2	25	3.7	38	114,276	53
50.3	35	4.2	23	30.6	59	3.1	21	161,477	13

Table 1 (cont'd): Summary of provincial and state scores (out of 100) and

	Index of Labour Market Performance, 2018		Indicator 1 Average total employment growth, 2016–2018		Indicator 2 Average private employment growth, 2016–2018		Indicator 3 Average total employment rate, 2016–2018	
	Score	Rank	%	Rank	%	Rank	%	Rank
Massachusetts	74.8	6	2.5	12	2.7	8	63.8	15
Michigan	58.3	33	1.4	21	1.3	28	58.6	44
Minnesota	79.1	2	1.1	26	1.9	18	67.6	2
Mississippi	42.0	55	0.9	32	1.4	24	52.9	58
Missouri	59.8	26	0.4	46	0.2	50	61.7	22
Montana	56.6	37	0.8	34	0.2	50	60.3	33
Nebraska	75.4	5	0.5	42	1.2	30	67.2	3
Nevada	63.5	21	3.0	3	3.5	2	59.2	42
New Hampshire	70.8	11	1.0	28	1.2	30	66.6	7
New Jersey	51.9	45	0.1	52	0.5	44	60.2	34
New Mexico	41.5	56	0.8	34	0.6	41	54.5	56
New York	57.6	35	0.5	42	0.5	44	58.0	47
North Carolina	61.5	24	2.1	13	1.8	20	58.7	43
North Dakota	74.3	7	−0.6	57	−0.7	58	68.7	1
Ohio	56.1	39	0.5	42	0.6	41	59.6	39
Oklahoma	55.4	42	0.5	42	0.1	52	58.6	44
Oregon	66.1	19	2.6	9	2.4	11	60.0	36
Pennsylvania	56.5	38	0.4	46	1.0	34	59.7	38
Rhode Island	57.4	36	0.7	36	0.6	41	61.5	23
South Carolina	54.0	43	1.7	15	1.3	28	56.0	53
South Dakota	73.4	9	0.7	36	0.7	39	66.9	4
Tennessee	66.6	17	2.7	7	2.1	17	58.1	46
Texas	68.9	14	2.1	13	2.3	12	61.1	28
Utah	79.0	3	2.7	7	2.6	9	66.3	8
Vermont	67.8	15	0.4	46	0.8	38	65.0	11
Virginia	66.6	17	1.4	21	2.6	9	62.7	18
Washington	70.6	12	2.6	9	2.2	15	60.7	30
West Virginia	40.5	57	0.6	38	1.5	23	50.5	60
Wisconsin	69.3	13	1.0	28	1.4	24	66.0	10
Wyoming	51.1	47	−1.6	60	−2.3	59	62.6	19

Sources: see figure 1; Indicators 1, 2, 3, 4, 5, 6, 7, and 8.

rankings (out of 60), labour market performance, 2016–2018

Indicator 4 Average private-sector employment rate, 2016–2018		Indicator 5 Average unemployment rate, 2016–2018		Indicator 6 Average long-term unemployment, 2016–2018		Indicator 7 Average share of involuntary part-time workers, 2016–2018		Indicator 8 Average output per worker, 2015–2017	
%	Rank	%	Rank	%	Rank	%	Rank	CA\$2017	Rank
56.3	11	3.7	15	27.2	52	3.0	16	190,500	4
52.2	25	4.6	33	19.9	27	3.8	42	135,677	37
59.4	1	3.4	11	13.3	4	2.7	5	148,052	20
43.7	48	5.2	50	29.1	58	3.6	36	114,036	54
54.0	16	3.8	17	21.6	38	2.8	7	129,270	43
50.5	34	3.9	20	18.5	18	3.4	28	117,951	50
58.1	3	2.9	4	16.6	9	2.4	3	151,026	17
52.2	25	5.1	47	20.8	29	4.7	56	142,575	26
57.9	4	2.7	2	21.0	31	2.8	7	136,919	35
52.0	27	4.6	33	32.6	60	3.5	30	174,979	8
42.6	50	5.8	54	25.2	48	4.3	50	134,565	39
49.1	41	4.5	30	28.9	56	3.2	22	217,224	1
51.0	32	4.5	30	25.3	49	3.0	16	143,768	23
58.9	2	2.8	3	14.5	5	2.1	1	167,363	9
52.3	23	4.9	43	21.9	39	3.5	30	146,436	22
49.2	40	4.1	22	21.4	36	2.9	11	135,003	38
52.5	22	4.4	29	17.4	14	4.0	46	140,765	29
53.9	17	4.9	43	23.1	41	3.7	38	152,209	16
53.4	19	4.6	33	24.5	45	3.3	26	140,559	30
47.5	43	4.2	23	26.5	51	2.9	11	124,632	46
57.4	6	3.1	6	18.3	17	2.1	1	141,680	27
50.6	33	4.0	21	19.0	24	3.2	22	143,003	25
53.1	20	4.3	26	21.1	33	3.2	22	160,266	14
57.1	8	3.3	9	16.9	11	2.9	11	138,528	33
56.5	10	3.0	5	17.0	12	2.7	5	120,617	48
51.1	31	3.6	14	21.4	36	3.5	30	154,586	15
51.6	29	4.8	39	18.5	18	3.5	30	182,401	7
41.8	51	5.5	53	25.0	47	3.9	43	123,933	47
57.9	4	3.4	11	20.8	29	2.9	11	132,647	40
49.3	39	4.5	30	16.0	7	3.6	36	166,589	11

Observations

Overall, Canadian provinces performed poorly on the Index of Labour Market Performance. All Canadian provinces are ranked in the bottom half of the 60 jurisdictions, including the traditional economic engines of Canada, Alberta (ranked 53rd, with an index score of 45.8 out of 100) and Ontario (ranked 50th, with a score of 48.8).

British Columbia, with a score of 58.8 (ranked 31st) is the highest performing Canadian province, but falls just outside the top half on the overall index. In fact, British Columbia is the only Canadian province that is not in the bottom third (lowest 20 out of 60) of the index; the three lowest-ranked jurisdictions are Canadian provinces: New Brunswick (40, 58th), Nova Scotia (36.0, 59th), and Newfoundland & Labrador (14.0, 60th). Though there have been improvements on several metrics relative to their past performance, Canadian provinces nevertheless lagged behind their US peers.

All of the top performing jurisdictions are from the United States, with the West and Midwest leading the way. Colorado ranked first overall with a score of 81.0 out of 100, finishing first in both total employment growth and private-sector employment growth. Three states from the West finished in the top five overall jurisdictions with Utah and Idaho coming in at 3rd and 4th with overall scores of 79.0 and 76.4. Six of the top ten jurisdictions were in the US Midwest: Minnesota (2nd, with a score of 79.1), Nebraska (5th, 75.4), North Dakota (7th, 74.3), Iowa (8th, 73.9), South Dakota (9th, 73.4), and Indiana (10th, 71.5).

Notably, there are marked differences in labour-market conditions in energy-producing jurisdictions. [4] Two energy-producing states are in the top ten jurisdictions on the Index of Labour Market Performance, namely Colorado (1st, 81.0) and North Dakota (7th, 74.3), while Texas came in at 14th (68.9). By contrast, Canada's three most important energy-producing provinces were in the bottom 10 (Saskatchewan (51st), Alberta (53rd), and Newfoundland & Labrador (60th).

[4] In this publication, “energy-producing jurisdictions” refers to the 10 Canadian and US jurisdictions identified by Di Matteo, Clemens, and Emes (2014), based on the energy sector’s share of the jurisdiction’s economy (for Canadian provinces) and oil and gas sector (for American states). These jurisdictions include Alaska, Alberta, Colorado, Louisiana, Newfoundland & Labrador, North Dakota, Oklahoma, Saskatchewan, Texas, and Wyoming.

Indicator 1: Average total employment growth

Indicator 1 measures the average growth rate of total employment for each jurisdiction from 2016 to 2018. Total employment includes full-time and part-time employment in the private sector (business and non-profit), public sector (government), and among the self-employed. [5] Data on the average total employment growth for all 60 jurisdictions is summarized in the figure below. [6]

Observations

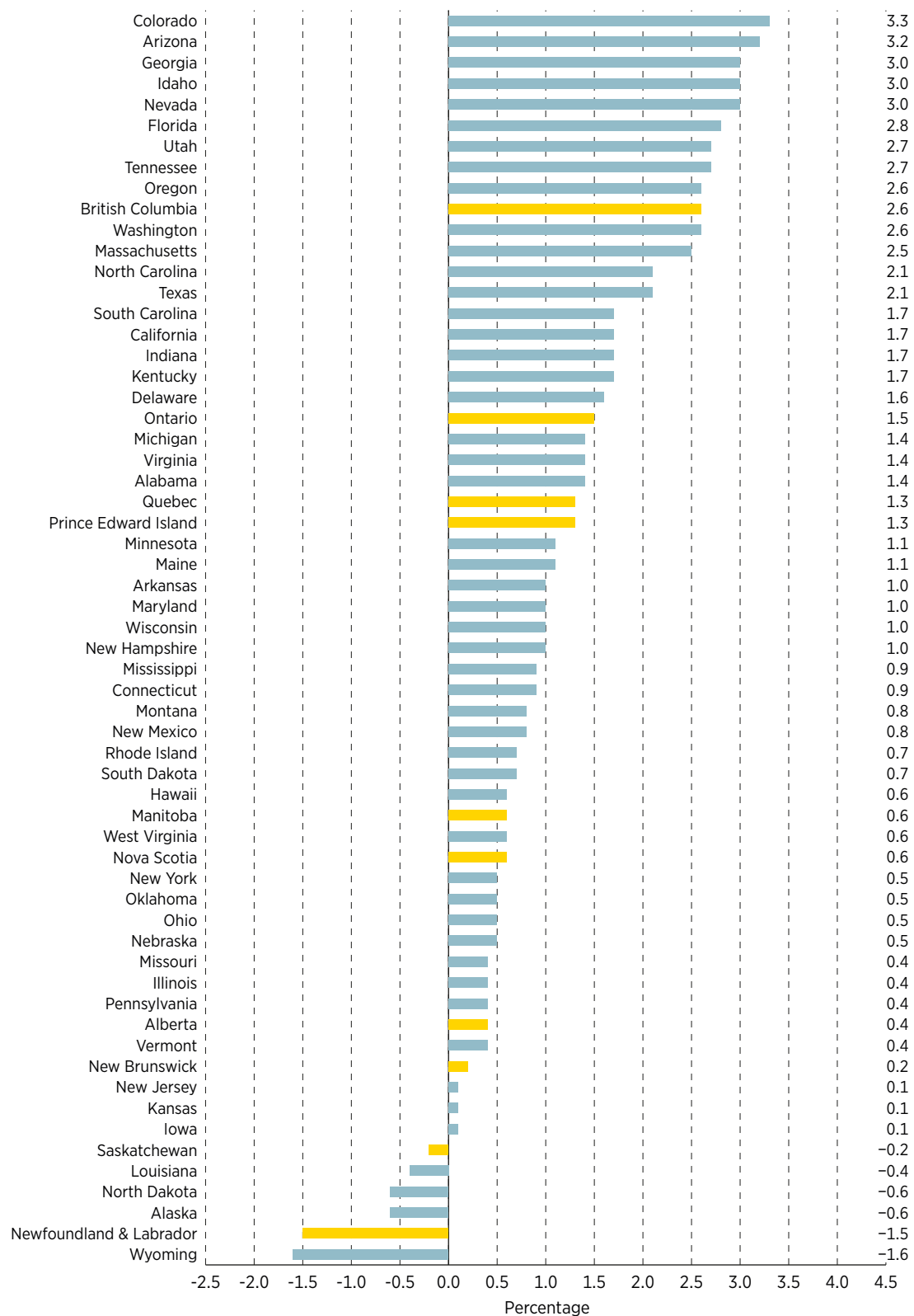
Only one Canadian province ranked in the top 20 on this indicator. British Columbia, the highest ranked province, tied for 9th with an average total employment growth rate of 2.6% (tying with Washington and Oregon). [7] The next highest Canadian jurisdiction on this indicator is Ontario, with a rank of 20th and an average total employment growth rate of 1.5%. Quebec and Prince Edward Island share the next highest growth rate (1.3%) among Canadian provinces but rank only 24th out of all 60 jurisdictions. Two provinces had negative average total employment growth—Newfoundland & Labrador (ranked 59th at -1.5%) and Saskatchewan (55th, -0.2%). New Brunswick joined those two provinces among the bottom ten (51st, 0.2%), while Alberta finished 46th (0.4%).

All but one of the top 10 jurisdictions for average total employment growth are from the United States. Colorado (3.3%) and Arizona (3.2%) took the top two spots, while Georgia, Idaho, and Nevada tied for third place with 3.0%. In total, seven of the top 10 jurisdictions are states from the West—Colorado (1st, 3.3%), Arizona (2nd, 3.2%), Idaho and Nevada (tied for 3rd, 3.0%), Washington and Oregon (tied for 9th, 2.6%). Three of the remaining US states in the top 10 are from the South: Georgia (3rd, 3.0%), Florida (6th, 2.8%), and Tennessee (7th, 2.7%). None are from the Northeast or Midwest regions.

[5] There is a minor difference between the Canadian and US definitions of “employable”: Canada tabulates employment data for those of age 15 and above while the United States does so for those aged 16 and above.

[6] One aspect of the labour market that is not reflected in the Index of Labour Market Performance is how conditions can differ for different individuals depending on age and skill-set. For example, employment rates for youths (aged 15 to 24) tend to be lower and unemployment rates, higher, than those of the general population. There is an interesting contrast between the trend of the employment rate for youths in Canada and the United States. In Canada, the youth employment rate fell from 59.5% in 2008 to 55.3% in 2009 and then remained largely flat for the subsequent years (Statistics Canada, 2019a). In the United States, youth employment rates fell over a longer period from 59.7% in 2000 to 45% in 2010—with about two fifths of the overall decline taking place from 2008 to 2010. However, unlike Canada’s, the United States’ youth employment rate has begun to recover—although at a level still below Canada—rising to 50.4% in 2017 (US, Dep’t of Labor, Bureau of Labor Statistics, 2019c).

[7] Throughout this study, rankings of individual indicators are based on rounded numbers but the index scores are derived from unrounded numbers.

Indicator 1: Average total employment growth (%), 2016–2018

Sources: Statistics Canada, 2019b; US, Dep't of Labor, Bureau of Labor Statistics, 2019f; calculations by authors.

Indicator 2: Average private-sector employment growth

An important aspect is missing from the first indicator of labour-market performance: the nature of employment growth. Total employment growth does not reveal whether employment growth was driven by growth in the public or the private sector. Strong employment growth that is largely fuelled by the public sector can have harmful economic consequences (Clemens, Karabegović, and Veldhuis, 2003; Karabegović, Gabler, and Veldhuis, 2012; Di Matteo, 2015). The second indicator of labour-market performance measures the average growth in private-sector employment for each jurisdiction from 2016 to 2018. Growth is defined as new full-time and part-time private-sector employment. [8] The average private-sector employment growth for all 60 jurisdictions is summarized in the figure below.

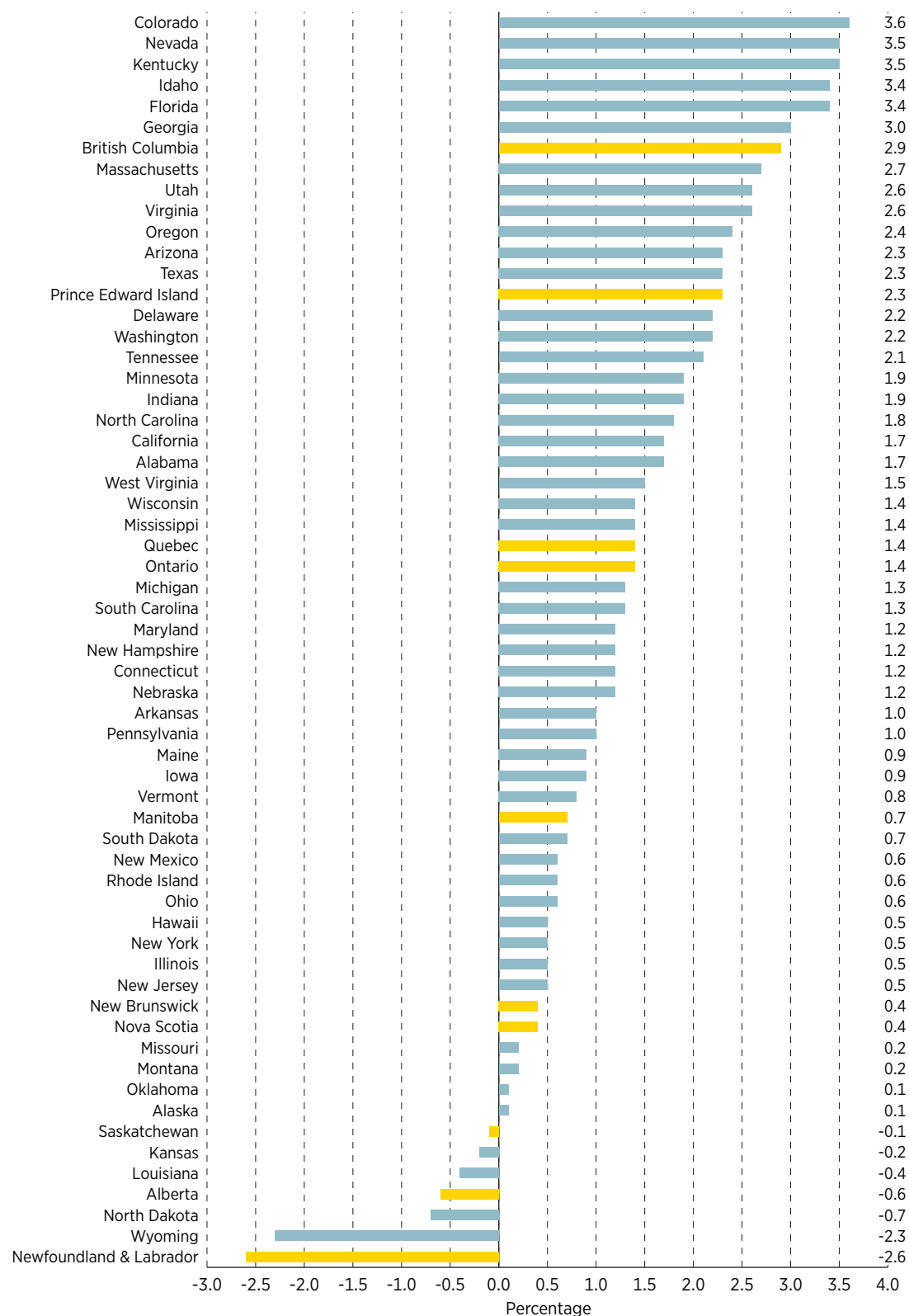
Observations

British Columbia is the only Canadian provinces in the top 10 on the rankings for average private-sector employment growth, with a growth rate of 2.9% and a rank of 7th. The only other Canadian province in the top 20 of jurisdictions is Prince Edward Island (12th, 2.3%). Quebec and Ontario tied for the next highest rank (24th out of the 60 jurisdictions) with average private-sector employment growth of 1.4%, less than half British Columbia's rate. The remaining six provinces all fell within the bottom half. Manitoba came in at 39th (0.7%), while New Brunswick and Nova Scotia eked out gains of 0.4% (tied for 48th). Saskatchewan (54th, -0.1%), Alberta (57th, -0.6%), and Newfoundland & Labrador (60th, -2.6%) all had average private-sector job losses between 2016 and 2018.

As on the first indicator, Colorado led all jurisdictions with an average growth rate of 3.6% in private-sector employment over the three-year period. Nevada and Kentucky tied for second at 3.5%, followed by Idaho and Florida, tied for fourth at 3.4%. With the exceptions of British Columbia and Massachusetts, jurisdictions in the top-10 rankings were clustered in two census regions of the United States: five are from the West—Colorado (1st), Nevada (tied for 2nd), Idaho (tied for 4th), and Utah (tied for 9th); four are from the South—Kentucky (tied for 2nd), Florida (tied for 4th), Georgia (6th), and Virginia (tied for 9th). None are from the Midwest.

Four states experienced an average decrease in private-sector employment over the three-year period: Louisiana (56th, -0.4%); Kansas (55th, -0.2%), North Dakota (58th, -0.7%)

[8] In this instance as well, Canada tabulates employment data for those age 15 and above while the United States does so for those age 16 and above.

Indicator 2: Average private-sector employment growth (%), 2016–2018

Sources: Statistics Canada, 2019b; US, Dep't of Labor, Bureau of Labor Statistics, 2019b; calculations by authors.

and Wyoming (59th, -2.3%). The only US census region not represented in the bottom 10 is the Northeast; there are three from the West (Alaska, Montana, and Wyoming), three from the Midwest (North Dakota, Kansas, and Missouri), and two from the South (Louisiana and Oklahoma).

Indicator 3: Average total employment rate

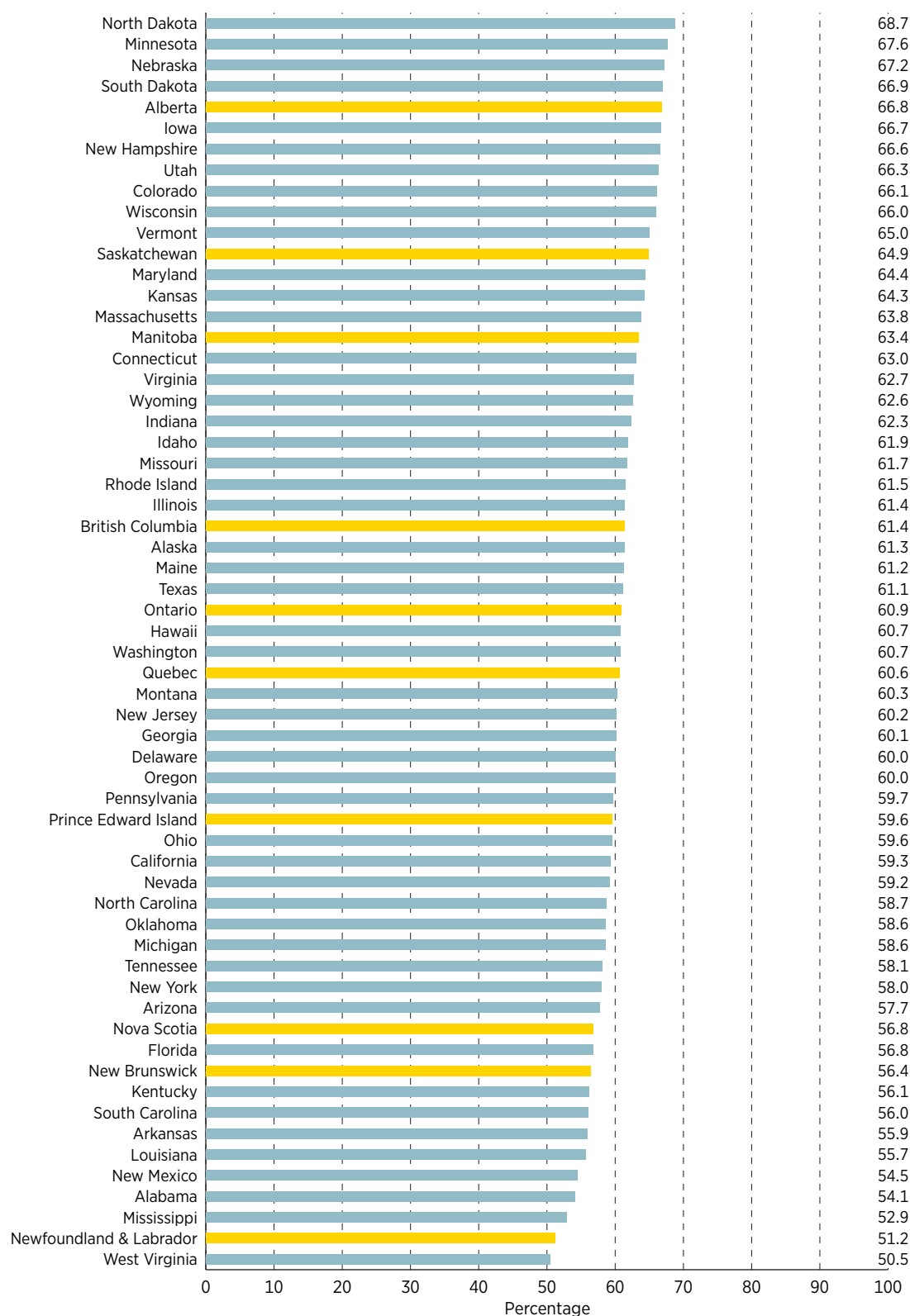
It is important to consider not just the growth in employment but also the overall level of employment. For example, a jurisdiction with a relatively low level of employment may score well on the first two indicators if its growth is catching up to that of other jurisdictions, but this does not fully reflect employment conditions in that jurisdiction. This indicator measures the total employment level—which includes full-time and part-time work as well as private employees, public employees, and the self-employed—as a percentage of the working age population (15 years and above for Canada and 16 years and above for the United States). The employment rate is the average over the years from 2016 to 2018.

Observations

Alberta was the only Canadian province ranked in the top 10 jurisdictions for average employment rate, ranking 5th out of 60 jurisdictions with an average employment rate of 66.8%. Saskatchewan ranks 12th with an average employment rate of 64.9%. Three other Canadian provinces are in the top half of jurisdictions: Manitoba (16th, 63.4%), British Columbia (24th, 61.4%), and Ontario (29th, 60.9%). Only two Canadian provinces are in the bottom 10, New Brunswick (51st, 56.4%) and Newfoundland & Labrador (59th, 51.2%).

The top four jurisdictions are from the US Midwest: North Dakota (68.7%), and Minnesota (67.6%), Nebraska (67.2%), and South Dakota (66.9%), with fellow Midwestern states Iowa coming in at 6th (66.7%) and Wisconsin at 10th (66.0). The West is represented by Utah (8th, 66.3%) and Colorado (9th, 66.1%) and the Northeast is represented by New Hampshire (7th, 66.6%). No jurisdiction from the South census region is in the top 10 of this indicator.

States from the South, however, feature prominently among the bottom 10 jurisdictions for average employment rate. In fact, eight of the bottom 10 are southern states. This includes Kentucky (52nd, 56.1%), South Carolina (53rd, 56.0%), Arkansas (54th, 55.9%), Louisiana (55th, 55.7%), Alabama (57th, 54.1%), Mississippi (58th, 52.9%), and the lowest ranked jurisdiction on this indicator, West Virginia (50.5%). New Mexico (56th, 54.5%) is the other American state in the bottom 10.

Indicator 3: Average total employment rate (%), 2016–2018

Note: Canada tabulates employment data for those age 15 and above while the United States does so for those age 16 and above.
 Sources: Statistics Canada, 2019f; US, Dep't of Labor, Bureau of Labor Statistics, 2019a; calculations by authors.

Indicator 4: Average private-sector employment rate

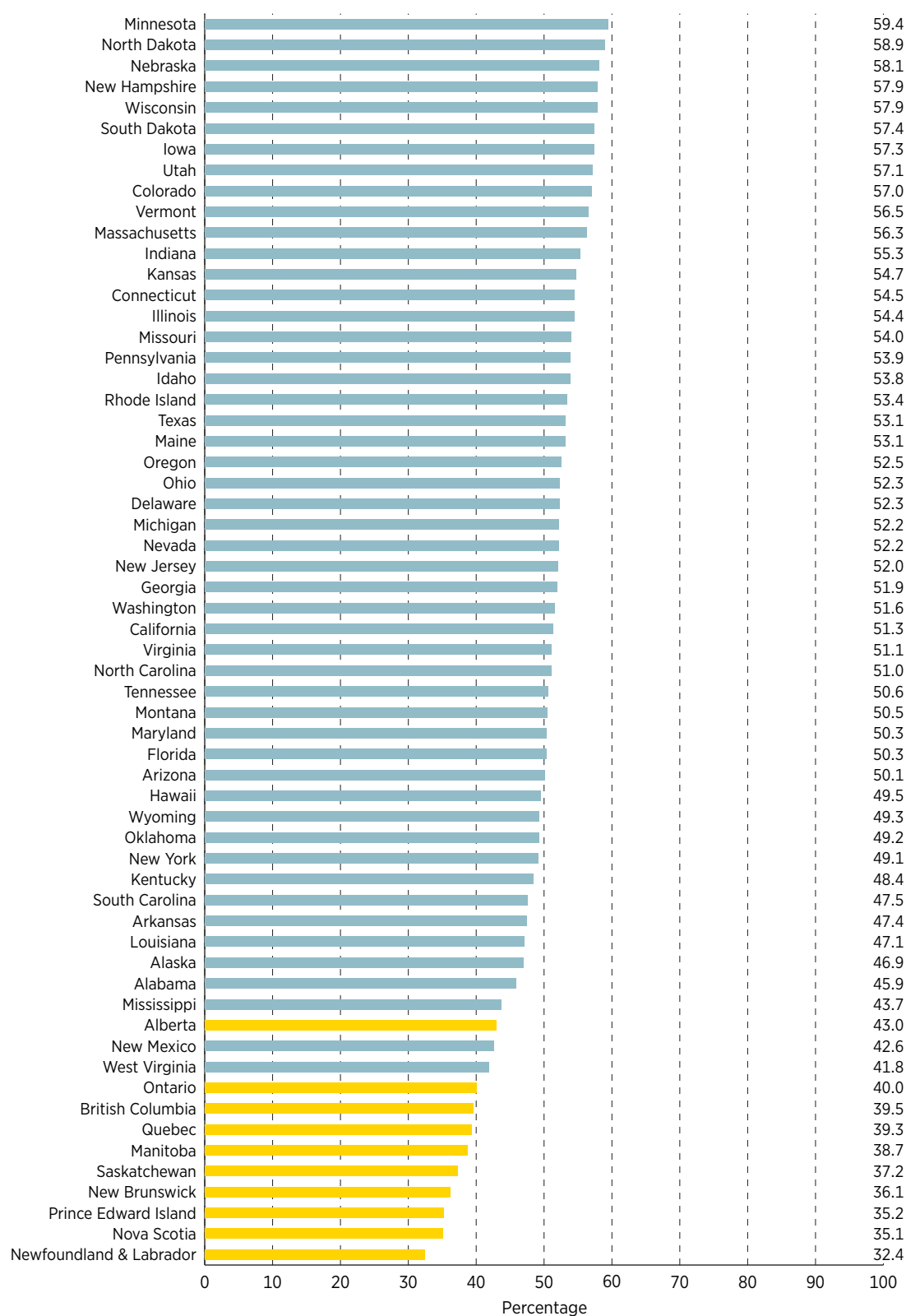
The total employment rate does not distinguish between employment in the public and private sectors, which as noted above, is important because of the different economic implications. The fourth indicator of labour market performance measures the average private-sector employment rate from 2016 to 2018; it is calculated as the total full-time and part-time employment in the private sector relative to the working age population. [9] The average private-sector employment rate for all 60 jurisdictions is summarized in the figure below.

Observations

The bottom nine jurisdictions for average private-sector employment rate are all Canadian provinces. The only province that is not in the bottom 10 is Alberta (43.0%), which places 49th—still in the bottom third of jurisdictions. The second highest ranked Canadian province is Ontario (52nd, 40.0%), followed by Quebec (54th, 39.3%). The Atlantic Provinces all make up the bottom four jurisdictions: New Brunswick (36.1%), Prince Edward Island (35.2%), Nova Scotia (35.1%), and Newfoundland & Labrador (32.4%).

Midwestern states generally performed well on this indicator, with six of the top 10 jurisdictions coming from the Midwest. This includes the top three jurisdictions—Minnesota (59.4%), North Dakota (58.9%), and Nebraska (58.1%). The three other Midwest states in the top 10 are: Wisconsin (tied for 4th, 57.9%), South Dakota (6th, 57.4%), and Iowa (7th, 57.3%). Two states in the top 10 come from the Northeast—New Hampshire (tied for 4th, 57.9%) and Vermont (10th, 56.5%)—and two states come from the West—Utah (8th, 57.1%) and Colorado (9th, 57.0%). The only US state in the bottom 10 of jurisdictions is West Virginia (51st, 41.8%).

[9] Canada tabulates employment data for those of age 15 and above while the United States does so for those of age 16 and above.

Indicator 4: Average private-sector employment rate (%), 2016–2018

Sources: Statistics Canada, 2019b, 2019f; US, Dep't of Labor, Bureau of Labor Statistics, 2019a, 2019b; calculations by authors.

Indicator 5: Average unemployment rate

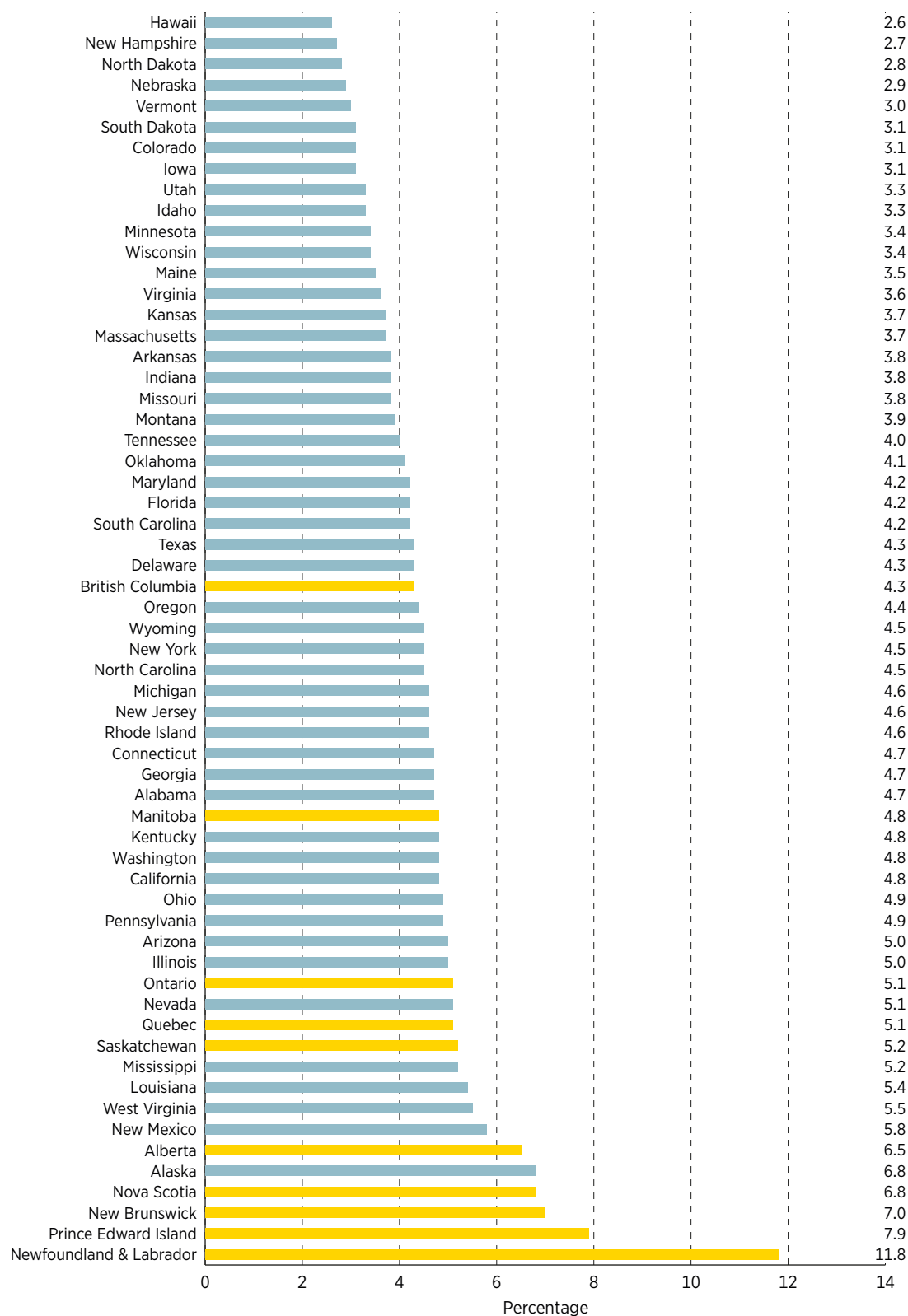
Indicator 5 reflects the first two indicators in that an economy that is unable to generate employment growth will also, to a certain extent, generally have a higher unemployment rate, assuming a steady flow of new entrants to the labour force. Indicator 5 measures the three-year (2016–2018) average percentage of citizens who, though actively seeking work, were unable to find it. [10]

An important limitation of this measure is that a reduction in unemployment could occur for two reasons. First, it could be that individuals are moving from being unemployed to being employed. Second, it could be that individuals are abandoning an active search for work and leaving the labour force altogether (see the discussion of labour force participation in Appendix B (p. 27). An individual may leave the labour force as a result of age (that is, retire), because they have suffered some calamity that leaves them too injured or sick to work, as a result of choosing a change in lifestyle (for instance, staying home with young children), because they feel discouraged from the lack of job opportunities, or for some other reason. In any case, the unemployment rate by itself can only reveal part of what is happening in a labour market. This is one reason that an index that has multiple measures, such as employment growth and employment rate, is used to capture labour market conditions across jurisdictions. Average unemployment rates for all 60 jurisdictions are summarized in the figure below.

Observations

Canada, again, performed poorly on this indicator. The Atlantic Provinces had the four highest average unemployment rates of all 60 jurisdictions (Newfoundland & Labrador, 11.8%; Prince Edward Island, 7.9%; New Brunswick, 7.0%; Nova Scotia, 6.8%) and therefore ranked the lowest. Canada's two most populous provinces, Ontario and Quebec, also underperformed: they were part of a three-way tie for 47th place, with an average unemployment rate of 5.1%. Saskatchewan followed right behind with 5.2%, ranking 50th. Alberta, which for decades had one of the lowest unemployment rates of any jurisdiction, is also in the bottom 10 (55th) with an average unemployment rate of 6.5%. British Columbia fared best among all Canadian provinces with an average unemployment rate of 4.3%, ranking it 26th among all provinces and states. Manitoba was the next best province on this indicator at 4.8%, putting it in a tie for 39th place.

[10] Statistics Canada's R3 unemployment rate was used for the Canadian provinces, instead of a traditional (that is, official) unemployment rate. R3 alters the official Canadian rates to make them comparable to the US unemployment rates. The R3 unemployment rates are slightly lower than the official unemployment rate but the difference is less than one percentage point, on average, for Canada (Statistics Canada, 2019e).

Indicator 5: Average unemployment rate (%), 2016–2018

Note: Statistic Canada's R3 unemployment rate was used for the Canadian provinces to ensure data comparability with the United States.

Sources: Statistics Canada, 2019e; US, Dep't of Labor, Bureau of Labor Statistics, 2019f; calculations by authors.

The two top performing jurisdictions were Hawaii at 2.6%, followed by New Hampshire at 2.7%. Great Plain states of the US Midwest performed strongly with exceptionally low unemployment rates—North Dakota ranked 3rd with an average unemployment rate of 2.8%, followed by Nebraska in fourth (2.9%), and South Dakota tied for 6th (3.1%). Kansas ranked slightly outside the top 10 at 15th (3.7%). A total of five Midwest states are in the top 10 (with Minnesota and Wisconsin tied for 11th), along with four West and two Northeast states. None are from the South.

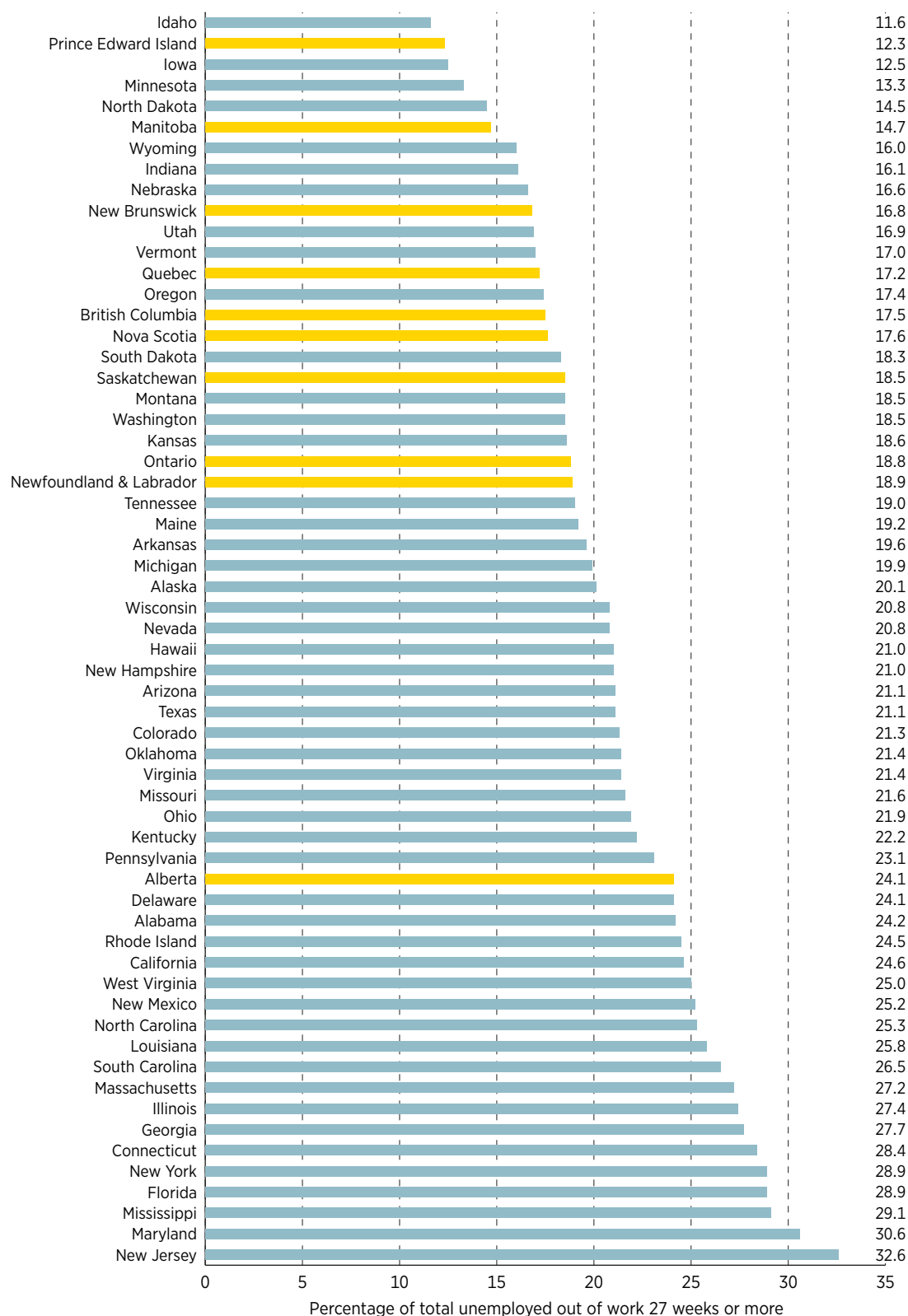
Indicator 6: Average long-term unemployment

The sixth indicator of labour market performance is the average percentage of the unemployed who have been out of work for 27 weeks. It is an adjunct to the previous measure and is intended to indicate the severity of unemployment, as the labour market of two jurisdictions with similar unemployment rates may face different problems if the length of long-term unemployment in one or the other is drastically different. This indicator measures the share of those who experience unemployment for 27 weeks or longer relative to the total unemployed, on average, from 2016 to 2018. The result for all 60 jurisdictions are summarized in the figure below.

Observations

Prince Edward Island finished in second place with 12.3%, and Canadian jurisdictions generally performed better on the severity of long-term unemployment than on the unemployment rate. Three provinces ranked among the top 10—Prince Edward Island (2nd), Manitoba (6th), and New Brunswick (10th). The remaining provinces, with the exception of Alberta, all ranked in the top 30: Quebec (13th), British Columbia (15th), Nova Scotia (16th), Saskatchewan (18th), Ontario (22nd), and Newfoundland & Labrador (23rd). Alberta fared much worse than the rest of the country on this metric, coming in at 42nd place.

Seven US states are in the top 10: five Midwest—Iowa (3rd), North Dakota (5th), Minnesota (4th), Indiana (8th), Nebraska (9th)—and two from the West—Idaho (1st), Wyoming (7th). With the exception of Alberta, the bottom 30 jurisdictions are all US states. The bottom ten featured five states from the Northeast (New Jersey, Maryland, New York, Connecticut, and Massachusetts), including lowest ranked New Jersey, with 32.6% of its unemployed out of work for 27 weeks or longer. Four states from the South appeared in the bottom ten: Mississippi, Florida, Georgia, and South Carolina. No states from the West were among the bottom ten, and Illinois was the lone Midwest state in that group.

Indicator 6: Average long-term unemployment, 2016-2018

Sources: Statistics Canada, 2019d; US, Dep't of Labor, Bureau of Labor Statistics, 2019b; calculations by authors.

Indicator 7: Average share of involuntary part-time workers

The seventh indicator captures an aspect of the labour market that is a growing concern—the quality of jobs available. Some worry that those who have jobs may be underemployed (not employed to their full potential). For instance, there are individuals working a part-time job who desire to be working full-time. However, many individuals also desire to work part-time for personal or family reasons. It is important to distinguish between voluntary and involuntary part-time workers. Someone who is an involuntary part-time worker desires full-time work but could not find it as a result of economic conditions. Indicator 7 measures the percentage of total employed that was involuntary part-time, on average, from 2016 to 2018. The result for all 60 jurisdictions are summarized in the figure below.

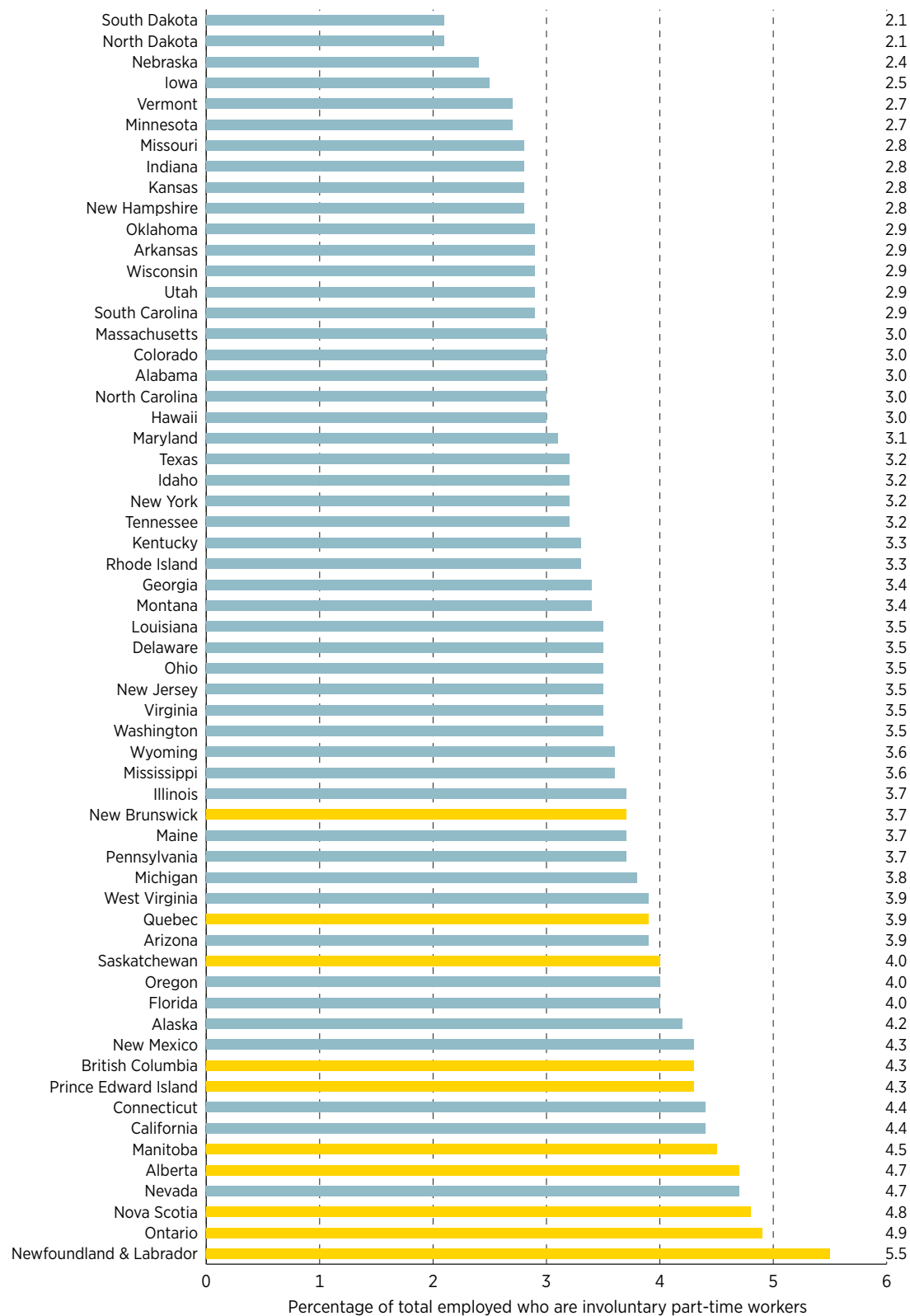
Observations

No Canadian province is in the top half of the 60 jurisdictions on this indicator, meaning all have relatively high percentages of involuntary part-time workers. New Brunswick is the best ranked Canadian province, ranking 38th with 3.7% of the workforce involuntary part-time. Quebec (3.9%) is the second highest ranked Canadian province but ranks 43rd overall. Seven of the bottom 10 jurisdictions are Canadian: British Columbia (4.3%), Prince Edward Island (4.3%), Nova Scotia (4.8%), Ontario (4.9%), and Newfoundland & Labrador (5.5%). Notably, in Canada's most populous province, Ontario, nearly one in 20 workers was involuntary part-time on average during this period. That is more than twice the share of the highest ranking jurisdictions on this indicator (South and North Dakota, 2.1%).

Once again, in the United States the top 10 is dominated by states of the Midwest, with South Dakota and North Dakota tying for the lowest involuntary part-time rate (2.1%), followed by Nebraska (2.4%) and Iowa (2.5%). The Midwest states of Minnesota, Missouri, Indiana, and Kansas all finished within the top ten, along with Northeast states Vermont and New Hampshire. None of the states in the top 10 are from the West or the South.

The US states that are in the bottom 10 of this indicator are mainly from the West. Nevada has the highest average involuntary part-time rate of all US jurisdictions, with 4.7% (56th). California and Connecticut are the states with the next highest rate (tied for 53rd, 4.4%), followed by New Mexico (tied for 50th, 4.3%). The only jurisdiction in the bottom 10 that is not from the West census region or a Canadian province is Connecticut.

Indicator 7: Average share of employed who are involuntary part-time workers, 2016–2018



Sources: Statistics Canada, 2019b, 2019c; US, Dep't of Labor, Bureau of Labor Statistics, 2019e, 2019f; calculations by authors.

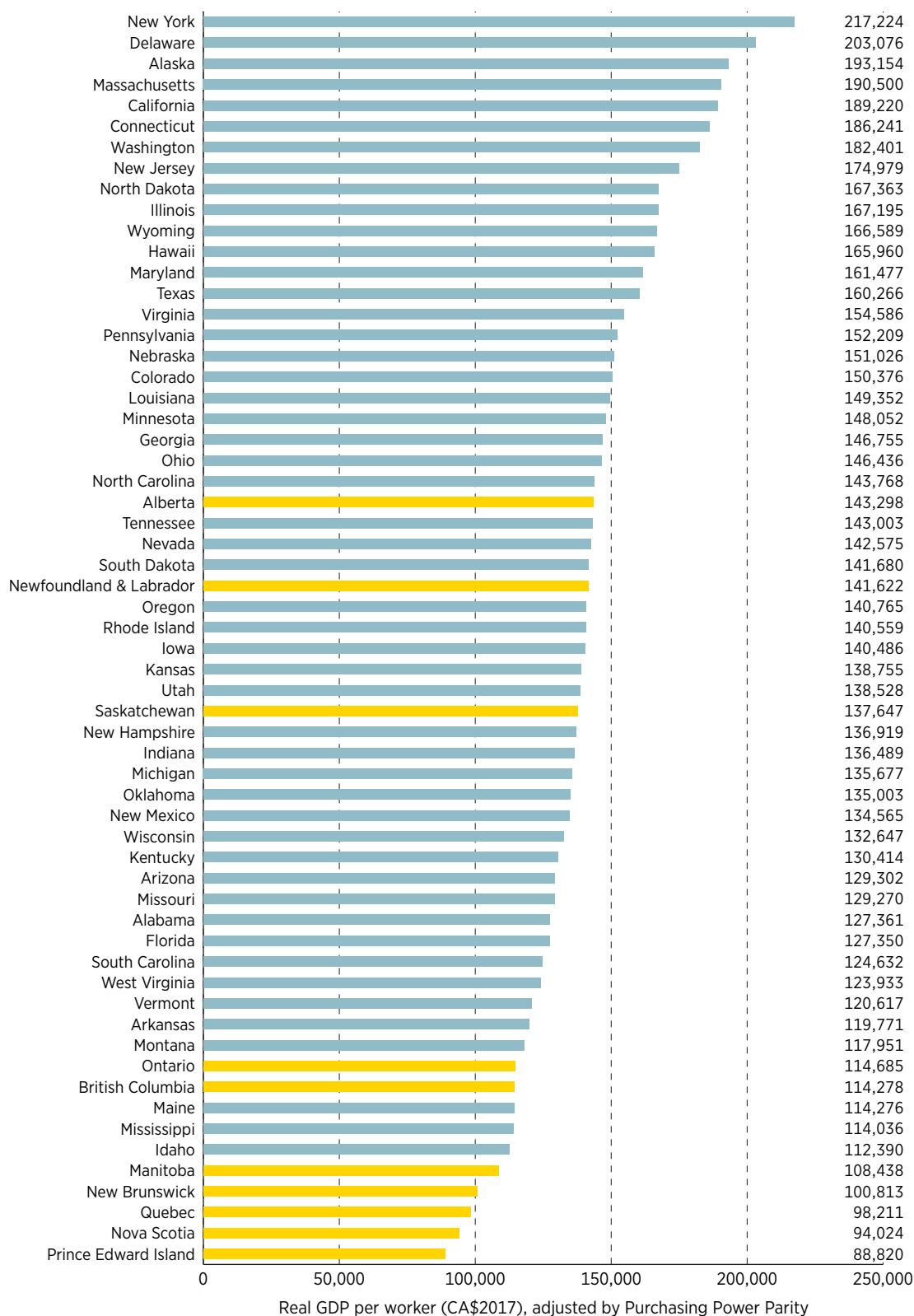
Indicator 8. Average output per worker

A final indicator of a labour market that is functioning well is high and growing labour productivity. The ability to produce more with the same amount of labour translates into higher compensation for workers (including wages, salaries, and other benefits). A common measure of labour productivity is output per hour of labour work. However, data on the number of hours worked is not available for all US states (although it is for the Canadian provinces). In place of this preferred measure, the final indicator of labour market performance measures the average real gross domestic product (GDP) per worker from 2015 to 2017, adjusted for purchasing power parity (PPP). This indicator reveals the average total value of goods and services produced per worker over the three-year period. Average output per worker for all 60 jurisdictions is summarized in the figure below.

Observations

The five least productive jurisdictions are all Canadian provinces—Prince Edward Island (ranked 60th), Nova Scotia (59th), Quebec (58th), New Brunswick (57th), and Manitoba (56th). Each of those five provinces had an average GDP per worker of less than half the top ranked jurisdiction, New York (\$217,224). Seven of the 10 lowest ranked jurisdictions are Canadian, with Ontario ranked 51st and British Columbia, 52nd, on this indicator. Alberta, in 24th place, was the top-ranked Canadian province, with an average GDP per worker of \$143,298, followed by Newfoundland & Labrador (28th, \$141,622) and Saskatchewan (34th, \$137,647).

Five Northeast US states finished in the top 10 for average output per worker: New York (1st, \$217,224), Delaware (2nd, \$203,076), Massachusetts (4th, \$190,500), Connecticut (6th, \$186,241), and New Jersey (8th, \$174,979). Three western states also finished in the top ten: Alaska (3rd, \$193,154), California (5th, \$189,220), and Washington (7th, \$182,401). The remaining top-10 states were North Dakota (9th) and Illinois (10th). Despite the strong standing of several states from the Northeast and West, two of the three least productive states are also from those regions: Idaho (ranked 55th) had an average GDP per worker of \$112,390 and Maine (53rd) averaged \$114,276 per worker.

Indicator 8: Average output per worker (adjusted GDP, CA\$2017), 2015–2017

Sources: OECD, 2019; Statistics Canada, 2019i, 2019b; US, Dep't of Commerce, Bureau of Economic Analysis, 2019a, 2019b, 2019c; US, Dep't of Labor, Bureau of Labor Statistics, 2019f; calculations by authors.

Conclusion

The Index of Labour Market Performance shows that labour markets in Canadian provinces have generally under-performed compared to those in many US states. Indeed, Canadian provinces generally rank poorly on six out of the eight indicators used in the index relative to American states.

Appendix A. Methodology

Computing the Index of Labour Market Performance

The Index of Labour Market Performance assesses the performance of labour markets in the 10 Canadian provinces and 50 US states across eight indicators:

- Indicator 1. average total employment growth (2016–2018)
- Indicator 2. average private-sector employment growth (2016–2018)
- Indicator 3. average total employment rate (2016–2018)
- Indicator 4. average private-sector employment rate (2016–2018)
- Indicator 5. average unemployment rate (2016–2018)
- Indicator 6. average long-term unemployment (2016–2018)
- Indicator 7. average share of involuntary part-time workers (2016–2018)
- Indicator 8. average output per worker (2015–2017).

Each indicator is standardized so that the lowest possible score is zero and the highest possible score is 100. The scores of the five indicators are then averaged, with all eight indicators given equal weighting, to obtain an overall score ranging from zero to 100. The jurisdictions are then ranked according to their final score.

Depending on whether higher values are indicative of better or worse performance of the labour market, alternative formulas are used to transform the eight indicators to a zero-to-100 scale. When higher values are indicative of better labour market performance, the formula used to derive the zero-to-100 ratings is:

$$(V_i - V_{min}) / (V_{max} - V_{min}) \times 100.$$

V_i is the jurisdiction's actual value for the indicator, V_{max} is the maximum value among all of the jurisdictions, and V_{min} is the minimum value among all of the jurisdictions. A jurisdiction's rating will be 100 when its value for the indicator is the highest among all jurisdictions and zero when it is the lowest among all the jurisdictions.

When higher values are indicative of worse labour market performance, the formula used to derive the zero-to-100 ratings is:

$$(V_{max} - V_i) / (V_{max} - V_{min}) \times 100.$$

Appendix B. Other Important Indicators of Labour Market Performance

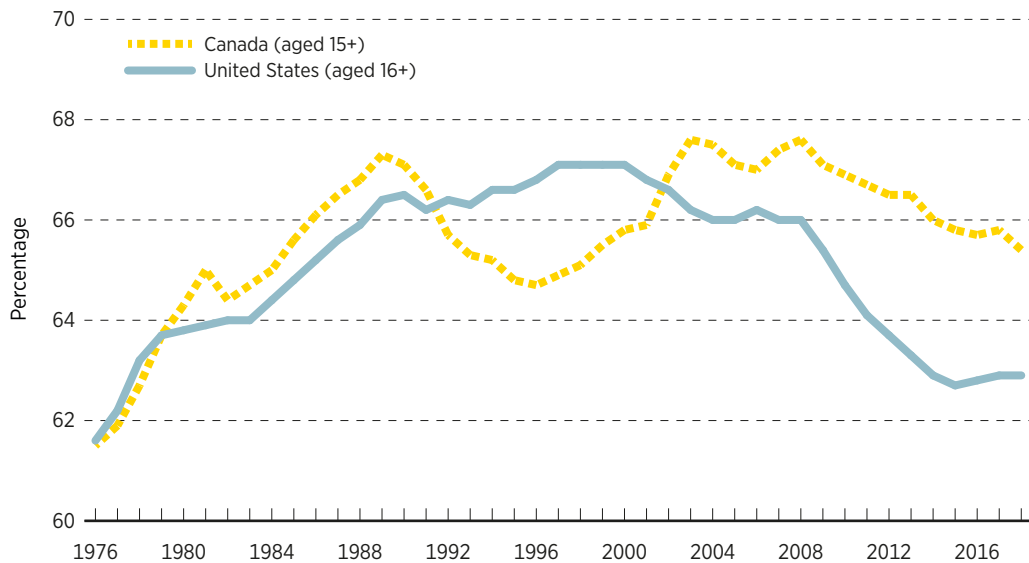
There are three other indicators of labour market performance that are noteworthy but not included in the Index of Labour Market Performance: [1] participation rate, [2] migration, and [3] working days lost as a result of labour disputes. The latter two are not part of the index because the data for Canadian provinces and US states are either not comparable or lack sufficient detail to draw accurate conclusions. Nevertheless, migration and time lost due to labour disputes are important indicators of labour market performance, so they are examined here, along with the participation rate.

Indicator B1: Participation rate

The labour force participation rate is the number of people in the labour force as a percentage of the working age population. The labour force comprises individuals who are employed or unemployed but looking for work. In other words, the participation rate is the percentage of those old enough to work who either have a job or want one. This measure is not included in the Index of Labour Market Performance because the average participation rate is highly correlated with the average employment rate ($r = 0.97$). The labour force participation rate is important, however, for understanding changes in the unemployment rate. While a declining unemployment rate can be driven by a greater proportion of individuals finding work, it can also be driven by people leaving the labour force. Examining trends in the participation rate can help clarify why the unemployment rate is changing.

It is possible for the participation rate to drop following an economic recession if workers become discouraged and stop looking for employment. The rate can also drop for structural reasons such as a demographic shift in the population. For instance, a structural drop in the participation rate is likely to occur as a result of baby boomers entering retirement (Fields, Uppal, and LaRochelle-Côté, 2017). While it is beyond the scope of this study to examine the causes of shifts in the participation rate, it is notable that in recent years the overall participation rate has declined in both Canada and the United States.

Figure B1: Labour force participation rate (%) in Canada and the United States, 1976–2018

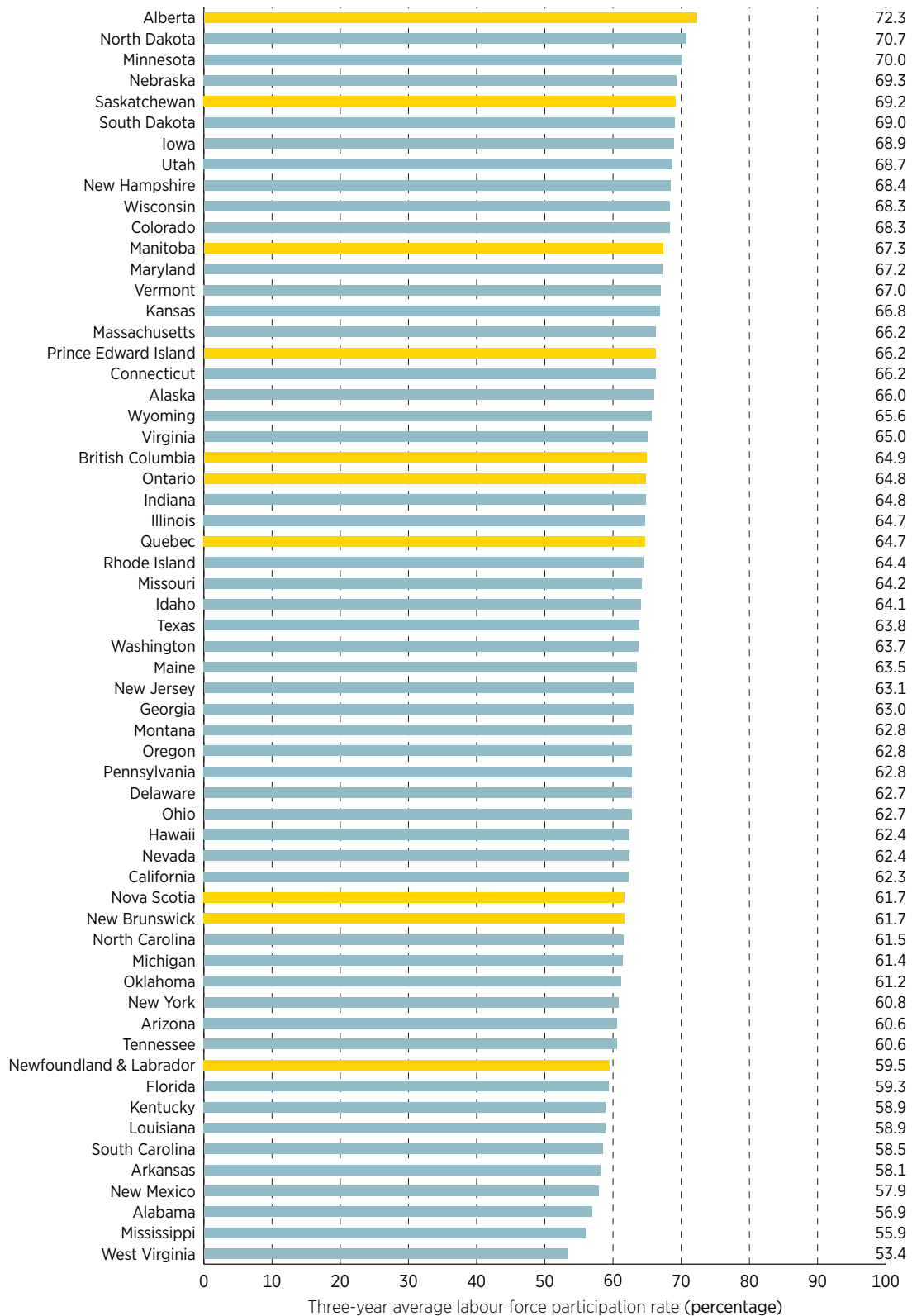


Note: The labour force participation rate in Canada is measured for ages 15 and up while in the United States it is measured for ages 16 and up.
Sources: Statistics Canada, 2019f; US, Dep't of Labor, Bureau of Labor Statistics, 2019d; calculations by authors.

Figure B1 displays the labour participation rate in both countries from 1976 to 2018. It shows a downward trend in the overall labour force participation rate since 2008. In Canada, the overall participation rate fell from 67.6% in 2008 to 65.4% in 2018. Over the same time period, the US participation rate dropped from 66.0% to 62.9%. The decline in the United States has been more pronounced, declining 3.1 percentage-points compared to a 2.2-point decline in Canada.

However, the countrywide data masks important differences between jurisdictions within both countries; some Canadian provinces perform better, while others perform worse, than US states. Figure B2 presents the average labour force participation rate from 2016 to 2018 in the 10 Canadian provinces and 50 US states. At 72.3%, Alberta had the highest rate. The other Prairie provinces—Saskatchewan, ranking 5th (69.2%) and Manitoba, 12th (67.3%)—also performed well. One other province finished in the top 20—Prince Edward Island (ranked 17th, 66.2%). Three Canadian provinces are ranked in the bottom 20—Nova Scotia and New Brunswick tie for 43rd (61.7%) and Newfoundland & Labrador came in at 51st (59.5%), making it the only Canadian province among the bottom 10.

In the United States, the Midwest has the most representation in the top 10 of any census region, with five states—North Dakota (2nd, 70.7%), Minnesota (3rd, 70.0%),

Figure B2: Average labour force participation rate (%), 2016–2018

Note: Canada tabulates employment data for those of age 15 and above while the United States does so for those age 16 and above.
 Sources: Statistics Canada, 2019f; US, Dep't of Labor, Bureau of Labor Statistics, 2019e; calculations by authors.

Nebraska (4th, 69.3%), South Dakota (6th, 69.0%), and Iowa (7th, 68.9%). The Northeast also performed well, with two states in the top 10—New Hampshire (9th, 68.4%) and Wisconsin (10th, 68.3%). One jurisdiction in the top 10 is from the West—Utah (8th, 68.7%)—and none are from the South.

The bottom three jurisdictions are Southern states—Alabama (56.9%), Mississippi (55.9%), and West Virginia (53.4%). Five more Southern states are in the bottom 10—Tennessee (50th, 60.6%), Florida (52nd, 59.3%), Kentucky (53rd, 58.9%), Louisiana (54th, 58.9%), South Carolina (55th, 58.5%), and Arkansas (56th, 58.1%). The only other US state in the bottom 10 is New Mexico (57th, 57.9%), from the West.

Indicator B2: Migration

The flow of workers into, and out of, jurisdictions is an important indicator of the performance of labour markets and of economic performance generally. These flows can often be explained by a lack of labour opportunities in the worker's home province or state. For example, using data from 1982 to 1995, Ross Finnie found that interprovincial migration is generally “the route to better labour market opportunities for men, particularly for those coming from the lower income provinces and moving to higher income ones, and [is] especially the case in younger men” (1999: 259). Thus, the net addition or subtraction of workers can be an important indicator of larger economic successes or challenges.

The following section presents information on the net flow of citizens from one Canadian province to another and from one US state to another. The data in this section comes from census information from both countries. The measure used, net migration, is the difference between the number of people migrating out of a particular jurisdiction and the number of people migrating into the same jurisdiction. The figures throughout this section refer exclusively to domestic migration; foreign migration is excluded.

Canada

Table B1 contains migration data for the Canadian provinces from 2015/16 to 2017/18. British Columbia had both the highest positive number of net migrants and the highest percentage of net migration: 53,206 people or 1.1% of British Columbia's population. Nova Scotia had the next highest interprovincial migration as a percentage of

Table B1: Net interprovincial migration by province, 2015/16–2017/18

	2015/16	2016/17	2017/18	Total 2015/16– 2017/18	As % of 2018 population
Alberta	–15,108	–15,559	1,438	–29,229	–0.7%
British Columbia	26,573	18,834	7,799	53,206	1.1%
Manitoba	–4,881	–5,124	–9,199	–19,204	–1.4%
New Brunswick	–1,113	434	–49	–728	–0.1%
Newfoundland & Labrador	232	–1,430	–3,656	–4,854	–0.9%
Nova Scotia	754	2,839	2,659	6,252	0.7%
Ontario	9,077	13,382	17,886	40,345	0.3%
Prince Edward Island	30	444	–446	28	0.0%
Quebec	–11,118	–8,127	–6,761	–26,006	–0.3%
Saskatchewan	–4,272	–5,760	–9,083	–19,115	–1.6%

Notes: [1] Net interprovincial migration is defined as the difference between the number of incoming and outgoing migrants. The figures refer exclusively to domestic migration; foreign migration is excluded. [2] Period from July 1 to June 30.

Sources: Statistics Canada, 2019g, 2019h; calculations by authors.

its population (0.7%, 6,252 arrivals), followed by Ontario (0.3%, 40,345) and Prince Edward Island, which essentially broke even on net migration (0.0%, 28 net arrivals). Alberta lost more interprovincial migrants on net than any other province (29,229), followed by Quebec (26,006), Manitoba (19,204), and Saskatchewan (19,115). As a percentage of population, Saskatchewan saw the greatest net outflow (–1.6%), followed by Manitoba (–1.4%), Newfoundland & Labrador (–0.9%), Alberta (–0.7%), Quebec (–0.3%), and New Brunswick (–0.1%).

United States

Nevada ranked first for positive net migration rates at 4.0% of its population (table B2), followed by Idaho (3.8%), and Arizona (2.9%). Including Oregon (5th, 2.7%), the West accounted for four of the top five states for domestic net migration as a percentage of population. On the other hand, Alaska had the greatest negative net migration rate in the United States, –3.4%. The second and third most negative net migration rates belong to Wyoming (–2.9%) and New York (–2.9%).

Table B2: Net domestic migration by state, 2015/16–2017/18

	2015/16	2016/17	2017/18	Total (2015/16– 2017/18)	As % of 2018 population
Alabama	–864	3,840	5,718	8,694	0.2%
Alaska	–4,587	–9,938	–10,752	–25,277	–3.4%
Arizona	61,544	63,111	83,240	207,895	2.9%
Arkansas	195	4,718	2,475	7,388	0.2%
California	–109,023	–138,195	–156,068	–403,286	–1.0%
Colorado	50,216	36,653	43,293	130,162	2.3%
Connecticut	–29,880	–22,270	–21,509	–73,659	–2.1%
Delaware	3,027	4,484	6,858	14,369	1.5%
Florida	207,155	160,854	132,602	500,611	2.4%
Georgia	36,781	41,107	41,914	119,802	1.1%
Hawaii	–10,021	–13,537	–12,430	–35,988	–2.5%
Idaho	17,143	24,597	24,095	65,835	3.8%
Illinois	–114,144	–114,779	–114,154	–343,077	–2.7%
Indiana	–12,135	–976	3,555	–9,556	–0.1%
Iowa	–3,392	–2,724	–2,886	–9,002	–0.3%
Kansas	–18,595	–14,150	–12,564	–45,309	–1.6%
Kentucky	–3,429	1,024	798	–1,607	0.0%
Louisiana	–12,243	–27,515	–27,914	–67,672	–1.5%
Maine	2,169	5,376	4,469	12,014	0.9%
Maryland	–26,232	–23,984	–24,518	–74,734	–1.2%
Massachusetts	–25,606	–23,089	–25,755	–74,450	–1.1%
Michigan	–27,839	–12,698	–16,766	–57,303	–0.6%
Minnesota	–1,762	7,941	6,769	12,948	0.2%
Mississippi	–9,690	–9,885	–10,818	–30,393	–1.0%
Missouri	–6,250	–1,050	–2,790	–10,090	–0.2%
Montana	6,853	8,666	5,987	21,506	2.0%
Nebraska	–2,144	–3,493	–3,314	–8,951	–0.5%

Table B2 (cont'd): Net domestic migration by state, 2014/15–2016/17

	2015/16	2016/17	2017/18	Total (2015/16- 2017/18)	As % of 2018 population
Nevada	34,575	38,227	47,596	120,398	4.0%
New Hampshire	2,187	4,687	3,928	10,802	0.8%
New Jersey	-66,791	-57,274	-50,591	-174,656	-2.0%
New Mexico	-9,748	-7,437	-5,851	-23,036	-1.1%
New York	-191,367	-190,508	-180,306	-562,181	-2.9%
North Carolina	59,584	66,051	66,991	192,626	1.9%
North Dakota	-6,259	-6,653	-2,379	-15,291	-2.0%
Ohio	-27,558	-8,205	-12,146	-47,909	-0.4%
Oklahoma	-3,822	-10,470	-4,474	-18,766	-0.5%
Oregon	50,038	37,975	26,819	114,832	2.7%
Pennsylvania	-45,565	-25,793	-20,463	-91,821	-0.7%
Rhode Island	-3,784	-3,854	-2,639	-10,277	-1.0%
South Carolina	47,084	49,015	50,775	146,874	2.9%
South Dakota	941	1,976	638	3,555	0.4%
Tennessee	30,519	40,232	39,952	110,703	1.6%
Texas	125,703	79,163	82,569	287,435	1.0%
Utah	19,778	17,568	16,052	53,398	1.7%
Vermont	-2,865	-918	-62	-3,845	-0.6%
Virginia	-25,343	-12,395	-9,831	-47,569	-0.6%
Washington	67,571	64,579	46,549	178,699	2.4%
West Virginia	-7,659	-10,507	-7,029	-25,195	-1.4%
Wisconsin	-12,395	-2,086	-1,011	-15,492	-0.3%
Wyoming	-4,347	-8,613	-3,686	-16,646	-2.9%

Notes: [1] This data is collected from July to July. [2] A negative value for net migration is indicative of net out-migration, meaning that more migrants left an area than entered it. Positive values reflect net in-migration to an area. The figures refer exclusively to domestic migration; foreign migration is excluded.

Sources: US, Dep't of Commerce, Bureau of the Census, 2019a, 2019b; calculations by authors.

Indicator B3: Working days lost as a result of labour disputes

Labour disputes are an indicator of labour market performance as they help to explain differences in employment opportunities for workers. Labour disputes affect employment opportunities adversely by decreasing investment and business activity. They also discourage investment and negatively affect business activity because labour disputes can cause profits and market share to decline. Investment and business activity are critical to workers as they have a positive effect on high and growing wages and, ultimately, on living standards.

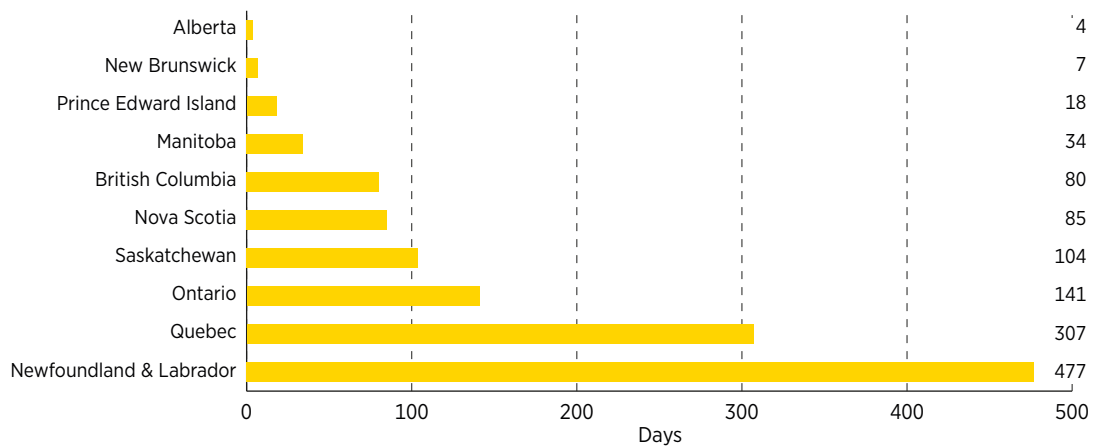
Research shows that the primary way in which labour disputes discourage investment and business activity is by lowering the value of firms. They do so because they tend to reduce the rate of return to potential investors. A study by Hanrahan, Kushner, Martinello, and Masse (1997) in the *Review of Financial Economics* examined the impact of labour disputes on the expected profitability of Canadian firms listed on the Toronto Stock Exchange. The authors found that disputes during collective bargaining decreased returns by 4.5%. Moreover, the main findings suggest that the longer the dispute, the greater the harmful impact on returns. There is similar evidence from the United States. A study in *Industrial Relations* by Jonathan Kramer and Thomas Hyclak (2002) examined the reaction of the stock market to labour disputes in US manufacturing industries from January 1982 to July 1999. They found that strikes had negative effects on the cumulative stock-market returns of firms involved in those strikes: such firms saw a decrease in their returns of -0.7% to -0.8%.

Lower rates of return caused by labour disputes have been shown to discourage investors. A study by Morris Kleiner and Hwikwon Ham (2002) examined the impact of national levels of unionization, strike levels, public policies toward labour, and the structure of collective bargaining within a nation on a country's foreign direct investment (FDI). Examining 20 OECD nations from 1985 to 1995 and all US states from 1990 to 1999, the authors found that strikes indeed have a direct effect on FDI: jurisdictions with more days lost from strikes (per 1,000 employees, per year) are associated with lower levels of FDI. A study by Paroma Sanyal and Nidhiya Menon (2005), using data on investment and business activity (defined as the place where an employer chooses to conduct business) from India for the period from 1997 to 1999, found that jurisdictions that suffer frequent labour disputes have less investment and less business activity than jurisdictions with fewer work stoppages.

Canada

Figure B3 displays the number of working days lost per 1,000 workers as a result of labour disputes in Canada from 2016 to 2018. Newfoundland and Labrador (477 days) had the most working days lost per 1,000 workers, with Quebec coming second at 307 days. Ontario finished a distant third with 141 days lost per 1,000 workers. Alberta has the fewest days lost per 1,000 workers (four) among all the provinces.

Figure B3: Canada—working days lost per 1,000 workers as a result of labour disputes, 2016–2018

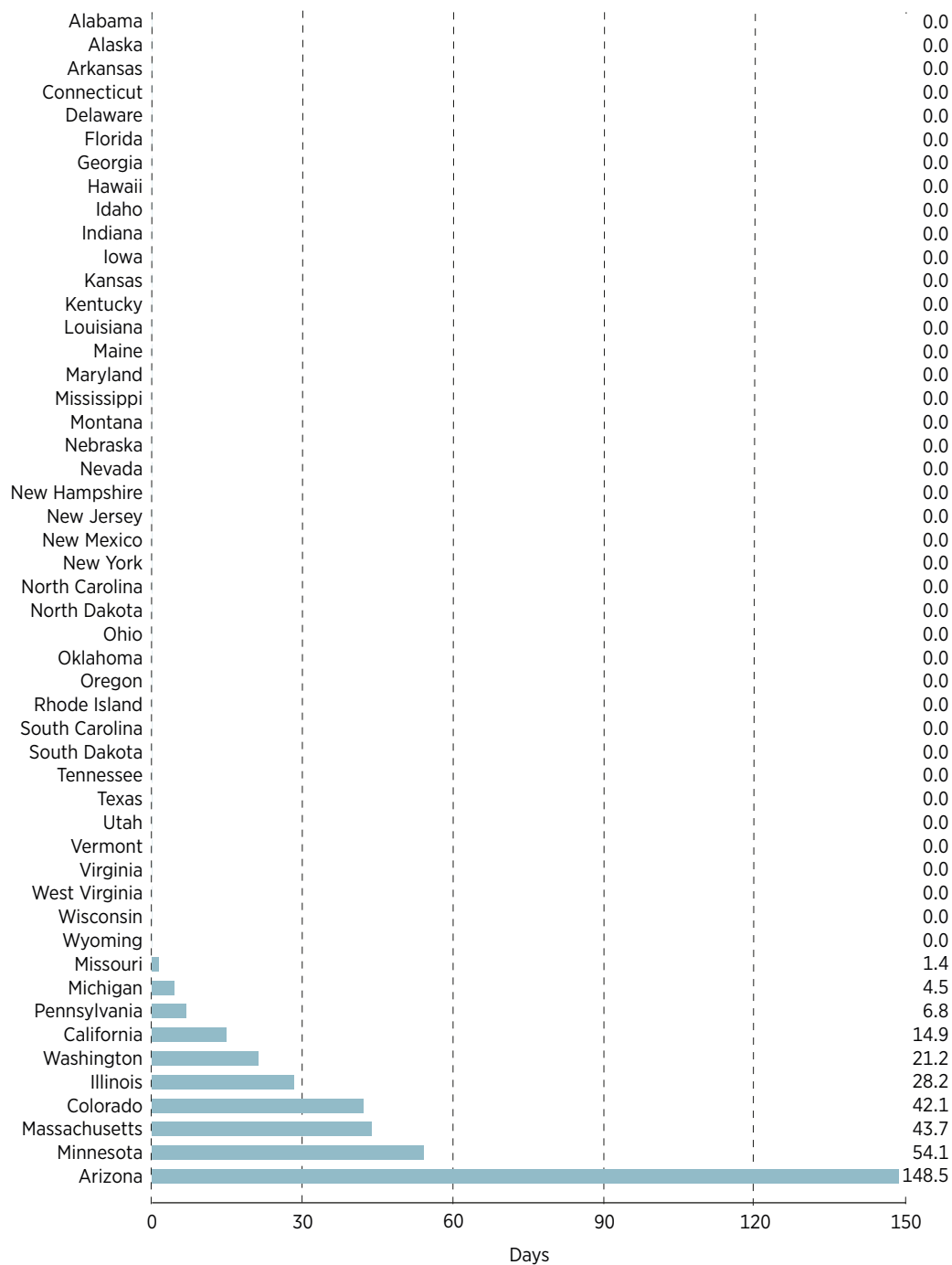


Note: This graph shows work stoppages where 10 or more person days were lost. Figures B3 and B4 are not directly comparable because data is only readily available in the United States for strikes involving 1,000 or more workers. Sources: Employment and Social Development Canada, 2019; Statistics Canada, 2019b; calculations by authors.

United States

Figure B4 displays the results using a similar measure for the United States. However, figures B3 and B4 are not directly comparable because data is only readily available in the United States for strikes involving 1,000 or more workers. In figure B4, 40 states did not have a strike that involved 1,000 workers or more, which likely explains why they had zero work days lost. Arizona stands out as having the most work days lost, with 148.5 days lost per 1,000 workers, followed by Minnesota (54.1), Massachusetts (43.7), Colorado (42.1), and Illinois (28.2). The only other states with more than single digit days lost per thousand workers were Washington (21.2) and California (14.9).

Figure B4: United States—working days lost per 1,000 workers as a result of labour disputes, 2016–2018



Note: Figures B3 and B4 are not directly comparable because data is only readily available in the United States for strikes involving 1,000 or more workers.

Sources: US, Dep't of Labor, Bureau of Labor Statistics, 2019f, 2019g; calculations by authors.

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