Report Card on Quebec Prosperity

2022

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The mission of the Quebec Employers' Council (CPQ) is to represent and defend the interests of employers with a view to ensuring conditions conducive to prosperity in today's competitive global environment. In addition to defending employers' interests, CPQ performs research and shares insights on complex issues.

We seek to identify practical, realistic solutions and foster constructive dialogue with an ever-growing circle of stakeholders who aspire to responsible and inclusive economic development.

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Thank you to our
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Introduction

Annually since 2010, the Quebec Employers' Council (CPQ) has published report cards on Quebec's prosperity outlining the province's main strengths and weaknesses based on ratings on a series of fundamental variables. The purpose of the report card is not to assess what is being done at different levels of government, but rather to identify opportunities and threats that policymakers should take into account.

Over the years, the report card's findings on the Quebec economy have been mixed compared to other similar economies, particularly the biggest Canadian provinces. Whether in terms of collective wealth—a leading variable—or other variables that we will analyze below in greater depth, Quebec continues to lag behind despite a relative improvement in certain indicators. Per capita GDP in Quebec was estimated at $42,012 in 2020, much lower than in Ontario ($47,185), Alberta ($53,531), and British Columbia ($48,123) (Chart 1).[1] It was also lower than the OECD average of $47,852. In fact, Quebec ranks 24th out of the 39 countries and provinces we analyze here.

While Quebec's per capita GDP is 12% below the rest of Canada, the gap has been shrinking since 2011 (**Chart 1.1**).

However, the Quebec economy and the global economy are both facing a number of threats. The COVID-19 pandemic has ushered in profound changes and put the economy under unprecedented pressure. There is a great deal of uncertainty in the current economic environment, as well as challenges we have not experienced in more than 40 years—the effects of the COVID-19 pandemic and the war in Ukraine and their implications for supply chains and inflation, as well as the risk that central banks' efforts to control inflation will result in a recession of difficult-to-predict magnitude and duration.

In structural terms, the aging population is more pronounced in Quebec than elsewhere in Canada. This poses new challenges and will require major adjustments. The same is true for climate change and how we adapt to it, energy transition, and technological changes. A cautious approach is more important than ever.

Wealth creation remains essential to Quebec's socioeconomic progress and prosperity. To measure performance in this quest for prosperity, CPQ introduced the first Report Card on Quebec Prosperity in 2010. We use the report card initiative to periodically measure the status of certain indicators that we believe are common determinants of wealth creation. This 2022 edition of the Report Card on Quebec Prosperity presents an update of the indicators based on available data.

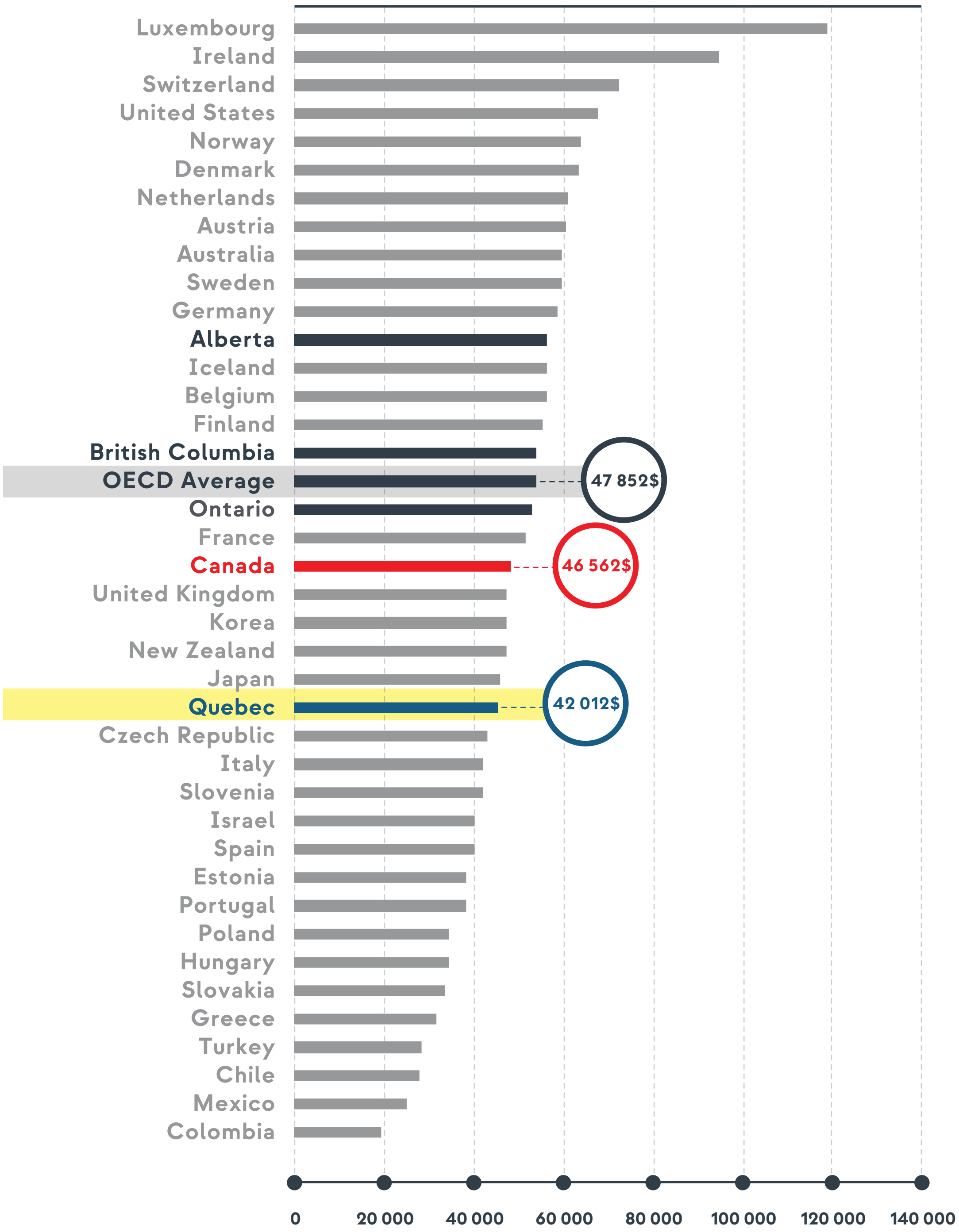


CHART 1

GDP per capita at purchasing power parity (PPP)

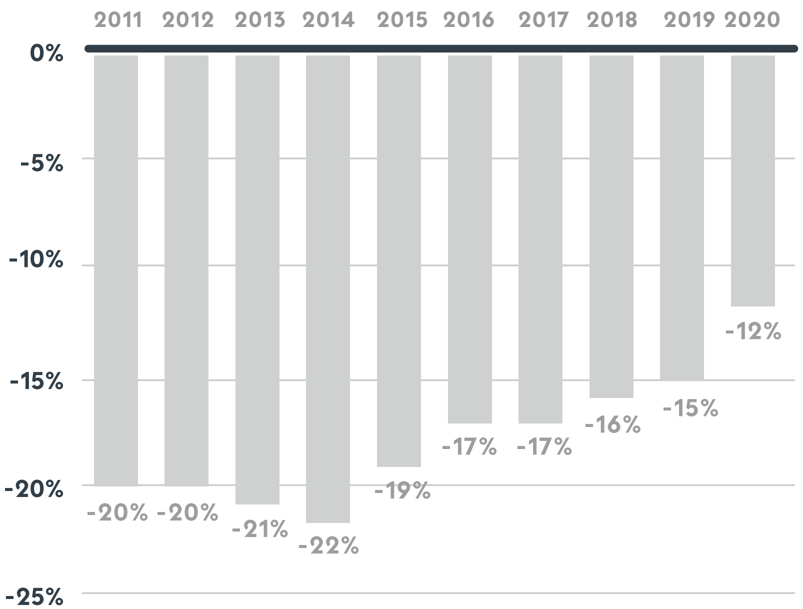
(2020)

In 2017, per capita GDP at purchasing power parity was $40,157.

Sources: https://stats.oecd.org/index.aspx?queryid=61433, https://statistique.quebec.ca/fr/fichier/tableau-statistique-canadien-la-production.pdf, and CPQ figures

CHART 1.1

GDP per capita at purchasing power parity, gap between Quebec and the rest of Canada
(in %)



Summary of results for 2022

Table 1 presents the results of the 2022 Report Card on Prosperity, alongside results from the 2019 edition and the very first edition in 2010. The methodology is explained in the annex.

Quebec's overall performance earns a "C" rating, the same as in 2019 and 2010.

The province performs particularly well on some of the 21 indicators, including:

- Postsecondary education rate
- Marginal effective tax rate on investment
- R&D spending

However, performance is disappointing in these 4 indicators:

- School dropout rate
- Economic integration of immigrants
- Payroll taxes
- Tax ratio

Quebec's performance on the other indicators is more or less average.

That said, it is worth pointing out certain improvements and declines:

o **Declines:**
- The tax burden
- The regulatory burden

o **Improvements:**
- Bachelor's or equivalent graduation rate
- Integration of immigrants into the labour market
- The burden of the public debt on the Quebec economy

Quebec's performance remains virtually unchanged for the other indicators. To move ahead in future rankings, Quebec needs to work on the areas where it falls below the average performance of the biggest provinces and the OECD countries.

TABLE 1:

Report Card on Prosperity 2022 results alongside results for 2019 and 2010

	Graphic no	Rank among provinces	Rank among countries and provinces	2022	2019	2010	Change from 2019 to 2022
GDP per capita at purchasing power parity (PPP)	1	4/4	24/39	**C**	C	C	=
Human capital and worker availability				**B-**	B-	C	=
Percentage of young adults out of school without a high school diploma	2	4/4	NA	**D**	D	D	=
Percentage of the adult population without a high school diploma	4	4/4	11/40	**B**	B	B	=
Bachelor's or equivalent graduation rate	5	1/4	NA	**A-**	B+	B	↗
Postsecondary education rate among adults	6	4/4	6/42	**A**	A	A	=
Participation rate of older workers	7	2/4	21/41	**C**	C	C	=
Economic integration of immigrants	8	4/4	NA	**C-**	D	D	↗
Labour costs				**C**	C	C	=
Employer payroll tax costs	9	4/4	NA	**D**	D	D	=
Minimum wage as a proportion of median wage	10	2/4	14/34	**B**	B	B	=
Regulatory framework				**C-**	C	D	↘
Labour law policy		4/4	NA	**D**	D	D	=
Cost of regulatory compliance	11	3/4	NA	**C**	B	D	↘
Public finance				**C+**	C+	C	=
Marginal effective tax rate on investment	12	1/4	8/38	**A**	A	B	=
Tax ratio (tax revenue as a percentage of GDP)	13A	4/4	33/42	**C-**	C	C	↘
Taxes withheld as a percentage of gross income	13B	4/4	NA	**D**	D	NA	=
Public debt	14	3/4	NA	**C**	D	D	↗ ↗
Business environment				**C**	C	C	=
Average age of capital stock	15	3/4	NA	**C**	C	B	=
Entrepreneurial intensity	16	4/4	NA	**C-**	C-	C	=
R&D spending	17	1/4	13/38	**B**	B	A	=
Patents	18	4/4	9/16	**C**	C	C	
ICT investment	19	3/4	NA	**C**	C	C	=
Labour productivity	20	4/4	23/40	**C**	C	NA	=
Business operating costs	21	2/4	3/14	**A**	A	NA	
Average				**C**	C	C	=

1

Human capital and worker availability

The availability and management of human resources and the development of human capital are increasingly important factors in Quebec's productivity gains and the province's ability to boost its economic potential and prosper. At a time when technology and the need for skilled labour are in constant flux, a jurisdiction's ability to compete is highly dependent on the skills of its workforce.

The demographic situation is an additional challenge. Quebec is facing a labour shortage as its population ages and must step up efforts to increase labour productivity and expand the labour pool.

Indicators

High school graduation
Bachelor's or equivalent graduation rate
Postsecondary education rate among adults
Participation rate of older workers
Economic integration of immigrants

1.1 High school graduation

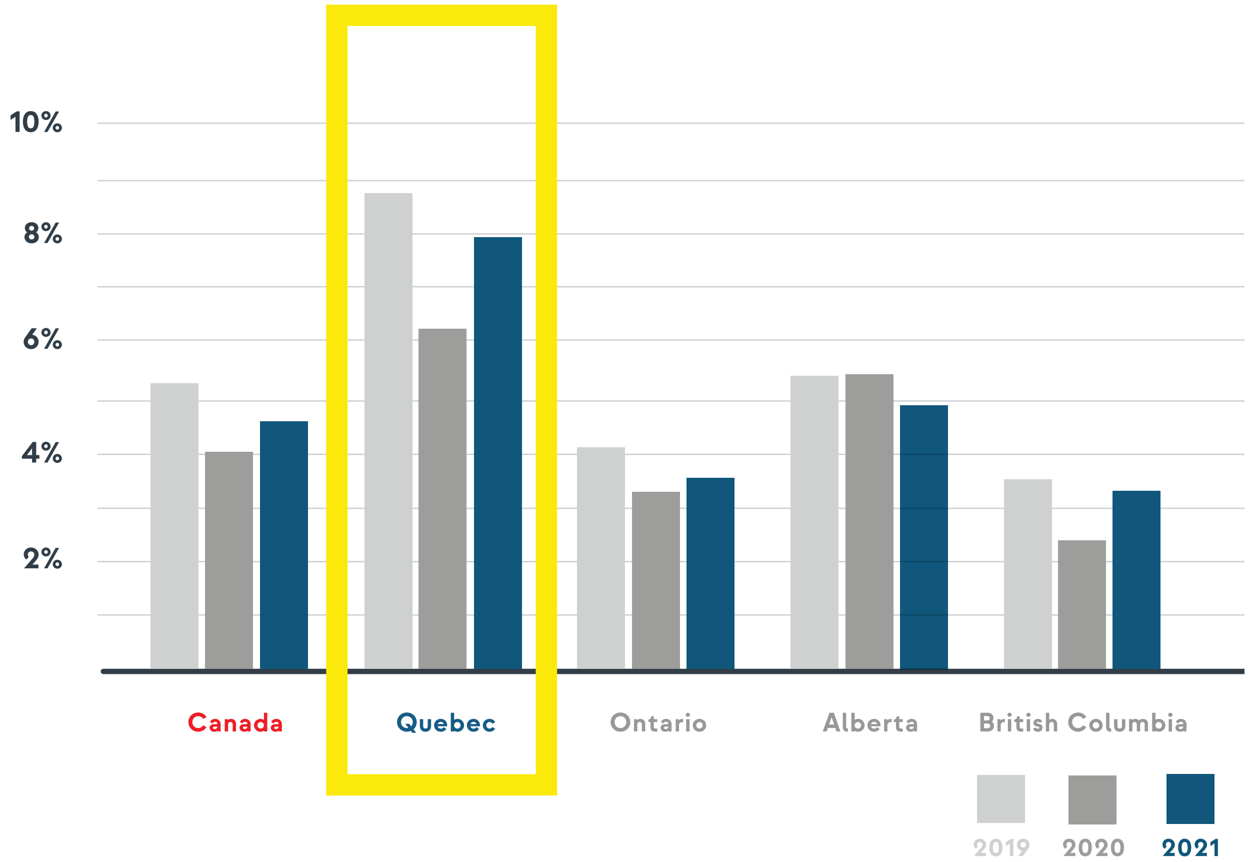


CHART 2

Percentage of 20- to 24-year-olds out of school without a high school diploma

(2019 to 2021)

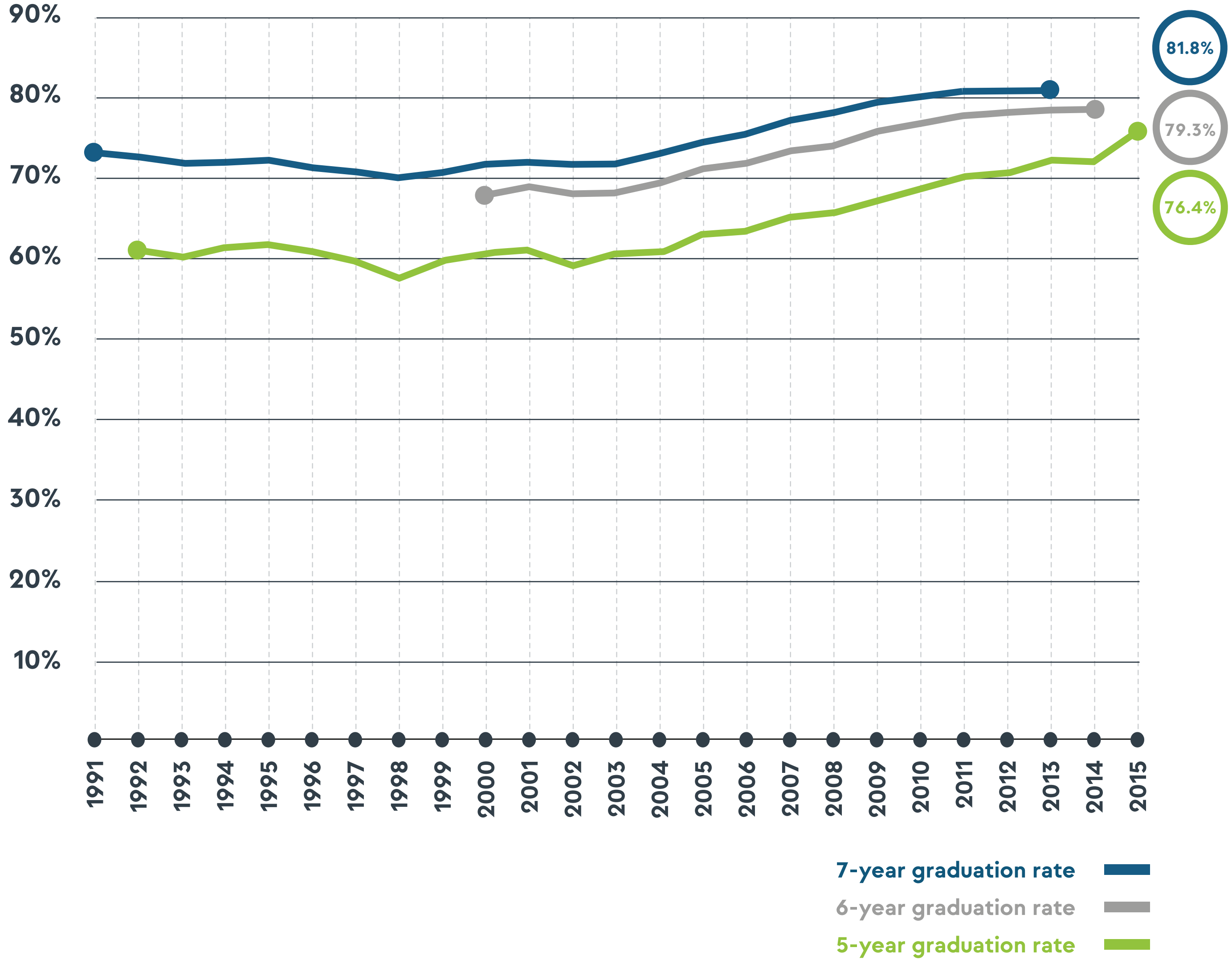
Source: Data obtained following a request from of Statistics Canada.

We used three different metrics to assess Quebec's performance in secondary education: the percentage of 20- to 24-year-olds without a high school diploma, the same criterion among 25- to 64-year-olds, and the graduation rate by cohort.

CHART 3

Graduation rate by cohort, based on year of entry to high school, Quebec

1991-2015



Source: Ministère de l'Éducation, gouvernement du Québec, Rapport Diplomation et qualification au secondaire, Édition 2021, http://www.education.gouv.qc.ca/fileadmin/site_web/documents/PSG/statistiques_info_decisionnelle/Rapport_diplomation_qualif_CS_sec_ed2021.pdf Table 1, p.19.

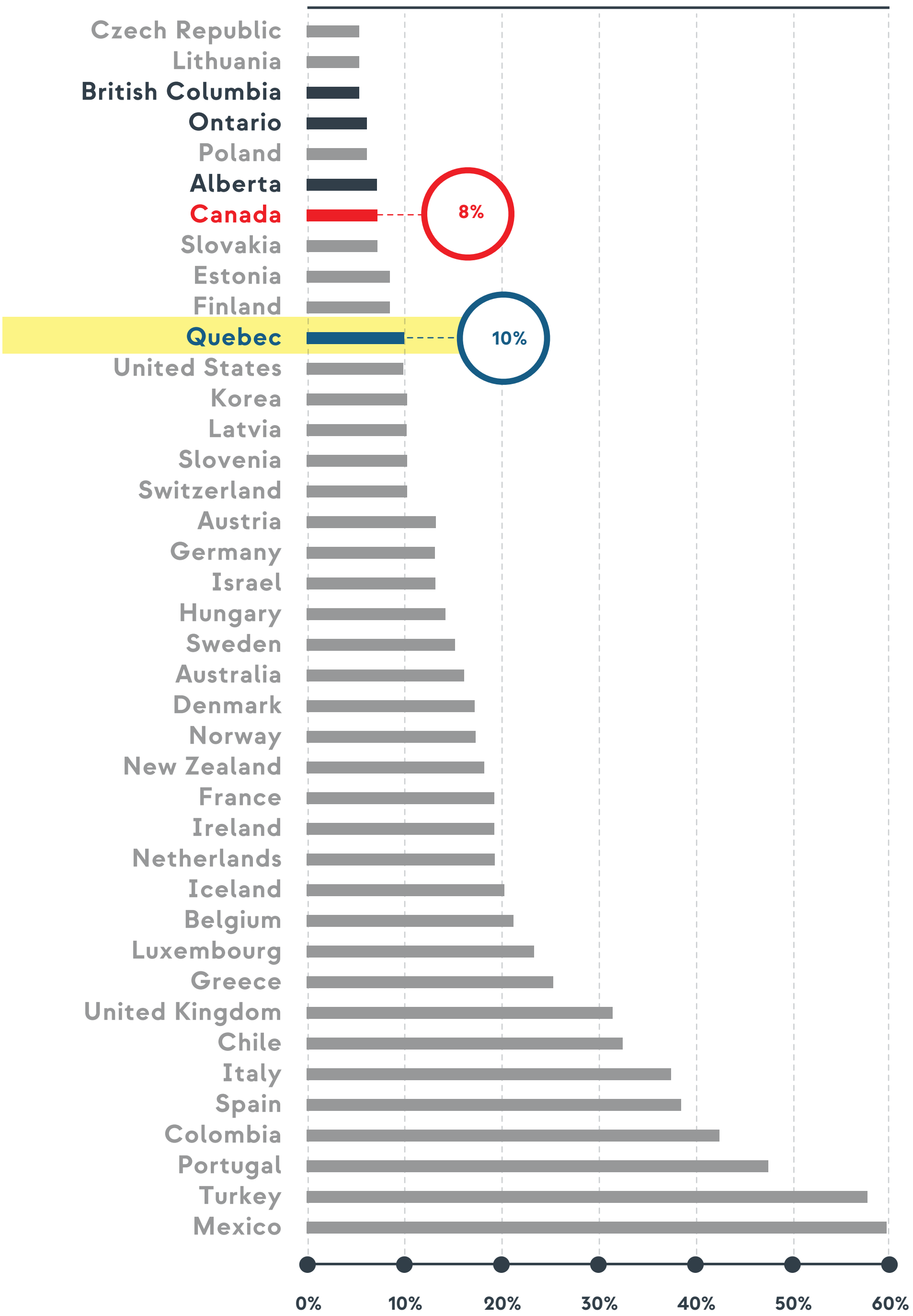


CHART 4

Percentage of the adult population without a high school diploma

2019

The percentage of the population aged 25 to 64 who did not have a high school diploma in 2017 was 12%.

Sources: Statistics Canada, Education Indicators in Canada: An International Perspective (2020), https://www150.statcan.gc.ca/n1/en/pub/81-604-x/81-604-x2020001-eng.pdf?st=acRkQLP; OECD, Education at a Glance 2021: OECD Indicators, Paris, OECD Publishing, https://www.oecd-ilibrary.org/education/education-at-a-glance-2021_b35a14e5-en

ABOUT THE INDICATORS

The high school graduation rate is a key component in assessing the performance of education systems. In Quebec, a secondary school diploma (DES) or diploma of vocational studies (DEP) is the bare minimum for access to the development, training, and specialization tools that every individual needs throughout their life. The economic and social repercussions of failing to complete high school are severe. People who drop out of school also jeopardize Quebec's economic vitality by depriving society of skilled workers.

Chart 2 shows the percentage of 20- to 24-year-olds without a high school diploma and not in school. That is how Statistics Canada defines the dropout rate.

Chart 3 shows the percentage of students in a cohort who graduated from high school five, six, and seven years after they started. This metric shows how the education system performs in seeing students through to graduation within what is considered a normal timeframe.

Chart 4 shows the percentage of the adult population without a high school diploma and therefore without the minimum required education.

Each of the three statistics shown on the charts above illustrates one aspect of how our secondary education system is performing.

D =

INDICATOR 1
SCHOOL DROPOUT RATE

Quebec has the worst dropout rate. The percentage of 20- to 24-year-olds without a high school diploma and not in school was almost 8% in Quebec in 2021, compared to an average of 4.5% in Canada (Chart 2). Furthermore, only three out of four Quebec students finish their fifth year of high school on time (76.4%), and eight out of ten students take seven years to graduate (Chart 3).

That said, the dropout rate in all provinces, including Quebec, is lower than it was in 2019. The change was significant in 2020. There is, however, reason to be cautious about this apparent improvement. During the COVID-19 pandemic, teachers were responsible for assessing what they had taught. There were no tests and very few ministerial examinations, so that may have influenced the success rate.[2] The short- and long-term effects of COVID-19 on learning are still difficult to pinpoint, but it is highly likely that impacts from the pandemic will continue to emerge over the next few years.

B =

INDICATOR 2
PERCENTAGE OF ADULTS WHO DO NOT HAVE A HIGH SCHOOL DIPLOMA

Quebec has one of the lowest percentages among OECD countries of adults without a high school diploma (Chart 4). In contrast, it has the highest percentage among the Canadian provinces studied, based on 2019 data (10% compared to 7% in Ontario). These figures are consistent with the fact that Quebec has historically lagged behind the rest of Canada. However, the comparison with OECD countries and the Canadian provinces results in a "B" rating for Quebec.

Illiteracy

In addition to high school graduation indicators, illiteracy in Quebec is another factor to consider. Among other things, illiteracy affects people's ability to successfully navigate the digital and technological shift. According to the Programme for the International Assessment of Adult Competencies (PIAAC),[3] in 2012 53.3% of Quebecers in the 16 to 65 age bracket could not read dense or long texts that they would have to interpret and understand (versus 46.8% in Ontario and an average of 48.5% Canada-wide). The percentage fell to 46.4% in Quebec in 2022, by which time the 55- to 65-year-olds had been replaced by the group aged 5 to 15 in 2012. Illiteracy rates were lower among these younger people. This is a great step forward, but the fact remains that 2.5 million Quebecers are functionally illiterate.

Other findings and thoughts

To boost productivity and prosperity, we need to enhance skills through education and training. We must also adapt to technological change, particularly through the adoption of digital technology, and to an aging population.

These transformations, combined with the shift in workers' priorities and preferences, are changing how work is organized and done. The climate change issue and the shift to a greener economy also call for transition and adaptation with respect to human capital. The pandemic has disrupted work organization and methods, and workers have significantly adjusted their priorities. Telework is one example of the changes. In all likelihood, a mix of remote and in-person work will be the norm going forward. But there are numerous issues associated with telework, and discussions on the topic will probably continue for years to come in order to find a balance that benefits both employer and employee, addresses the challenges, and minimizes potential disadvantages. These transformations involve major changes in how work is organized and require relatively new managerial skills. The key is to invest in these skills.

1.2 Bachelor's or equivalent graduation rate

About

This indicator gauges Quebec's performance in seeing a portion of young people through to a bachelor's or equivalent diploma. **Chart 5** shows two different statistics for each province. The first is for diplomas awarded in all disciplines. The second is for diplomas awarded each year in six specific fields of study: life and physical sciences and technology; mathematics, computer and information sciences; architecture, engineering, and related disciplines; agriculture, natural resources, and conservation; health, parks, recreation, and fitness; and business, management, and public administration.

For a society that relies heavily on technology and innovation, increasing the pool of workers with science and engineering skills is a must. Science and technology disciplines are important, but management science is critical as well. Good managers are a key factor in boosting productivity, especially now when the way we work is undergoing a massive upheaval.

The graduation rate reflects the portion of the population aged 22 (the age when someone who has progressed through school on time earns their first university degree) in a given reference year.[4]

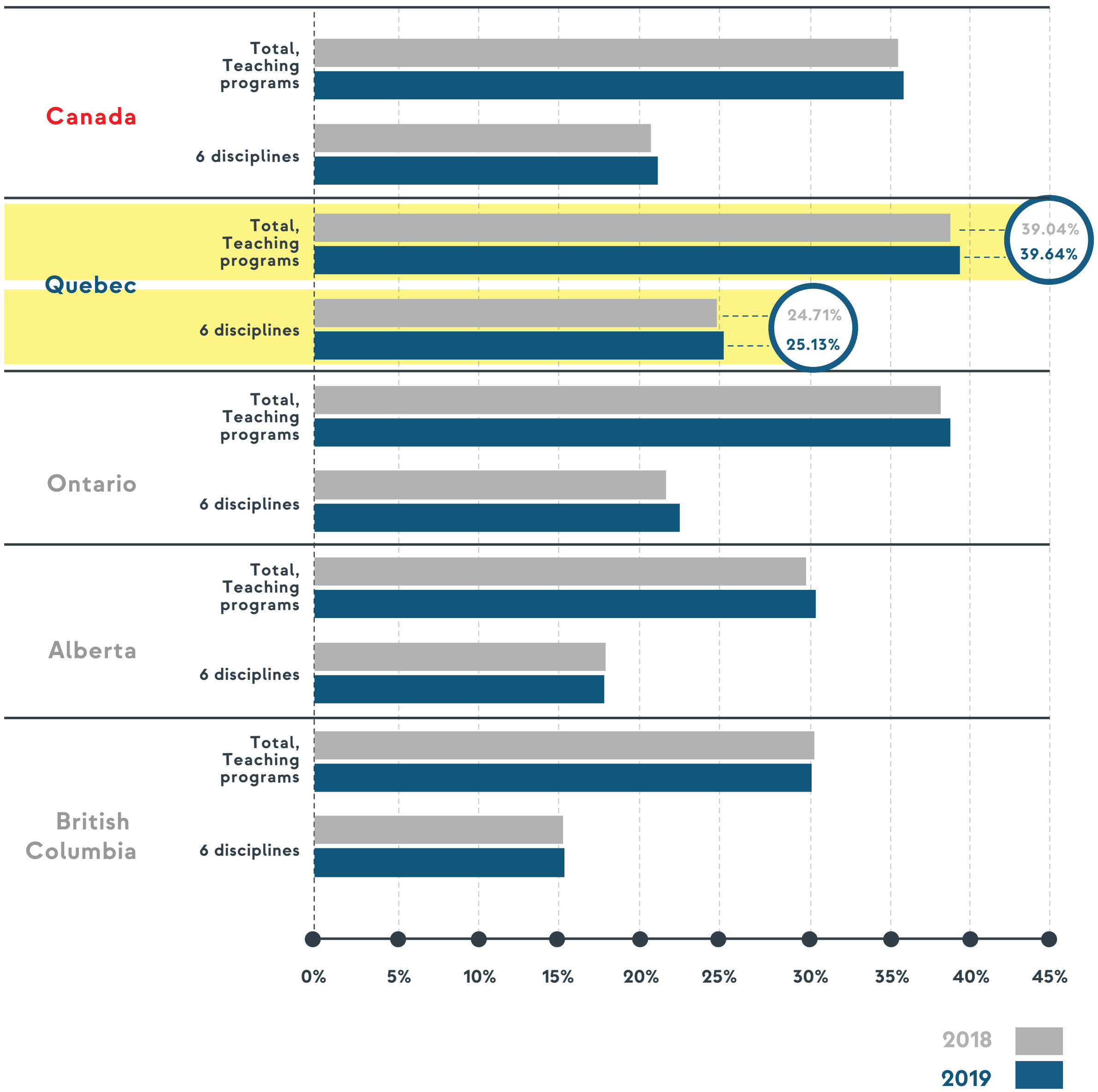


CHART 5

Bachelor's and equivalent diplomas earned as a percentage of the population aged 22 in 2018 and 2019

Sources: Statistics Canada, Table 17-10-0005-01: July 1 population estimates, by age and sex, https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1710000501&request_locale=en
Postsecondary graduates, by type of institution, student status in Canada and sex, https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3710002001, and CPQ calculations.

A-↗

INDICATOR 3
BACHELOR'S OR EQUIVALENT GRADUATION RATE

The number of bachelor's degrees and equivalent awarded in all disciplines in 2019 represented 39.6% of Quebecers aged 22. This was up slightly from 38.9% in 2016, and ranks Quebec tops among Canadian provinces for the first time, marginally ahead of Ontario (39.1% in 2019).

For the six fields of study, Quebec's rate was 25% (up from 24% in 2016), also ahead of the other three provinces and the Canadian average of 21%.

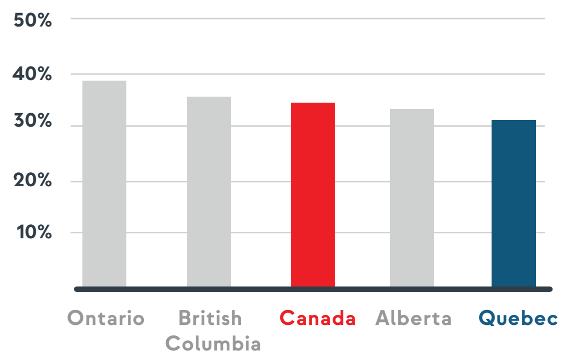
However, performance for this indicator should be interpreted with caution. The increase in Quebec's graduation rate is due more to the aging population and the decline in the number of 22-year-olds rather than an increase in the number of graduates. Between 2016 and 2019, the 22-year-old population shrank by 2% in Quebec and grew by 6% in Ontario. The number of graduates decreased by 0.5% in Quebec and increased by 3.5% in Ontario over the same period.

The findings on the overall graduation rate for the entire adult population are also mixed. The percentage of the population aged 25 to 64 with a university degree was lower than in the other three main provinces. For comparison purposes, in 2020 it was 32% (30% in 2019) compared to 38% for Ontario (37% in 2019) and a Canadian average of 34% (**Chart 5.1**). Quebec has yet to catch up and will need to maintain a steady pace of progress to close the gap.

CHART 5.1

Share of population aged 25-64 with a university degree

2020



Sources: Statistics Canada, Table 14-10-0118-01 and CPQ calculations.

1.3 Postsecondary education rate among adults

About

This statistic measures the percentage of a society's labour force in a given year with a higher education qualification. Unlike the previous graduation statistic, which shows graduation rate by cohort, this is for the entire adult workforce. It includes graduation at the college and university levels.

A=

INDICATOR 4
POSTSECONDARY ENROLMENT RATE

According to this indicator, Quebec is doing very well, as are the other three Canadian provinces. For 2019, the last year for which comparative data is available, Quebec ranked in the top quartile of OECD countries and scored an "A" in this category, with 55% of its population aged 25 to 64 holding a postsecondary (college or university) diploma, just slightly behind Alberta with 56%. Ontario is tops among OECD countries with 66%.

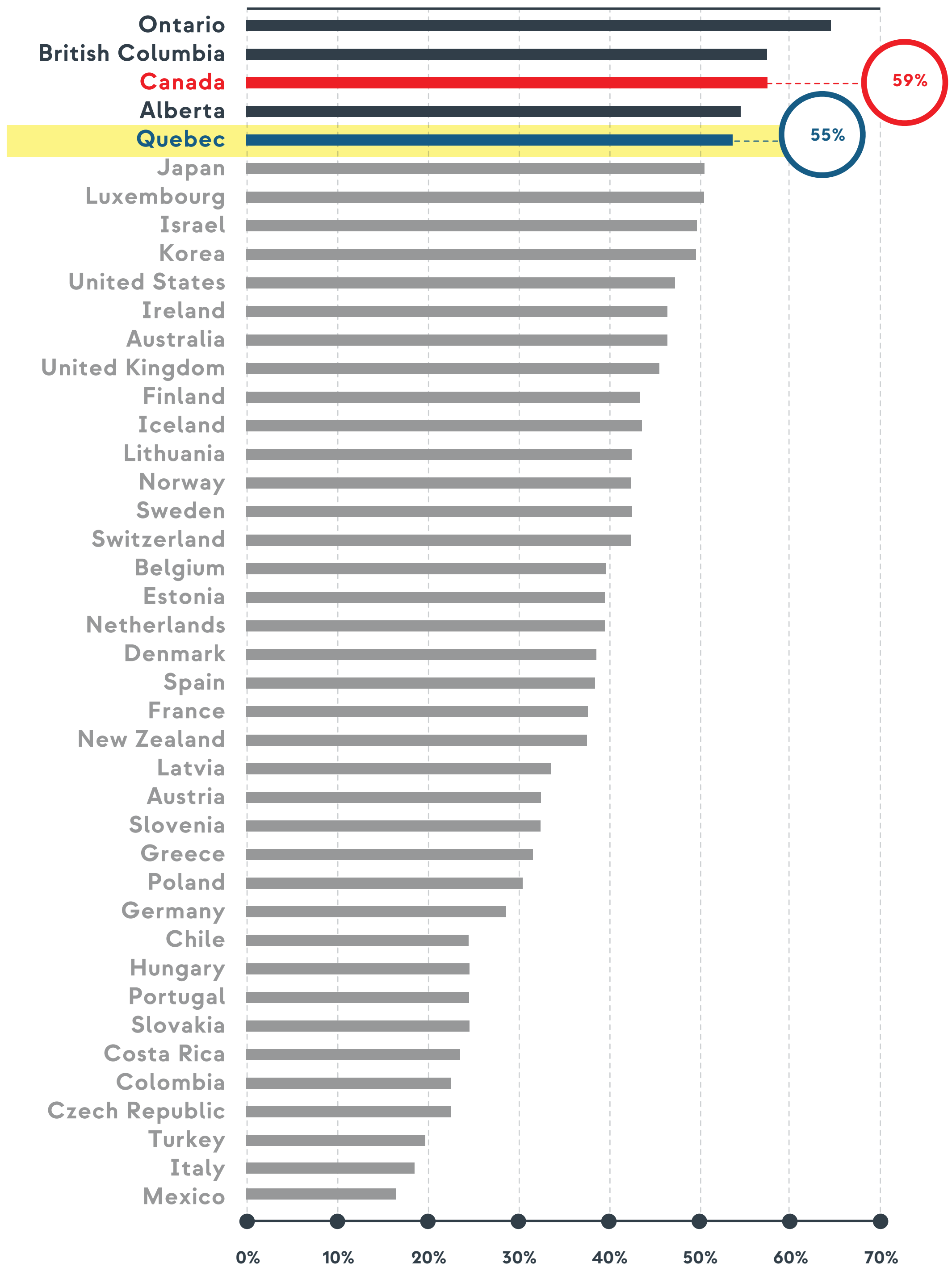
Quebec is in the top quartile of OECD countries and scored an "A" in this category, with 55% of its population aged 25 to 64 holding a postsecondary degree (college or university), while Ontario, at 66%, tops the list.

CHART 6

Percentage of population aged 25-64 who have attained tertiary education

2019

The percentage of the population with tertiary education in 2017 was 53% in Quebec.



Sources: OECD, Education at a Glance 2021: OECD Indicators, Paris, OECD Publishing, https://doi.org/10.1787/b35a14e5-en; Statistics Canada, Education Indicators in Canada: An International Perspective (2020), https://www150.statcan.gc.ca/n1/pub/81-604-x/81-604-x2020001-eng.pdf and CPQ calculations.

In addition to the quality of the workforce and the level of education as measured in the indicators above, the number of people available for employment is also an important factor for Quebec's economic vitality. This is particularly true at a time when the population is aging, with 254,475 unfilled jobs in the second quarter of 2022, or a 6.4% job vacancy rate, the second highest in Canada after British Columbia (6.8%).

1.4 Participation rate of seniors

About

The participation rate measures the supply of labour on the market. In recent decades, the biggest impact on the supply of labour has been the increase in the number of women working or looking for work. Now that Quebec's population is aging, the participation rate of experienced workers could help soften the effects of the labour shortage.

Chart 7 shows participation rates for three separate groups between the ages of 55 and 69.

INDICATOR 5
PARTICIPATION RATE OF OLDER WORKERS

In 2021 the participation rate of people aged 55 to 59, the group most likely to continue working or to look for work, was 77.6% in Quebec. For 2010 the rate stood at 66.3%, so it has increased by more than 10 percentage points in just over a decade.[5] Of the Canadian provinces in the study, Quebec is ranked behind just one (Alberta) and surpasses British Columbia and Ontario. It ranks 21st out of the 41 jurisdictions, between the 2nd and 3rd quartiles.

Quebec's performance is weaker for the two older groups. Among 60- to 64-year-olds, the rate is 53.6%, placing the province 4th among the four biggest provinces and 26th among the 41 countries and provinces analyzed. A 26-percentage-point gap separates Quebec from Iceland, which has the highest participation rate of this age group in the world.

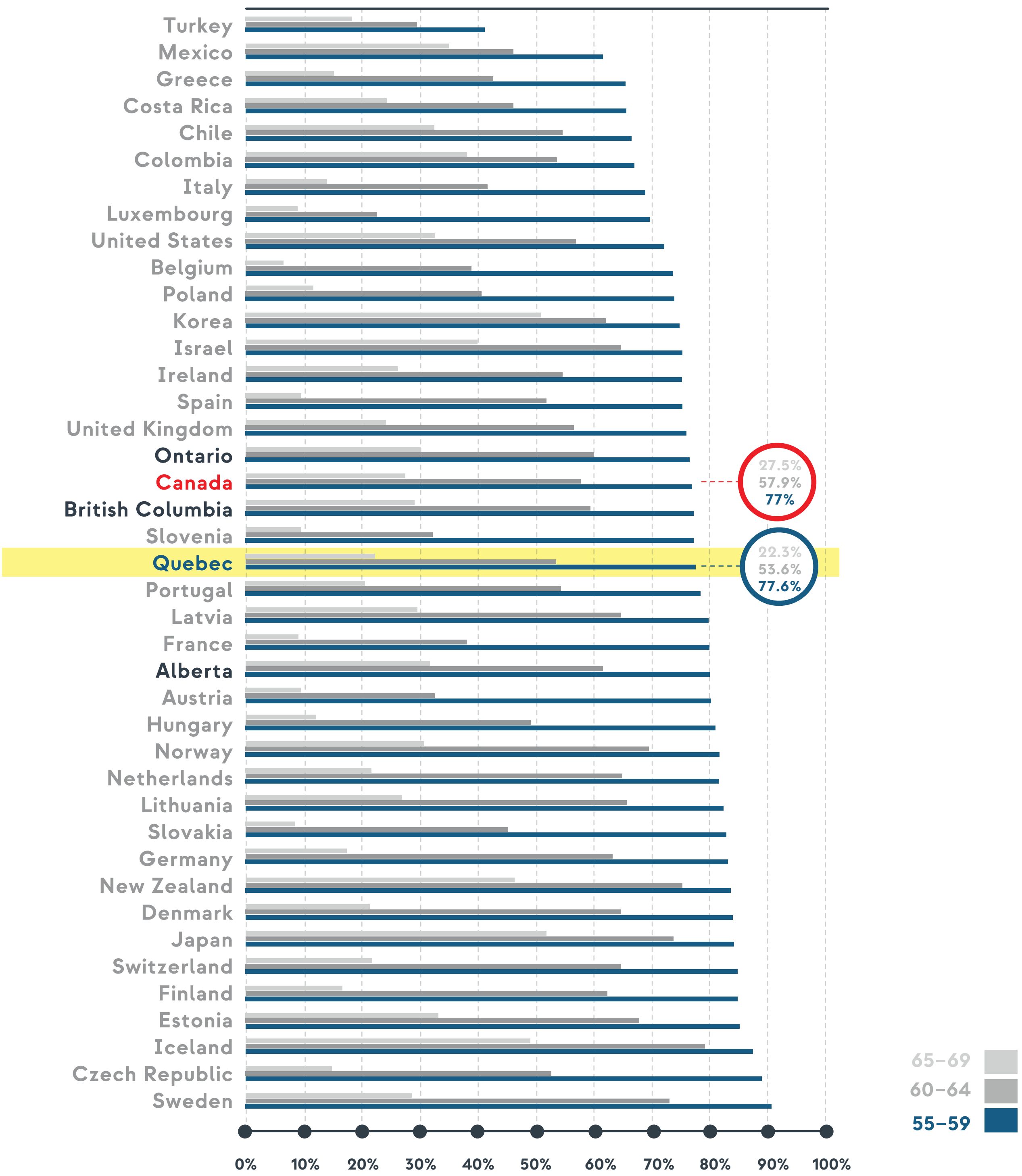
The situation is the same for people aged 65 to 69. Their participation rate is 21%, which puts Quebec in 4th place among the provinces and 25th place among the 41 jurisdictions. The gap between Quebec and Japan, where the participation rate is highest for this age group, is 29 percentage points (charts 7.1 and 7.2). If Quebec had the same participation rate as Ontario, 86,000 more workers aged 60 to 69 would be in the labour force.

WORKFORCE AVAILABILITY AND QUALITY

CHART 7

Labour force participation rates for people aged 55 to 69

2021 (%)



In 2018 the participation rate for people aged 55 to 59 was 76.1% in Quebec.

Sources: OECD Statistics, Labour Market Data by Sex and Age – Indicators, https://stats.oecd.org/Index.aspx?DataSetCode=LFS_SEXAGE_I_R&Lang=en#, Statistics Canada, Labour force characteristics by sex and age group.

Other findings and insights

In light of Quebec's aging population, we should be actively encouraging workers to stay in the labour market for longer. In addition to financial and tax incentives, the solution should also include education and awareness of best practices. CPQ's initiative targeting 60- to 69-year-olds gives employers a way to stand out amid the labour shortage, attract workers in their 60s, and help increase the participation rate of people in this age bracket in Quebec. CPQ will seek to identify human resources practices and develop tools that help employers retain, attract, or hire experienced or retired workers. In addition, CPQ will set up a support service to help Quebec employers make the most of these tools and more easily retain or hire people aged 60 to 69.

Quebec's overall participation rate, i.e., the percentage of workers among people aged 15 to 64, is 80.5% for 2021, which puts it 1st among the provinces and 6th among the 41 OECD countries and provinces in the study. One of the reasons for this is the high participation rate of women. However, the number of hours worked is lower in Quebec than elsewhere in Canada. Quebecers in the labour force worked an average of 32.1 hours per week in 2021, which is 0.9 hours less than in Ontario, 0.1 hours less than in British Columbia, and 2.1 hours less than in Alberta. Given today's labour shortage, the gap is closing compared to earlier studies.[6]

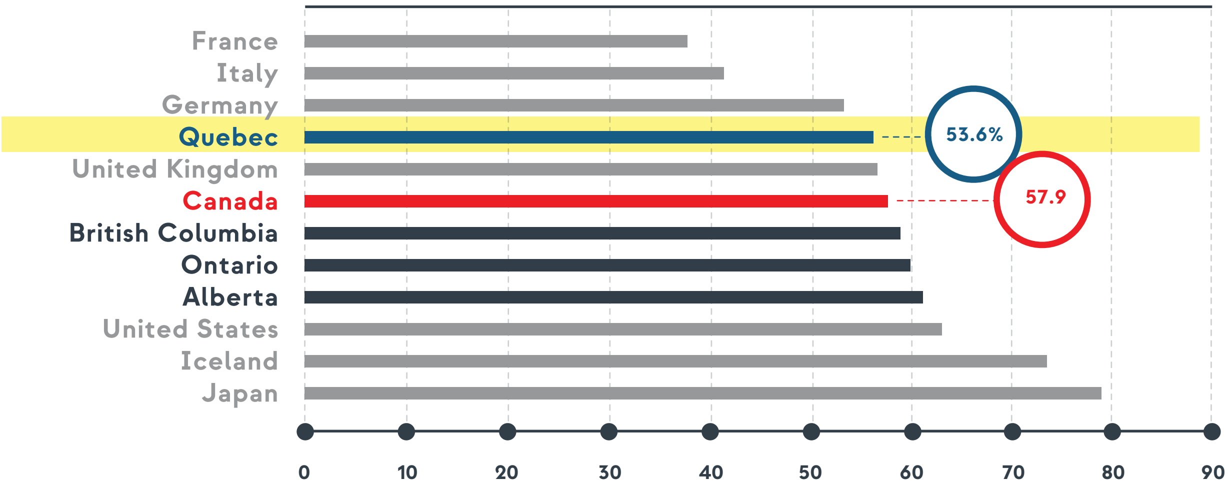
TABLE 2

Participation rate of people aged 60 to 69 in Canada (%)

2021

Canada	44
Quebec	39
Ontario	46
Alberta	48
British Columbia	45

7.1 - Age 60 to 64



7.2 - Age 65 to 69

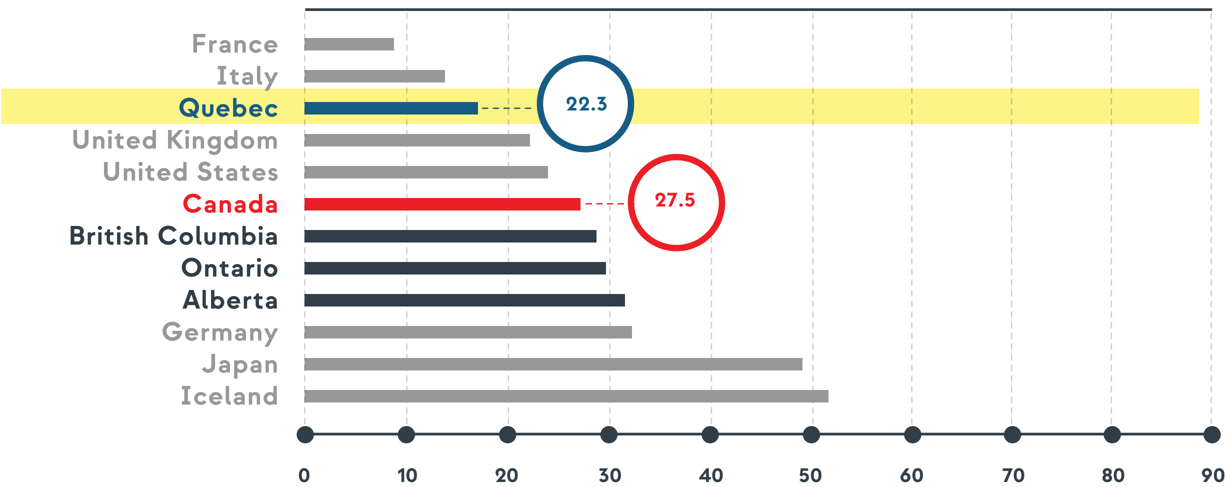


CHART 7.1 AND 7.2

Labour force participation rates for people aged 60 to 69 (main provinces, G7 countries, and Iceland)

2021

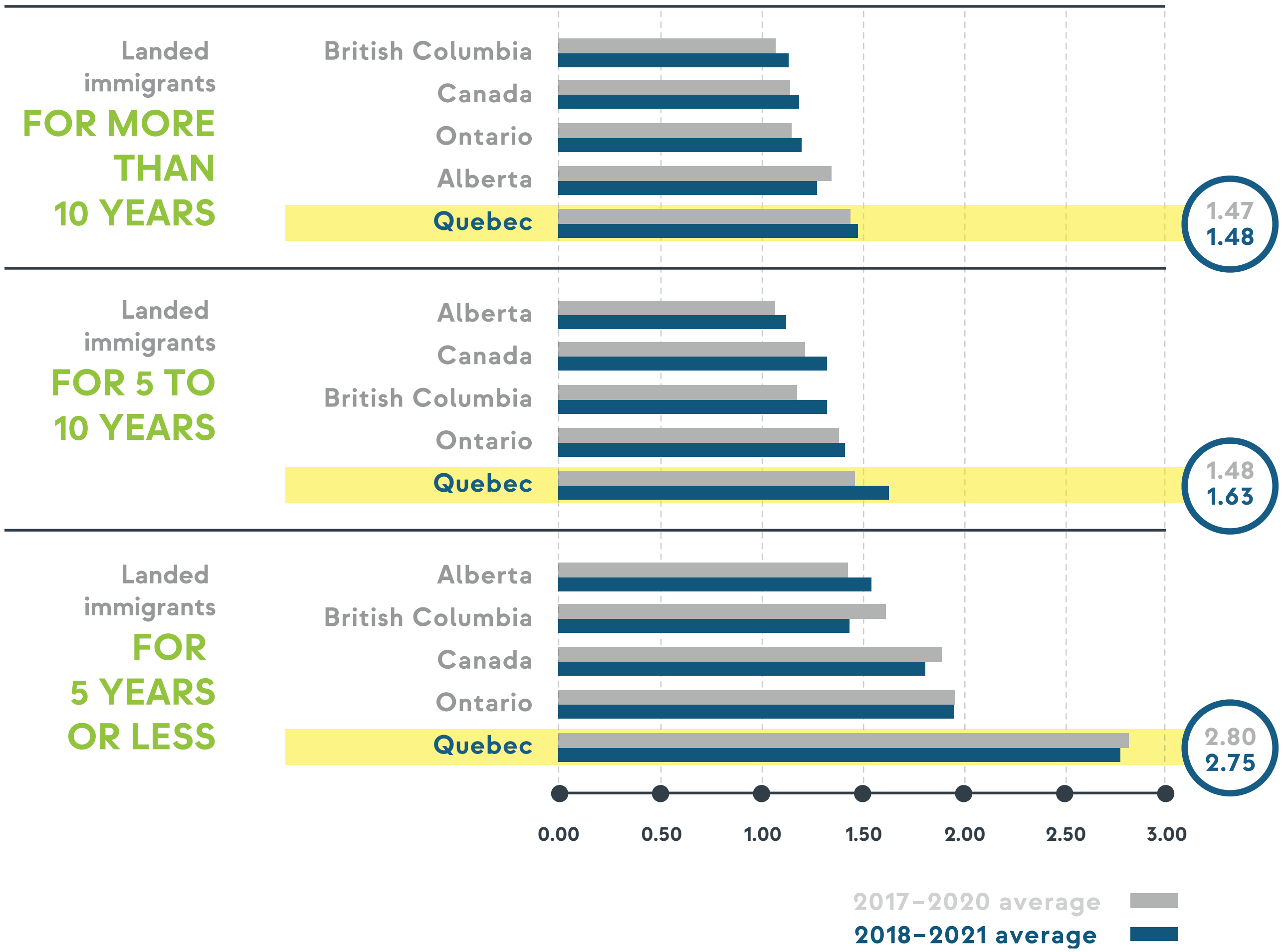
Source: OECD Statistics, Labour Market Data by Sex and Age – Indicators, https://stats.oecd.org/Index.aspx?DataSetCode=LFS_SEXAGE_I_R&Lang=en#, Statistics Canada, Labour force characteristics by sex and age group.

1.5 Economic integration of immigrants

CHART 8

Ratio of immigrant to Canadian-born unemployment rates, 25 to 54 years

2017–2020 and 2018–2021 average



Sources: Statistics Canada, Table 14-10-0083-01: Labour force characteristics by immigrant status, annual, https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1410008301, and CPQ calculations.

Note that these figures apply to all immigrants (economic and humanitarian)

About

The ratio obtained by comparing the unemployment rates of the Canadian-born and non-Canadian-born populations gauges how successfully immigrants have been integrated into the economy. In an ideal world, this ratio would be 1:1, indicating that immigrants have no more or less difficulty finding a job than Canadian-born people.

C-↗

INDICATOR 6
IMMIGRANT UNEMPLOYMENT RATE RATIO

The ratio between unemployment rates of the Canadian-born and non-Canadian-born populations measures the economic integration of immigrants, and in particular how long it took for immigrants to integrate. The figures are broken down by number of years in Canada.

Chart 8 shows that the unemployment rate of the immigrant population aged 25 to 54 is consistently higher than the rate for the Canadian-born population. For example, the unemployment rate for immigrants who have been in Quebec for five to ten years was on average 1.63 times the rate of the Canadian-born population for the four years from 2018 to 2021. The variation shrinks as immigrants accrue more years in Canada, showing that economic integration occurs over time. That said, Quebec has the biggest discrepancy between unemployment rates, irrespective of how long immigrants have been here. Yet there are signs of improvement. For example, the unemployment rate for very recent immigrants in Quebec fell from 14.2% to 12.2% between 2017 and 2021. **More recent monthly data shows that the rate fell from 16% in July 2017 to 7% in July 2022, a 56% decrease. The decline was just 10% in Ontario, 3% in Alberta, and 42% in British Columbia.**[7]

The employment rate of the immigrant population aged 25 to 54 is another way to assess economic integration. Between July 2017 and July 2022, the rate jumped from 77.6% to 81.9% (compared to 86% for the total population). The employment rate of the immigrant population aged 15 and over stood at 65.9% in July 2022 compared to 61.1% for the Canadian-born population.

Significant changes in the immigrant selection process since 2016 have enhanced the economic situation of immigrants. Nearly 90% of economic newcomers are selected because they already have a job in Quebec or have completed postsecondary education. Consequently they can join the labour market more easily than immigrants who arrived before 2016. It is also likely that much of the decline in the immigrant unemployment rate can be attributed to Quebec's strong economy and increased demand for labour due to the aging population and retirements.

When we interpret data about immigrants, we must keep in mind that newcomers can have very different profiles. Some are here for economic reasons, while others are considered humanitarian immigrants. Over the past five years, economic immigration has accounted for just under 60% of immigrants admitted to Quebec. The remaining 40% fall under the humanitarian category, i.e., refugees, people who come for family reunification, and people in similar situations. It is generally understood that humanitarian immigrants to Quebec find it harder to access the labour market, either because they lack French language skills or because they are older or less educated than economic immigrants. Although they are highly motivated to work, they face a number of obstacles when it comes to finding a job that matches their skills. As a result, the unemployment rate is higher and the employment rate among all immigrants is lower.

2 Labour costs

Indicators

Employer payroll tax costs
Minimum wage as a proportion of median wage

2.1 Employer payroll tax costs

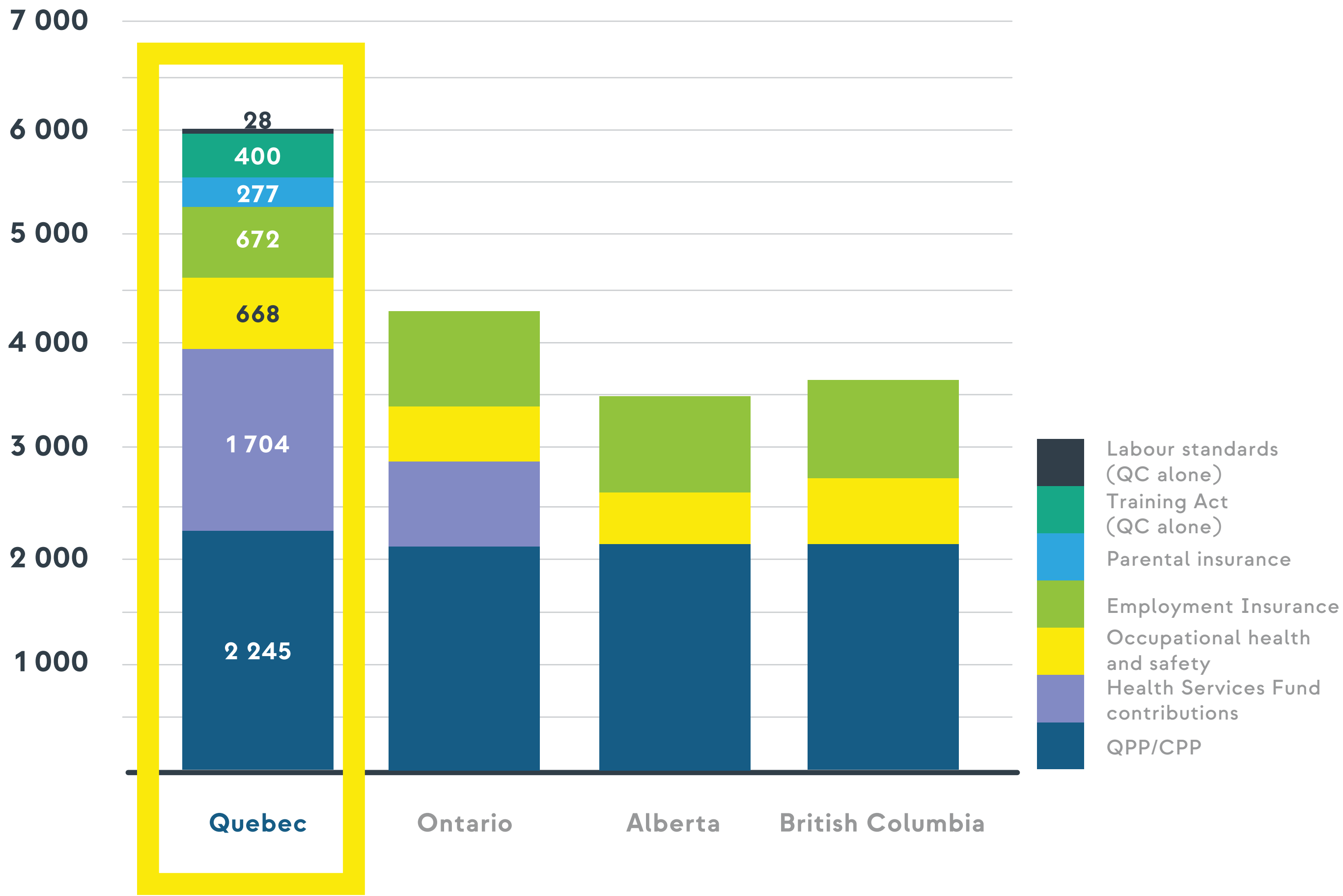
About

For employers, the total cost of labour includes nominal salaries as well as payroll taxes. In labour-intensive industries, payroll taxes can be substantial and can be a strain on competitiveness. They also have a negative impact on workers' wages and disposable income, as well as on human capital investment and hence productivity. This is all the more evident when labour is in short supply.

CHART 9

Employer payroll tax costs on a nominal salary of $40,000

2022



The sum of payroll tax costs in 2022 is $5,994.

In 2019, these costs were $5,868.

D =

INDICATOR 7
PAYROLL DEDUCTIONS

Among the four biggest Canadian provinces, Quebec has by far the highest payroll taxes and the highest total cost of labour, due in part to contributions to the provincial health services fund (Fonds des services de santé, or FSS). Certain employer-funded contributions have declined slightly compared to 2019. For example, after rising in 2020 occupational health and safety (OHS) contributions fell slightly in 2021 and 2022, in part due to the strong performance of the OHS Fund. Similarly, Employment Insurance (EI) premium rates were reduced in Canada in 2020 as a result of strong economic performance prior to COVID-19. During the pandemic, rates were frozen. Québec Parental Insurance Plan (QPIP) contribution rates also decreased slightly in 2020. After five consecutive increases in the QPIP contribution rates from 2008 to 2012,[8] rates went down for the first time as of January 1, 2016, in light of the relative decline in the fertility rate, among other things.[9] In recent years the FSS contribution rate has decreased for small and mid-sized businesses. Large businesses, however, have not been able to take advantage of the lower rate. In addition, contribution rates in Quebec and elsewhere in Canada have increased, as expected, due to changes to the Canada Pension Plan, to the extent that the contribution rate in Quebec is now higher than in the rest of Canada.

Observations

On top of these mandatory payroll taxes, employers pay a number of other voluntary contributions, each of which is part of an employee's total compensation. These include contributions to a pension plan or group insurance as well as vacation and paid leave. There is no readily comparable data on these contributions for different countries.

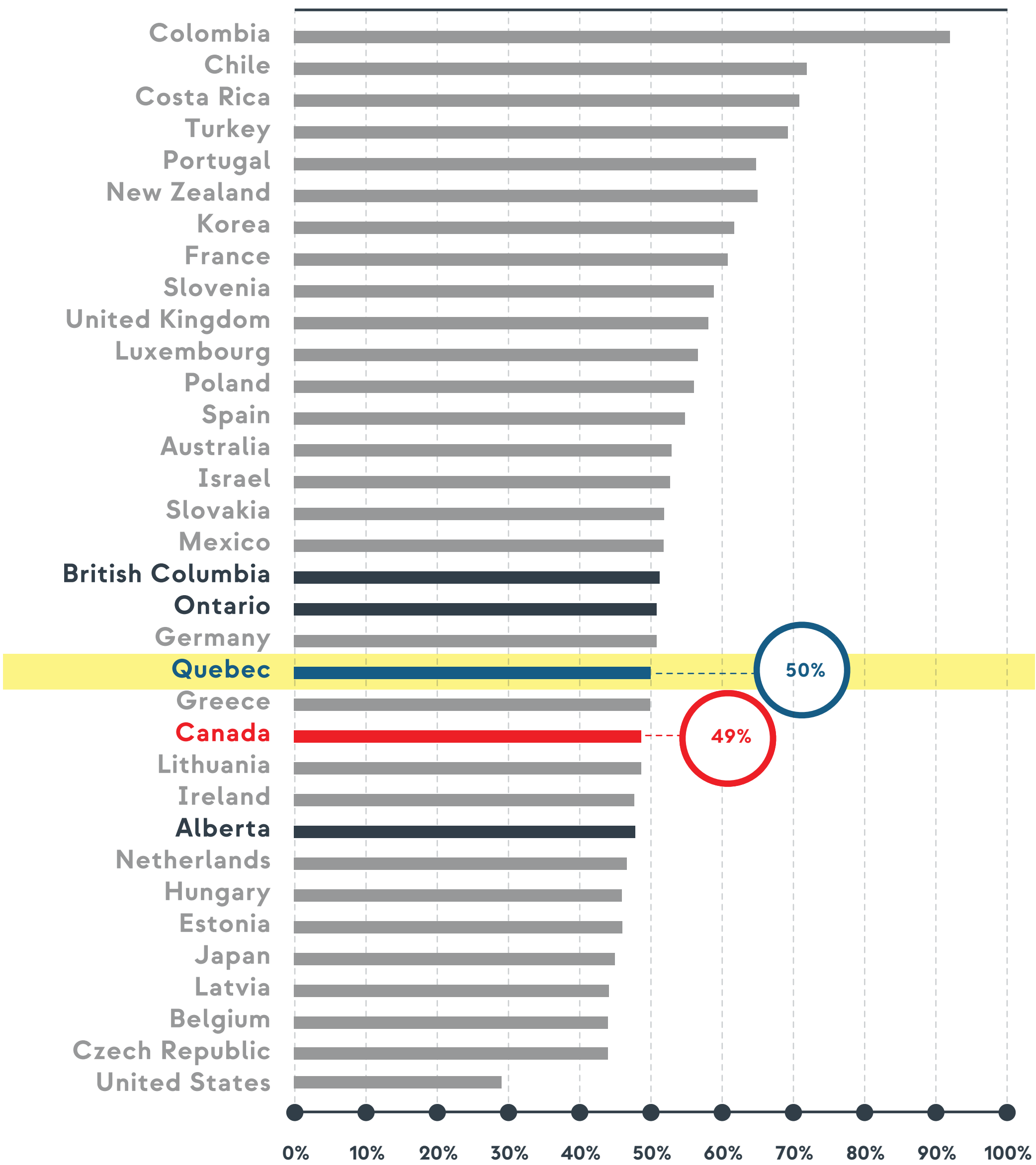
2.2 Minimum wage as a proportion of median wage

CHART 10

Minimum wage as a percentage of median full-time wage

2020

The minimum wage in Quebec was 48% of the median wage in 2017.



Sources: OECD, Minimum Wage as a Percentage of the Average Full-Time Wage https://stats.oecd.org/Index.aspx?lang=en&SubSessionId=b19b5146-99a4-43dc-b89f-b6ef7d3e6aad&themetreeid=13
Statistics Canada, Table 14-10-0340-01 for median salary; and CPQ calculations

About

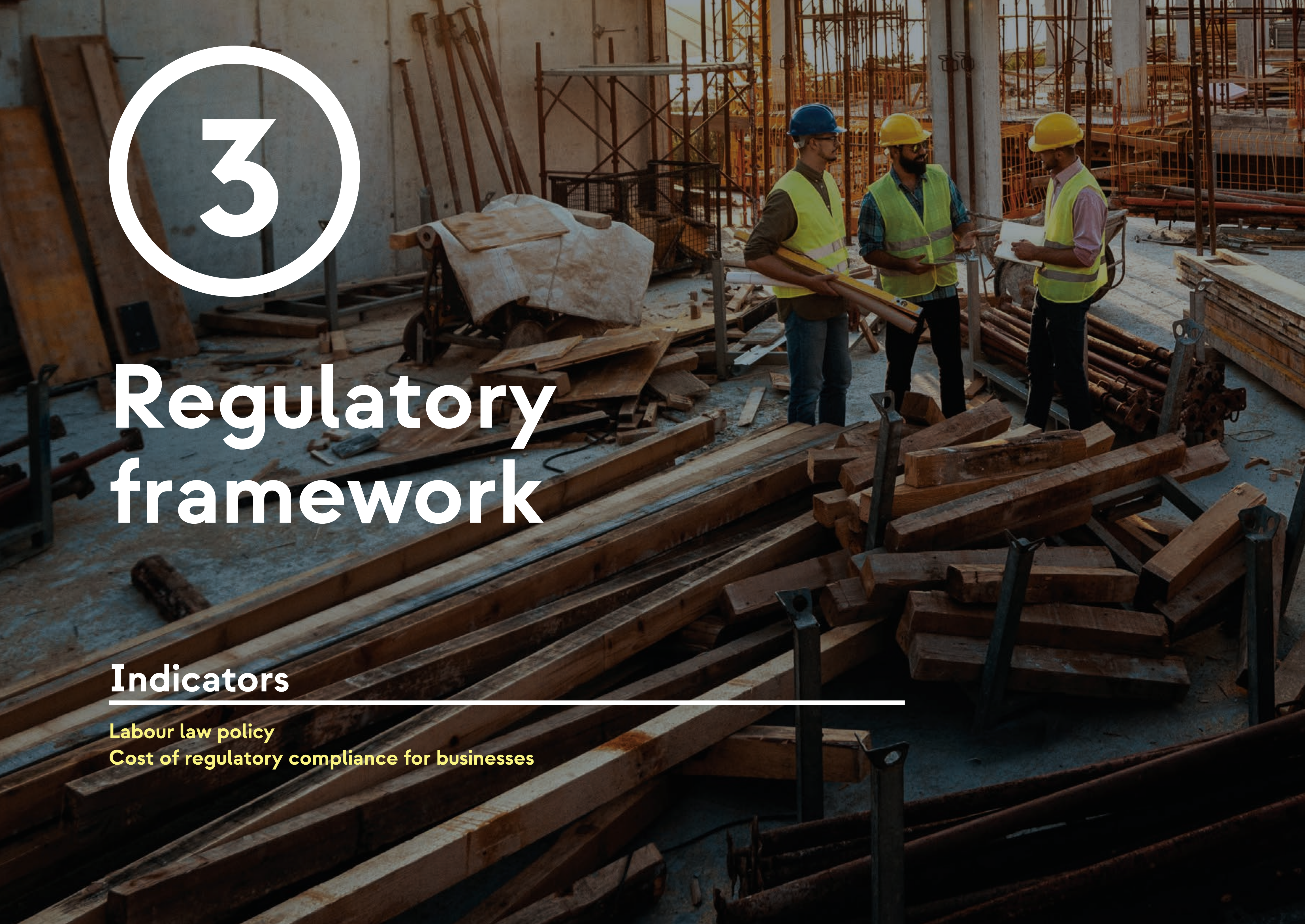
The statutory minimum wage is based on a tradeoff between reduced wage inequality on the one hand and gainful employment for as many low-skilled workers as possible on the other. If the minimum wage is too high, demand for low-skilled jobs will fall and some of those jobs will shift to under-the-table work. Moreover, young people might be more likely to drop out of school. It is not so much the absolute minimum wage that is important, but rather how the minimum wage compares to salary scales in each economy or to average compensation. A rapid increase in minimum wage could threaten the supply of low-skilled jobs. While the reasoning behind such an increase is commendable, if the minimum wage rises faster than other basic economic indicators, the effect could be counterproductive.

B =

INDICATOR 8 MINIMUM WAGE TO MEDIAN WAGE RATIO

According to 2020 data, the latest year for which figures are available for OECD countries, the minimum wage in Quebec is 50% of the median wage, close to the Canadian average of 49%. Quebec ranks 14th out of the 34 economies analyzed and scores a "B." It ranks second among the biggest provinces.[10]

The minimum wage in Quebec is 50% of the median wage, close to the Canadian average of 49%.



3

Regulatory framework

Indicators

Labour law policy
Cost of regulatory compliance for businesses

We know that the creation of competitive and sustainable businesses depends on effective regulation. However, it is tricky to make comparisons among business regulations. Quebec has laws and regulations that are complex and restrictive, sometimes more so than elsewhere in Canada and in other countries. This is particularly true for certain regulations governing construction, language, and human capital.

3.1 Labour law policy

TABLE 3

Labour laws in Quebec vs. other provinces

	Quebec	Ontario	Alberta	British Columbia	Companies under federal jurisdiction
Union membership mandatory in the construction industry	Yes *	No	No	No	n/a
Mandatory secret ballot for union accreditation	No	Yes	Yes	Yes	Yes
Union membership required to vote on a strike	Yes	No	No	No	No
Replacement workers can be brought in during a strike or lockout	No	Yes	Yes	No	Yes

* For employees subject to the *Act respecting labour relations, vocational training and workforce management in the construction industry* and its regulations (Act R-20). Following the adoption of Bill 33, union membership for construction workers in Quebec is now decided by mail-in ballot.

For labour legislation, the variables in this table are among those that differentiate Quebec the most in relation to the other provinces.

About

On some issues, labour relations and workplace laws differ by province or country. But overall, each jurisdiction establishes its own legal framework, with varying degrees of flexibility or constraint. These policy decisions may then have a bearing on the incidence of labour disputes and on other economic variables such as investment, employment, and competitiveness.[11] For example, studies have shown that restrictions on replacement workers are associated with lower investment rates and longer strikes.

D =

INDICATOR 9
LABOUR LAW POLICY

Of the four provinces in the reference group, Quebec is the province whose legal framework is perceived to be the most union-friendly, based on the criteria used. Quebec is the only province where construction industry workers are required to join a union when the nature of the work is subject to specific legal provisions. In addition, the accreditation process allows certain unions to exercise a virtual monopoly in certain construction trades.

Observations

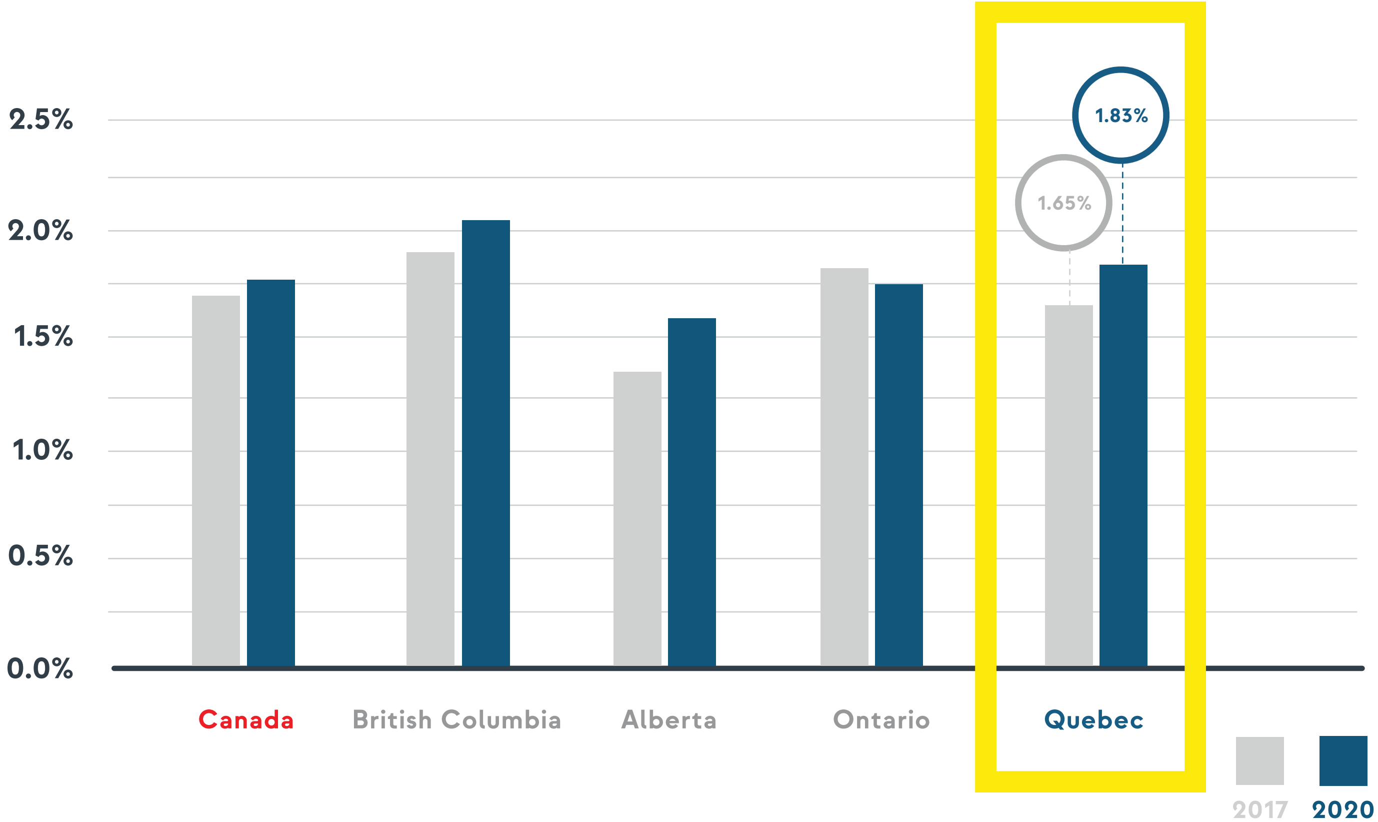
There have been no legislative changes to the Labour Code. On the other hand, many changes to other components of workplace legislation have had an impact on employers. There are new provisions for pay equity and protection against psychosocial risks, rules concerning employment injury eligibility, and the concept of establishment for the purposes of anti-scab provisions. These do not make business management any easier or enhance competitiveness. For the purposes of this report card, we did not compare these provisions with other provinces. Rather, we looked at the issue of union accreditation and the measures set out in the Labour Code, as we did in 2010.

3.2 Cost of regulatory compliance for businesses

CHART 11

Cost of regulatory compliance as a percentage of GDP

2017 and 2020



Sources: Canadian Federation of Independent Business (CFIB), The Cost of Government Regulation on Canadian Businesses, January 2021, https://content.cfib-fcei.ca/sites/default/files/2021-01/Canadas-Red-Tape-Report-2021.pdf

Statistics Canada, Gross Domestic Product, in terms of provincial and territorial annual expenditures, https://www150.statcan.gc.ca/t1/tbl1/en/cv.action?pid=3610022201

About

For business owners, administrative tasks and paperwork are a time-consuming burden that has a direct impact on operations. Governments must continue to pursue policies that streamline regulatory and administrative requirements and minimize the cost of compliance. Comparisons are not always easy, but for several years the Canadian Federation of Independent Business (CFIB) has reported on the estimated cost of paperwork in Canada.

INDICATOR 10
COST OF REGULATORY COMPLIANCE

CFIB's 2021 study of the cost of paperwork in Canada estimated that Canadian businesses spent $38.8 billion, or 1.76% of Canada's GDP, on administrative compliance in 2020. In Quebec, the cost is estimated at 1.83% of the province's GDP. Quebec has the second-highest administrative cost among the four provinces analyzed, behind British Columbia (2.03% of GDP). These figures are 0.18 percentage points higher than in 2017. Alberta has the lowest cost, accounting for 1.59% of GDP, followed by Ontario.[12] After making significant progress in regulatory relief over the past few years, Ontario is now ahead of Quebec. As an example, the total number of regulatory compliance requirements for businesses in Ontario dropped by 6.5% between 2018 and 2021.[13]

Observations

The government of Quebec's 2020–2025 action plan aims to reduce the number of administrative procedures by 10%, the total volume of procedures by 15%, and the overall cost by 20%, for annual savings of approximately $200 million.[14]

The government policy on regulatory and administrative streamlining and work underway in Quebec are certainly worth noting. In addition to the policy, the government of Quebec has announced it will table a special bill each year to support regulatory and administrative relief, which should speed up progress towards the policy's objectives.

While certain types of relief are welcome, businesses are frequently faced with new regulatory burdens. This suggests governments are struggling to adopt a regulatory culture based on efficiency. Labour laws and environmental regulations are the most common hurdles businesses come up against.

Governments should constantly strive to reduce and streamline administrative requirements for businesses. Such an approach would encourage entrepreneurship and investment and foster the creation, growth, and competitiveness of new businesses—all at no cost to governments.

4

Public finance

Indicators

Marginal effective tax rate on investment (METR)
Tax burden
Public debt

4.1 Marginal effective tax rate on investment (METR)

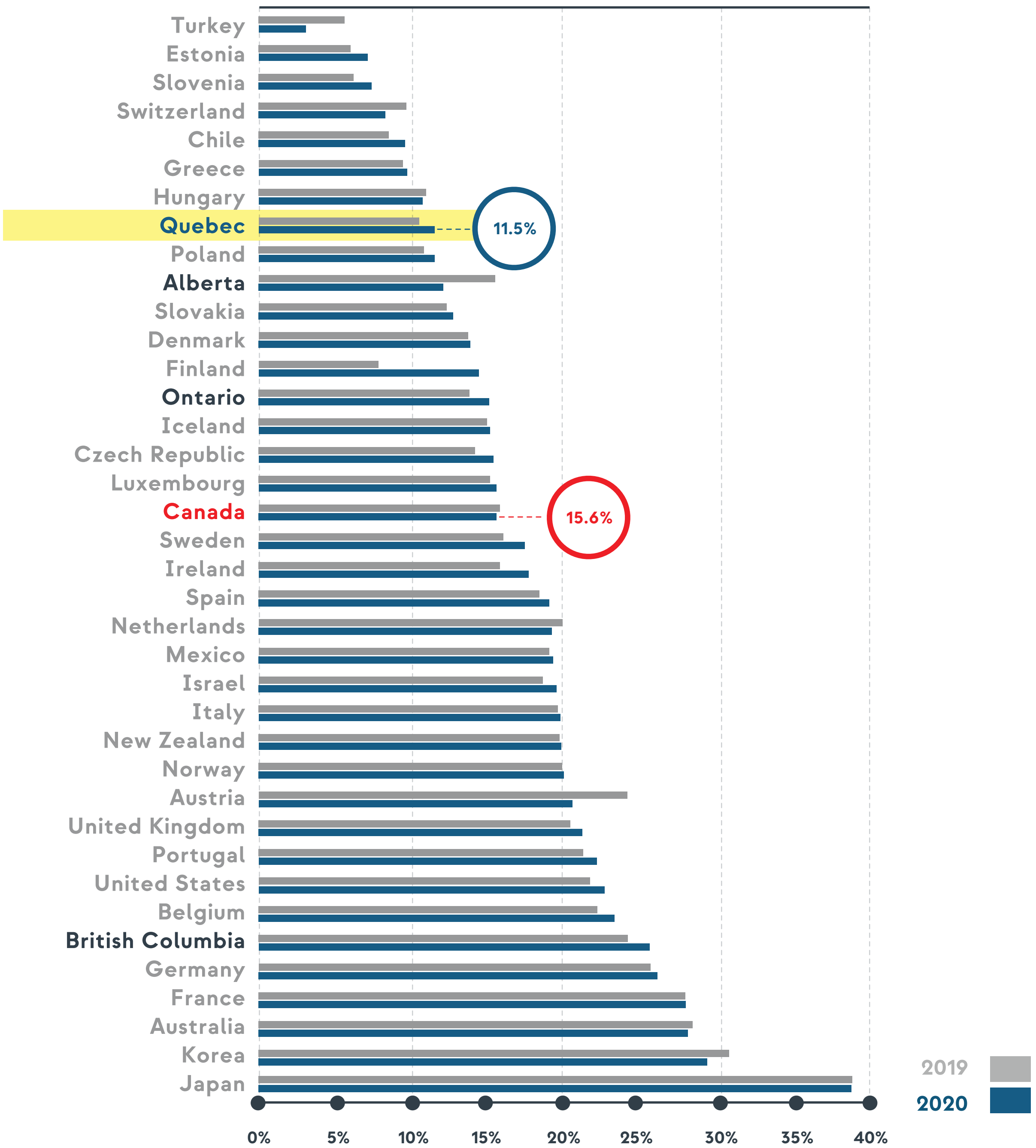


CHART 12

Marginal effective tax rate on investment

2019 and 2020

Sources: Bazel, Philip and Jack Mintz, 2020, Tax Competitiveness Report: Canada's Investment Challenge, September 2021. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3925702 (for countries).

A proposal for a Big Bang Corporate Tax Reform, https://www.policyschool.ca/wp-content/uploads/2022/02/FMK3_Big-Bang-Corporate-Tax_Mintz.pdf (for provinces).

About

The marginal effective tax rate on investment (METR) shows how the tax system affects new investment. It reflects the impact of all tax rules and charges on capital investment returns. METR takes into account corporate income tax, depreciation rules and rates, investment tax credits, tax on capital, sales tax, and inventory accounting methods. The investment decisions of local businesses, as well as decisions made by multinationals about where to establish a presence, are based in part on the relative tax burden in potential jurisdictions.

A =

INDICATOR 11
TEMI

METR for Quebec in 2020 was 11.5%, lower than the Canadian average of 15.6%. Quebec ranks first among the 4 Canadian provinces studied, and eighth out of 38 countries and provinces, giving it an "A" rating. Tax measures favourable for investment are the reason for Quebec's relatively low METR[15].

Observations

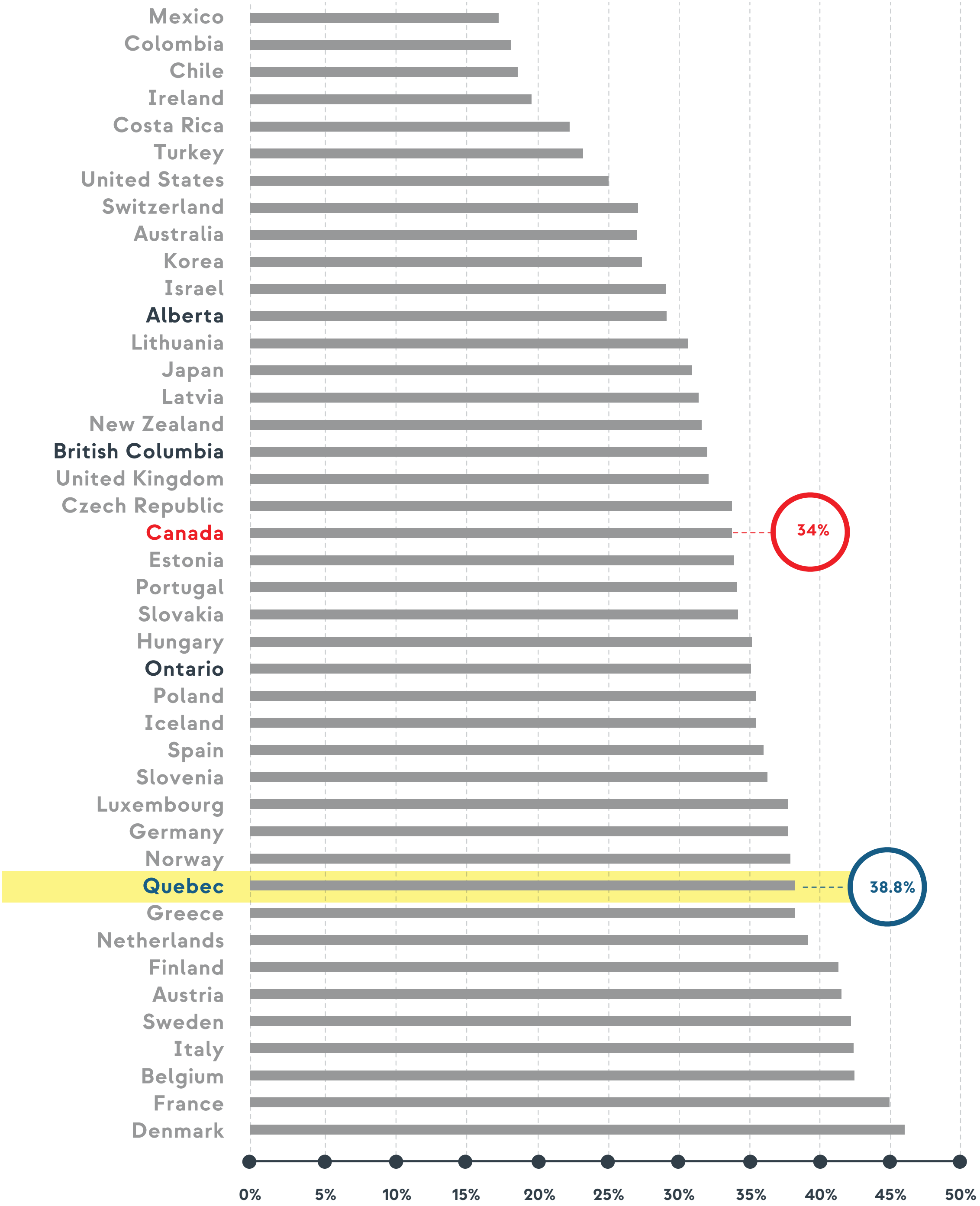
The tax competitiveness afforded through the METR on investment is significant. However, for businesses that do not invest during a given year or whose investments are not eligible for depreciation measures, the statutory tax rate is the best indicator for assessing tax competitiveness. On that basis, Quebec and Canada in general perform less well.

Also, as Jack Mintz points out, while the METR is relatively low in Canada, the corporate income tax rate—26.1% on average—is higher than the current U.S. rate (25.7%) and the OECD's GDP-weighted average (25.8%). Canada has the 10th highest corporate income tax rate among the 34 OECD countries. Canada's corporate tax system is competitive for marginal investment, primarily because of temporary accelerated depreciation allowances, but it is less attractive for large-scale, profitable projects. A high statutory tax rate on profits discourages businesses from carrying out major projects in Canada and from recording profits in the country.[16] In addition, Quebec is also more heavily penalized by the payroll tax burden, which is higher than in the other provinces, as mentioned earlier. Overall, according to the Chair in Taxation and Public Finance (CFFP), total corporate taxes represent a 5.9% share of GDP in Quebec, compared to 4.7% for the rest of Canada and an OECD average of 3.2%.

CHART 13-A

Total tax revenue as a percentage of GDP

2020



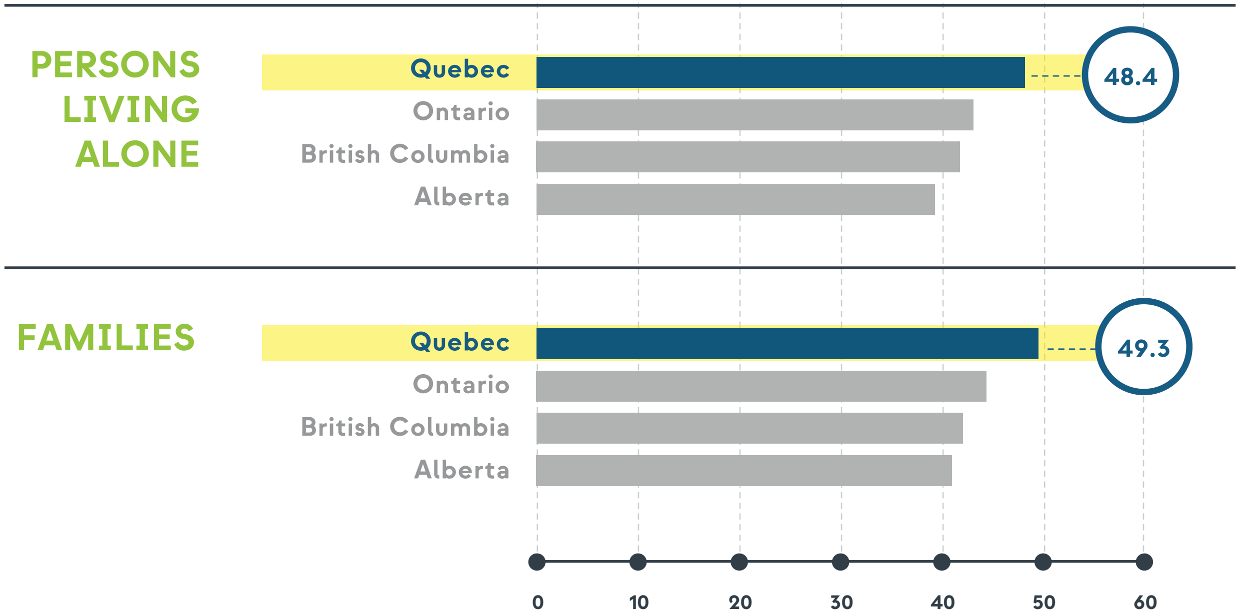
Tax revenues accounted for 37.3% of GDP in 2017 in Quebec.

Sources: Chair in Taxation and Public Finance, Université de Sherbrooke, Bilan de la fiscalité au Québec – Édition 2022, https://cffp.recherche.usherbrooke.ca/bilan-de-la-fiscalite-au-quebec-edition-2022/ (in French only)

CHART 13-B

Taxes withheld as a percentage of gross income

2022



Sources: Palacios, Milagros, Jake Fuss, and Nathaniel Li, Canadians Celebrate Tax Freedom Day on June 15, 2022, https://www.fraserinstitute.org/sites/default/files/tax-freedom-day-2022.pdf

About

The tax ratio is the ratio of total tax revenue collected by governments to total GDP. That is the overall tax burden borne by all taxpayers, both individuals and corporations. Although the tax burden funds public spending that can have generally positive social and economic consequences in the long term, we must also consider the impact on private investment and work incentives, and thus on the capacity to build an economy that keeps pace with change, is competitive, and develops its potential. Tax policy must therefore aim to increase investment, in both physical and human capital, and must be adjusted depending on which driving forces are the priority. This is all the more important at a time when we are emerging from the global pandemic crisis, dealing with major digital and ecological transformations and a persistent labour shortage, and heading into what is very likely to be an economic slowdown.

C -

INDICATOR 12
TOTAL TAX REVENUE

Of the four Canadian provinces, Quebec imposes the heaviest burden on taxpayers in all categories. Quebec's tax revenue represented 38.8% of GDP in 2020, well above the Canadian average (34.4%). Quebec ranks 33rd out of 42 countries and provinces analyzed in this report card. We give it a "C-" for tax ratio given the exceptional situation brought about by the COVID-19 pandemic and the impact on tax revenue and GDP.[17] This indicator is one to watch in future editions.

D =

INDICATOR 13
TAX BURDEN BASED ON TAX FREEDOM DAY

The Fraser Institute publishes an annual Tax Freedom Day bulletin that provides an approximation of the overall tax burden, particularly on individuals, in the provinces. The calculations take into account various taxes and tariffs at all levels of government (federal, provincial, and local). These include personal income taxes at the federal and provincial levels and sales, gas, property, and payroll taxes. According to the Fraser Institute's assessment, the portion of taxes paid on gross revenue is higher in Quebec than in the other Canadian provinces. In 2022 it was around 49.3% for a Quebec family of two or more (48.6% for a person living alone).

4.3 Public debt

CHART 14

Net debt as a percentage of GDP

2010 and 2018 to 2022

About

The ratio of government debt to GDP measures a government's ability to meet its financial obligations. It also makes it possible to assess the risk of an increase in the tax burden or a decrease in government spending in the years to come.

Opinions vary on whether financial commitments should be taken gross or net (net debt, i.e., commitments net of financial assets) to assess the financial standing of governments. We think both concepts are important. However, interest is paid on gross debt, and the risk of rising interest rates could quickly increase the cost of servicing public debt.

The health of public finances can also be assessed in terms of accumulated deficit debt,[18] which is considered "bad debt" because it does not correspond to any assets.

Although each of these three concepts is important in its own way and has been used in previous report cards, we do not have data for the other provinces for this edition.[19] Since the OECD and the IMF use net debt to compare countries' debt levels, in this report card we only present data for provincial net debt.

C

INDICATOR 14
PUBLIC DEBT

Quebec's financial standing in terms of debt ratio has improved. According to data from Quebec's 2022 budget, it ranks third among Canadian provinces, with net debt of 39.8%. Quebec is now doing better than Ontario.

While Quebec's net debt was inching downward before COVID-19, the crisis has sent it back up. Nevertheless, Quebec seems to be on track to meet the targets set out in the Act to reduce the debt and establish the Generations Fund. Quebec's gross public debt and accumulated deficit burden have decreased in recent years to the point where the province now has a good credit rating. Another factor in Quebec's improved credit rating is the Generations Fund, which has no direct equivalent in the other provinces.

However, demographic challenges and their impact on labour market dynamics and on funding for health care and long-term care are a constant threat to public finances. Therefore public policies and financial strategies should enshrine principles of strict discipline.

With respect to international comparisons of the debt burden, as noted by CFFP[20], some adjustments are necessary to make the analysis more consistent with the definition used by an international organization that collects this type of data. In addition, a portion of the federal debt must be attributed to Quebec. Government debt in Quebec calculated on that basis is consistent with the definition used by the OECD and the IMF. Net government debt in Quebec is estimated at 59.9% of GDP, higher than the OECD average of 50.2%. Governments in Quebec rank 12th among jurisdictions with the highest amount of debt when stacked up against the 36 OECD countries for which information is available (this comparison would also earn Quebec "C").

5

Business environment

Indicators

Average age of transport-related public infrastructure
Entrepreneurial intensity
Research and development spending
Patents
Investment in information and communication technology
Productivity
Business operating costs

5.1 Average age of transport-related public infrastructure

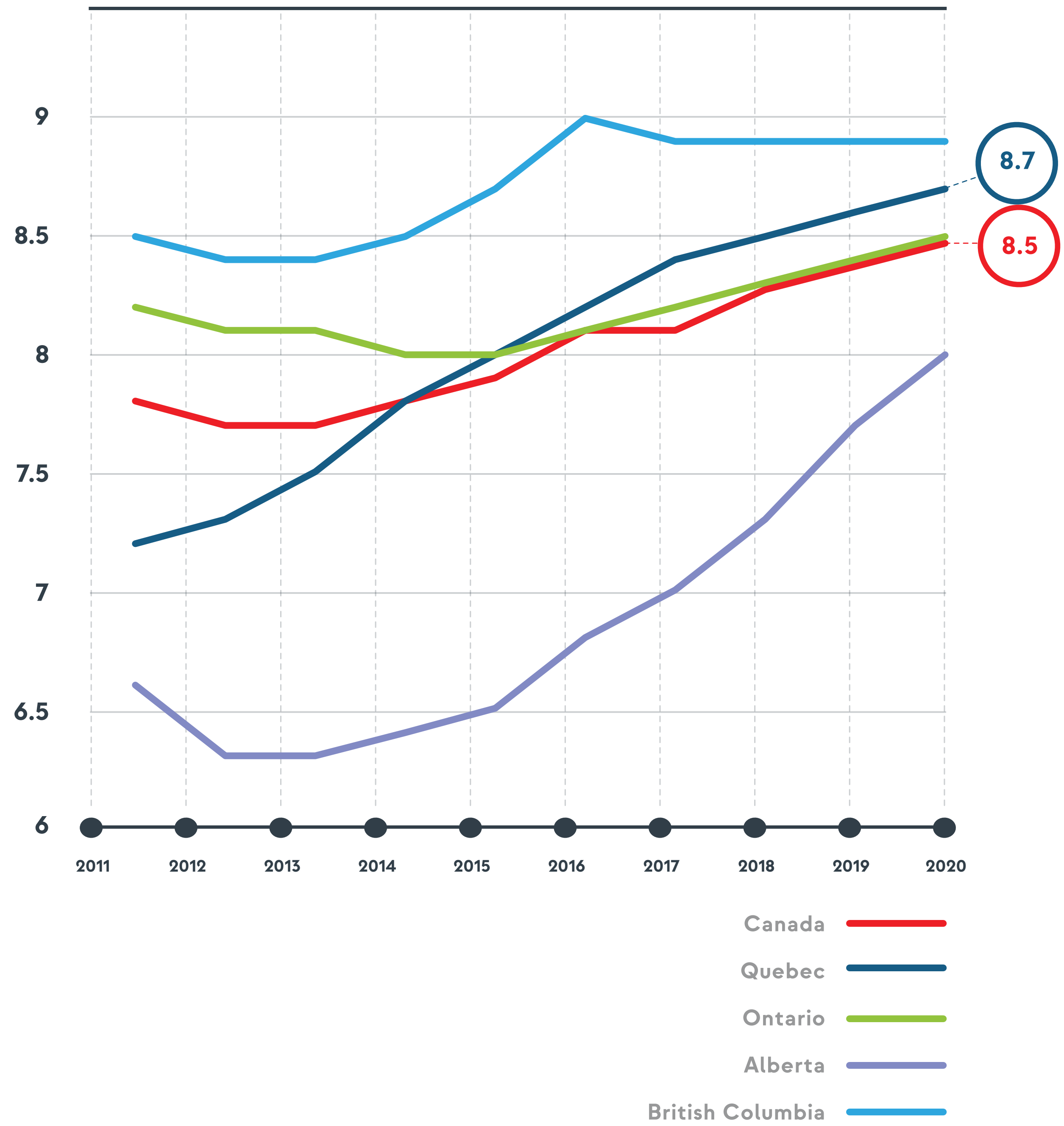


CHART 15

Average age of capital stock (highways, roads, streets, bridges, overpasses)

2011 to 2020

Sources: Statistics Canada, Table 34-10-0166-01: Average age measures of non-residential fixed capital stock, by industry, by asset, Canada, provinces, and territories.

About

The quality of public infrastructure, particularly transportation infrastructure, is a fundamental criterion for economic development. Reliable infrastructure is important for a strong economy and a good quality of life for citizens. The most effective way for governments to support economic growth is to invest in infrastructure. The average age and the useful life ratio of transport-related capital stock infrastructure indicate how governments are helping to foster a dynamic and robust economy.

C =

INDICATOR 15
AVERAGE AGE OF INFRASTRUCTURE

According to Statistics Canada data, the average age of public transportation infrastructure (highways, roads, streets, bridges, overpasses) in Quebec was 8.7 years in 2020, higher than the Canadian average (8.5 years). Quebec outranks B.C., but lags behind Ontario and Alberta.

The average age of the Quebec infrastructure network has been slowly but steadily increasing since 2011, although the pace of growth has slowed since 2018. The figures for Quebec equate to a 22% increase over 2011, compared to a 9% increase in the Canadian average. Aging transport-related infrastructure may also be linked to the asset maintenance deficit (AMD)[20] issue in Quebec. The AMD for infrastructure in poor or very poor condition (government condition indicator [GCI] of D or E) owned by public agencies was assessed at $30.6 billion in March 2022, including $19.4 billion for roads and $5.9 billion for schools. According to the Quebec Infrastructure Plan (QIP), “This deficit is explained by the fact that a significant portion of Québec’s public infrastructure, most of which was built between 1960 and 1970, has reached or will reach the end of its useful life, which generally varies between 25 and 75 years, depending on the infrastructure. This is especially true of road infrastructure and buildings in the education system, since their advanced age means major investments are required to restore them to good condition (GCI of A, B or C).” »

Other findings and reflections

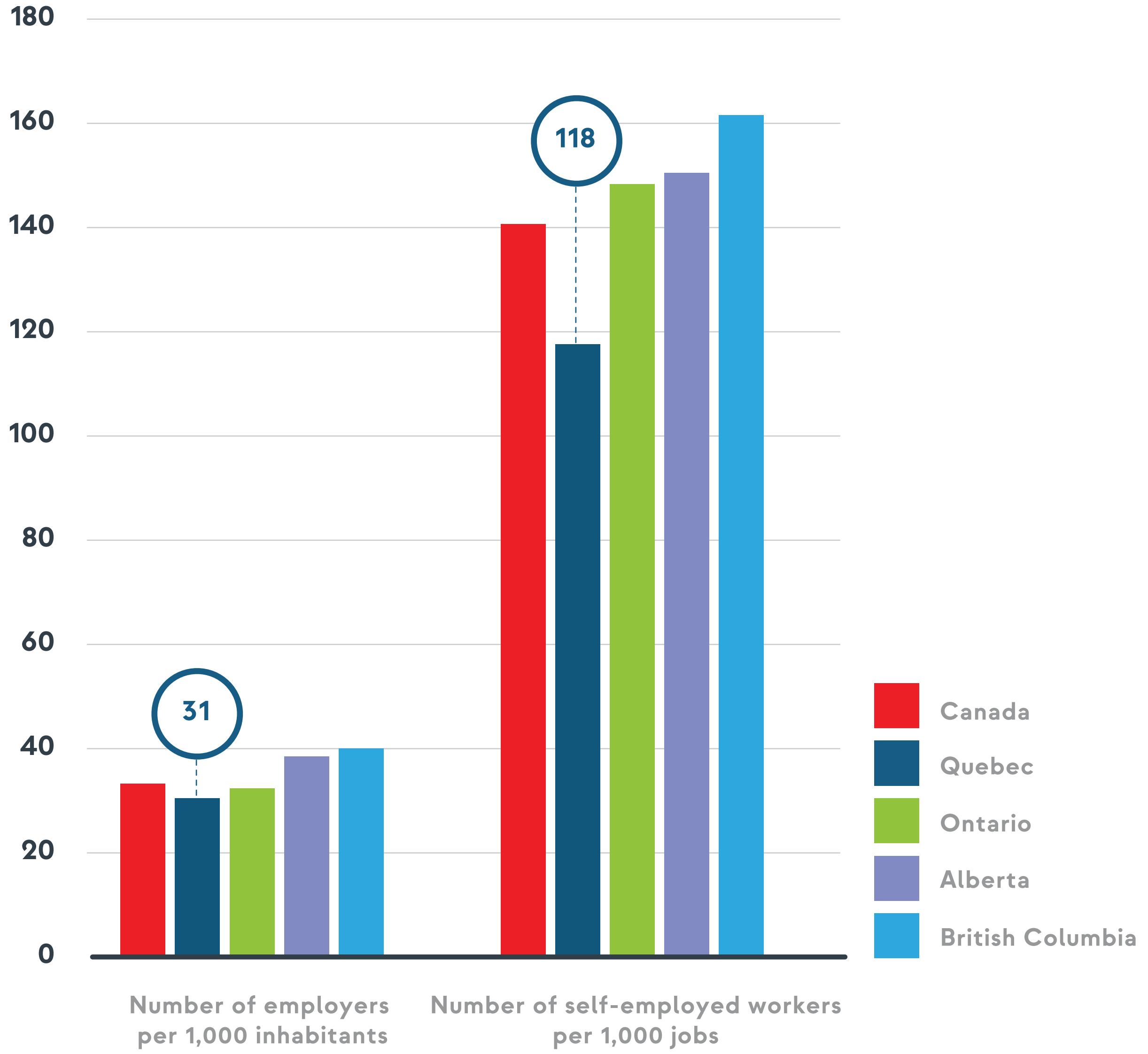
Sustainability criteria for infrastructure work are important factors for governments to consider when planning projects and awarding public contracts. CPQ has advocated repeatedly, and most recently while Bill 12 was under review, for a public procurement method that takes into account the concepts of quality, value, sustainability, and environmental performance. Such a method should be open to innovation and eliminate processes that almost systematically favour the lowest bidder. The lowest compliant bidder rule puts more emphasis on cost as a selection criterion, which may mean other potential benefits are overlooked. The cheapest solutions are not necessarily the most sustainable. A better approach would be to conduct a life cycle analysis of the project.

5.2 Entrepreneurial intensity

CHART 16

Measures of Entrepreneurial Intensity

2021

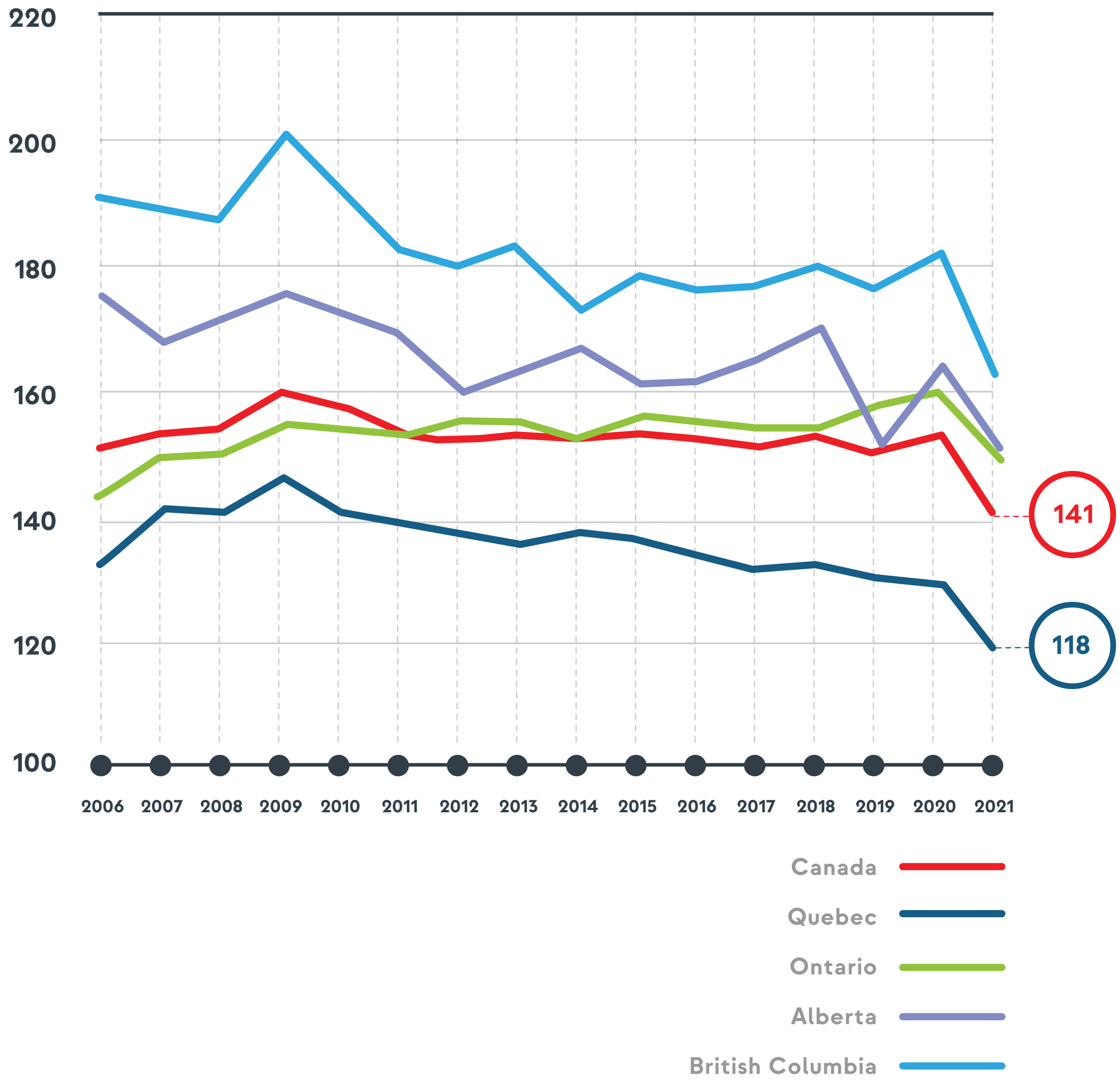


BUSINESS ENVIRONMENT

CHART 16-A

Number of self-employed workers per 1,000 jobs

2006-2021



Sources: Industry Canada, Government of Canada, Business – Canadian Industry Statistics, https://www.ic.gc.ca/eic/site/061.nsf/eng/h_03147.html#small business-canada; Statistics Canada, Table 17-10-0005-01: July 1 population estimates, by age and sex, https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1710000501&request_locale=en and table 14-10-0027-01: Employment by class of worker, annual (x 1,000), https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1410002701; and CPQ calculations.

About

Entrepreneurial drive fuels innovation and, most importantly, supports the growth the economy needs over time. As such, it is one more essential condition—or even the trigger—for wealth and prosperity.

Entrepreneurial intensity is measured in two ways:

- The ratio of self-employed workers to total workers
- The ratio between the number of businesses with employees and the population

C-

INDICATOR 16 ENTREPRENEURIAL INTENSITY

Entrepreneurial intensity is relatively low in Quebec.

- For its pool of entrepreneurs, for 2020 Quebec ranks 4th among the 4 biggest Canadian provinces, with 118 self-employed workers per 1,000 jobs. This ratio has been declining since 2009, which is worrisome because it is a rough indication of the intensity of entrepreneurial culture in an economy and of the potential for business creation.
- The findings are similar for the number of employers per 1,000 inhabitants, estimated for 2020 at 31 in Quebec compared to a Canadian average of 34. Quebec trails far behind British Columbia and Alberta, where there are 40 and 39 employers per 1,000 inhabitants, respectively.

Observations

The Global Entrepreneurship Monitor (GEM)[22] 2020 report on the state of entrepreneurial activity in Quebec assesses other facets of entrepreneurial activity and compares the province to other countries. According to the report:

- *The emerging entrepreneurial activity rate[23] in Quebec was 12.1% for 2020 (compared to 13% in 2018). The corresponding rate for the rest of Canada was 16.6% (20.4% in 2018). Based on this data, Quebec ranks 6th among a group of 20 OECD countries (including the rest of Canada [ROC]), compared to 5th place in 2018.*
- *For established entrepreneurs, Quebec ranks below the OECD median, with a rate of 5% compared to 8% for the ROC. Quebec is ranked 16th[24]. This is Quebec's lowest rate since 2013, when the numbers started a slow decline (with the exception of 2014).*

However, for entrepreneurial intention Quebec ranks 6th among the economies analyzed, with a rate of 18.2%. This is similar to the U.S. (18.6%) and slightly higher than the ROC (17.6%). In light of the above, Quebec scores a C-. Since COVID may have had an impact on entrepreneurial activity, it will be interesting to see how the situation changes in the months and years to come.

Business succession is a concern in Quebec, where many business leaders are approaching retirement and are ready to pass the torch. After all, business owners are part of Quebec's aging population. For example, between 2017 and 2021 the shortfall between the number of outgoing entrepreneurs and the number of new entrepreneurs was estimated at an average of nearly 7,200 people per year. The difference was +100 in Ontario[25].
In any given year, nearly 7,500 businesses are put up for sale in Quebec, and according to estimates from Centre de transfert d'entreprise du Québec (in French only) the number has doubled since the COVID-19 pandemic.
In fact, nearly two-thirds of these companies have no one to take over and are in danger of disappearing[26].

5.3 Research and development spending

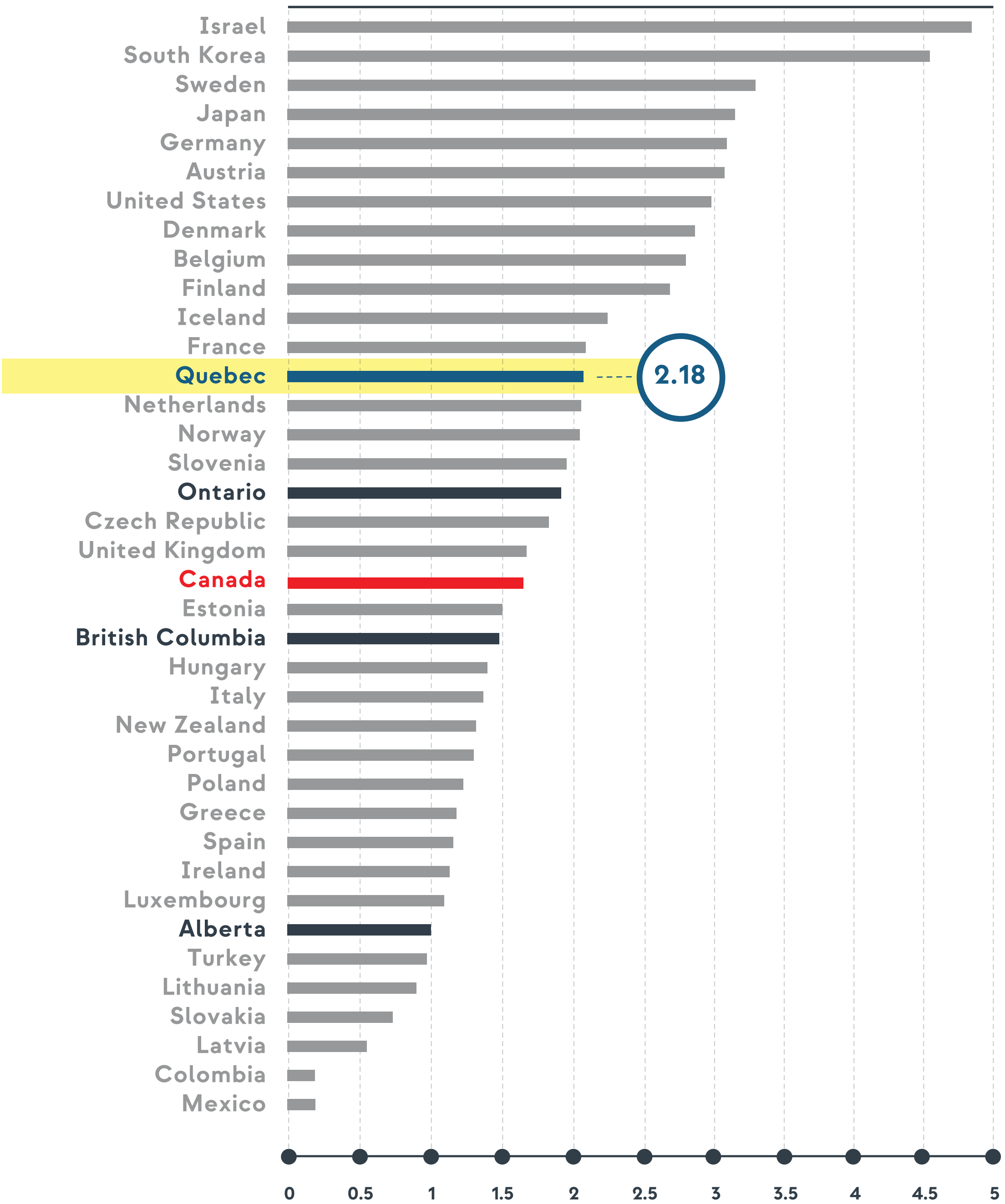


CHART 17

Gross domestic expenditure on R&D (GERD) as a percentage of GDP

2019

R&D spending accounted for 2.21% of GDP in 2016.

Sources: Research and development (R&D) expenditures, https://statistique.quebec.ca/en/document/expenditures-on-r-d/tableau/depenses-intra-muros-de-r-d-dird-quebec-ontario-pays-de-locde-union-europeenne-g7-et-certains-pays-hors-ocde

About

R&D spending is an indicator of efforts to spur innovation and prosperity. When more resources are devoted to R&D, there is a greater chance of technological breakthroughs with benefits that extend to the whole economy.

B =

INDICATOR 17
R&D SPENDING

Quebec's R&D spending as a percentage of GDP was 2.18% in 2019, largely unchanged since 2018. The figures were 2.02% in Ontario and 1.57% in British Columbia. In comparison, Sweden spent 3.4% of its GDP on R&D, and Israel spent 4.9%.

Quebec continues to rank 1st in Canada for this indicator and 13th out of the 38 economies analyzed. The province scores a "B," as it did in the 2019 report card, despite having earned an "A" in the past. R&D spending has shifted downward since it peaked at 2.7% in 2006.

R&D spending has shifted downward since it peaked at 2.7% in 2006.

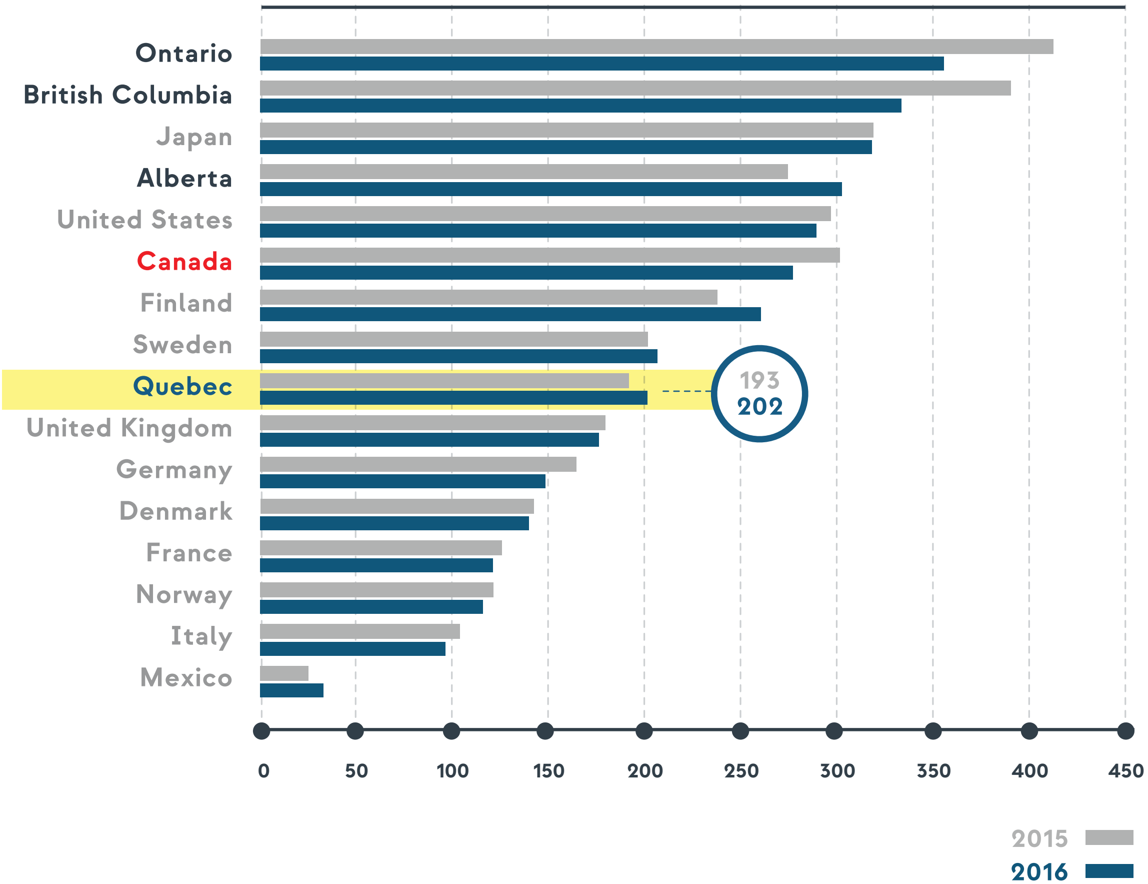
5.4 Patents of Invention

CHART 18

Number of patented inventions per US$ billion (PPP) of intramural R&D expenditure (GERD)

2015 and 2016

Same graph as 2019 Bulletin



Sources: OECD Statistics, Main Science and Technology Indicators, https://statistique.quebec.ca/en/document/expenditures-on-r-d/tableau/depenses-intra-muros-de-r-d-dird-quebec-ontario-pays-de-locde-union-europeenne-g7-et-certains-pays-hors-ocde; Statistics Canada, Table 36-10-0098-01: Gross domestic expenditure on research and development, by type of science and by financing and implementing sector (x 1,000,000), https://statistique.quebec.ca/fr/document/brevets-selon-le-lieu-de-residence-de-linventeur/tableau/nombre-dinventions-brevetees-a-luspto-par-milliard-de-dollars-de-dird-selon-le-pays-et-la-province#tri_tertr=5&tri_mesr=2582; Institut de la statistique, gouvernement du Québec, Nombre d'inventions brevetées à l'USPTO, selon le pays, la province, la région administrative et la région métropolitaine de recensement, https://statistique.quebec.ca/fr/produit/tableau/nombre-dinventions-brevetees-a-luspto-selon-le-pays-la-province-la-region-administrative-et-la-region-metropolitaine-de-recensement#tri_tertr=84; and CPQ calculations.

About

Although patent statistics do not reflect innovation activity in its entirety, they are some of the few metrics we can measure and compare.

The ratio of patented inventions to R&D spending is an indicator of the efficiency of dollars invested.

C

INDICATOR 18
PATENTS

Quebec's ability to obtain patents from the United States Patent and Trademark Office (USPTO) is lower than that of other provinces. Among 16 regions, Quebec is ranked 9th and earns a "C" rating.

Observations

Data released by the Conference Board of Canada (CBoC) shines a light on other areas of innovation and reveals the respective strengths and weaknesses of Canada and the provinces, compared to a set of countries. Ontario and Quebec are the top-ranked provinces in Canada, although their performance is subpar compared to the OECD countries analyzed. The two provinces earn an overall "C" rating, while Alberta and British Columbia earn a "D."[27]

The CBoC ranks innovation performance against ten comparative indicators: public R&D, enterprise entry, scientific articles, entrepreneurial ambition, venture capital, business R&D, ICT investment, patents, labour productivity, and automation vulnerability.

Quebec ranks 11th among the regions in the comparison. The province earns an "A" for public R&D and automation vulnerability, "B" for entrepreneurial ambition and venture capital, "C" for scientific articles and business R&D (on the latter, Quebec outperforms Canada and all the provinces), and "D" for enterprise entry, labour productivity and patents. In terms of patents, Quebec, along with Ontario and the other provinces, struggles to commercialize and reap the benefits of innovation.

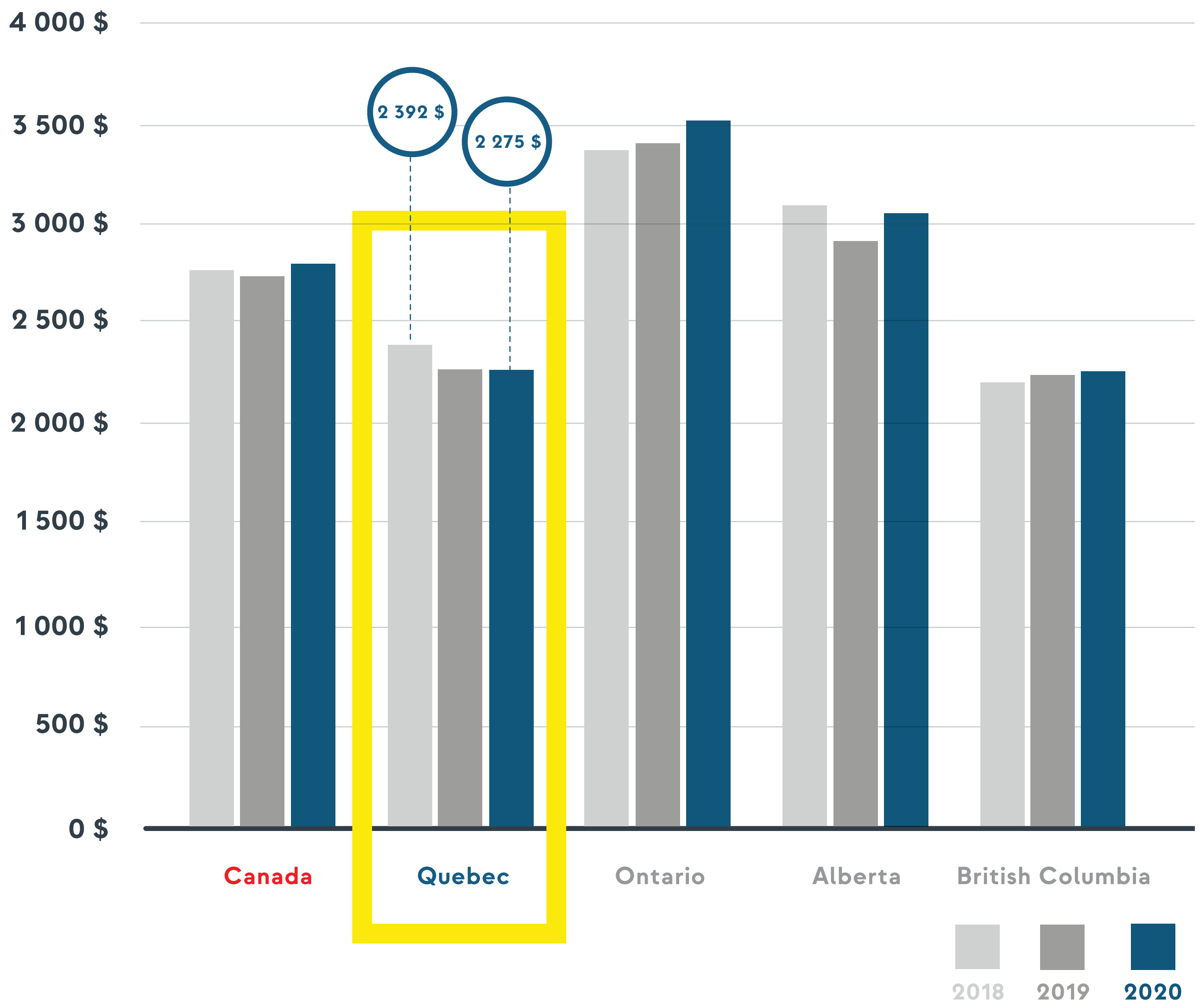
Canadian innovators in general seem more likely to sell their intellectual property (IP) than pursue developing it in Canada. As noted[28] *in a study by the Institute for Research on Public Policy (IRPP), the majority of patent applications filed (in the United States) by research teams with at least one Canadian inventor are assigned straight away to firms outside Canada or to foreign subsidiaries in Canada. In addition, a significant proportion of patents assigned to Canadian residents are subsequently sold to foreign entities, and that proportion has more than doubled in 20 years, from 18% in 1998 to 45% in 2018. The study suggests that while this is not necessarily a concern (research investments in Canada by foreign affiliates can have long-term benefits for Canadians), there is a need for incentives to support patent retention. By selling their IP to foreign entities, Canadian researchers forego the opportunity to develop their patented technology, commercialize their inventions, and make new, related discoveries.*

5.5 Investment in information and communication technology

CHART 19

ICT Investment per Worker

2018–2020 in chained 2012 dollars



Sources: Statistics Canada, Table 36-10-0098-01: Flows and stocks of non-residential fixed capital for all industries, by type of asset, provinces and territories (x 1,000,000), https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3610009801, and Table 14-10-0018-01: Labour force characteristics by sex and detailed age group; and CPQ calculations.

About

For this indicator, investment in information and communication technology (ICT) is divided into two components: computers and electronic products, and software. Comparing ICT investment with the number of workers measures the degree to which a given economy's labour force is equipped with ICT.

Numerous studies reveal a causal link between how much companies spend on ICT and their productivity. However, it is clear that the potential of ICT to generate value is only maximized when other investments are made as well, notably in human capital.

INDICATOR 19
ICT INVESTMENT

Quebec ranks 3rd among the four Canadian provinces in the study, with ICT investment of $2,275 per worker in 2020, 35% lower than Ontario and 20% lower than the Canadian average. The investment amount in Quebec is up only slightly from $2,096 in 2010, and the data paints a less-than-rosy picture of how Quebec has integrated digital technology into the economy.

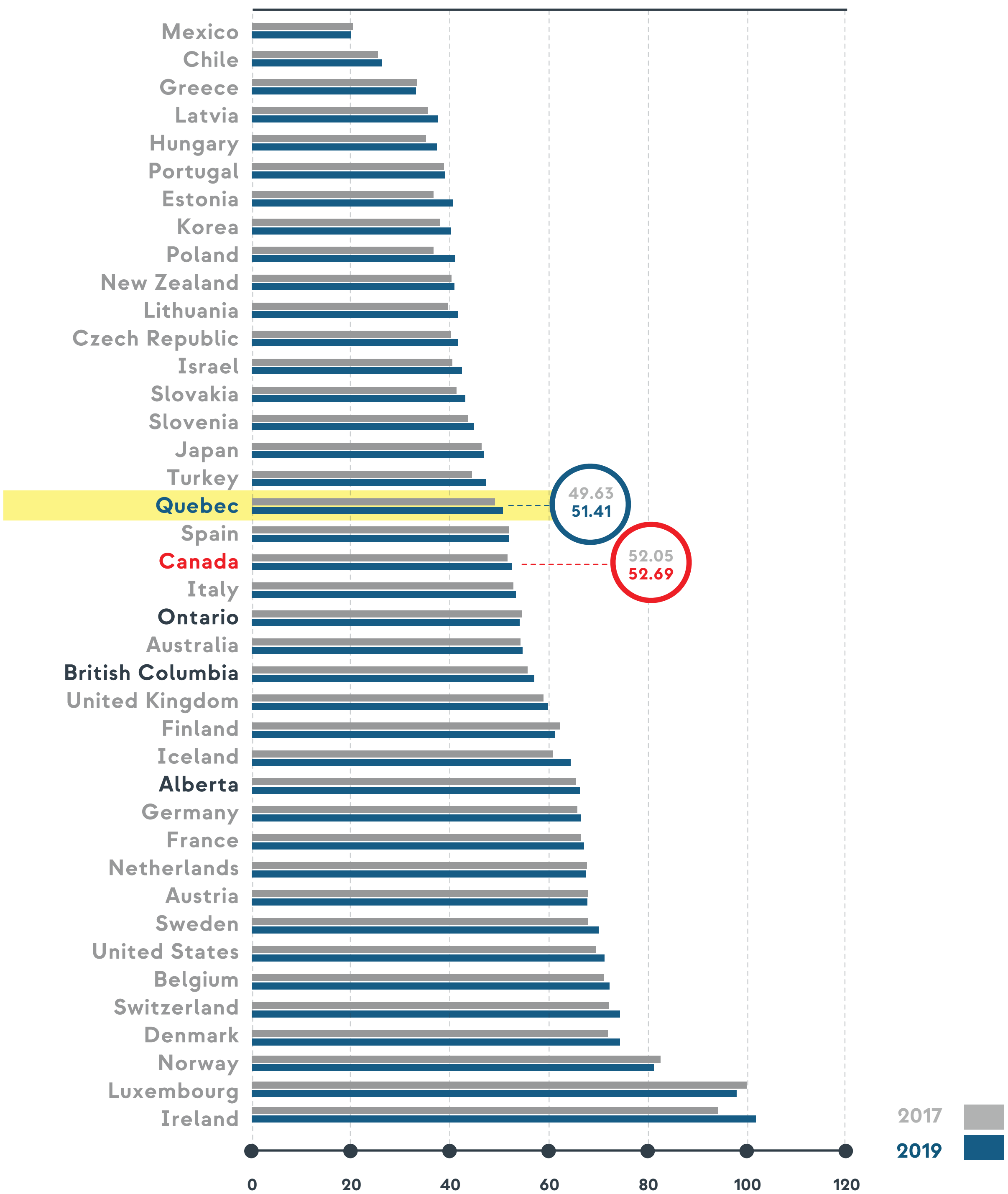
Quebec is ranked 3rd among the four Canadian provinces in the reference group.

5.6 Productivity

CHART 20

Labour productivity (GDP per hour worked)

2017 and 2019



Source: Centre on Productivity and Prosperity, Walter J. Somers Foundation, HEC Montréal, Productivity and prosperity in Quebec: Balance Sheet 2021, March 2022, https://cpp.hec.ca/wp-content/uploads/2022/03/PP-2022-02.pdf.

About

Productivity is an essential ingredient for prosperity because, generally speaking, higher productivity makes it possible to produce more with the same amount of inputs. There are various ways of measuring productivity. Total factor productivity (TFP) measures how efficiently inputs—labour and capital—are used to produce a certain volume of goods and services. In a way, this indicator reflects technological innovation and how innovation is applied to work methods and organization in an economy. TFP is relatively complicated to assess. It relies on several assumptions about how capital and labour are measured and on their related output elasticity.

Labour productivity measures productivity per hour worked. It can depend on a number of factors, including the industrial structure of an economy. Nonetheless, labour productivity is relatively simple to calculate and understand.

C=

INDICATOR 20
LABOUR PRODUCTIVITY

For this and the 2019 editions of the report card, we use the labour productivity metric, which is GDP per hour worked.

On that basis Quebec generates an average of US$51.41 of GDP per hour worked. It ranks 23rd out of the 40 countries and provinces assessed and is in the 3rd quartile, with a “C” rating. It should be noted, however, that Quebec has experienced strong productivity growth in recent years. Productivity in the province rose 3.6% between 2017 and 2019 compared to 1.2% in Canada and 2.3% in the United States. We paused productivity analysis after 2019 as the years 2020 and 2021 were marked by significant changes in hours worked that may have influenced productivity figures.

Productivity in the province rose 3.6% between 2017 and 2019 compared to 1.2% in Canada and 2.3% in the United States.

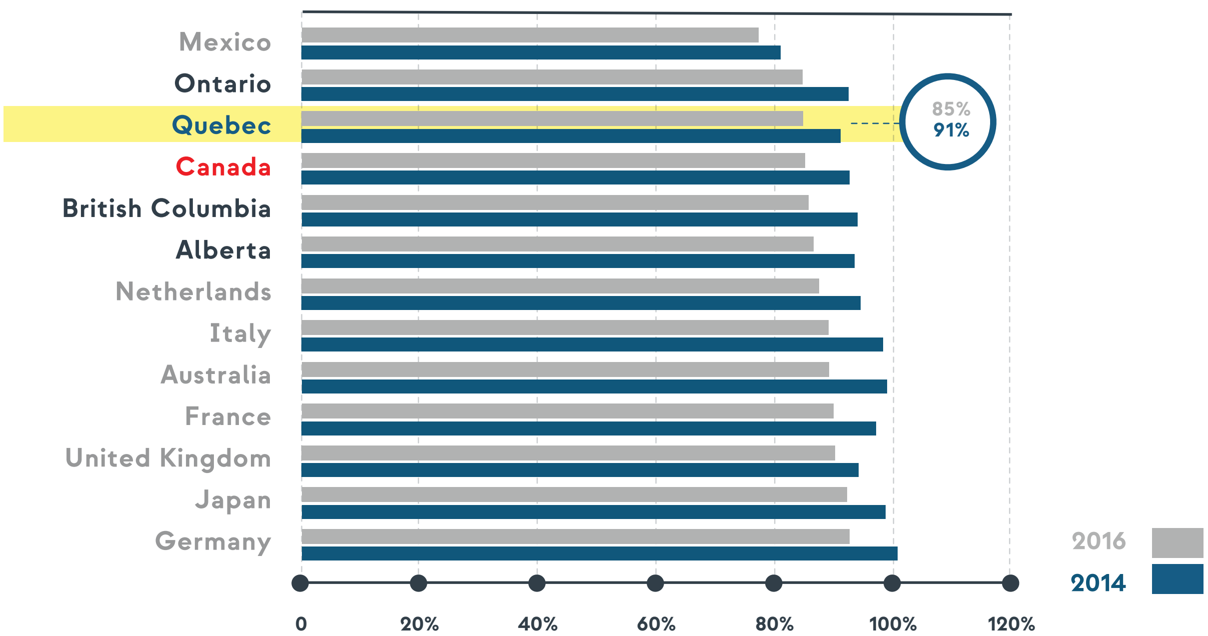
5.7 Business operating costs

CHART 21

Business Cost Index for 19 Sectors

2014 and 2016 (US = 100)

Same graph as 2019 Bulletin



Source: KPMG, Competitive Alternatives 2016 Cost Model Detailed Comparison Report.

A

INDICATOR 21
BUSINESS OPERATING COSTS

KPMG's Competitive Alternatives report measured the impact of 26 major cost drivers on business competitiveness in cities in 14 countries, including so-called mature countries (Australia, Canada, France, Germany, Italy, Japan, Mexico, the Netherlands, the United Kingdom, and the United States) and 4 so-called emerging countries (Brazil, Russia, India, and China). For consistency with previous report cards and with the other indicators in this edition, most of which do not use data from emerging countries, we have decided to compare Quebec only to mature countries. The KPMG report also compares non-economic data that speaks to the attractiveness and competitiveness of cities, such as quality of life and cost of living. It analyzes companies in 19 industries, and comparisons are based on start-up and after-tax operating costs over a 10-year period, including tax levels and labour, rent, transportation, and energy costs.

The KPMG report attests to Canada's remarkable progress. Not only is Canada ranked 2nd overall (behind Mexico), its competitiveness in terms of business operating costs has improved by 10.1% since 2012. Only Japan and Australia outperformed Canada over the same period.

Although the report is reliable and noteworthy, it only looks at a limited number of countries rather than all OECD countries, and only in relation to 19 sectors. Moreover, the index published each year is always expressed in relation to operating costs in the United States. The value for the United States is always 100, while other countries and provinces are assigned an index relative to the U.S. figure. Consequently, if costs vary in the U.S., the score for Quebec could change even if operating costs in the province remain stable.

Quebec earns an "A" for this indicator. Between 2014 and 2016, the cost of running a business in Quebec (specifically, in Montreal and Quebec City) fell from 91% to 85% of the same cost in the United States. Despite this remarkable improvement, the province was nudged out of its 2014 second-place ranking and is now outperformed by Ontario. Mexico remains at the head of the pack with the lowest business operating costs among the countries analyzed.

The report has not been updated and is no longer produced in the same format[29]. It is hard to predict how Quebec would rank today.

Conclusion

In light of the findings presented here, CPQ once again gives Quebec a "C" rating for overall performance, consistent with the province's score in the 2019 and 2010 prosperity report cards.

Stacked up against its provincial counterparts and other industrialized countries, Quebec shows a number of strengths and, regrettably, certain weaknesses. In terms of strengths, Quebec performs well on some of the 21 indicators, including the postsecondary education rate, the marginal effective tax rate, and R&D spending. Weaknesses include the school dropout rate, the economic integration of immigrants, and payroll taxes.

Regardless of rankings, there is room for improvement, particularly in the proportion of people with an undergraduate degree, the integration of immigrants into the labour market, and the weight of public debt.

The indicators for entrepreneurial intensity and the regulatory burden also reveal a worrisome trend. In many respects, Quebec's performance remains virtually unchanged. Evidently, Quebec still lacks the right conditions to unleash even more of its potential and improve prosperity. Higher productivity and solutions to the labour shortage, both of which are pressing issues, would be good places to start.

Our well-being depends on more than just GDP and the creation of wealth. This prosperity report card focuses on the economic component. CPQ is part of the G15+ collective and helped develop the Indicators of Well-Being in Quebec as a way to put well-being first in our collective decisions. The indicators analyze how economic, social, and environmental factors overlap. In many areas, Quebec stacks up favourably against Ontario and the Canadian average and has made progress in a number of social indicators. Findings show a decrease in poverty; a reduction in income, gender, and ethnicity inequalities; lower crime rates; and an increase in life expectancy. Income inequality has worsened in Ontario, remained stable in Canada as a whole, and improved in Quebec. All in all, Quebecers benefit from an economic and social environment that supports a good quality of life and offers numerous social programs. Quebec needs to keep it up and make progress on its weaknesses. To that end, wealth creation is the key that will allow us to further improve the lives of marginalized groups and fund public services.

Annex: Details on the methodology

CHOICE OF INDICATORS

CPQ chose indicators based on criteria that emphasize the determinants of prosperity rather than outcomes, moving up the causal chain as far as available data allows. Determinants of prosperity include a skilled workforce, a competitive tax environment conducive to investment, and modern infrastructure. The indicators selected are in line with CPQ's main areas of focus: human capital, labour costs, the legislative framework and regulatory and administrative streamlining, the health of public finances, and the quality of the business environment.

POINTS OF COMPARISON

We compare Quebec to the other three most populous Canadian provinces, Ontario, British Columbia, and Alberta, and to OECD countries where possible. As with any initiative based on statistics, we can only make comparisons when data is available. Things we would like to assess are not always covered by a statistical entity or might not be measured regularly or for the entire reference group. Reference groups vary from one indicator to the next, but in most cases we were able to compare Quebec to other Canadian provinces and, in many cases, to all OECD countries or a specific subset.

New OECD members include Chile, Israel, Slovenia, and Estonia (2010); Latvia (2016); Lithuania (2018); and Costa Rica (2021), bringing the total number of members to 38.

To draw a comparison with as many economies as possible that are similar to Quebec and with which the province competes directly, we selected all the data available for the various jurisdictions. We also produce a prosperity report card for the Canadian provinces Quebec is compared to. The goal is to better compare and assess the performance of each province in relation to the various indicators and to the overall economic performance of Canada as a whole, always against the backdrop of performance among OECD countries when data is available.

RATINGS

To summarize, we give Quebec a rating from "A" to "D" based on its position in the reference group. When the reference group is the four Canadian provinces, the rating simply corresponds to Quebec's standing among those provinces. Where we are able to make international comparisons, Quebec's rating is based on how it stacks up against all provinces and countries. More specifically, we divide all the provinces and countries into four groups. If Quebec is in the first quartile, it earns an "A," in the second, a "B," in the third, a "C," and if it is in the last quartile, a "D."

When an indicator has two subindicators, the rating is based on their average. In some cases, the rating might include a "-" or a "+" qualifier. This happens when there are factors that exceed the strict measurement of the indicator. One such example is entrepreneurial intensity.

The total rating in each category or topic represents the average of the scores for the underlying indicators, adjusting upward. For example, the average of a "B" and a "C" rating is "B-."

Results for all 4 provinces

TABLE 4

Report Card on Prosperity 2022 results for the 4 provinces

	Chart no.	Quebec	Ontario	Alberta	British Columbia
GDP per capita at purchasing power parity (PPP)	1	**C**	B	B+	B
Human capital and worker availability		**B-**	B+	B	B+
Percentage of young adults out of school without a high school diploma	2	**D**	B	C	A
Percentage of the adult population without a high school diploma	4	**B**	A	A	A
Bachelor's or equivalent graduation rate	5	**A-**	B+	C	D
Postsecondary education rate among adults	6	**A**	A	A	A
Participation rate of older workers	7	**C**	C	B	C
Economic integration of immigrants	8	**C-**	C+	B	A
Labour costs		**C**	B+	B+	B
Employer payroll tax costs	9	**D**	C	A	B
Minimum wage as a proportion of median wage	10	**B**	B	B	B
Regulatory framework		**C-**	A-	A	C-
Labour law policy		**D**	A	A	C
Cost of regulatory compliance	11	**C**	B	A	D
Public finance		**C+**	C	B+	B+
Marginal effective tax rate on investment	12	**A**	B	B	D
Tax ratio (tax revenue as a percentage of GDP)	13A	**C-**	C	B+	B
Taxes withheld as a percentage of gross income	13B	**D**	C	A	B
Public debt	14	**C**	D	B	A
Business environment		**C**	B	B	C
Average age of capital stock	15	**C**	B	A	D
Entrepreneurial intensity	16	**C-**	C	B	A
R&D spending	17	**B**	B	D	C
Patents	18	**C**	A	A	A
ICT investment	19	**C**	A	B	D
Labour productivity	20	**C**	B	B	B
Business operating costs	21	**A**	D	B-	A-
Average		**C**	**B-**	**B+**	**B-**

Notes:

1 The most recent annual data available for Canadian provinces at the time of writing dates back to 2020. Figures are expressed in purchasing power parity (PPP in US$).

2 Commentary from psychologist and academic success specialist Égide Royer, https://ici.radio-canada.ca/nouvelle/1891534/taux-decrochage-donnees-faussees-le-portrait-du-ministere-de-leducation-est-il-fiable- (in French only)

3 OECD and Statistics Canada 2012 survey on adult literacy and numeracy https://www150.statcan.gc.ca/n1/pub/89-555-x/89-555-x2013001-eng.pdf and https://fondationalphabetisation.org/en/illiteracy/about-illiteracy/literacy/. The survey has not been conducted since then, and there are no other similar or more recent comparisons that we are aware of.

4 The indicator includes diplomas earned by people under or over age 22. But since few people have more than one bachelor's degree or equivalent and the breakdown of diplomas earned by age is relatively stable over time, it seems appropriate to show the annual number of diplomas awarded in relation to the size of a cohort.

5 In Ontario the rate went up from 73% to 76.7%.

6 Source: https://www150.statcan.gc.ca/t1/tbl1/en/cv.action?pid=1410003301&request_locale=en. In 2018, the difference was 1.3 hours for Ontario, 0.4 hours for British Columbia, and 2.5 hours for Alberta.

7 A possible reason for the lower unemployment rate is that fewer immigrants settled in Quebec in 2020 and 2021.

8 https://www.rqap.gouv.qc.ca/en/about-the-plan/general-information/key-moments

9 https://statistique.quebec.ca/en/produit/tableau/total-fertility-rate-and-fertility-rate-by-age-group-of-mother-quebec

10 For the 2021 minimum-to-median wage ratio, Quebec's position among the provinces was almost the same as in 2020. Quebec is virtually tied with Ontario at 50%, compared to 48% in Alberta and 52% in B.C. In 2022 the minimum wage is $15 in Alberta, $14.25 in Quebec, and $15.65 in B.C. The general minimum wage in Ontario was set at $15.50/hour as of October 1, 2022. The government of Quebec is targeting a ratio of 50% between the general minimum wage and the average hourly wage, which seems to strike the right balance in terms of the objectives mentioned above.

11 For an overview of the impacts, see, for example: Dachis, Benjamin and Robert Hebdon, The Laws of Unintended Consequences: The Effect of Labour Legislation on Wages and Strikes, C.D. Howe Institute, Commentary No. 304, June 2010, https://www.cdhowe.org/public-policy-research/laws-unintended-consequence-effect-labour-legislation-wages-and-strikes.

12 Other ways to measure the administrative burden include the total number of provincial regulatory restrictions per capita and the commitment to regulatory relief. These and other indicators are grouped into an overall regulatory burden index. Quebec is in third place with a score of 5.6, behind B.C. and Alberta. Quebec has 146 regulatory restrictions per 100,000 inhabitants compared to 138 in B.C. Ontario is in first place with 97 restrictions. https://www.cfib-fcei.ca/hubfs/legacy/2022-02/Red%20Tape%20Report%20Card%202022_Final%20E.pdf.

13 https://www.ontario.ca/page/2021-burden-reduction-report-fueling-future-growth-modernizing-ontarios-regulatory-system#section-3

14 https://www.economie.gouv.qc.ca/fileadmin/contenu/publications/administratives/allegement/politique_gouv_allegement.pdf (in French only) https://www.quebec.ca/gouvernement/ministere/economie/publications/plan-action-gouvernemental-allegement-reglementaire-2020-2025 (in French only)

15 This includes C3i in Quebec and accelerated depreciation at the provincial and federal levels. In its 2021–2022 budget, the government of Quebec doubled the C3i rates for assets acquired before January 1, 2023, and extended the temporary C3i rate increase for an additional year, making it applicable to assets acquired before January 1, 2024. In addition, according to Quebec's Ministère des Finances, the METR for new investment in Quebec fell from 14.7% in 2017 to 8.8% in 2020, and to 7.4% in 2021. (Québec Budget 2022–2023, http://www.budget.finances.gouv.qc.ca/budget/2022-2023/documents/Budget2223_BudgetPlan.pdf and http://www.budget.finances.gouv.qc.ca/budget/2021-2022/en/documents/BudgetPlan_2122.pdf). The calculation methodology is different from that of Mintz et al. The ministry does not present the equivalent METR for other provinces or countries.

16 https://ssrn.com/abstract=3925702. One of the reasons why major projects seem less profitable is that a portion of the investment might be exempt from depreciation. In addition, the expected average net return for big projects might be higher than the marginal return, so it is more likely that these projects will happen in jurisdictions with a lower average tax rate.

17 In the 2019 report card, tax revenue represented 37.3% of GDP in 2017, with Quebec ranking 21st out of 35 economies analyzed. The province earned a "C" rating. One explanation for the relatively significant change in ranking is that "from 2019 to 2020, Quebec's tax revenues fell by 0.7% while GDP fell by 2.4%. As a result, the province's tax ratio has increased." https://cffp.recherche.usherbrooke.ca/wp-content/uploads/2022/01/Bilan2022.pdf (in French only). In other jurisdictions, the fall in tax revenue has been greater than the fall in GDP. Furthermore, for the 2019 report card we did not have data for the provinces.

Notes:

18 Debt that represents accumulated deficits is calculated by subtracting financial assets (net of other liabilities) and non-financial assets from gross debt. In other words, it is the difference between the government's assets and liabilities.

19 The government of Quebec (Ministère des Finances) used to publish the gross debt and accumulated deficits of the other provinces in its budget, but has not done so in recent years. Nor does Institut de la statistique du Québec release data on gross debt by province.

20 https://cffp.recherche.usherbrooke.ca/wp-content/uploads/2022/06/cr-2022-08-Panorama-f.pdf

21 AMD is the value of the work required to restore the physical condition of infrastructure to satisfactory or better (government condition indicator of A, B or C) for the health and safety of individuals, and to ensure its continued use for its intended purpose and reduce the likelihood of breakdown or to counteract physical wear and tear, https://www.tresor.gouv.qc.ca/fileadmin/PDF/budget_depenses/22-23/6-Quebec_Infrastructure_Plan.pdf.

22 St-Jean, E. and M. Duhamel (2021), Situation de l'activité entrepreneuriale québécoise: rapport 2020 du Global Entrepreneurship Monitor, Institut de recherche sur les PME, Université du Québec à Trois-Rivières, https://oraprdnt.uqtr.uquebec.ca/pls/public/docs/GSC1512/O0003682956_GEM_2020_final.pdf (in French only). The 2021 Global Entrepreneurship Monitor report was released in November 2022. Apart from the emerging entrepreneurship rate, which has increased significantly, there has been little change. The rating for Quebec remains unchanged.

23 Based on total number of emerging entrepreneurs (up to 3 months of wages paid) and new entrepreneurs (between 4 and 41 months of wages paid).

24 Established entrepreneurs are those who have been paying wages for at least 42 months. The established entrepreneur rate is the ratio in terms of the population aged 18 to 64.

25 Source: https://www.economie.gouv.qc.ca/bibliotheques/etudes-analyses/analyses-sur-lentrepreneuriat-et-les-pme/portrait-de-lentrepreneuriat-au-quebec/

26 https://www.lesaffaires.com/dossiers-partenaires/mouvement-repreneuriat---entreprendre-differemment/le-repreneuriat--la-cle-pour-aller-plus-loin-plus-vite-en-affaires/629305 (in French only)

27 https://www.conferenceboard.ca/focus-areas/innovation-technology/innovation-report-card.

28 Gallini, Nancy and Aidan Hollis, To Sell or Scale Up: Canada's Patent Strategy in a Knowledge Economy, Institute for Research on Public Policy, August 27, 2019, https://irpp.org/wp-content/uploads/2019/08/To-Sell-Or-Scale-Up-Canadas-Patent-Strategy-in-a-Knowledge-Economy.pdf.

29 A comparison of cities in terms of competitiveness can be found here: https://citycompetitivenessindex.kpmg.ca/en/home

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