Metro Vancouver

SWOT and Scenario Analysis – Full Report

October 2020

Note to Reader

This report has been provided to Metro Vancouver for the purpose of identifying the potential strengths, weaknesses, opportunities and threats to the region from the perspective of a potential investor and summarizing the economic landscape in the region and potential economic recovery scenarios. This study does not represent a cost-benefit analysis for Metro Vancouver or any other party and does not represent an analysis of the likelihood of investment activities. In particular, Deloitte LLP (“Deloitte”) does not assume any responsibility or liability for losses incurred by any party as a result of the circulation, publication, reproduction or use of this initial analysis contrary to its intended purpose.

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The COVID-19 pandemic is constantly evolving, with information on economic conditions and public policies changing daily. While Deloitte has made every attempt to use up-to-date inputs and assumptions, the analysis herein is limited to information available as of **September 11th, 2020**. We disclaim any undertaking or obligation to advise any person of any change in any fact or matter affecting this analysis, which may come or be brought to our attention after the date hereof. Without limiting the foregoing, in the event that there is any material change in any fact or matter affecting the analyses after the date hereof, we reserve the right to change, modify or withdraw the analysis. We anticipate comments and changes from Metro Van prior to the finalization of this analysis.

Observations are made on the basis of economic, industrial, competitive and general business conditions prevailing as at the date hereof. In the analyses, we may have made assumptions with respect to the industry performance, general business, and economic conditions and other matters, many of which are beyond our control, including government and industry regulation.

No opinion, counsel, or interpretation is intended in matters that require legal or other appropriate professional advice. It is assumed that such opinion, counsel, or interpretations have been, or will be, obtained from the appropriate professional sources. To the extent that there are legal issues relating to compliance with applicable laws, regulations, and policies, we assume no responsibility therefore.

We believe that our analyses must be considered as a whole and that selecting portions of the analyses or the factors considered by it, without considering all factors and analyses together, could create a misleading view of the issues related to the report. Amendment of any of the assumptions identified throughout this report could have a material impact on our analysis contained herein. Should any of the major assumptions not be accurate or should any of the information provided to us not be factual or correct, our analyses, as expressed in this report, could be significantly different.

Contents

Executive Summary

Background

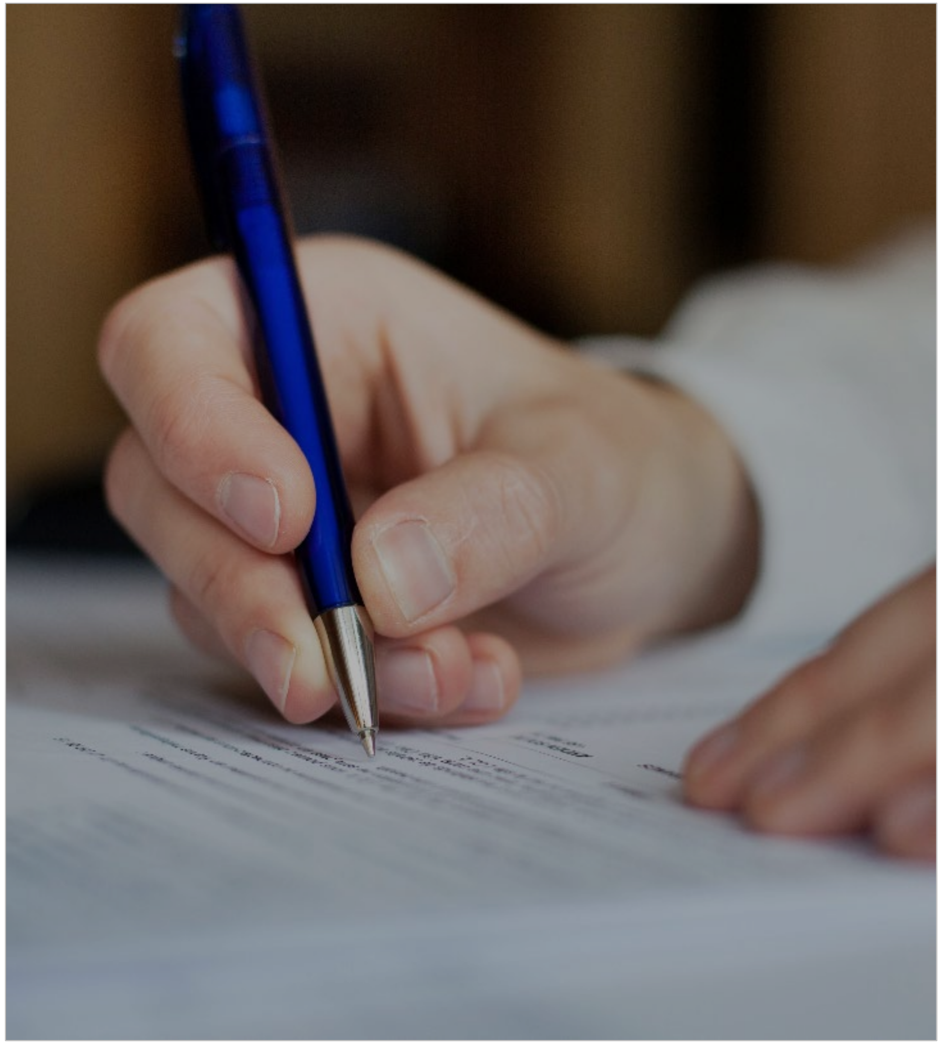
Metro Vancouver is a federation of 21 municipalities, one treaty First Nation and one electoral area that collaboratively plans for and delivers regional-scale services. The latest service added to Metro Vancouver's mandate is the Regional Economic Prosperity Service, which aims to:

1. Actively seek companies interested in expanding to, and investing in the Metro Vancouver region and;
2. Connect investors with the right opportunities that will facilitate the successful growth of their business.

In 2019, Metro Vancouver retained Deloitte to supplement a preexisting business case for the new service with a 'Companion Document', which defined the mandate and focus of the service, the operating model and funding requirements, implementation plan and KPI's as well as the characteristics of the types of investments the service will focus on attracting. Specifically, **the service will focus on attracting "strategic" investment from both domestic and international sources, which is defined as "investment that generates significant economic, employment and community benefits that improve the long-term competitiveness of the region"**. Key characteristics of this type of investment are significant regional economic contributions, high-quality and sustainable employment opportunities, impact on the international reputation of the region and significant social or community benefits, among others*. Notably the regional service does **not** have a mandate to attract other types of investment (e.g. investment that does not create quality employment opportunities) or to achieve broader economic development goals.

Following the adoption of the Companion Document in 2019, the Metro Vancouver Board directed staff to create the Regional Economic Prosperity service as a regional district function, housed within the Metro Vancouver organization. Metro Vancouver is currently in the process of launching this new service and establishing its leadership team.

In order to support the launch of the Regional Economic Prosperity Service, Metro Vancouver retained Deloitte to execute the research and analysis contained in this document, with the objective of identifying key economic drivers in the regional economy, understanding the impacts of the COVID-19 pandemic, analysing potential recovery scenarios, and assessing the key strengths, weaknesses, opportunities and threats to the region from the perspective of an investor.



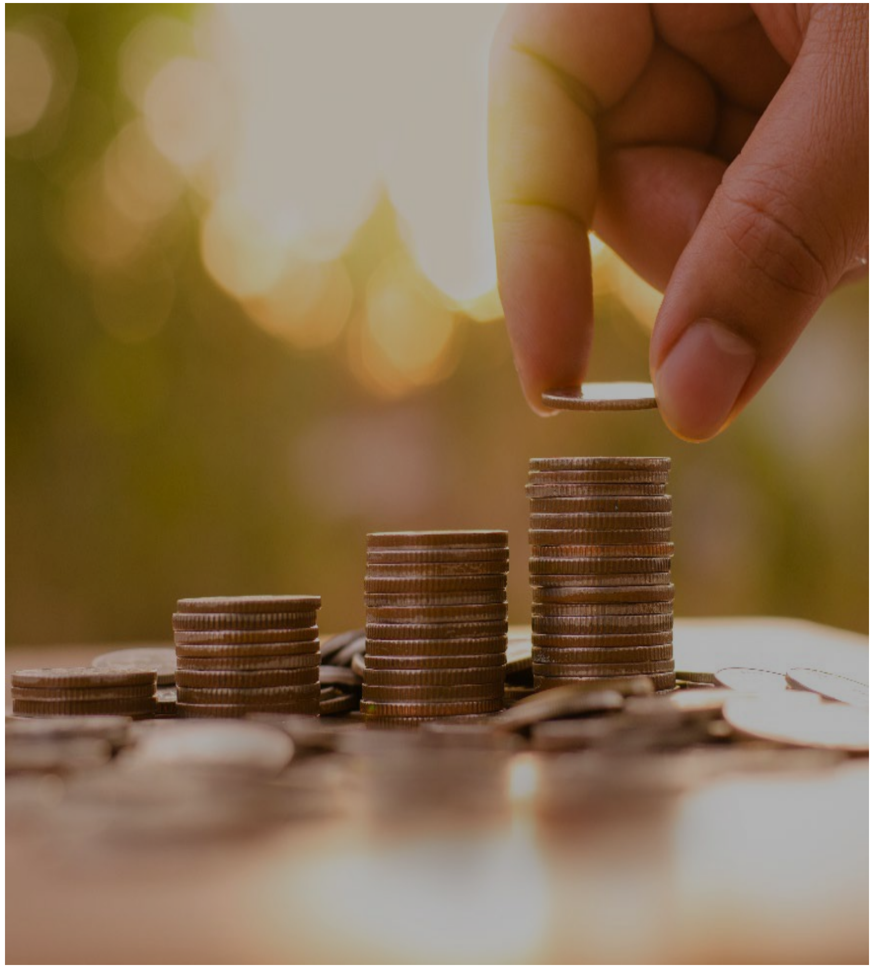
** A summary of the characteristics of "strategic investment" can be found on page 5 of this document, and full detail is available the "Companion Document" to the Business Plan for the Regional Economic Prosperity Service. Metro Vancouver is currently refining the definition of "strategic investment" with input from the Regional Economic Prosperity Advisory Committee.*

Study Objectives

This document is an **executive summary of a larger report** delivered to Metro Vancouver, which was developed with the following objectives:

1. Summarize the **Economic Landscape** of the Metro Vancouver region (‘the region’), including key economic clusters and drivers of growth, leveraging existing data and research
2. Develop **Economic Recovery Scenarios** for the region that leverage global and national economic outlooks and use different assumptions regarding the severity of economic disruption and recovery paths across sectors
3. Execute a **regional SWOT Analysis from the perspective of a potential investor,** that identifies the strengths, weaknesses, opportunities and threats for the region as it relates to attracting investment
4. Develop elements of a **Regional Value Proposition** that characterize Metro Vancouver’s key advantages vis-à-vis other jurisdictions

This report does not constitute an investment attraction strategy for the Metro Vancouver region, but is rather intended to provide a fact-base and forward looking projections that would assist the Regional Economic Prosperity Service with the development of such strategy. Furthermore, this report is not intended to provide a COVID recovery plan for the region or for specific sectors in the region.



Introduction to “Investment”

<u>**What is “investment” and why is it important?**</u>

Broadly defined, “business investment” refers to the commitment of funds to create, develop or expand a business with the expectations of future returns. Such investment can take the form of a company establishing or expanding its operations in the region or investing in productivity enhancing assets, such as machinery, equipment and intellectual property.

Business investment comprises a relatively small share of GDP in Canada and the Metro Vancouver region, however it is responsible for a disproportionate share of the fluctuations in economic growth (both positive and negative). Business investment is critically important to the economic prosperity of Metro Vancouver, given that it:

- Typically leads to **higher productivity** which tends to **increase incomes and standards of living** (i.e. individual prosperity)
- Makes **businesses more competitive** on a global stage, which is critical for Metro Vancouver as an export-intensive economy
- Is a key determinant of the **long-term potential growth** path of the economy, which drives economic opportunities and the fiscal capacity of government to spend on public priorities
- Can result in the **transfer of knowledge, technology and human capital** to Metro Vancouver, further enriching the regional economy and labour market
- Can be a critical component of **accelerating economic recovery and managing accumulated debt** due to the COVID pandemic

Of note is that in recent history Canada has had a poor performance when it comes to business investment. For example, the overall stock of machinery and equipment has declined every year for the last 5 years.

<u>**What type of investment is in focus of the Regional Economic Prosperity service?**</u>

The Regional Economic Prosperity service will focus on the attraction of a specific type of business investment, referred to as “**strategic investment**”. It is defined as “*investment that generates significant economic, employment and community benefits that improve the long-term competitiveness of the region”.* Notably, the service will focus on attracting investment from **both international** and **domestic** sources outside of Metro Vancouver. Also of note, is that this does **not include attracting public investment** to Metro Vancouver, such as funding from federal and provincial governments.

The characteristics of strategic investment are summarized on the next slide.

Characteristics of ‘Strategic Investment’

The Regional Economic Prosperity service led by Metro Vancouver is looking to attract “strategic investment” from both domestic and international sources; specifically, strategic investments have the following characteristics:

Regional economic contributions	The ability to demonstrate significant **direct, indirect and/or structuring contributions to the region’s economy**. Examples include: direct and indirect contributions to regional GDP, employment, income, and government revenues as well as long-term, “structuring” impacts such as contributions to critical infrastructure, economic diversification, regional supply chains, human capital attraction/development, etc.
High-quality, sustainable employment opportunities	The ability to attract and retain within the region **jobs with highly desirable characteristics**. These may include: executive-level / decision-maker roles or subject matter expert roles, jobs that offer salaries and wages above geographic/industry averages, employment in priority occupations, and jobs with higher than average employment multipliers (i.e. that indirectly stimulate employment in other sectors).
Impact on the international profile of the region	The **enhancement of the perceived attractiveness, profile or reputation of the region** on a global stage as a place for business and talent in target economic areas. Examples include: high profile or “flagship” investments commanding significant public attention (regardless of size), “anchor” investments that serve as cluster catalysts, first-ever expansions into Canada for a major firm, or a global center of excellence or R&D center.
Investment proposal maturity	The presentation of a **mature investment proposal with well-articulated intentions** and business plan. Example criteria include: presence of a detailed business case, a clear definition of investment size/scale, and the progression of site selection and talent sourcing activities.
Significant social or community benefits	**Evidence of benefits to the regional community and quality of life.** Examples include: direct investments and social programs that benefit the community, sponsorships or donation to community initiatives, engagement of indigenous communities in project delivery, Investments in public safety, security, education or health outcomes, contributions to workforce or social diversity and inclusion.

1. A comprehensive list of the characteristics of “strategic investment” is available in the “Companion Document” to the Business Plan for the Regional Economic Prosperity Service.

Summary of Study Components and Approach

This study employs both quantitative and qualitative analysis to examine 4 key components relevant to Metro Vancouver's ability to attract investment

Metro Vancouver Economic Landscape

- Review of economic, investment attraction and economic development data and reports from eight representative municipalities
- Review of Metro Vancouver's GDP, demographic, employment, and industry composition using pre COVID publicly available data and research
- Identification of key clusters and drivers of economic growth in the region

Economic Scenario Analysis

- Analysis of COVID-19 impact on Metro Vancouver's economy and key sectors based on available statistical data
- Design and modeling of 3 scenarios for global, Canadian and Metro Vancouver economic recovery using dynamic macro-economic models developed by Deloitte
- Analysis of impact on Metro Vancouver's economy and key sectors

Regional SWOT Analysis

- Development of a tailored SWOT framework from the perspective of an investor
- Review of publicly available data and third-party research that outlines Metro Vancouver's historical performance with respect to different investment-related criteria
- Review of publicly available data and third-party research on COVID-19 impact on investment climate
- Assessment of implications of data and research from the 'perspective of an investor'

Regional Value Proposition

- Identification of key pillars or differentiators for the region's value proposition relative to peer jurisdictions
- Commentary with regards to the region's performance in each pillar and, where applicable, how COVID-19 may affect the value proposition going forward

Introduction to Metro Vancouver

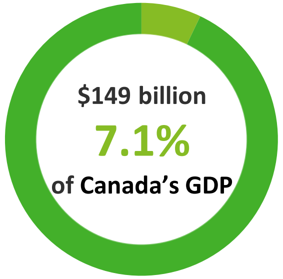
As Canada's third-largest metropolitan region, Metro Vancouver is the industrial, commercial, and financial heart of British Columbia, accounting for just over 60% of BC's GDP and over 50% of BC's population

Map of Vancouver Census Metropolitan Area

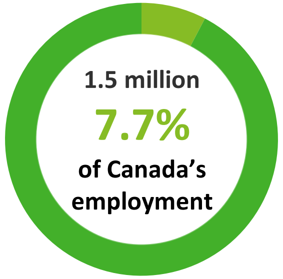
Economic Profile

- Metro Vancouver is **Canada's third-largest metro region,** in population and economic activity, after Toronto and Montreal
- Over the 12-month period before the COVID-19 pandemic, Metro Vancouver's population grew by approximately 40,000 people (ranked the **12th fastest growing metropolitan region** in North America, and the **3rd fastest growing metropolitan region in Canada** in 2019)
- Population growth has largely been driven by immigration, with approximately **35,000 global citizens immigrate to the region** on an annual basis
- Metro Vancouver is the **industrial, commercial, and financial heart** of British Columbia, accounting for just over 60% of BC's GDP in 2019 and over 50% of BC's population
- **Metro Vancouver's GDP grew by 3.3% annually on average** during the five years leading up to 2019, driven by the strength of key domestic sectors such as the real estate; professional, scientific and technical services; construction; and transportation and warehousing industries
- Together, **Finance, insurance, and real estate** represent Vancouver's largest industries and accounted for almost a third of the region's GDP in 2019

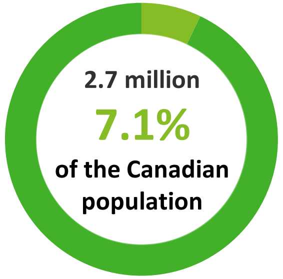
GDP | 2019



Employment | 2019



Population | 2019



Source: The Conference Board of Canada Report, Statistics Canada, Oxford Economics, Ryerson University's Centre for Urban Research and Land Development, BC Stats

Overview of Key Industrial Clusters in the Region

Metro Vancouver is home to several established, niche, and emerging clusters that represent key sources of comparative advantage and growth drivers in the region

Established Sectors/Key Traded Clusters[1]

Gateway and Transportation
Port of Vancouver, Vancouver International Airport, Air, Truck and other Transportation, Storage and Courier Services

Tourism
Tourism-related Accommodation, Transportation, Attractions, Entertainment, Food and Beverage

Information / Cultural
Publishing, Motion picture, Sound Recording, Radio and TV Broadcasting

High-Tech
Telecommunications, Computer and Electronic Manufacturing, System Design, Data processing

Finance, Insurance, Real Estate
Financial Services, Insurance Carriers, Real Estate, Rental and Leasing services

Niche and/or Emerging Clusters

Technical Apparel
Athletic and technical apparel manufacturing, Design and development, Retail and corporate support

Green Economy
Local food, Green building, Clean technology, Green infrastructure and transportation, Sustainability services, Land and water remediation and environmental consulting, Materials management

Medical Technologies
Biotechnology, Artificial Intelligence, Medical Devices, Information Technology

Video Games and Interactive Media
Video Games, Animation, Special Effects

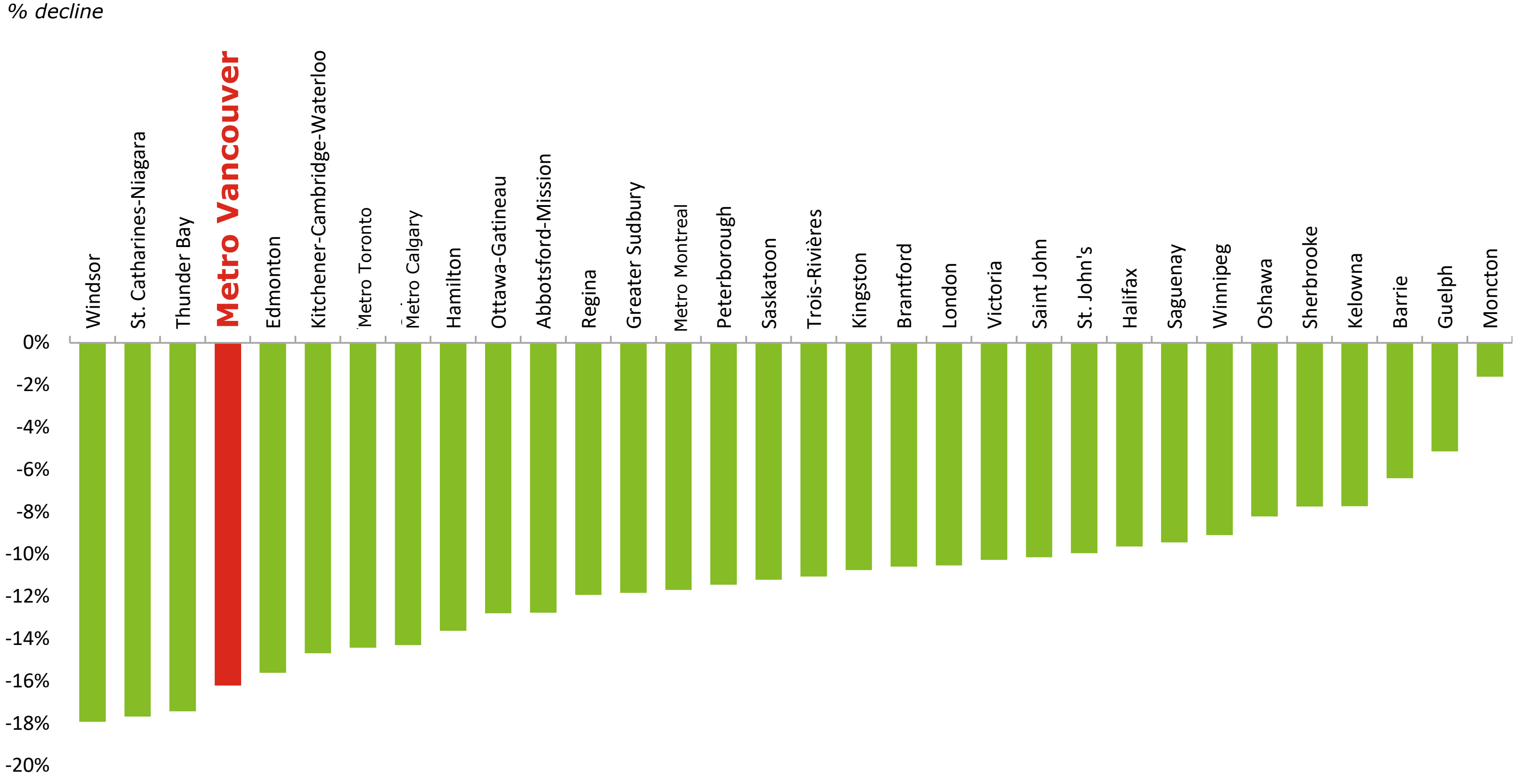
Source: The Conference Board of Canada Reports, Oxford Economics, Greater Vancouver Board of Trade, Vancouver Economic Commission

[1] The Conference Board of Canada refers to traded clusters as a group of firms and institutions that are located near one another and draw productive advantage from their mutual proximity and connections; they also serve markets beyond the region in which they are located.

COVID-19 Impact in Metro Vancouver

Among Canadian Metropolitan Areas, Metro Vancouver has been one of the hardest hit by the COVID-19 recession, given its service-intensive economy

Employment losses in the first six months of 2020



Compared to other Canadian urban centers, the Metro Vancouver region was one of the hardest hit by the COVID pandemic with both economic output and employment contracting significantly

About 240 thousand jobs were lost in the Metro Vancouver economy over the first 6 months of 2020;

While the current unemployment rate is roughly in line with that for Canada and BC, it was significantly lower than average pre-COVID

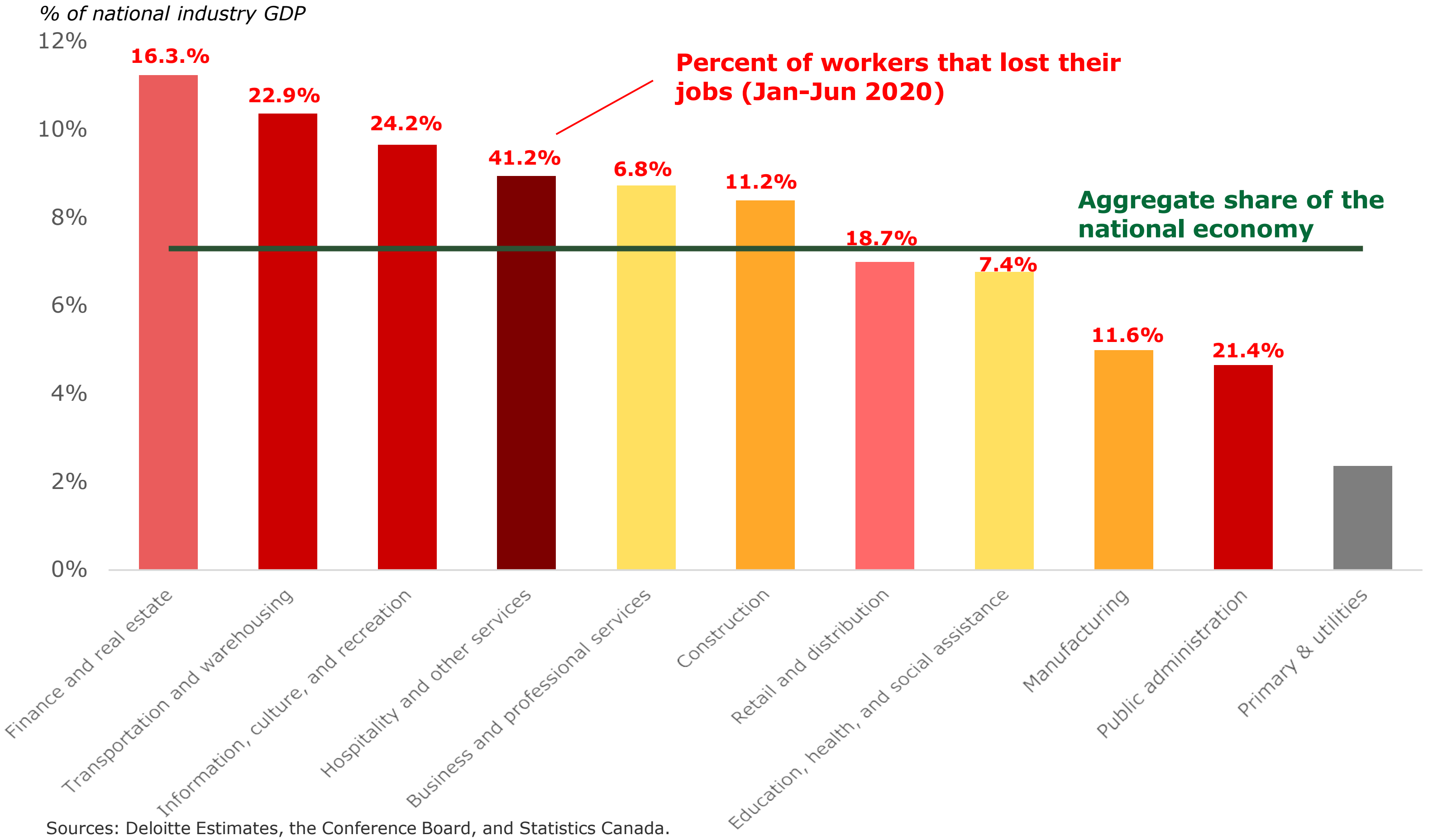
Regional economic output began growing again in May, however a potential second wave of the virus in the fall could slow the pace of recovery

Source: Deloitte Calculations, Statistics Canada.

COVID-19 Impact in Metro Vancouver

While the economic contraction has been broad, employment losses are concentrated in industries that are overrepresented in the Metro Vancouver economy

Metro Vancouver employment losses in over-represented sectors[1]



Accommodation and food services as well as culture, recreation, and transportation are examples of industries that are overrepresented in Metro Vancouver 's economy compared to Canada as a whole

These same industries were exposed to the greatest economic impact from the COVID-19 pandemic and associated policy response

While the direct negative impact on these industries has been severe, it has been partially offset by government support programs such as the Canada Emergency Response Benefit ("CERB")

The FIRE (finance, insurance, and real estate) and professional/business services industries have been more resilient to the pandemic and were able to better adapt to a remote work environment

Sources: Deloitte Estimates, the Conference Board, and Statistics Canada.

[1]The line in the chart indicates if an industry is more or less represented in Metro Vancouver relative to Canada. The primary and utility sector reported net employment gains (no losses) during the COVID crisis. Because this is a very cyclical sector, the percentage is not reported in the chart.

Global and Canadian Economic Recovery Scenarios

Three economic scenarios were modeled, using different assumptions regarding the duration and severity of economic downturn in the global, Canadian, BC and Metro Vancouver economies

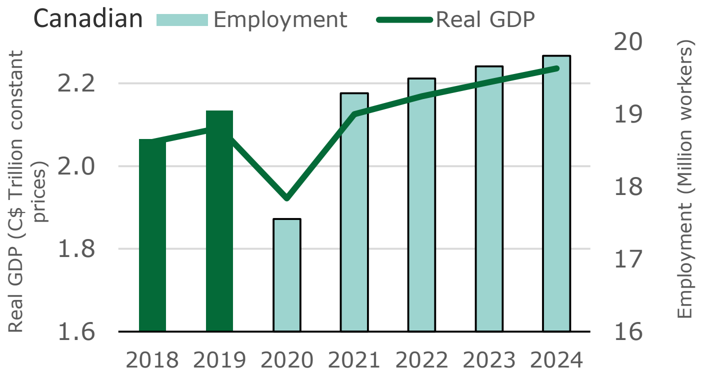
Optimistic **Pessimistic**

1 Steep but Short-lived Downturn

Virus containment is successful leading to a steep but short-lived economic decline

Key Assumptions:

- Scientific advances allow more rapid return to normal as ample testing capacity and vaccines trigger easing in public health restrictions
- Business and consumer confidence remains high
- Recovery is bolstered by additional fiscal stimulus by federal and provincial governments

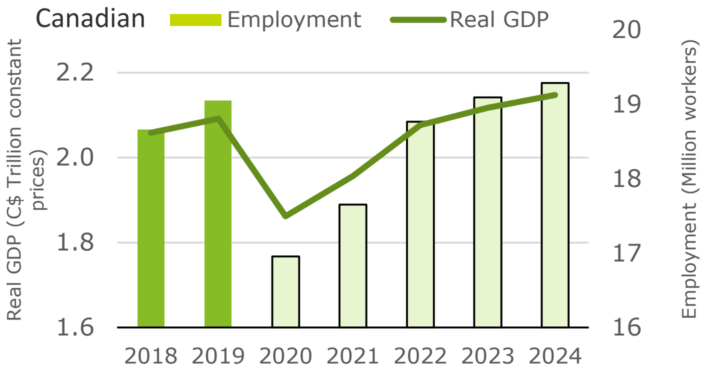


2 Prolonged Pandemic, Delayed Rebound

Virus resurgence in second half of 2020 leads to a delayed economic rebound and slower recovery

Key Assumptions:

- Virus resurges in second half of 2020 leads to new lockdowns in advanced economies, while emerging economies ramp-up containment measures
- Public support proves more limited and less effective than in the first COVID-19 wave
- Persistent public health concerns diminish business and consumer confidence in the medium term

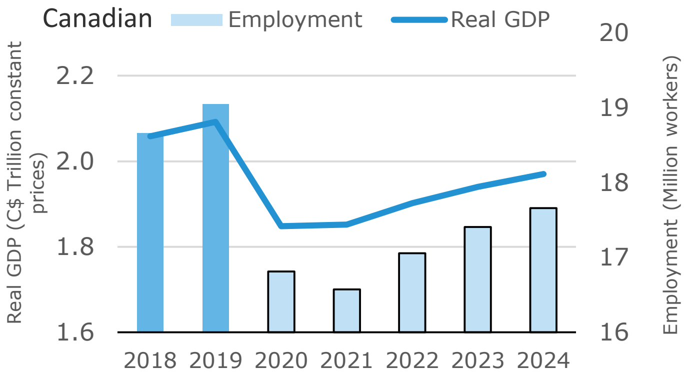


3 Economic Depression

Virus containment fails leading to a prolonged economic depression

Key Assumptions:

- Vaccine development or deployment is not as effective as anticipated
- Deep economic recession triggers a financial crisis with significant impact on financial markets
- Government support programs are overwhelmed and socio-political unrest materializes in a large number of countries



Metro Vancouver Economic Recovery Scenarios

Assuming health care risks are managed, the economic recovery in Metro Vancouver should continue, although the pace is likely to slow after a strong rebound following the reopening of the economy in May

Optimistic — **Pessimistic**

Steep but Short-lived Downturn

- Metro Vancouver's economy declines by 7.5% in 2020
- The economy rebounds strongly in the second half of 2020 and posts growth of 8.4% in 2021, however many sectors continue to operate below pre-COVID levels
- The economy returns to pre-COVID levels in the second half of 2021

Prolonged Recession & Delayed Rebound

- Metro Vancouver's economy declines by 8.7% in 2020
- A short rebound occurs in late 2020, but a virus resurgence results in growth of just over 4.5% in 2021
- The economy returns to pre-COVID levels towards the second half of 2022

Economic Depression

- Metro Vancouver's economy declines by 8.9% in 2020
- Poor virus containment, high levels of debt, and limited government capacity leads to low or no growth in 2021 and a prolonged stagnation
- The economy does not return to pre-COVID levels until 2024 or after

Metro Vancouver Real GDP, 3 Scenarios

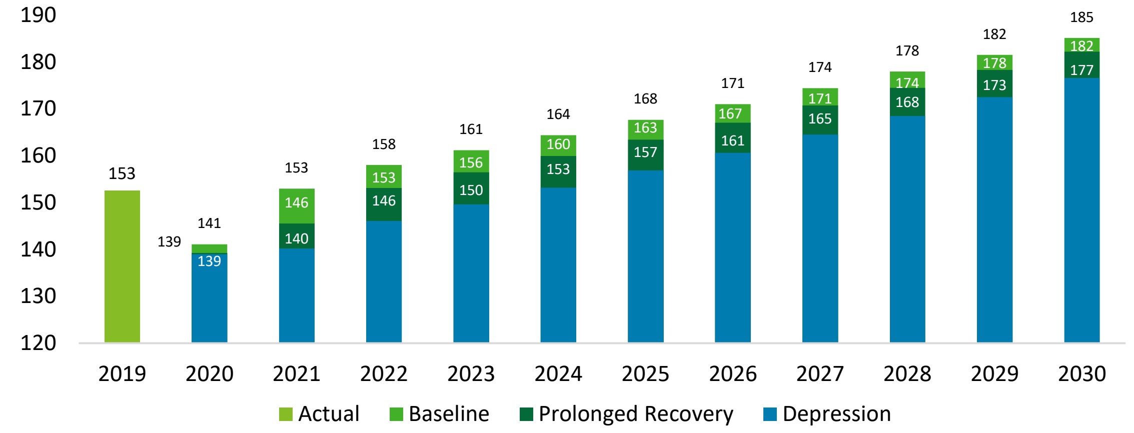
Growth Projections, %

	2010-18 (avg)	2019	2020	2021	2022	2023-30
Historical	**3.6%**	**2.8%**				
Short-lived Downturn			-7.5%	8.4%	3.3%	2.0%
Prolonged Recession			-8.7%	4.5%	5.2%	2.2%
Economic Depression			-8.9%	1.1%	4.2%	2.6%

Sources: Deloitte Estimates, the Conference Board, and Statistics Canada.

Metro Vancouver Real GDP

$C billion, inflation adjusted at 2012 prices



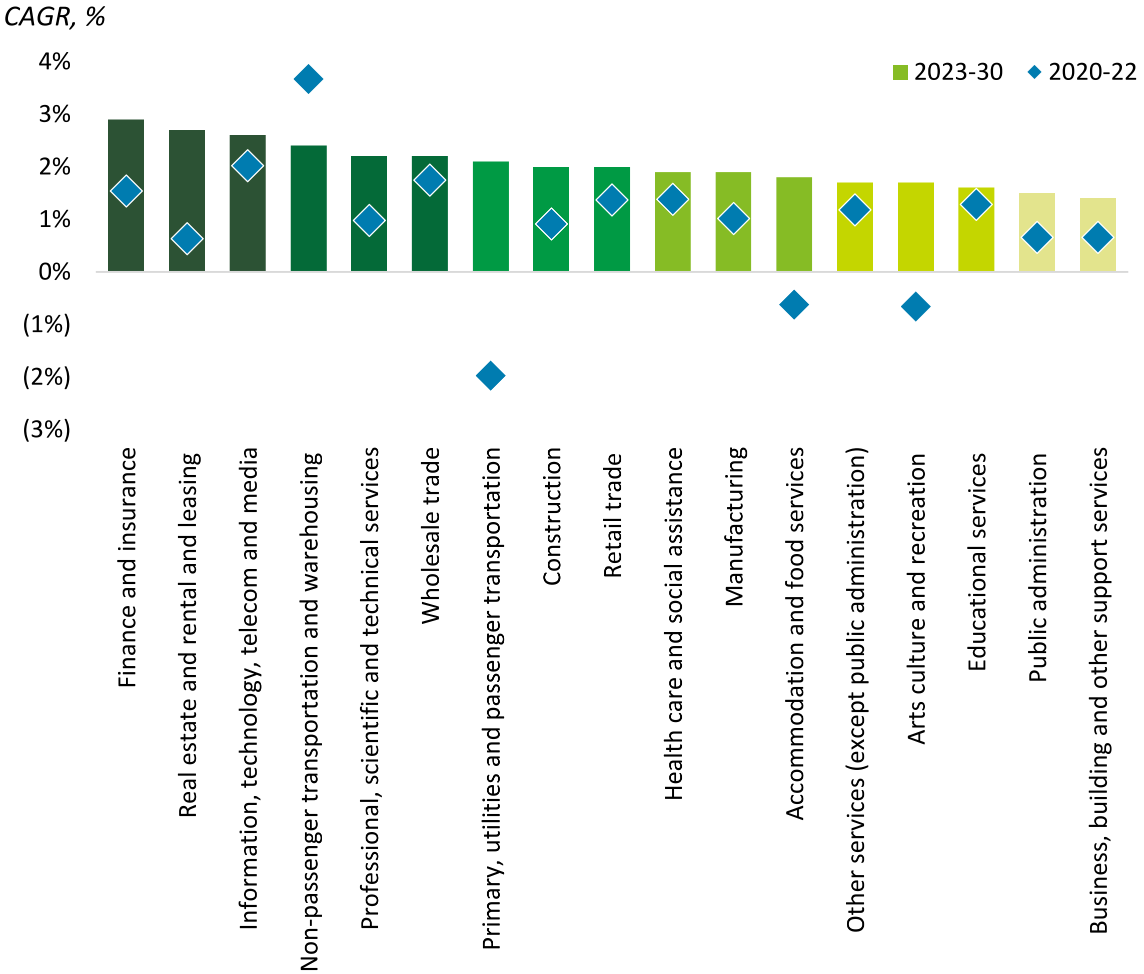
Short-lived Downturn Scenario: Industry Impacts

Under the optimistic scenario, economic growth returns in second half of 2020 and accelerates past 2021, driven by growth in the finance, insurance, real estate and technology/professional services segments of the economy

Economic and demographic impacts

- This scenario models significant declines in the level of unemployment in Q3 and Q4 of 2020
- The unemployment rate averages slightly less than 8% in 2020 and declines to 6.5% in 2021 before gradually coming down to 5.3% over the following 4 years
- Employment growth supports a rebound in consumption of 9% in 2021
- Business investment picks up in the second half of 2020 and returns to pre-COVID levels as early as Q2 in 2021
- The impact of COVID19 on population growth is transitory; after dropping to 0.4% in 2020, growth picks up to 1.4% in 2021 as strong immigration inflows resume
- Over the medium term, population growth is in the 1.1% to 1.3% range

Baseline industry GDP projections



Industry impacts

- Over the recovery period of 2020-2022, the technology; non-passenger transportation and warehousing; and wholesale trade industries are projected to experience more robust growth compared to other segments of the economy
- When considering the post-recovery period of 2023-2030, the following industries are best poised for long-term growth: finance, insurance, and real estate; technology; non-passenger transportation and warehousing; and professional, scientific, and technical services
- During the same period of 2023-2020, the economy returns to a sustainable pace of growth at just over 2%

Sources: Deloitte Estimates, the Conference Board, and Statistics Canada.

Prolonged Recovery Scenario: Industry Impacts

Under the prolonged recovery scenario, growth is driven by activity within the technology and professional services sectors, but finance, and real estate industries are more challenged due to exposure to hard-hit parts of the economy

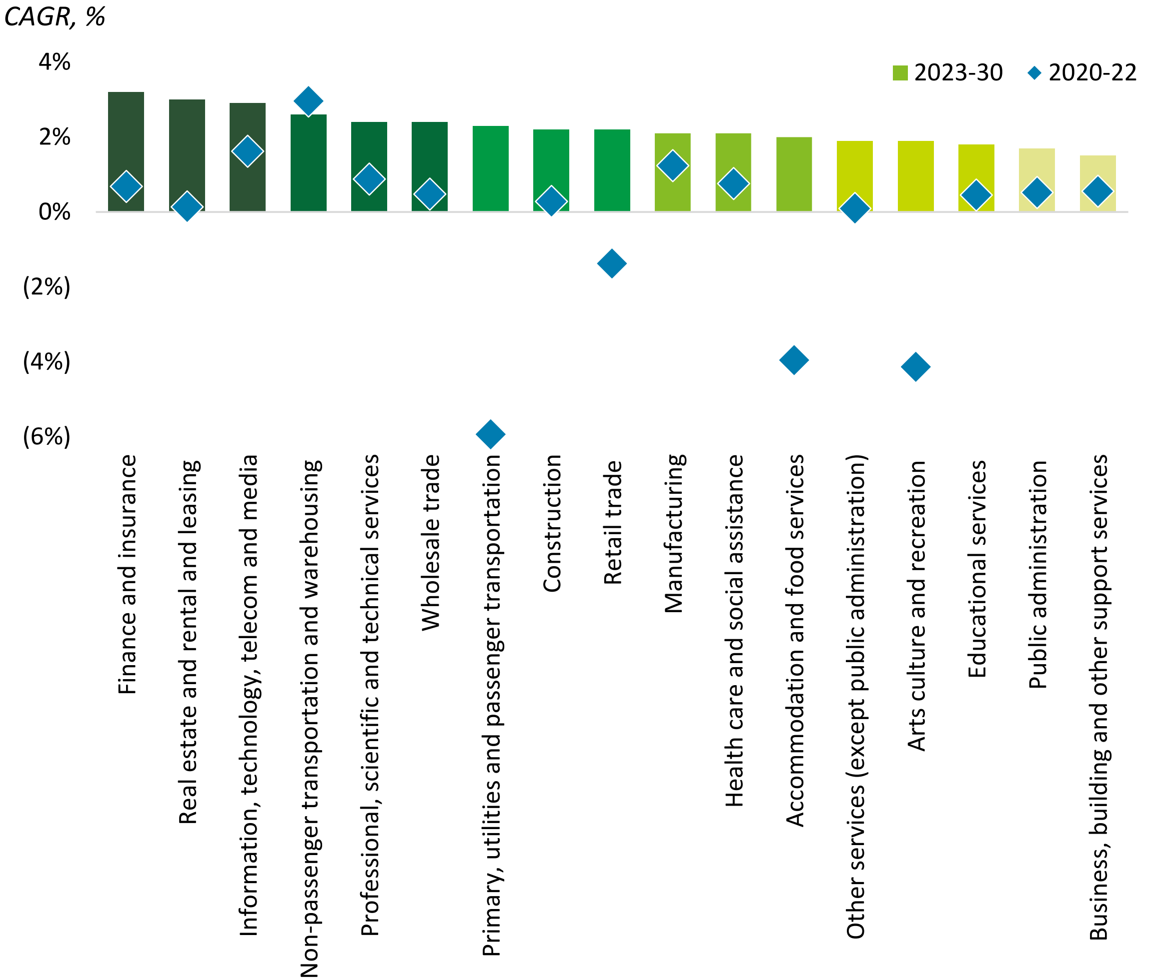
Economic and demographic impacts

- This scenario models moderate declines in the level of unemployment in Q4 of 2020 and a pick-up in Q1 of 2021
- The unemployment rate averages 9.2% in 2020 and declines to 7.7% in 2021 before gradually subsiding to 5.7% over the following four years
- Intermittent employment growth leads to a more volatile rebound in consumption and such uncertainty limits business investment growth in the first half of 2021
- The impact of the COVID19 pandemic on population growth is prolonged in this scenario; the drop of 0.4% in 2020 is followed by a modest pick-up of 0.7% in 2021; stronger immigration inflows drive a robust recovery in 2022 and beyond
- Over the medium term, population growth is in the 1.1% to 1.3% range

Industry impacts

- Over the recovery period of 2020-2022, the technology; non-passenger transportation and warehousing; and manufacturing industries are projected to experience more robust growth compared to other segments of the economy
- When considering the post-recovery period of 2023-2030, the following industries are best poised for long-term growth: finance, insurance, and real estate; technology; non-passenger transportation and warehousing; and professional, scientific, and technical services
- During the same period of 2023-2020, the Metro Vancouver economy grows at a sustainable pace of 2.2%

Prolonged Recovery industry GDP projections



Sources: Deloitte Estimates, the Conference Board, and Statistics Canada.

Broader Trends Impacting the Canadian Economy

COVID-19 has reoriented the direction and speed of certain trends impacting the Canadian economy relevant to investment in the region

Emerging Trends

(i.e., activity that COVID-19 has spurred or stimulated)

- Disrupted or changing supply chains
- Industrial sovereignty/protectionism
- Increased role of government
- Change in consumer behavior

- The COVID pandemic has triggered emerging trends that will have a lasting impact on the global economic ecosystem in ways
- In particular, supply chain disruption is expected to lead to a rewiring of the structure of global supply chains
- Pockets of industrial vulnerabilities are expected to drive a wider push in favour of industrial sovereignty and protectionism of key sectors for national security interests
- Consumer behavior will be affected as certain activities are directly exposed to pandemic risks and some workers are forced out of their pre-COVID occupations

Accelerating Trends

- Increased debt for households, businesses and government
- Shift to digital content
- Changing nature of work
- Increase in automation and AI

- The pandemic has also given rise to conditions that further accelerate trends that were already impacting our economies
- Government spending to offset the impact of the pandemic will raise debt levels across all sectors of the economy putting downward pressures on public and private spending over the medium to longer terms
- The need for physical distancing to confront the spread of the virus dramatically pushed the relative share that digital activities have relative to the non-digital economy
- Accordingly, remote work became the dominant labour arrangement in many of the core sectors of the economy putting downward pressure on urbanization and commercial real estate trends

Structural Change

- Addressing climate change
- Demographic change
- Weak investment and poor productivity
- Populism

- The pandemic also altered the course of some of the pre-existing trends affecting both global and local economies
- For example, lower transportation volumes may ease part of the carbon footprint resulting from communities activities
- Among the most important trends that will determine economic performance in the medium to long-term it is important to consider demographic changes (should the pandemic impact pre-COVID immigration trends), investment and productivity concerns (due to higher uncertainty and debt), and a continued rise of populism (should citizens feel like they are not getting ahead)

SWOT Findings from the Perspective of an Investor (1/2)

The strengths and weaknesses identified in this study are not fundamentally different than those reflected in other regional studies, as they reflect long-lasting economic assets and long-term advantages; the region continues to benefit from stable institutions, strategic location and access to a highly educated and diverse workforce, while being hampered by a small domestic market, fewer head offices, lack of affordable housing, and perception of regulatory complexity among other issues

STRENGTHS

- A **stable macro-economic and political climate** reduces investment risk
- Strong public institutions, high degree of social resiliency and public trust reduce investment risk and support talent attraction

- Located at a strategic "T" **connecting Asian and North American markets** and the Cascadia Corridor
- **Gateway infrastructure**, such as the Port of Vancouver, Vancouver International Airport and a well established rail and trucking network enables access to global supply chain and markets
- Canadian **trade agreements** such as USMCA, CETA and CPTPP provide preferred access to North American, European and Asian markets

- **Highly educated and diverse workforce**; a net attractor of talent from other provinces and countries
- **Favorable national immigration policies** and provincial express immigration programs
- Home to **world-renowned education institutions**, academics and research assets
- **High quality of life**, health and safety support talent attraction/retention by investors as well as relocation of staff to the region

- **Lower operating costs** in certain categories (e.g. labour, office space, utilities) relative to other global metropolitan areas
- Investors looking to locate in specific industries (such as film or technology), may be eligible for provincial **tax credits and other incentives**

- Strong **start up ecosystem** which can provide acquisition targets, or potential partners for incoming investments
- Home to **Canada's Digital Technology supercluster**, undertaking leading technology research in core sectors such as natural resources, health, and manufacturing

WEAKNESSES

- Relatively **small domestic market** within a global context and is located relatively far from other major markets (other than Seattle)
- Lacks a high **concentration of corporate head offices**, which may reduce business opportunities in the region

- Relatively **high marginal effective tax rate on capital** investments, and relatively high construction costs
- Limited **availability of industrial land**, due to competing land-use priorities

- Poor **housing affordability** may constrain ability to attract talent and relocate staff to the region
- Underinvestment in Metro Vancouver's **regional transit infrastructure** compared to peers and associated congestion costs hamper productivity and impact quality of life
- Relatively **low labour productivity levels**, a factor that contributes to relatively low after-tax incomes

- Perception that the region does not offer **direct financial incentives** to individual investors
- Perception of a high **regulatory burden** and a lengthy permitting process
- Perceived lack of **"one stop shop" regional service** to potential investors (which can be addressed as Metro Vancouver continues to build out and advertise the Regional Economic Prosperity service)

Incentives/Economic Policy | Cost Competitiveness | Access to Talent | Access to markets/logistical positioning | Macroeconomic stability

SWOT Findings from the Perspective of an Investor (2/2)

COVID-19 and other recent developments have reshaped the opportunities and threats facing Metro Vancouver; while the region is well positioned to attract investment in a range of emerging and established economic segments and could benefit from recovery stimulus, decreased investment flows are expected to significantly increase competition for investment deals among jurisdictions

OPPORTUNITIES

- A potential global shift towards sustainable investments could result in investment opportunities in the emerging **Green Economy**, bolstered by the CleanBC plan
- The emerging **Liquefied Natural Gas** ("LNG") sector in BC could result in opportunities for Metro Vancouver to attract energy companies as well as supporting businesses that are part of the supply chain
- Rising global demand in specific sectors such as **Health Care** and the **Digital Economy** could provide an opportunity to capitalize on existing industry clusters in Metro Vancouver
- Metro Vancouver could be a hospitable setting for **Medtech** related investments due to the emerging cluster in the region and large presence of health institutions, universities and research talent
- Metro Vancouver's favourable geographic location and existing gateway infrastructure create an opportunity for continued investment attraction in the **Transportation and Logistics sector**, despite the negative impacts from COVID-19 on passenger transportation
- Major **Film productions** in the United States may see Metro Vancouver (i.e. Canada's "Hollywood North") as a more desirable location if the region continues to manage the COVID-19 pandemic well
- Opportunities to attract investors to an established **Gaming** cluster
- Commitments in BC's Economic Recovery Plan could set attractive conditions for the **Agriculture** sector in the region

- Recovery stimulus efforts could drive **investments in critical infrastructure** that improves the value proposition of the region
- Divesting of **non-essential assets** could create investment attraction opportunities

- Movement towards **repatriating supply chains** and developing supply chain resiliency could create domestic investment opportunities

THREATS

- **FDI flows** into Canada are expected to significantly decline due to the pandemic, reducing the sense of urgency for investors to execute on deals
- **Canadian business investment** is expected to fall which could weaken the strength of businesses cases for new investment in Canada
- Metro Vancouver's individual **spending patterns** have not yet returned to pre-pandemic levels and will likely not for some time, thereby limiting the scale of potential sales opportunities
- Global forces and a **changing structure of the BC economy** may limit opportunities in some resource sectors, such as Forestry and potentially Mining
- Investment opportunities in Metro Vancouver's **service intensive economy** may be limited due to the impact of COVID-19
- The normalization of **remote working** could diminish business cases for new investments in certain areas
- In recent years, BC's business environment has been flagged for **corruption risks** damaging perception on its investment climate

- Global **policy responses to COVID-19** related to FDI are uncertain, potentially discouraging investors from making any timely investments
- Canada has released a **policy statement on FDI** that could signal tightening of government reviews/oversight of specific FDI initiatives
- Uncertainty associated with the **reconciliation process** with First Nations creates additional risk for potential investors; successful reconciliation is fundamental in attracting investment

- **Fiscal pressures** on municipalities could limit investments that could enhance Metro Vancouver's competitiveness and change the cost profile of investing in the region
- Due to the COVID-19 pandemic, global investors will have less access to **traditional investment attraction tactics** that profile and market jurisdictions like Metro Vancouver
- Given a decline in deal flow, investors could expect **generous incentives** to attract investment, an approach historically not prioritized by BC

Incentives/Economic Policy | Cost Competitiveness | Access to Talent | Access to markets/logistical positioning | Macroeconomic stability

Elements of a Value Proposition to Global Investors

The region's value proposition could rest on access to talent, access to global markets, quality of life, cost of doing business, and resilient civil society; these elements are largely agnostic to sector but may be more or less applicable in different source markets or for different types of investors, with social resilience gaining in importance in the wake of COVID-19 and civil unrest in other jurisdictions

Access to Talent

- Metro Vancouver boasts a highly educated workforce that can help to reduce skills gaps, attract globally competitive talent and develop a pipeline of future talent
- Favorable immigration policies reduce the time and effort required to access global talent and contribute to Metro Vancouver's position as a net attractor of talent from other provinces and countries

Access to Global Markets

- By investing in Metro Vancouver, investors gain strategic access to Asian and North American markets
- With access to the Cascadia Corridor, investors in Metro Vancouver stand to benefit from it's strong technology start-up ecosystem and potential growth opportunities in the region
- Key trade agreements such as the USMCA, CETA and CPTPP offer investors access to North American, European and Asian markets, helping develop global supply chains

Quality of Life

- Metro Vancouver is consistently ranked as one of the most livable, healthy and safe cities in North America
- Metro Vancouver is home to a young, diverse and progressive population that contributes to the attraction and retention of employees
- Metro Vancouver's vibrant arts and culture scene and top-rated food destination enhance residents' quality of life while attracting visitors to the region

Cost of Doing Business

- Stable business climate, financial and legal institutions can reduce investment risks for global investors
- Investors stand to benefit from relatively low effective corporate tax rates as well as low labor, office space, and utility costs
- BC has a suite of sector specific incentives and initiatives to offset costs for investments

Resilient Civil Society

- There is a high degree of trust in public institutions and social resiliency in the region, creating a stable and favorable climate for investors
- For example, local health authorities have effectively gained public trust as part of COVID-19 containment efforts
- Furthermore, the region has not exhibited the levels of civil unrest seen in other large metropolitan areas such as Seattle, Portland, New York and Hong Kong

Summary of Implications to the Regional Economic Prosperity Service (1/2)

This report identifies a number of findings that should be taken into consideration by the Regional Economic Prosperity service when developing an investment attraction strategy for the region

Findings	Implications
Metro Vancouver offers a number of strategic advantages and assets that are attractive to investors, including strong institutions and a stable socio-economic environment, a strategic location offering access to North American and Asian markets, a highly educated and diverse workforce, lower costs of doing business in certain categories, a robust start-up ecosystem and a high quality of life	The Regional Economic Prosperity Service ("REPS") needs to focus on advertising Metro Vancouver's assets and strengths to the global investor community, particularly focusing on dimensions that differentiate us from comparable metropolitan areas as identified in this report.
The region's value proposition to investors is undermined by a high cost of living, poor housing affordability, high marginal tax rates on capital investments, high construction costs, underinvestment in transit infrastructure, diminishing industrial land and perceived regulatory complexity and lack of financial incentives	REPS should develop targeted messaging to investors to address areas of perceived regional weaknesses. REPS should take advantage of COVID stimulus to advocate with regional and provincial stakeholders for policy measures and investments to address areas of competitive weakness.
The region has a number of established economic clusters that demonstrate competitive advantage, including gateway and transportation, tourism, information/cultural industries, high-technology, and finance, insurance and real estate; in addition there are niche or emerging sub-clusters in area such as technical apparel, green economy, medical technologies and video games and interactive media	While this report is not intended to select sectors for investment attraction, it is recommended that REPS plays to the region's strengths and areas of demonstrated competitive advantage when prioritizing sectors to focus on. Industry expertize in the selected sectors will be critical for attracting investors and catering to their needs.
FDI flows into Canada are expected to significantly decline due to the COVID-19 pandemic, reducing the sense of urgency for investors to execute on deals. Canadian domestic business investment is also expected to fall.	The region can anticipate a potentially smaller pipeline of active deals to attract from both foreign and domestic investors. A smaller pipeline may lead to jurisdictions' intensely competing for a smaller number of deals. New forms of incentives, investor services and business casing may be required to compete successfully against peers and short-term targets should be set reasonably to reflect current conditions.
Among Canadian Metropolitan Areas, Metro Vancouver has been one of the hardest hit economically by the COVID-19 crisis, due to the overrepresentation of service industries such as accommodation and food services, culture, recreation, and transportation	Industries that have been impacted by COVID-19 particularly hard may have diminished prospects for incoming investment in the short to medium term; given these headwinds, the investment attraction targets for such sectors should be tempered.

Summary of Implications to the Regional Economic Prosperity Service (2/2)

Continued…

Findings	Implications
Deloitte has modelled 3 potential scenarios for the region's economic recovery. Across the scenarios, regional GDP declines by at least 7.5% in 2020 and does not return to pre-COVID levels until at least the second half of 2021. Growth in the next few years and the timing of recovery is highly divergent across the scenarios.	While each scenario outlines a different velocity of recovery, attracting investment in the short to medium term can be expected to be a challenge as investors encounter an uncertain economic context. **REPS planning needs to be nimble and agile** going forward.
After the strong rebound since the reopening of the economy, the economic recovery of the region is expected to be slow and highly variable by sector. Over the medium to long term, growth will be driven by finance, insurance, real estate, technology, and professional services industries, while a deceleration is expected in the retail, hospitality, and non-residential construction industries relative to the pre-crisis levels.	Given short-term sector performance is highly uncertain depending on the scenario, REPS should focus on sectors that are positioned for growth over the medium to long-term when developing an investment attraction strategy and setting targets.
The COVID-19 crisis has triggered rising global demand in specific sectors such as health care and the digital economy which could create opportunities in the short-to-medium term.	Working with relevant partners, Metro Vancouver could develop tactics/initiatives designed to market the region's capabilities in these areas and/or to connect investors to relevant suppliers to help capitalize on this opportunity.
The transformation of the energy sector in BC towards alternative energy resources and an emerging Liquefied Natural Gas ("LNG") industry could present opportunities for Metro Vancouver to attract investments from both energy companies and supporting services firms that are part of the ecosystem.	Proactive, targeted approach to potential investments in the "green economy" and LNG sector and supporting ecosystem could help to capitalize on this opportunity.
A range of other trends, opportunities and threats have been identified in this report, such as diversification of supply chains, changes in consumer behavior and spending patterns, recovery stimulus efforts and shifting policy responses, structural changes in the resource-based sectors in BC and others.	REPS should consider the trends, opportunities and threats identified in this report when developing an investment attraction strategy for Metro Vancouver.

Looking Forward

This study finds a vibrant, growing regional economy that is currently navigating through the impacts of COVID-19; while each scenario of economic recovery yields a different set of factors that could shape investment, the following next steps are recommended to establish the region's investment attraction approach:

01 **Regular update on the impact of COVID-19 crisis on the region:** In the coming months, we can anticipate further datasets to be made available on the true depth of economic contraction and distribution of impacts. We recommend regularly updating the economic analysis in the coming months to provide a refreshed perspective on the impacts of COVID-19 to the region.

02 **FDI flow analysis:** Several organizations such as the OECD, UNCTAD and World Bank have forecasted a decline in expected FDI activity globally. An analysis of FDI activity in Canada or the region in the coming months/years could help to identify key source markets that have invested in the region.

03 **Ecosystem analysis of nascent sectors**: This report identifies several examples of nascent sectors that are developing in the region. As these segments of the economy are emerging relative to established ones an investigation into the economic characteristics, demand drivers and key assets of these sectors could help provide new, refreshed value proposition elements and up-to-date research on the regional economy.

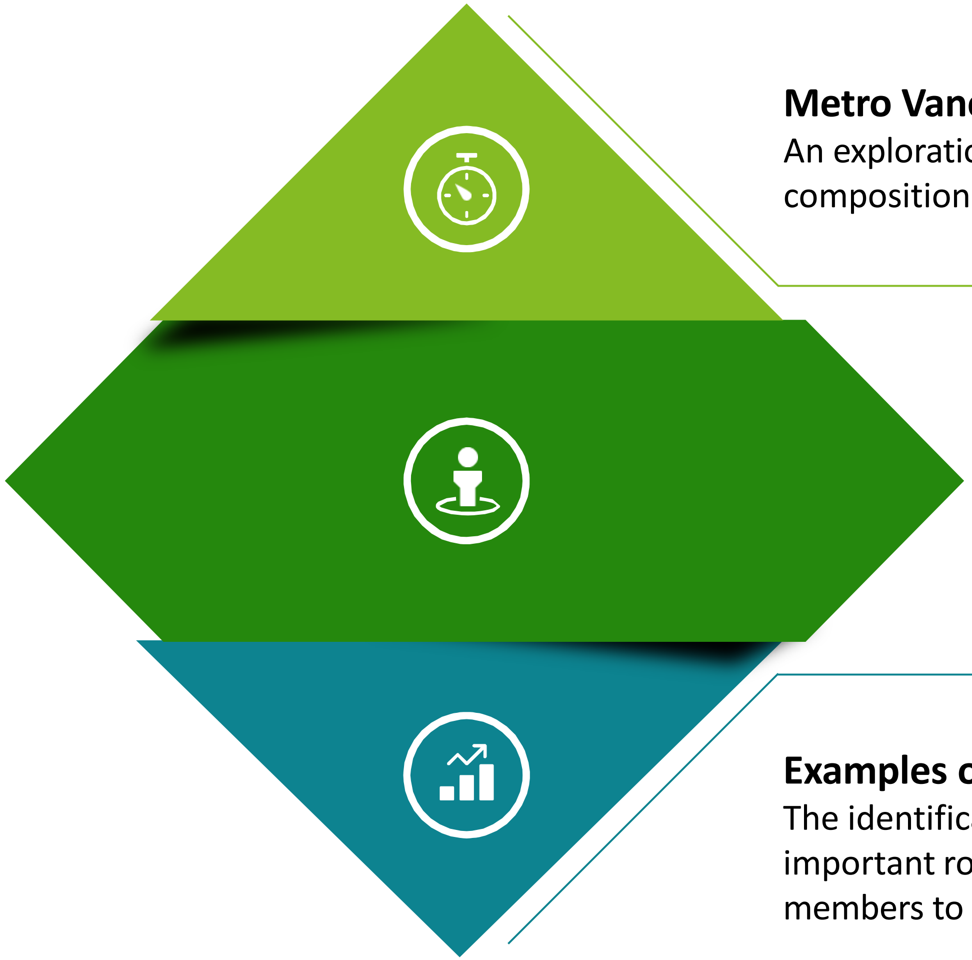
04 **Investment attraction strategy:** Historically, investment attraction organizations have focused on growing investment into a relatively prosperous Canadian economy. In the coming months, given ongoing uncertainty – a new approach and role for investment attraction organizations may be required. A strategy which positions the Regional Economic Prosperity Service to better respond to conditions today should include elements such as identification of priority opportunities, target domestic and global markets, defined tactics/programming, identification of additional resourcing requirements (as appropriate), an aftercare service/approach and reporting/data collection initiative(s).

Economic Landscape of Metro Vancouver

Introduction

This section summarizes some of the key features of Metro Vancouver's economic landscape and provides an overview of key clusters and drivers of growth in the region

Contents



Metro Vancouver's economic landscape

An exploration of key features of Metro Vancouver's GDP, demographic, employment, and industry composition via secondary literature review.

Key clusters and drivers of growth

Compilation of research that outlines the key traded clusters in Metro Vancouver that contribute to the economy both at a local and international level, based on pre COVID-19 data.

Examples of nascent or emerging clusters in the region

The identification of some of the key emerging clusters in the region that are likely to play an important role in driving future growth, based on pre COVID-19 data and material provided by REPAC members to Deloitte.

[1]The findings in this section are largely based on secondary sources in the public domain. As such, Deloitte has not independently verified the analysis presented herein. It is possible that analysis may not reflect the effects of the COVID-19 crisis on Metro Vancouver.

Regional Snapshot

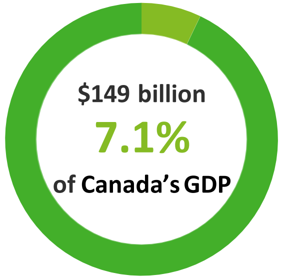
As Canada's third-largest metropolitan region, Metro Vancouver is the industrial, commercial, and financial heart of British Columbia, accounting for just over 60% of BC's GDP and over 50% of BC's population

Map of Vancouver Census Metropolitan Area

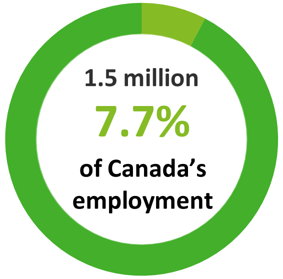
Economic Profile

- Metro Vancouver is **Canada's third-largest metro region,** in population and economic activity, after Toronto and Montreal
- Over the 12-month period before the COVID-19 pandemic, Metro Vancouver's population grew by approximately 40,000 people (ranked the **12th fastest growing metropolitan region** in North America, and the **3rd fastest growing metropolitan region in Canada** in 2019)
- Metro Vancouver is the **industrial, commercial, and financial heart** of British Columbia, accounting for just over 60% of BC's GDP in 2019 and over 50% of BC's population
- Metro Vancouver's geographic location on the West Coast, combined with key transportation assets such as the Port of Vancouver, the Vancouver International Airport and major truck and rail routes, make it a **strategic gateway for the movement of goods to and from the United States, the Pacific Rim**, and several other countries around the world

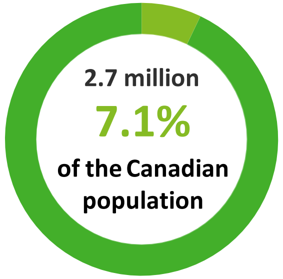
GDP | 2019



Employment | 2019



Population | 2019



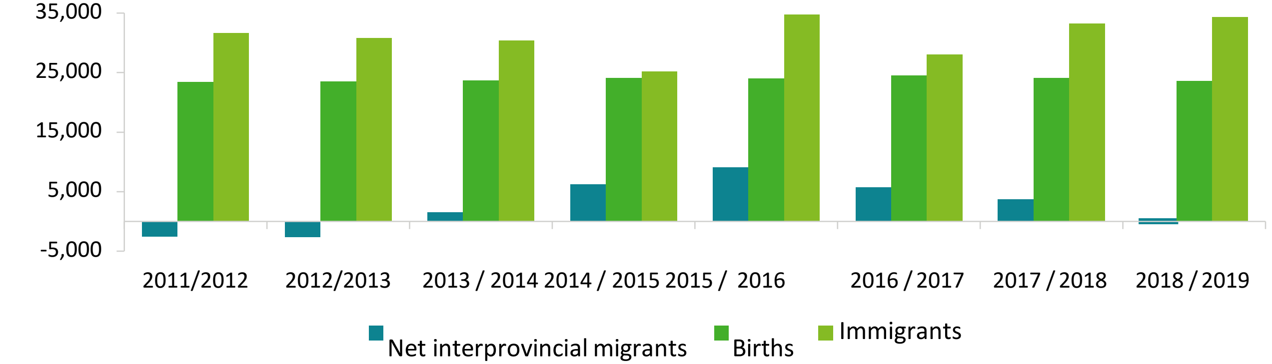
Source: The Conference Board of Canada Report, Statistics Canada, Oxford Economics, Ryerson University's Centre for Urban Research and Land Development, BC Stats

Example Demographic and Labour Force Characteristics

Metro Vancouver's population growth has been above the Canadian average for nine of the past 10 years, largely driven by immigration

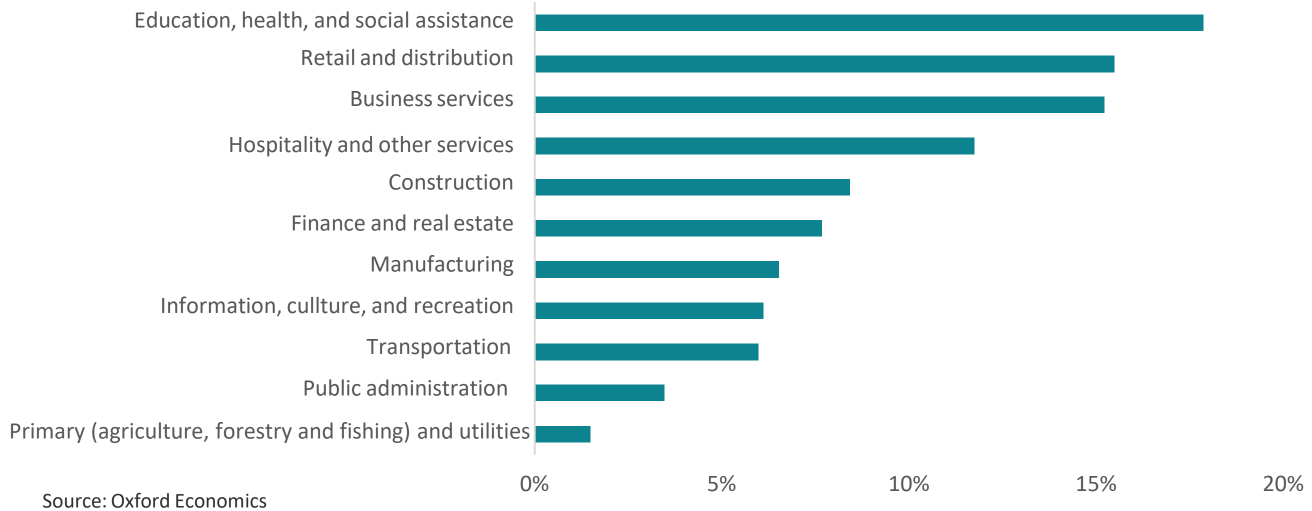
Composition of Metro Vancouver's Population Growth (2011-2019)

2011 - 2019



Source: Statistics Canada 2019

Employment composition in 2019



Source: Oxford Economics

Observations

- Metro Vancouver's **population growth has been above the Canadian norm in nine of the past 10 years,** largely driven by trends in immigration
- Statistical estimates from Ryerson University's Centre for Urban Research and Land Development show that **Metro Vancouver is the 12th fastest growing metropolitan region** in North America (as of 2019)
- Approximately **35,000 global citizens immigrate to the region** on an annual basis in recent years; as of 2016, immigrants make up more than 40% of Metro Vancouver's population
- Prior to the COVID-19 pandemic, **employment growth averaged nearly 3% a year** from 2015 to 2019, including 3.4% in 2019. Similarly, Metro Vancouver's **unemployment rate was 4.6%** in 2019, the third straight year in which the unemployment rate was below 5%. Moreover, Metro Vancouver has the lowest unemployment rate in comparison to other population centres in 2019 such as Toronto, Ottawa, Winnipeg, Calgary, and Edmonton CMAs
- In 2019, the education, health, and social assistance industries employed most of the workforce (18%), followed by retail and distribution (16%) and business and professional services (15%)
- When comparing the employment composition to the distribution of GDP across sectors, there is general alignment but a few notable exceptions. For example, both the education, health, and social assistance industry and retail and distribution industry employ relatively more individuals compared to their share of GDP

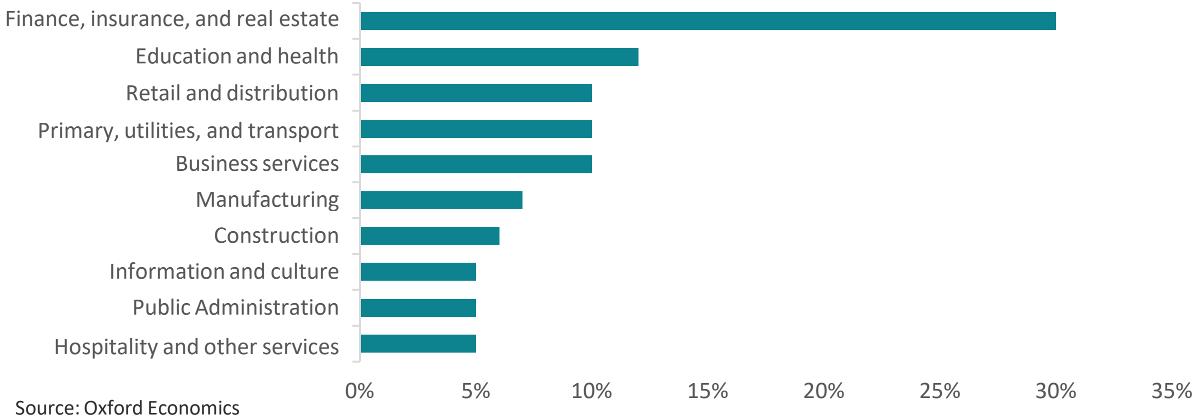
Source: The Conference Board of Canada Report, Statistics Canada

Sectoral Composition of the Economy

Prior to the COVID-19 pandemic, Metro Vancouver's economy exhibited steady growth, driven by the strength of key domestic sectors such as the real estate; professional, scientific and technical services; construction; and transportation and warehousing industries

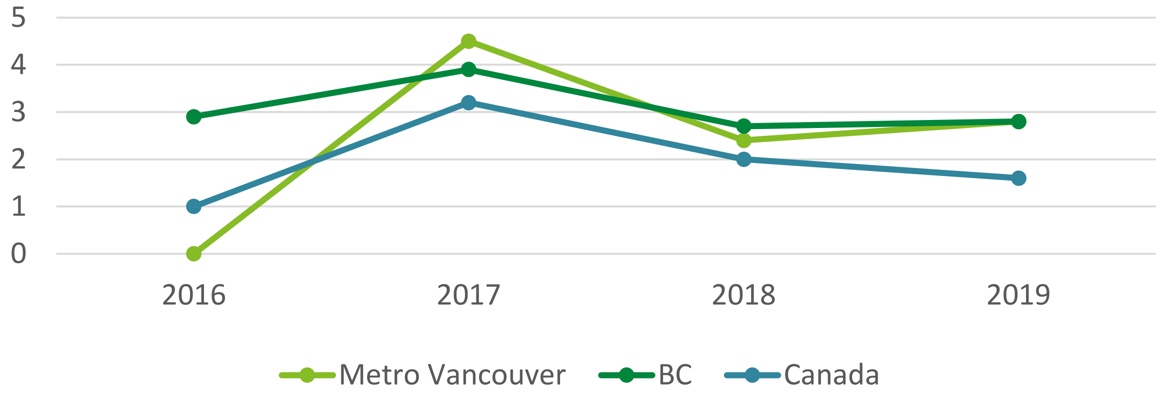
Metro Vancouver's Industry Shares, 2019

% of aggregate GDP



Source: Oxford Economics

Metro Vancouver's Real GDP Growth (%), 2019



Source: The Conference Board of Canada Reports, Oxford Economics

Observations

- Metro Vancouver's **GDP grew by 3.3% annually** on average during the five years leading up to 2019, including a 2.8% expansion in 2019, exceeding both BC's and Canada's growth rate
- **Finance, insurance, and real estate sectors were Metro Vancouver's largest industries** accounting for almost a third of GDP in 2019
  - In general, Metro Vancouver's aggregate services sector has exhibited steady growth in recent years, growing at an average annual pace of 3.9% between 2013 and 2017 but slowing to 2.4% in 2018 and 2.9% in 2019
  - The professional, scientific, and technical services industry has been Metro Vancouver's highest growing service industries in 2019, reporting a growth of 6% in 2019
- With Metro Vancouver's historically strong real estate market, the **construction industry** exhibited strong output growth of 11.9% in 2017. Although this growth has slowed, the industry reported a strong 5.5% output growth in 2019
- The **transportation and warehousing industry** is one of Metro Vancouver's most prominent industry clusters and expanded at an average annual pace of approximately 6% between 2014 and 2019
- Metro Vancouver's **manufacturing industry** posted an average annual output growth of 4.9% between 2014 and 2018, despite slowing to 1.4% in 2019. Growth in manufacturing has been bolstered by opportunities in the shipbuilding, food, and high-tech manufacturing industries

Comparison of Metro Vancouver Versus Peers

Metro Vancouver is ranked seventh among comparator jurisdictions according to the Conference Board of Canada's 2018 Greater Vancouver Economic Scorecard, an improvement from its ranking of ninth in 2016

Conference Board of Canada's International Cities Economic Scorecard, 2018

Economic Criteria	Ranking 2018
Office rents	A
Total tax index	A
Unemployment rate	B
Port cargo tonnage by GDP	B
Venture capital investment	B
Labour productivity growth	B
Real GDP per capita growth	C
High-tech employment share	C
Employment growth	C
International visitors	D
After-tax income per capita	D
Market size	D
METR on capital investment	D
Overall Economic Performance	B (7th amongst 20 peer city-regions)

Social Criteria	Ranking 2018
EIU democracy index	A
Share of foreign born population	A
Air quality	A
Homicide rate	A
Female labour force participation	B
Income inequality	B
Average travel time to work	B
Share of population 24-34	B
Share of Population with at least a bachelor degree	C
Housing affordability	C
Climate	C
Public transit network length	D
Overall Economic Performance	B (8th amongst 20 peer city-regions)

Indicators:

A – top quartile | B – second quartile | C – third quartile | D – bottom quartile

Source: Conference Board of Canada International Cities Economic Scorecard, 2018

Observations

- The 2018 Greater Vancouver Scorecard provides in-depth analysis of how Metro Vancouver performs relative to 19 other international city-regions measured on 38 key economic and social indicators. Due to the strategic importance of transportation to Metro Vancouver's economy, the majority of these city-regions were selected because they are also major transportation gateways
- In 2018, **Metro Vancouver ranked seventh** compared to peer international metropolitan areas, up from ninth in 2016 due to an improved score for its economic performance

Economic Performance

- Metro Vancouver's economic scorecard improvements between 2016 and 2018 related to growth in venture capital investment and gateway-related indicators
- In general, Metro Vancouver's economic performance is supported by transportation-related metrics
  - For example, Metro Vancouver remains the highest-ranked North American port in terms of port container throughput scaled by GDP
- Metro Vancouver's most disappointing performances among the economy-focused indicators are the ones that are in per capita or per worker terms, market size, and the marginal effective tax rate ("METR") on capital investments

Social Performance

- Metro Vancouver is ranked second place for both the proportion of the population that is foreign born and the newly added democracy index
- The scorecard shows clear areas of strength with regards to quality of life indicators such as air quality and homicide rates
- In terms of social-related indicators, Metro Vancouver ranks lowest in housing affordability and public transit railway network length

[1] The Conference Board of Canada's scorecard refers to **Greater Vancouver's** performance which is an alternative name for **Metro Vancouver**, which is used in this report. For more information on the scorecard and the jurisdictions included in the analysis, please refer to the Appendi.x

Cluster Analysis Approach

The analysis of Metro Vancouver's key clusters leverages research conducted by the Greater Vancouver Board of Trade, stakeholder consultations, and other secondary research

IDENTIFY KEY TRADED CLUSTERS

The identification of clusters is based on research conducted by the Greater Vancouver Board of Trade which outlines key traded clusters in Metro Vancouver based on **location quotients** (i.e., calculating an industry's output shares in Metro Vancouver compared to the industry's corresponding shares in the nation) and **shift-share analysis** (measures the growth of a region's industry compared to the region as a whole).

IDENTIFY EXAMPLES OF KEY NICHE/NASCENT SUB-CLUSTERS

In addition to the research surrounding key traded clusters, we also highlighted some key nascent sub-clusters that may spin out of established parts of the economy. These were identified through **secondary research** and **consultations with municipalities** in the Metro Vancouver region.

OVERVIEW CLUSTERS

For each cluster, **secondary research was conducted** to outline the importance of the cluster to Metro Vancouver's economy.

In addition, **BC's priority sectors** for export promotion and investment attraction were considered when examining at Metro Vancouver's key clusters.

Metro Vancouver Key Industry Clusters

Pre-COVID research by the Greater Vancouver Board of Trade and the Conference Board of Canada identified 5 established industry clusters[1]

Gateway and Transportation

Port of Vancouver, YVR, Air, Truck and other Transportation, Storage and Courier Services

High-Tech

Telecommunications, Computer and Electronic Manufacturing, System Design, Data processing

Tourism

Tourism-related Accommodation, Transportation, Attractions, Entertainment, Food and Beverage

Finance, Insurance, Real Estate

Financial Services, Insurance Carriers, Real Estate, Rental and Leasing services

Information / Cultural

Publishing, Motion picture, Sound Recording, Radio and TV Broadcasting

Source: The Conference Board of Canada Reports, Oxford Economics

[1] The Conference Board of Canada refers to traded clusters as a group of firms and institutions that are located near one another and draw productive advantage from their mutual proximity and connections; they also serve markets beyond the region in which they are located.

Gateway and Transportation

As Canada's gateway to the Pacific Rim, Metro Vancouver leverages key assets such as Vancouver International Airport and the Port of Vancouver to assert its position as a major transportation and logistics hub

Due to Metro Vancouver's strategic location, the transportation and warehousing cluster plays an important role in the economy. With assets such as Vancouver International Airport ("YVR") and the Port of Vancouver, as well as major truck and rail routes to North American cities, the transportation and warehousing sector has consistently had the highest location quotient (i.e., the share of employment in Metro Vancouver relative to Canada is higher than that of other industries). This is particularly important given the fact that YVR offers the shortest distance to Asia compared to any other North American airport and is also the closest west coast airport to Europe. Largely due to these advantages, the Government of BC has identified transportation as a priority sector for export promotion and investment attraction.

Overview

- Metro Vancouver performs well relative to its jurisdictional peers on most of the transportation-oriented indicators, confirming its status as a transportation gateway. For example, Metro Vancouver remains the highest-ranked North American port in terms of port container throughput scaled by GDP according to the 2018 Greater Vancouver Scorecard.
- Growth in transportation infrastructure has bolstered gateway activity and attracted significant private investment. Metro Vancouver's transportation and warehousing industry expanded at an average annual pace of 6.2% between 2014 and 2018 and recorded a strong output gain of 6.1% in 2019.
- The two pillars of the Metro Vancouver transportation cluster are the Port of Vancouver and Vancouver International Airport — the Port of Vancouver plays an important role for the region as a whole, and particularly for North Vancouver's growing marine and logistics industry which houses 15% of all port jobs and has been identified as a priority sector for foreign investment.
- This strategic location is especially important given that both India and China are poised to generate continued robust growth in real income per household in their own countries. Both countries will remain sources of growing demand for Canada's resources, but more and more they are becoming consumer economies providing markets for Canadian goods and services that are higher up the value chain.

Airport

- Vancouver International Airport (YVR) is Canada's second-busiest airport and has been ranked the top #1 Airport in North America for 11 years in a row according to Skytrax World Airport Awards 2020.
- YVR offers 121 non-stop destinations worldwide, served by 54 different airlines. Top global freight companies operate at the airport and increasing volumes of e-commerce have boosted activity at its new mail processing facility—more than 338,000 tonnes of cargo made its way through YVR in cargo aircraft of commercial passenger planes in 2018 (YVR, 2019)

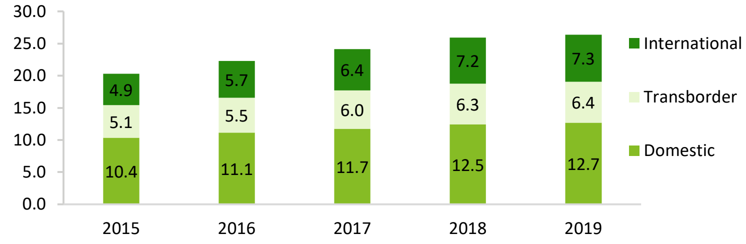
Port of Vancouver

- The Port of Vancouver is Canada's largest, busiest and most diversified port, connecting the country to more than 170 trading economies annually, mainly those located in the Asia-Pacific region (Port of Vancouver, 2019).
- 138 million tonnes of cargo and $200 billion in goods are traded through the port in 2019.
- It is served by three Class-1 railways: Canadian National (CN), Canadian Pacific (CP) and Burlington Northern Santa Fe (BNSF), providing choice and added reliability for shippers and customers through the Greater Vancouver gateway.
- The port handles about 19% of Canada's total trade, amounting to a total value of imported and exported commodities to and from Canada of $894 billion. It is also the third-largest tonnage port in North America according to the Vancouver Economic Commission.

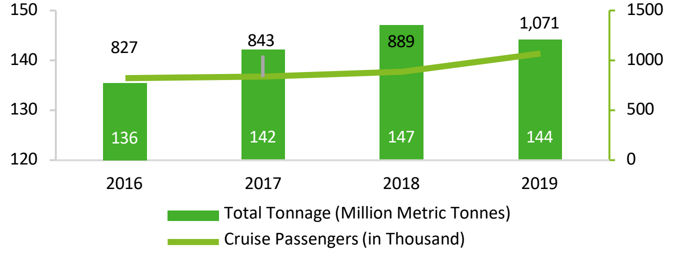
Road and Rail Capabilities

- Public transit use has been increasing, according to the 2016 Census. Among the country's three largest CMAs, Metro Vancouver had the largest growth in the proportion of public transit commuters from 1996 to 2016.
- There are 500 upcoming road projects in Metro Vancouver as of 2020, Moreover, in 2018, the Government of Canada approved $1.37 billion in funding for two rapid transit projects in Metro Vancouver, including the roadway Subway Project which will be able to move 5,100 more passengers per hour, per direction than the existing service, increasing the capacity by 250%

Passenger traffic at Vancouver International Airport (in millions)



Traffic Handled at Port of Vancouver



Source: The Conference Board of Canada Reports, Port of Vancouver, Statista, Railway Technology, 2018 Greater Vancouver Scorecard, City of North Vancouver

Tourism

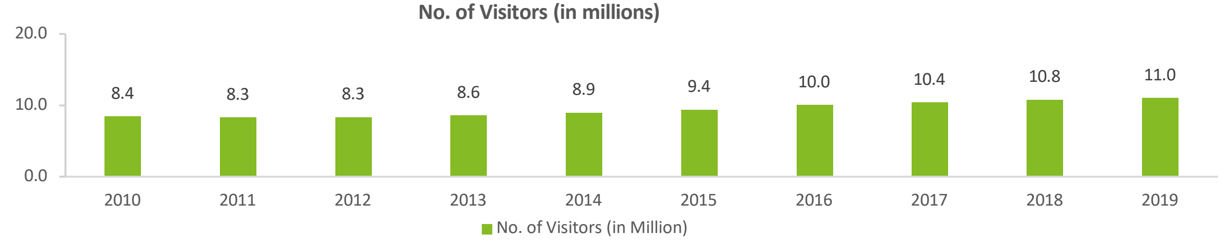
Tourism is an important contributor to Metro Vancouver's economy, supporting over 70,000 jobs and representing one of BC's priority sectors for export promotion and investment attraction

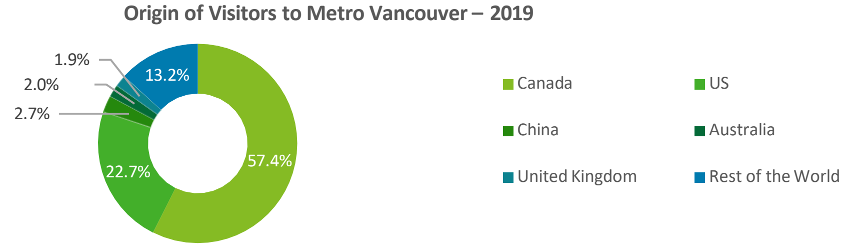
Due to Metro Vancouver's location and proximity to key tourism attractions such as the Rocky Mountains, Whistler etc., the region is an attractive destination for tourists at both the national and international level. Tourism is not its own industry as defined by the North American Classification System but instead a collection of segments from multiple sectors (including food and beverage; arts, entertainment and recreation; transportation and accommodation services). The segments that comprise the tourism cluster depend on tourists for varying parts of their sales and profitability. As the spending of inbound visitors on goods and services is considered an export, tourism represents one of the key traded clusters of Metro Vancouver. The Government of BC has identified tourism as a priority sector for export promotion and investment attraction.

Overview

- Metro Vancouver had over **11 million overnight visitors** from around the world in 2019. Sports and cultural event hosting (for example, the 2015 FIFA Women's World Cup), cruise ships, convention capacity and the "Whistler effect," all contribute to the attraction of visitors to the region.
- According to pre-COVID estimates by Tourism Vancouver, Tourism contributes approximately **$4.8 billion in direct spending** (an amount that only includes spending by overnight visitors) to the Metro Vancouver economy annually and supports over 70,000 full time jobs.
- There are over **23,000 hotel rooms in Metro Vancouver**, with over 12,000 in the downtown core (Tourism Vancouver, 2020).
- Metro Vancouver is Canada's top cruise port, receiving more than **280 cruise ship calls** in 2019. According to pre-COVID estimates by the Port of Vancouver, each cruise ship stimulates nearly $3 million in economic activity for the local economy each year.
- Vancouver International Airport has been rated the best airport in North America for an unprecedented 11 consecutive years according to Skytrax World Airport Awards 2020.

Overnight Visitors to Metro Vancouver (2010-2019)





Tourism Industry Key Statistics*

Tourism industry	2015	% of BC
Number of Tourism Businesses	11,057	58%
Employment	80,700	63%
Room Revenue (000s)	1,280,299	58%
Customs Entries	6,295,500	82%
Visitor Centre Parties	319,140	25%

Tourism Volume by Season and Origin of Visitor - 2019

Season of travel	BC Resident	Other Canadians	US Resident	Other International
January to March	21%	18%	15%	12%
April to June	19%	29%	27%	28%
July to September	36%	33%	40%	46%
October to December	24%	20%	17%	14%

**Data for Vancouver, Coast & Mountains Region*
Source: Tourism Vancouver, The Metro Vancouver Convention and Visitors Bureau, The Conference Board of Canada Reports

Information and Culture

With its status as "Hollywood North," Metro Vancouver's information and cultural industries represent a growing and successful cluster that has been identified as a priority sector for export promotion and investment attraction

The information and cultural cluster includes the following industries: publishing industries (newspapers, magazines, and books), motion picture and sound recording industries, radio and television broadcasting, telecommunications, and data processing services. This is an important cluster due to the fact that Metro Vancouver is one of the major production centres for North American television and film and is also home to the head office of Telus Corp, one of Canada's biggest telecommunication companies. The Creative & Digital Media industry has been identified as a priority sector for export promotion and investment attraction by the BC government.

Overview

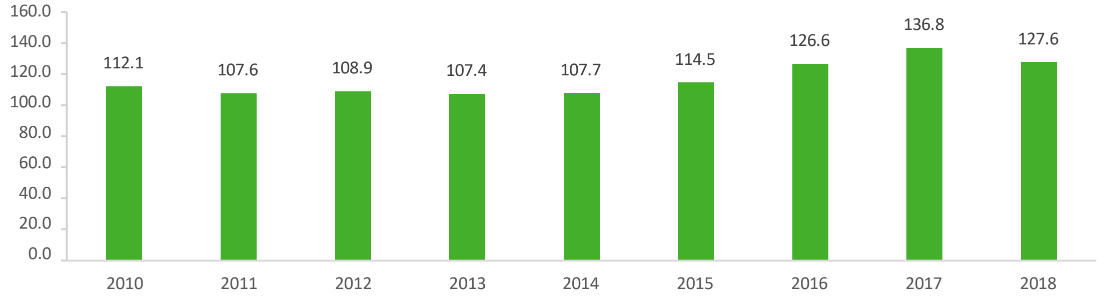
- **Economic Significance**: Information and culture, particularly the motion picture and sound recording industries, is an important and growing industry in Metro Vancouver and has become a significant success story in the economy. According to pre-COVID estimates by the Vancouver Economic Commission, over 42,000 direct and indirect jobs are generated by Film & TV production in BC, with over 80% located in Metro Vancouver.
- **Supporting Factors**:
  - Provincial and federal tax incentives, proximity to Los Angeles, skilled crews, industry infrastructure and attractive natural scenery have made Metro Vancouver a popular location for film and television production.
  - Based on direct spending on Film & TV production in BC, Metro Vancouver is the third largest Film & TV production centre in North America. Many other jurisdictions in Canada and the United States offer tax credits and subsidies to attract production spending, but the weak Canadian dollar coupled with the expertise of the local workforce in film, television and visual effects help Metro Vancouver maintain its status as "Hollywood North."
  - The film industry has growth potential throughout the region. For example, Skydance Studios recently converted the former Pacific Press building in Surrey into 75,000+ square feet of production space, making it the first movie studio to establish in the municipality. The Studio is currently injecting over $100 Million into the local and provincial economies, and has created 400 jobs.
- Metro Vancouver's information and communications technology sector is also rapidly expanding— boasting well-established global companies like Telus Corp. and a steady stream of start-ups.

Policy Support of Information and Cultural Industries

The B.C. government and its independent creative agencies continue to invest in B.C.'s creative economy by supporting arts and culture, film, television, music, publishing, and the interactive and digital media industries. A few highlights include:

- $350,000 for the International Presence Program.
- $15 million for the BC Music Fund.
- Competitive tax credits for film, television and interactive digital media.
- About $720,000 in funding and $3.2 million in tax credits for B.C.'s book publishing industry
- $1.75 million in provincial funding for scholarships and job experience in the cultural sector.

BC's Information, Culture & Recreation Employment (in thousands)



Source: Statistics Canada, Labour Force Survey, Prepared by BC Stats

Source: The Conference Board of Canada Reports, Government of British Columbia, City of Vancouver, Vancouver Economic Commission, Province of British Columbia, City of Surrey

High-Tech Industries

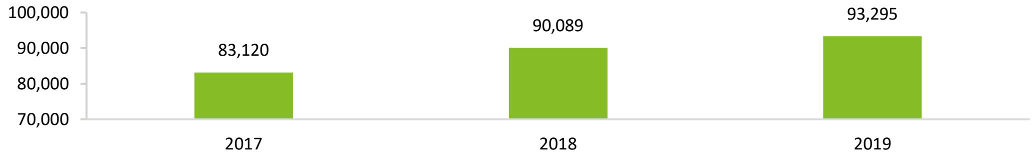
Metro Vancouver’s high-tech cluster accounted for almost 7% of provincial GDP in 2018 and benefits from access to a highly educated workforce as well as BC’s Digital Technology Supercluster

Technology clusters can have varying definitions. Metro Vancouver’s High-Tech[1] cluster can be characterized by two main sectors: computer and electronic manufacturing and computer system design services. These sectors include establishments engaged in the manufacturing of computers, communications equipment, and audio and video equipment as well as establishments engaged in services such as: computer systems design, software, and communication technologies. The cluster can be viewed as ‘cross cutting’ as it combines with other parts of the economy to create new products and services. The cluster leverages Metro Vancouver’s comparatively high-skilled workforce as well as the presence of industry leading technology companies (please see below for illustrative examples). The Government of BC has identified Technology (ICT, Wireless, Artificial Intelligence, Augmented Reality/Virtual Reality, Quantum Computing) as a priority sector for export promotion and investment attraction.

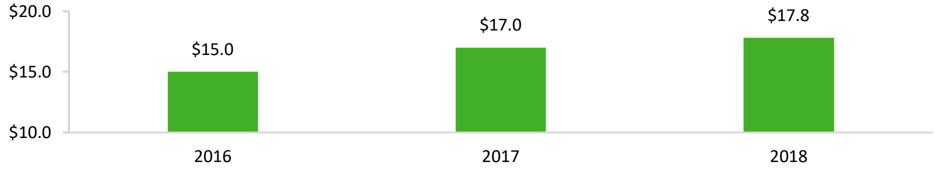
Overview:

- **Estimated Economic Size by BC Stats**: According to analysis by BC Stats, the High Tech cluster is a high-growth sector accounting for around 6.5% of provincial GDP annually ($17.8B in 2018). The high tech cluster is defined by BC Stats as “industries that produce high technology goods and services as their ultimate outputs.”
- **Businesses:** The success of the local High Tech cluster has attracted and supported several major industry players such as Microsoft, Amazon, Apple, Cisco Systems, Samsung, SAP, Zenefits, and Vancouver-based companies like Hootsuite. The cluster is present throughout the region; for instance, the Fraser Valley Alliance (comprised of the District Municipality of Langley, City of Chilliwack, City of Abbottsford, City of Maple Ridge, the District Municipality of Mission), has developed emerging capabilities in technology-based sectors, particularly with respect to high tech agribusinesses.
- **Presence of Key Technology Leaders**: Metro Vancouver is also home to three of Canada’s four so-called “unicorns” in tech: Slack, Avigilon and Hootsuite all have valuations exceeding $1 billion.
- **Workforce**: Metro Vancouver’s High Tech cluster employment has grown by 30% over the past 2 years to 75,000 jobs (City of Vancouver, 2020). This number increases to 93,000 jobs when all types of jobs in the High Tech cluster are counted (for example, administrative and management jobs in the cluster).
- **Education and Training**: The cluster leverages a highly educated workforce. For example, approximately 58% of High Tech workers in Metro Vancouver have a university education compared to 51% nationally for the cluster (Brookfield Institute, 2016). Metro Vancouver also placed 12th out of 50 tech markets in Canada and the US for the 2019 tech talent ranking. The presence of strong educational institutions was cited as a key reason for the region’s high ranking. There are also municipality-specific training programs to support the high-tech sector. For example, TriCelerate is a Tri-Cities-wide training, learning and collaboration program. The TriCelerate Innovation Hub is followed by over 350 entrepreneurs and supports sustainable growth for local start-up companies by providing training programs and resources that support entrepreneurial growth. Similarly, BC’s innovation plan has identified Surrey to be one of BC’s regional innovation precincts, and will invest $17 million to establish a new Quantum Algorithms Institute at Simon Fraser University’s Surrey Campus.
- **Artificial Intelligence**, **Greater Vancouver Economic Scorecard (2018)**: Between 2016 and 2018, Metro Vancouver improved its position on indicators measuring the strength of the high-tech cluster. The two indicators that measure the strength of the high-tech cluster in the region are venture capital as a share of GDP and high-tech employment as a share of total employment. Metro Vancouver climbed one spot in venture capital per $1 million of GDP, moving into third place out of 20 peer jurisdictions. Still, the region remains eclipsed by San Francisco, where venture capital per $1 million of GDP is 10 times higher. Secondly, Metro Vancouver moved up one spot in the high-tech cluster’s share of total employment, rising from ninth to eighth place.
- **Digital Technology Supercluster:** Metro Vancouver is part of Canada’s digital supercluster which has convened key post secondary institutions, multinationals and firms to work together in research and capacity building in several technology platforms. The supercluster supports the growing prominence of the high-tech cluster in Metro Vancouver. BC was selected for the location of this Supercluster based on “ [the] strength in British Columbia and Canada as the starting point for developing and applying digital technologies to support the digital transformation ambitions of industry leaders” (Government of Canada, 2020).

Estimated Number of High Tech Workers in Metro Vancouver



BC’s High Tech Cluster Contributions of GDP ($B)



[1]High-tech, as defined by BC Stats, include “industries that produce high technology goods and services as their ultimate outputs”. There is no standard accepted definition and it is likely to change as technology adapts to current needs.

Source: City of Vancouver, The Conference Board of Canada Reports, BC Stats

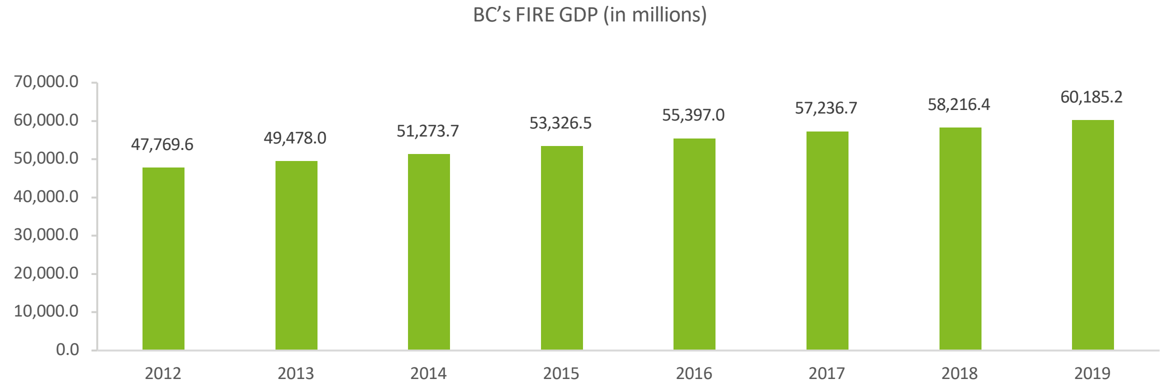
Finance, Insurance, and Real Estate

Finance, Insurance, and Real Estate represent Metro Vancouver's largest cluster, accounting for a third of Metro Vancouver's GDP in 2019 and a quarter of BC's GDP

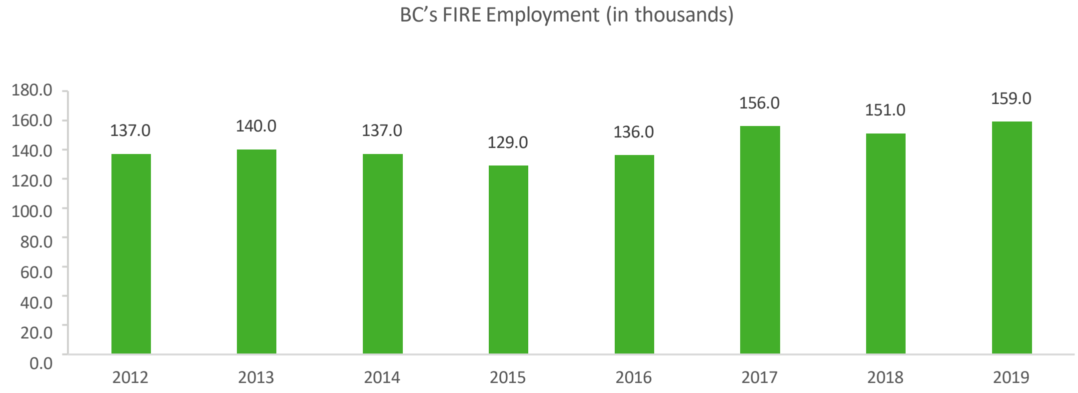
The finance, insurance, and real estate sectors ("FIRE") are made up of businesses that handle or arrange financial transactions on behalf of clients. Such businesses include banks and credit unions; insurance, real estate and leasing companies; and brokerages. Together, these sectors represent Metro Vancouver's largest industry.

Overview

- **Economic significance:** The FIRE industry accounted for almost a third of Metro Vancouver's GDP in 2019, and a quarter of BC's GDP according to Statistics Canada.
- **Positioning in the international market**:
  - Metro Vancouver's finance sector has been rising in prominence internationally—ranked 24th as a global financial hub in the Global Financial Centres Index ("GFCI") ranking, above Toronto and Montreal (2020).
  - Continued trade with the Asia-Pacific region in the coming years should help Metro Vancouver's finance sector grow in worldwide importance. Canada's insurance industry has also been taking advantage of underserved markets in China and Asia. In addition, increasing trade with China opens the possibility that Metro Vancouver could become a direct trade settlement hub using Chinese currency.
- Metro Vancouver performs particularly well in four financial services subsectors: banking, credit unions, international financial transactions and venture capital investment. All five of Canada's largest banks have significant operations in Metro Vancouver. Several international banks also have offices here, including the Canadian headquarters of London's HSBC — one of the world's largest banks.
- Metro Vancouver is also developing an important niche in international treasury and financial functions, including factoring, import/export financing, foreign exchange and back-office support.
- In Metro Vancouver's real estate sector, rental and leasing agreements are becoming a larger driver of growth. Moreover, foreign buyers continue to fuel real estate purchases, owning at least $75 billion or 7.8% of residential real estate as of 2019 according to data from the Canadian Housing Statistics Program. Vancouver was rated as Canada's #1 market for real estate investment for 2020 by the Emerging Trends in Real Estate Report by PwC Canada due to its strong office and industrial sectors, despite ranking at the second-least affordable city in the world by Demographia.



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



Source: Statistics Canada, Labour Force Survey, Prepared by BC Stats

Source: The Conference Board of Canada Reports, GFCI Ranking, City of Vancouver, Work BC, Government of British Columbia, Vancouver Sun

Niche / Emerging Sub-Clusters in Metro Vancouver

In addition to established clusters, several emerging clusters of activity also represent areas of potential comparative advantage

TECHNICAL APPAREL

- Metro Vancouver has a niche technical apparel cluster, particularly in the athletic and performance space.
- More than 200 apparel companies have design operations in Metro Vancouver, including lululemon athletica, Mountain Equipment Co-op, and Arc'teryx Equipment.
- Although the manufacturing of clothing has largely been moved offshore, the sector was estimated to employ 4,500 people in Metro Vancouver in 2017, with jobs largely related to head office, design, and other higher-value activities.

GREEN ECONOMY

- Municipalities in the Metro Vancouver region have set the goal of becoming a carbon neutral region by 2020, as outlined in the Climate 2050 Framework.
- The region's Climate 2050 objectives are supported by provincial programs. For example, the Province has committed $902 million to fund CleanBC initiatives over the next three years as well as $3.24 million in 2019-20 to support pre-commercial clean energy technology products through the Innovative Clean Energy (ICE) Fund.
- Almost a quarter of Canada's clean tech jobs are based in Metro Vancouver (including, Loop Energy, Saltworks, Awesense, and Teramerra).
- Clean tech has also been identified as a priority sector for export promotion and investment attraction by the BC Government.

MEDICAL TECHNOLOGIES

- While interrelated to the High-Tech cluster, medical technologies intersect between traditional medical scientific discovery within the life sciences industry and cross cutting technologies (e.g., Artificial Intelligence).
- Spinning out of these capabilities is an emerging medical technologies sector. Key examples of assets in the region include Innovation Boulevard's HealthTech accelerator which is a technology accelerator in the province funded by BC Innovation Council. The accelerator is in strategic collaboration with IBM Canada and brings together a variety of stakeholders to solve major health industry challenges. The accelerator will be housed in a 6,000 square-foot facility in Simon Fraser University's campus in Surrey.

VIDEO GAMES AND INTERACTIVE MEDIA

- Stemming from High-Technology capabilities such as Artificial Intelligence and Augmented Reality, the region has developed capabilities in video gaming and interactive.
- In addition to core development capabilities, the region is building a hospitable ecosystem for gaming broadly. For example, Metro Vancouver is home to over 170 video game studios, including Electronic Arts (EA), Microsoft Studios, Relic Entertainment/SEGA, Capcom Vancouver, Roadhouse Interactive, Klei Entertainment, United Front Games and Kabam.
- Canada's first eSports stadium opened in Richmond in 2020. The stadium is 8,000-square-feet and was custom-built for eSports purposes.
- Companies in the sector have access to competitive government incentives, such as the BC Interactive Digital Media Credit, which offers a 17.5% refundable credit on qualified BC labour expenditures for interactive digital media.

Source: Greater Vancouver Board of Trade, Vancouver Economic Commission

Deloitte Scenarios for Economic Recovery

About Scenario Forecasting

We have leveraged our firm's macroeconomic forecasting capability to help guide Metro Vancouver on implications of various COVID-19 recovery scenarios

In the coming months, Metro Vancouver will be challenged with achieving its economic development goals in the backdrop of a complex, unprecedented global economic slowdown. Accordingly, in this section, we have developed analysis as follows:

1 Global backdrop

- To better understand economic dynamics in Metro Vancouver, in this section we begin by reviewing the estimated immediate and short term impacts of COVID-19 on the global and Canadian economies.

2 External scenarios

- We then provide our medium-term outlook for both Canada and the world under the three scenarios that have been developed using the Deloitte forecasting model. Understanding the relationship between the Canadian and global outlooks is important given the extent to which the Canadian economy is primarily driven by the underlying trends in global demand for goods and services. By extension, given the level of integration of the Metro Vancouver economy with other parts of Canada and the world, it is also expected that it will continue to be heavily influenced by domestic and global factors.

3 Impact of COVID in Metro Vancouver

- We examine the extent to which economic activity in the Metro Vancouver region was disrupted by the measures that were put to slow the spread of the COVID19 pandemic. We present our most up-to-date estimates on the employment and GDP effects of the economic closures and, where available, present some comparative statistics to understand the relative impact on different Canadian metropolitan centres.

4 Metro Vancouver economic and industrial outlooks

- Taking into account the abovementioned global, domestic and local considerations, we present our most up-to-date baseline outlook for the Metro Vancouver economy together
with the "prolonged recovery" and "depression" scenarios.

Metrics reported in this section

- Compounded annual growth rates ("CAGR") : In order to develop sector specific insights that are comparable across industries (e.g. quantifying the relative impact of COVID or differentiating between upward and downward trends in the medium term), we report percent growth rates for inflation adjusted metrics of economic activity. We note that While CAGR metrics tend to be very insightful performance metrics, we are cautious of the significance of such statistics given the presence of "catch-up growth". In particular, given the sharp magnitude of the contraction experienced in the first half of 2020, many industries will have a longer recovery timeframe which will result in substantially higher growth rates relative to peer industries even into the medium term horizon. To address this complication, we present industry data as a share of 2019 levels to adequately capture industry resilience to COVID and post-recovery performance.
- Deloitte commentary / observations: We complement our statistical analysis with accompanying commentary to guide the reader through the report and highlight the most important insights.

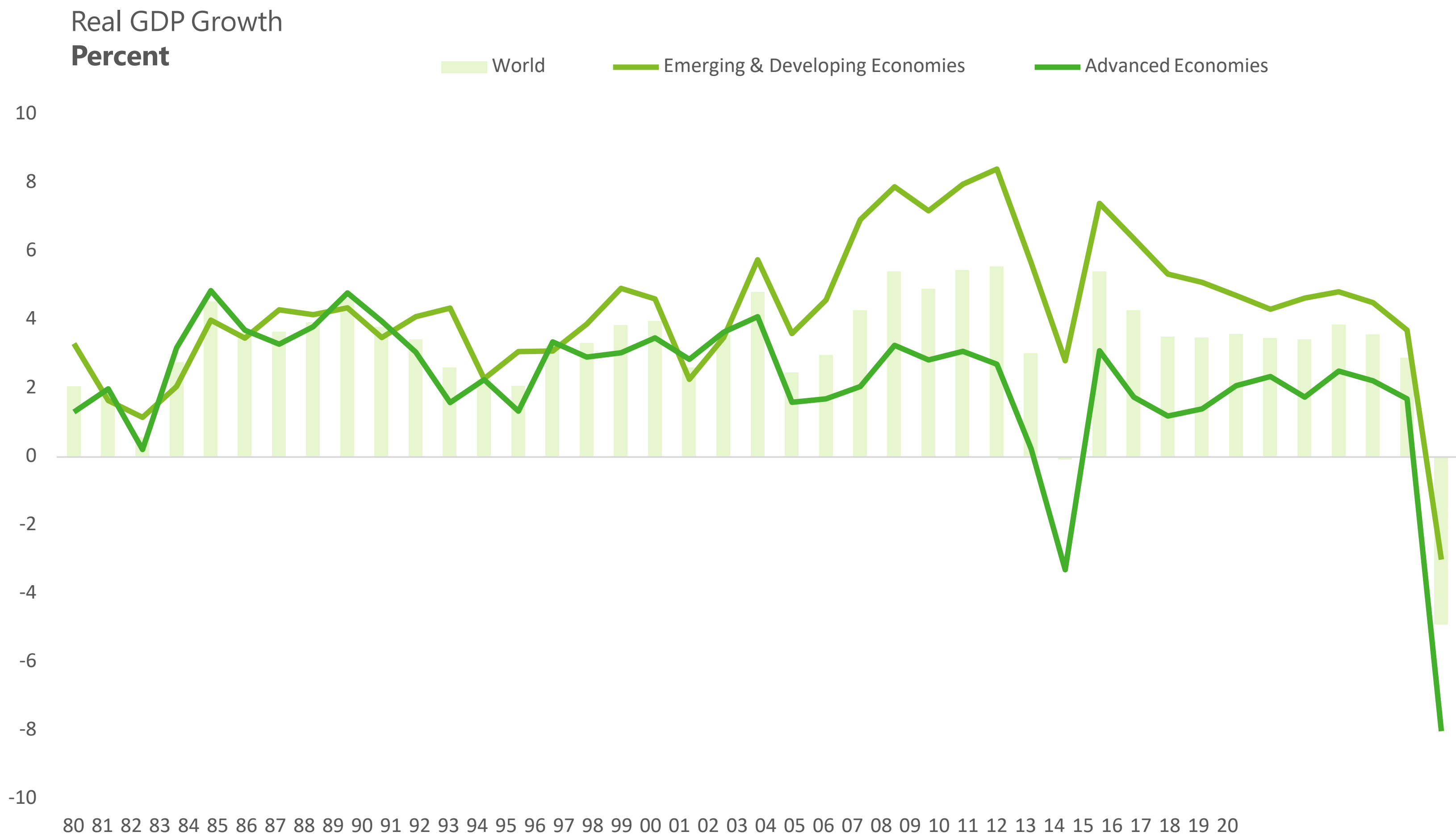
Forecasting methodology

- The Deloitte model is based on a large econometric framework that maps thousands of relationships between industries and sectors in the Canadian economic ecosystem. This approach integrates external and domestic macroeconomic projections to model cross-sector interactions at the provincial and industry levels. These responses are then used to calibrate variable specific forecasts that are localized to the metropolitan level by taking into account census agglomeration ("CA") and census metropolitan area ("CMA") specific economic and financial characteristics such as employment, relative industry intensities, and historical productivity trends.
- The model is calibrated on a monthly basis using the most recent economic and financial statistics provided by official statistical agencies (e.g. Statistics Canada) and trusted third-party economic and business data providers (e.g. Haver analytics / Oxford economics).
- When building the three scenarios we take into account different outcomes arising from diverging policy responses and the possibility of new COVID outbreaks in the near future. Such views have been elaborated and validated by different subject matter experts throughout the firm and Craig Alexander, our chief economist.

Snapshot on the Global Economic Impact of COVID-19

The global economies are in the midst of the worst recession after the Great Depression; since then, this is the first time that both advanced and the developing economies are in recession at the same time

- The COVID-19 pandemic is a public health crisis which quickly evolved into an economic crisis with drastic global effects
- The International Monetary Fund (IMF) is projecting that the world economy will contract by at least 4.9% this year, a considerable revision compared to the projected growth of 3.3% anticipated in January 2020 which is the path we were on prior to the pandemic
- Notably, the current contraction in the advanced world is expected to be almost 3 times larger in comparison to the 2008-09 financial crisis
- The Canadian economy experienced a drop in GDP of about 38.7% in 2020Q2, putting it on track for the largest annual decline on record, following the Great Depression
- Several factors, including timing for a vaccine, vastly different public health/re-opening policies and the possibility of a second wave of infection leads to great uncertainty about the pace of recovery.



Source: IMF; and Deloitte Calculations.

Summary of Deloitte COVID-19 Global Recovery Scenarios (1/2)

Three economic scenarios were modeled, using different assumptions regarding the duration and severity of economic downturn in the global, Canadian, BC and Metro Vancouver economies

Optimistic → **Pessimistic**

Baseline: Short-lived Downturn

- Virus containment is successful leading to a steep but short-lived economic decline

Key Assumptions:

- Scientific advances allow more rapid return to normal as ample testing capacity and vaccines trigger easing in public health restrictions
- Business and consumer confidence remains high
- Recovery is bolstered by additional fiscal stimulus by federal and provincial governments

Prolonged Recession & Delayed Rebound

- Virus resurgence in second half of 2020 leads to a delayed economic rebound and slower recovery

Key Assumptions:

- Virus resurges in second half of 2020 leads to new lockdowns in advanced economies, while emerging economies ramp-up containment measures
- Public support proves more limited and less effective than in the first COVID-19 wave
- Persistent public health concerns diminish business and consumer confidence in the medium term

Economic Depression

- Virus containment fails leading to a prolonged economic depression

Key Assumptions:

- Vaccine development or deployment is not as effective as anticipated
- Deep economic recession triggers a financial crisis with significant impact on financial markets
- Government support programs are overwhelmed and socio-political unrest materializes in a large number of countries

Summary of Deloitte COVID-19 Global Recovery Scenarios (2/2)

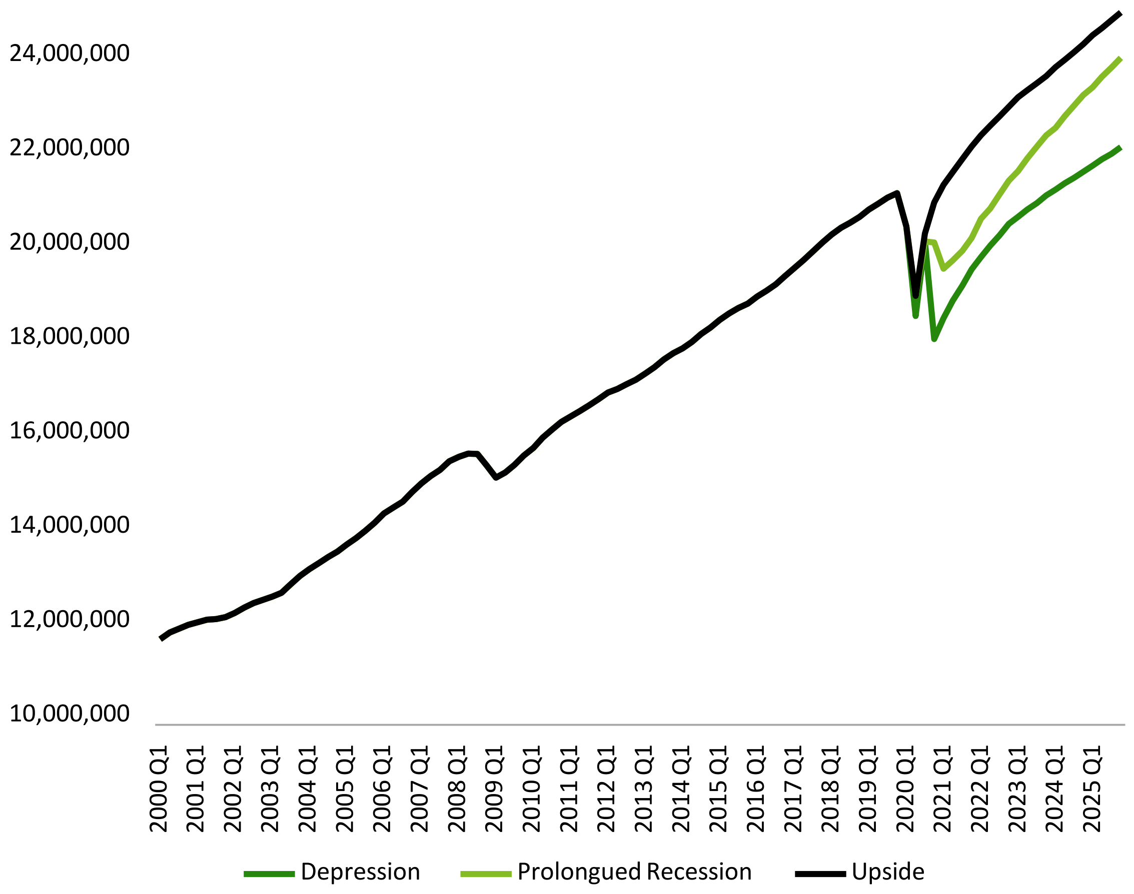
In each scenario, economic activity varies significantly

World Real GDP, 3 Scenarios

Growth Projections, *%*

	2010-18 (avg)	2019	2020	2021	2022	2023-30
Baseline	**3.9%**	**2.9%**	**-3.8%**	**4.9%**	**4.1%**	**3.2%**
Prolonged Recession			-4.9%	1.3%	4.8%	3.8%
Depression			-6.9%	-0.7%	3.7%	3.4%

US$ Millions (Constant 2015 prices, quarterly profile)



Scenario Projections

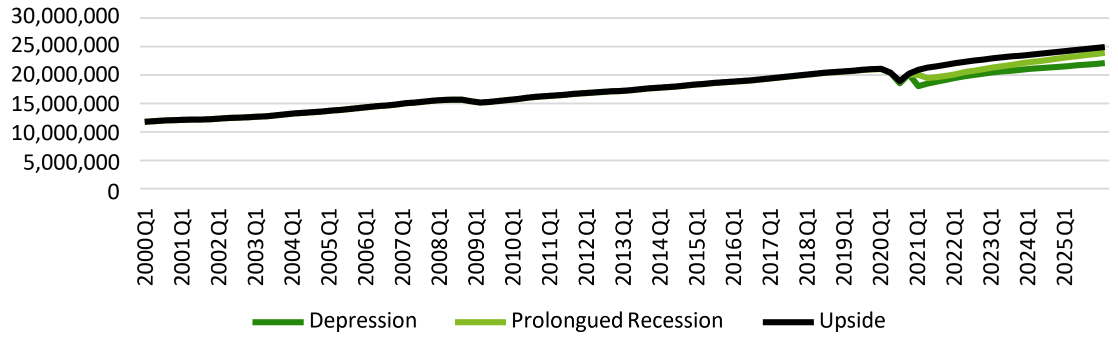
Our Global and Canadian scenarios reflect contraction in 2020 with varying levels of growth from 2021 onwards

Global Real GDP

Growth Projections, %

	2010-18 (avg)	2019	2020	2021	2022	2023-30
Historical	**3.9%**	**2.9%**				
Baseline			**-3.8%**	**4.9%**	**4.1%**	**3.2%**
Prolonged Recession			-4.9%	1.3%	4.8%	3.8%
Depression			-6.9%	-0.7%	3.7%	3.4%

US$ Millions (Constant 2015 prices, quarterly profile)

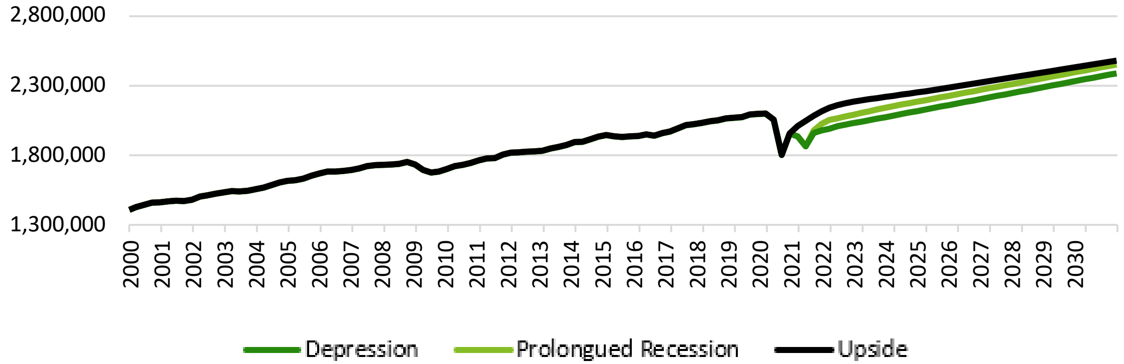


Canada Real GDP

Growth Projections, %

	2010-18 (avg)	2019	2020	2021	2022	2023-30
Historical	**2.2%**	**1.7%**				
Baseline			**-6.5%**	**7.2%**	**3.9%**	**1.8%**
Prolonged Recession			-7.1%	2.2%	5.2%	2.2%
Depression			-7.3%	0.6%	3.9%	2.5%

C$ Millions (Constant 2012 prices, quarterly profile)

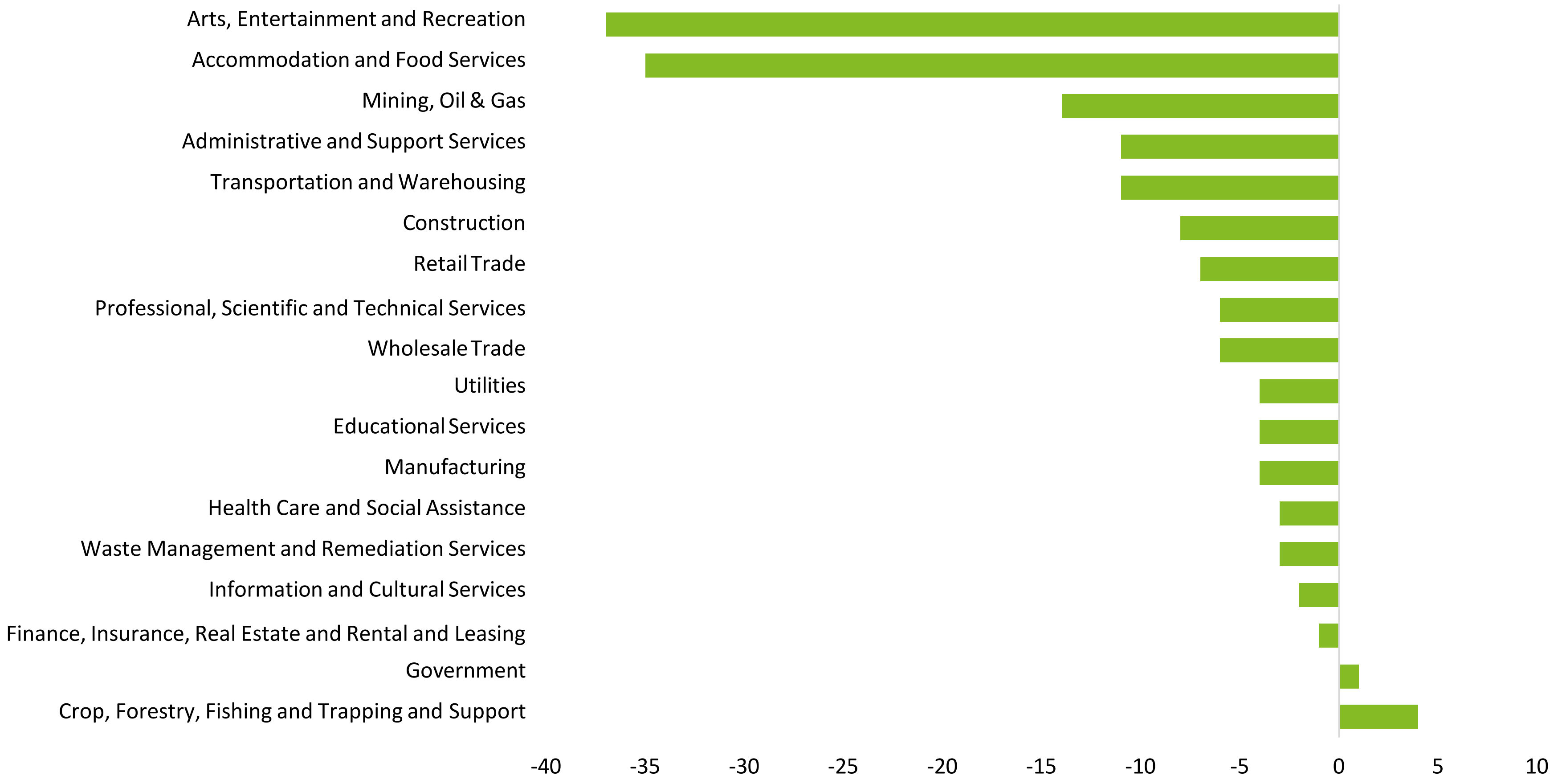


Sources: Deloitte Estimates and Statistics Canada.

Real GDP Projections by Industry in Canada

Even in the baseline projection, nearly all industries shrink in 2020 due to pandemic-related closures

Base Case Real GDP Growth, 2020, *%*



- The industry worst affected is Arts, entertainment and recreation, followed by Accommodation and food services which were **directly impacted by the economic shutdown and border closures** by closing off these businesses from customers
- The **severed links of global supply chains** hurt many industries in the goods sector, including manufacturing, mining, oil and gas, and wholesale and retail trade.
- Sectors that remain **resilient to the pandemic** measures **performed the best** in the short-term, including Agriculture and Forestry, Government.
- Industries that were able to **take advantage of remote work** also fared better, like Educational services, Finance, insurance and real estate, and Professional, scientific and technical services

Sources: Deloitte Estimates and Statistics Canada.

Baseline Scenario Impact by Sector in Canada

In the baseline scenario Canadian industries experience different paces of recovery depending on the direct exposure to the pandemic and sector specific supply and demand dynamics

- The fastest growing industrial sectors over the next decade are information services and technology, medical/dental, and beverages and food.
- Overall, the services sectors suffer a smaller contraction than expected (~8%) in 2020, driven by a smaller decline in the retail and wholesale distribution sector. In 2021, output growth is over 9%, driven by robust recovery trends in the accommodation & catering services.
- While construction output decreases by 5.4% in 2020 it sees an increase by 5.6% in 2021 that offsets the prior decline.
- Over the next decade industrial production remains broadly stable as a share of GDP but there are shifts in its underlying structure due to diverging growth rates.
- Together manufacturing, extraction and utilities lag economic growth in 2020, falling by 13.5%, picking up to 12.6% growth in 2021. The decline in manufacturing output is mostly driven by a decline in the motor vehicles & parts sector. In 2021, manufacturing output rebounds by more than 15% driven by growth in the metal products sector. Other slow growing sectors include textiles and pulp & paper.
- The output of extractive industries falls more than 10% in 2020, driven by a decline in the oil & natural gas extraction sector. In 2021, extraction output only partially bounces back at about 7% driven by the non-fuel extraction activities sector. Coal & lignite mining also experience drag.

Industry	Projected increase in activity by end of 2021 relative to pre COVID 2019 levels*
IT Programming, consultancy & information services	5.7%
Medical/dental	3.3%
Food, beverages & tobacco	2.9%
R&D, leasing, legal, professional & maintenance services	2.8%
Health care & social work	2.6%
Telecommunications	1.3%
Financial & Business Services	0.6%
Utilities	0.2%
Public admin, defense & social security	0.1%
Fuel, chemicals, rubber & plastic	0.0%
Construction	-0.1%
Agriculture, forestry & fisheries	-0.2%
Publishing & broadcasting activities	-0.2%
Education	-0.7%
Transport & warehousing	-1.0%
Non-metallic minerals	-1.3%
Retail & wholesale distribution	-1.5%
Arts, recreation, unions, personal services	-1.9%
Paper & printing	-2.0%
Air, space, rail, ships & other transport equipment	-3.6%
Extractive industries	-4.4%
Accommodation & catering	-5.5%
Textiles, leather & clothing	-6.3%
Electrical appliances	-10.5%
Motor vehicles & parts	-19.7%

*Color coding reflects deviation from median estimate. Green indicates a positive deviation of at least 1 standard deviation. Conversely, red indicates a negative deviation of similar magnitude. Observations in yellow are relatively close to the median (i.e. within 1 standard deviation).

Sources: Deloitte Estimates and Statistics Canada.

Broader Trends Impacting the Canadian Economy

COVID-19 has reoriented the direction and speed of certain trends impacting the Canadian economy relevant to investment in the region

Emerging Trends

(i.e., activity that COVID-19 has spurred or stimulated)

- Disrupted or changing supply chains
- Industrial sovereignty/protectionism
- Increased role of government
- Change in consumer behavior

- The COVID pandemic has triggered emerging trends that will have a lasting impact on the global economic ecosystem in ways
- In particular, supply chain disruption is expected to lead to a rewiring of the structure of global supply chains
- Pockets of industrial vulnerabilities are expected to drive a wider push in favour of industrial sovereignty and protectionism of key sectors for national security interests
- Consumer behavior will be affected as certain activities are directly exposed to pandemic risks and some workers are forced out of their pre-COVID occupations

Accelerating Trends

- Increased debt for households, businesses and government
- Shift to digital content
- Changing nature of work
- Increase in automation and AI

- The pandemic has also given rise to conditions that further accelerate trends that were already impacting our economies
- Government spending to offset the impact of the pandemic will raise debt levels across all sectors of the economy putting downward pressures on public and private spending over the medium to longer terms
- The need for physical distancing to confront the spread of the virus dramatically pushed the relative share that digital activities have relative to the non-digital economy
- Accordingly, remote work became the dominant labour arrangement in many of the core sectors of the economy putting downward pressure on urbanization and commercial real estate trends

Structural Change

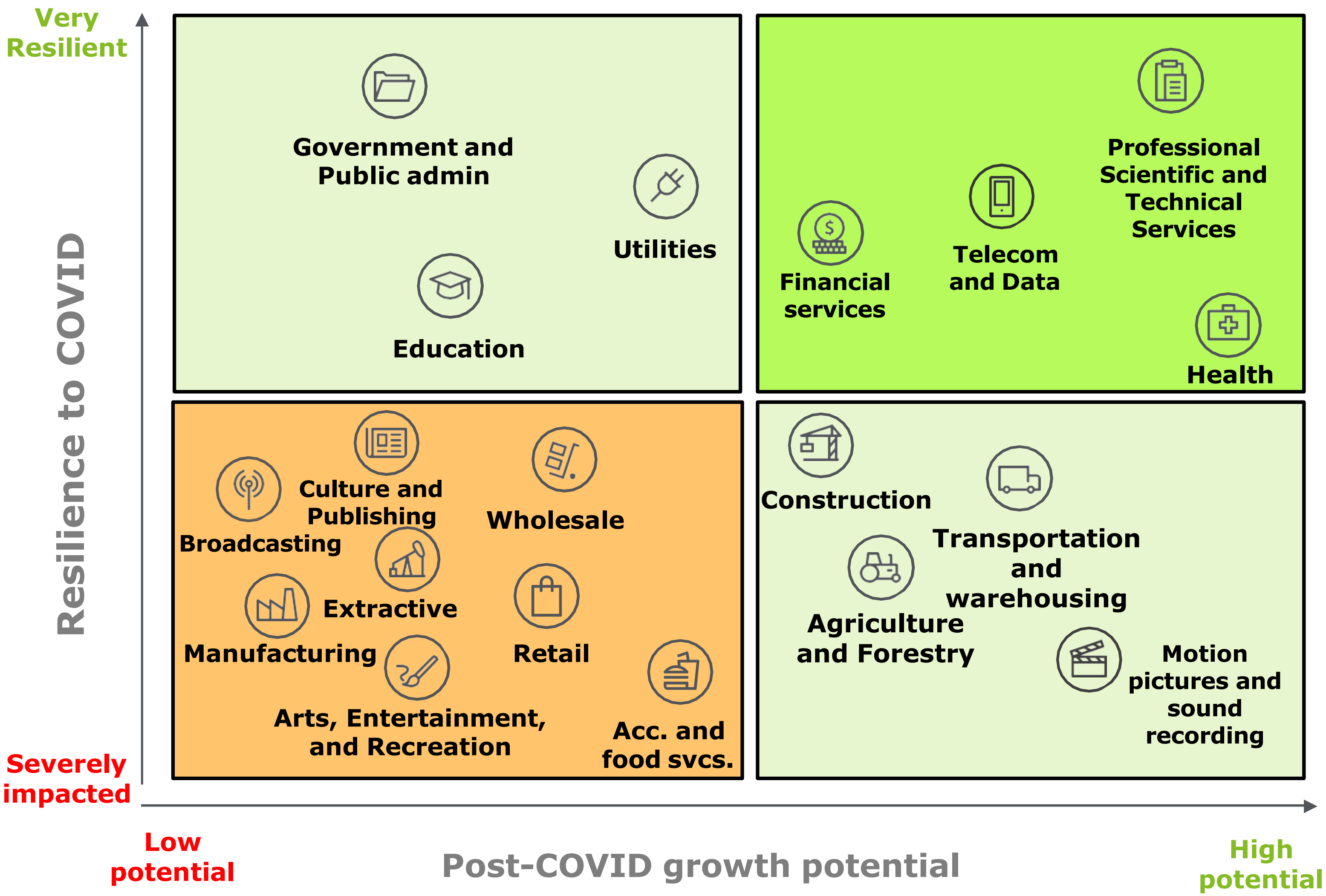
- Addressing climate change
- Demographic change
- Weak investment and poor productivity
- Populism

- The pandemic also altered the course of some of the pre-existing trends affecting both global and local economies
- For example, lower transportation volumes may ease part of the carbon footprint resulting from communities activities
- Among the most important trends that will determine economic performance in the medium to long-term it is important to consider demographic changes (should the pandemic impact pre-COVID immigration trends), investment and productivity concerns (due to higher uncertainty and debt), and a continued rise of populism (should citizens feel like they are not getting ahead)

Industry Resiliency and Post-COVID Growth Potential

The pandemic has varying impacts on Canada's key industries' with recovery likely depending on the degree of exposure to economic closures, and the ability and speed of adaptation

- Industry strength will be based partially on its resilience to the virus, but also on its growth potential after COVID concerns relax
- While conditions vary from region-to region, broadly industries can be grouped into different levels of resiliency and post-COVID growth potential.
- Industries that stand **to suffer the most** are those that are **directly affected by the economic shutdown** and halted global supply chains. Manufacturing, Retail Trade, Arts, Entertainment & Recreation are the hardest hit with growth declining at a rate of over 2%
- The industries that will see the **most success** are those that are **flourishing during the pandemic**, and will continue to benefit as the post-COVID world shapes current trends, such as the increase importance in a strong health sector
- Some industries **stand to gain** from the post-COVID environment, even if the current shutdown measures are **harming them in the short-term**. Financial services, Health Care & Social Assistance, Education, Transportation and Warehousing lead the pack with growth rates over 2%.
- Some industries **seeing success now face uncertain futures** as the nature of COVID changes our daily lives, such as the need for in-person classes, or the increasing role of government and the costs associated with it
- We note that the analysis presented here is directional and has been completed at an aggregate level and may not reflect conditions in the Metro Vancouver region.



Analysis has been developed by Deloitte via consultations and analysis from industry leaders and may require further customization to assess impacts on a specific industry, geography or time period.

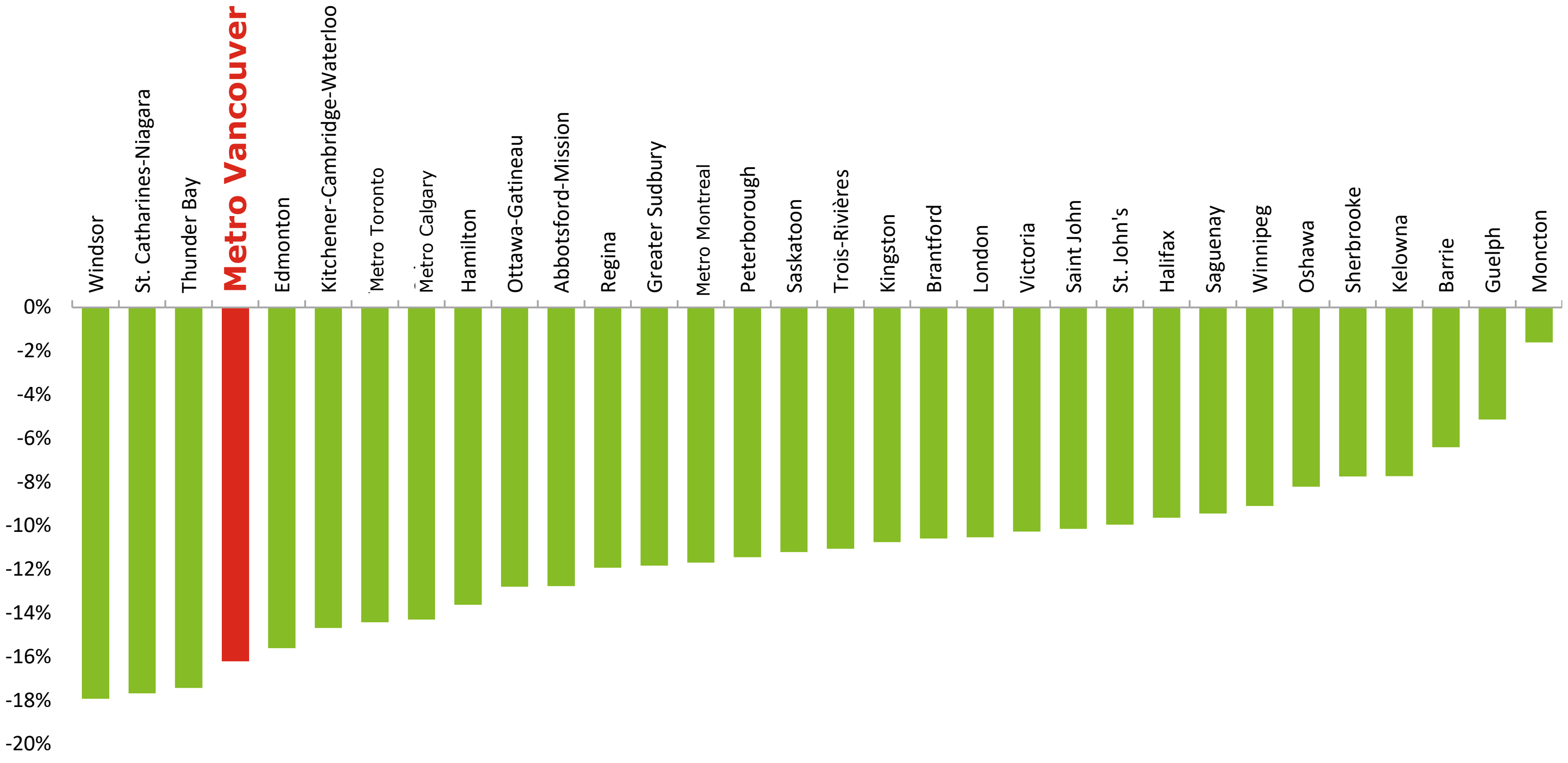
Impact of COVID on Metro Vancouver

COVID-19 Impact in Metro Vancouver

Among Canadian Metropolitan Areas, Metro Vancouver has been one of the hardest hit by the COVID-19 recession, given its service-intensive economy

Employment losses in the first six months of 2020

% decline



Compared to other Canadian urban centers, the Metro Vancouver region was one of the hardest hit by the COVID pandemic with both economic output and employment contracting significantly

About 240 thousand jobs were lost in the Metro Vancouver economy over the first 6 months of 2020;

While the current unemployment rate is roughly in line with that for Canada and BC, it was significantly lower than average pre-COVID

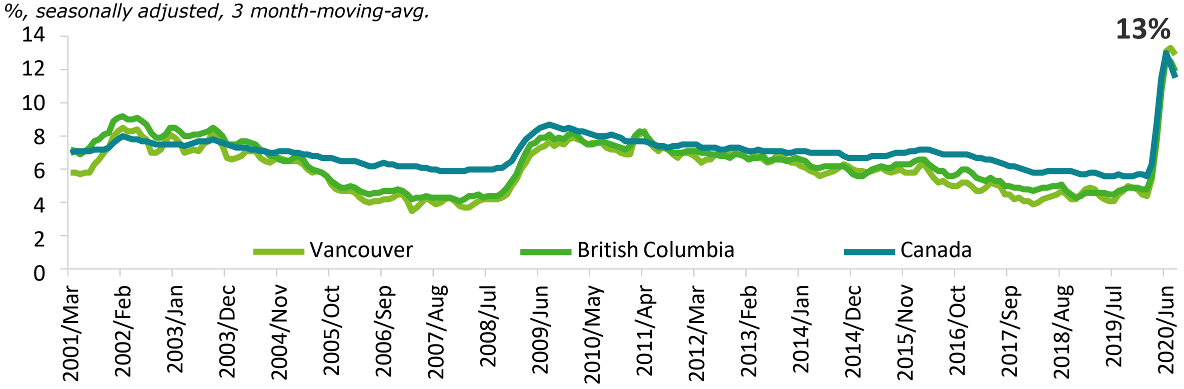
Regional economic output began growing again in May, however a potential second wave of the virus in the fall could slow the pace of recovery

Source: Deloitte Calculations, Statistics Canada.

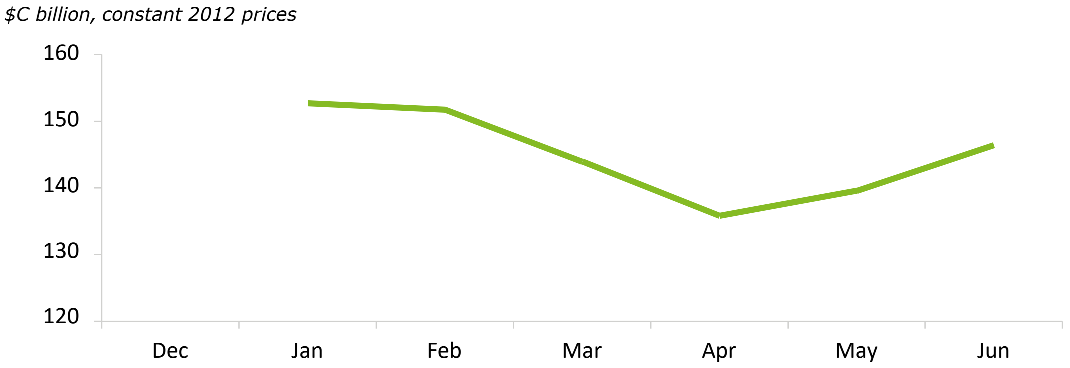
COVID-19 Employment Impacts in Metro Vancouver (2/2)

Metro Vancouver's economic output and employment have both contracted significantly; while the unemployment rate is in line with that for Canada and BC, it was significantly lower than average pre-COVID

Unemployment rate
(Canada, BC, Metro Vancouver)



Metro Vancouver Monthly GDP annualized
(Dec 19-Jun 20)



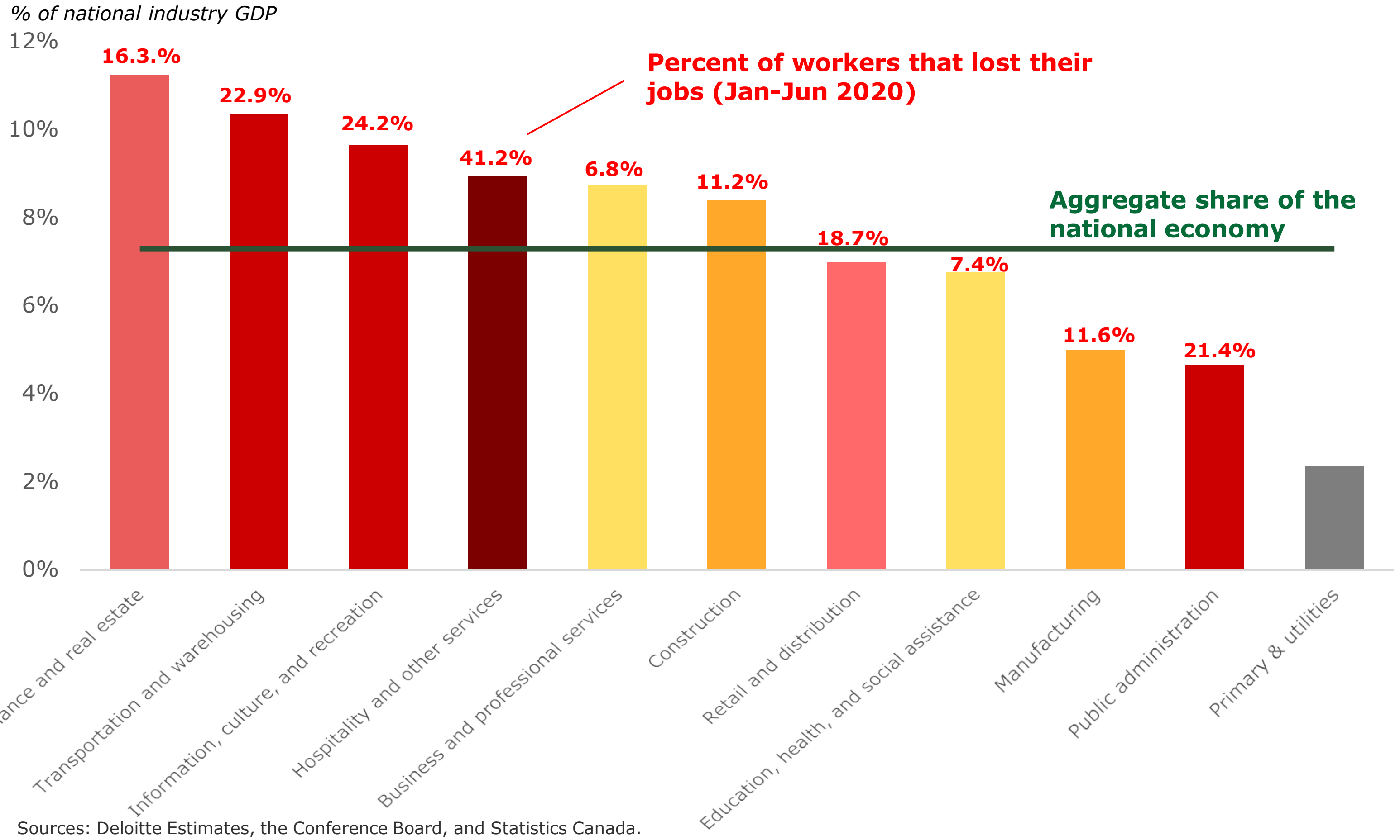
Source: Deloitte Calculations, Statistics Canada.

- While employment in BC began to recover in June, some of the job losses, the recovery in Metro Vancouver has lagged
- This is primarily due to a modest recovery of part-time jobs (many of which concentrated in the services sectors in Metro Vancouver) that has lagged behind full-time growth
- Continued weaknesses in the accommodations and food services industries are likely to result in a gradual pace of recovery given a persistent change in consumer behavior and safety measures impacting capacity
- A potential second wave could lead to increased uncertainty in the recreation and culture industries as well as the traditional brick and mortar retail trade and the manufacturing sectors which could also slow the pace of recovery

COVID-19 Impact in Metro Vancouver

While the economic contraction has been broad, employment losses are concentrated in industries that are overrepresented in the Metro Vancouver economy

Metro Vancouver employment losses in over-represented sectors[1]



Accommodation and food services as well as culture, recreation, and transportation are examples of industries that are overrepresented in Metro Vancouver 's economy compared to Canada as a whole

These same industries were exposed to the greatest economic impact from the COVID-19 pandemic and associated policy response

While the direct negative impact on these industries has been severe, it has been partially offset by government support programs such as the Canada Emergency Response Benefit ("CERB")

The FIRE (finance, insurance, and real estate) and professional/business services industries have been more resilient to the pandemic and were able to better adapt to a remote work environment

Sources: Deloitte Estimates, the Conference Board, and Statistics Canada.

[1]The line in the chart indicates if an industry is more or less represented in Metro Vancouver relative to Canada. The primary and utility sector reported net employment gains (no losses) during the COVID crisis. Because this is a very cyclical sector, the percentage is not reported in the chart.

Economic Scenarios for Metro Vancouver

Metro Vancouver Economic Recovery Scenarios

Robust economic recovery in Metro Vancouver is contingent on healthcare risks being mitigated and business and consumer confidence remaining high

Optimistic **Pessimistic**

Baseline: Short-lived Downturn

- Metro Vancouver's economy declines by 7.5% in 2020
- The economy rebounds strongly in the second half of 2020 and posts growth of 8.4% in 2021, however many sectors continue to operate below pre-COVID levels
- The economy returns to pre-COVID levels in the second half of 2021

Prolonged Recession & Delayed Rebound

- Metro Vancouver's economy declines by 8.7% in 2020
- A short rebound occurs in late 2020, but a virus resurgence results in growth of just over 4.5% in 2021
- The economy returns to pre-COVID levels towards the second half of 2022

Economic Depression

- Metro Vancouver's economy declines by 8.9% in 2020
- Poor virus containment, high levels of debt, and limited government capacity leads to low or no growth in 2021 and a prolonged stagnation
- The economy does not return to pre-COVID levels until 2024 or after

Metro Vancouver Real GDP, 3 Scenarios

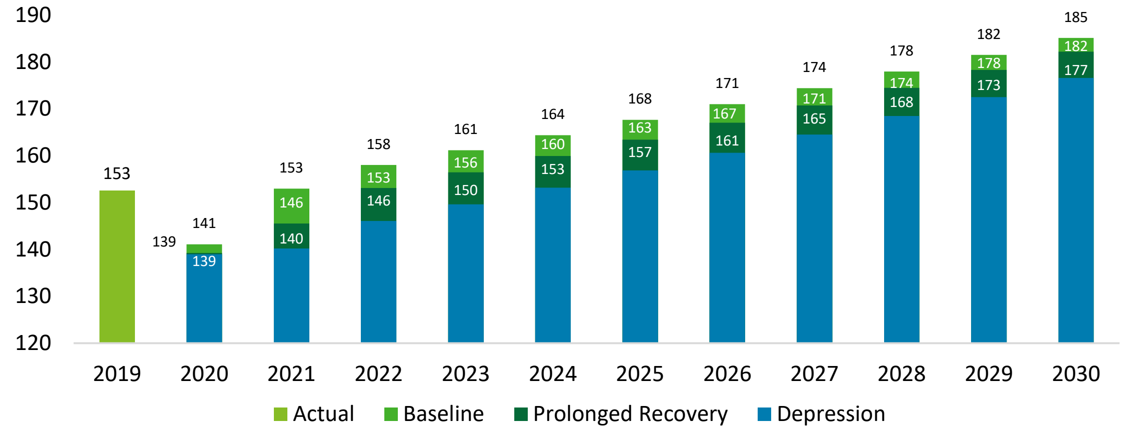
Growth Projections
%

	2010-18 (avg)	2019	2020	2021	2022	2023-30
Historical	**3.6%**	**2.8%**				
Baseline			**-7.5%**	**8.4%**	**3.3%**	**2.0%**
Prolonged Recession			-8.7%	4.5%	5.2%	2.2%
Depression			-8.9%	1.1%	4.2%	2.6%

Sources: Deloitte Estimates, the Conference Board, and Statistics Canada.

Metro Vancouver Real GDP

$C billion, inflation adjusted at 2012 prices



Baseline Scenario: Summary of Impacts

Under the baseline scenario, economic growth returns in second half of 2020 and accelerates past 2021, driven by growth in the finance, insurance, real estate and technology/professional services segments of the economy

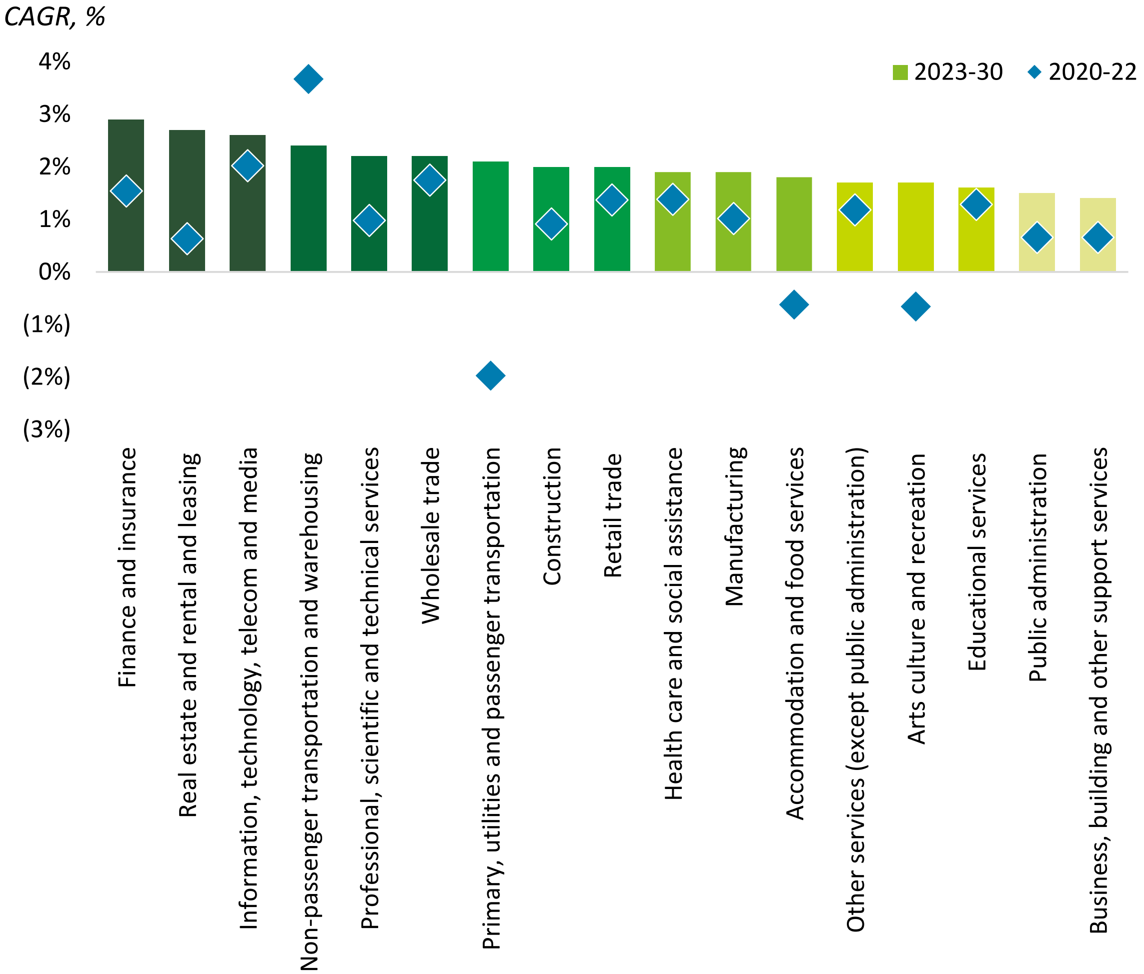
Economic and demographic impacts

- This scenario models significant declines in the level of unemployment in Q3 and Q4 of 2020
- The unemployment rate averages slightly less than 8% in 2020 and declines to 6.5% in 2021 before gradually coming down to 5.3% over the following 4 years
- Employment growth supports a rebound in consumption of 9% in 2021
- Business investment picks up in the second half of 2020 and returns to pre-COVID levels as early as Q2 in 2021
- The impact of COVID19 on population growth is transitory; after dropping to 0.4% in 2020, growth picks up to 1.4% in 2021 as strong immigration inflows resume
- Over the medium term, population growth is in the 1.1% to 1.3% range

Industry impacts

- Over the recovery period of 2020-2022, the technology; non-passenger transportation and warehousing; and wholesale trade industries are projected to experience more robust growth compared to other segments of the economy
- When considering the post-recovery period of 2023-2030, the following industries are best poised for long-term growth: finance, insurance, and real estate; technology; non-passenger transportation and warehousing; and professional, scientific, and technical services
- During the same period of 2023-2020, the economy returns to a sustainable pace of growth at just over 2%

Baseline industry GDP projections



Sources: Deloitte Estimates, the Conference Board, and Statistics Canada.

Prolonged Recovery Scenario: Summary of impacts

Under the prolonged recovery scenario, growth is driven by activity within the technology and professional services sectors, but finance, and real estate industries are more challenged due to exposure to hard-hit parts of the economy

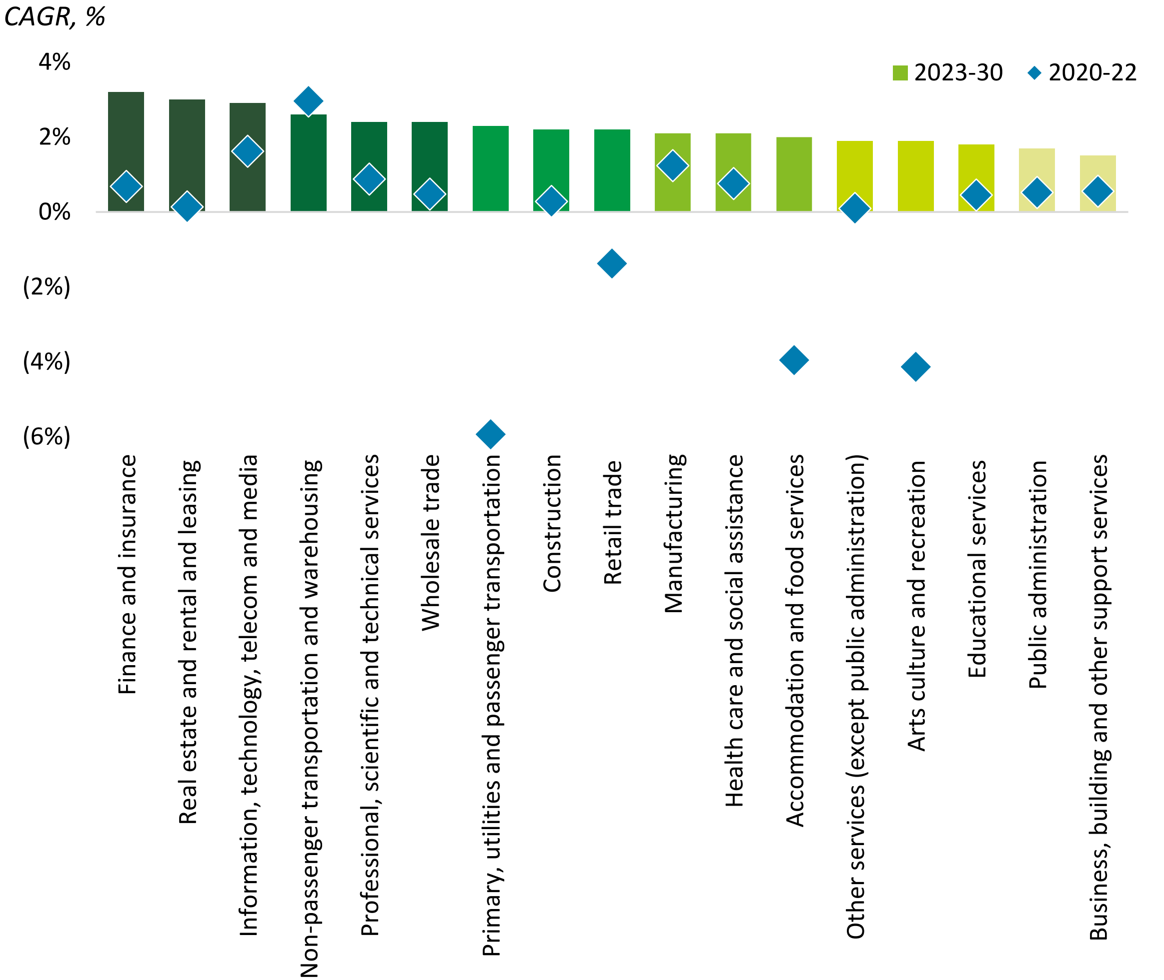
Economic and demographic impacts

- This scenario models moderate declines in the level of unemployment in Q4 of 2020 and a pick-up in Q1 of 2021
- The unemployment rate averages 9.2% in 2020 and declines to 7.7% in 2021 before gradually subsiding to 5.7% over the following four years
- Intermittent employment growth leads to a more volatile rebound in consumption and such uncertainty limits business investment growth in the first half of 2021
- The impact of the COVID19 pandemic on population growth is prolonged in this scenario; the drop of 0.4% in 2020 is followed by a modest pick-up of 0.7% in 2021; stronger immigration inflows drive a robust recovery in 2022 and beyond
- Over the medium term, population growth is in the 1.1% to 1.3% range

Industry impacts

- Over the recovery period of 2020-2022, the technology; non-passenger transportation and warehousing; and manufacturing industries are projected to experience more robust growth compared to other segments of the economy
- When considering the post-recovery period of 2023-2030, the following industries are best poised for long-term growth: finance, insurance, and real estate; technology; non-passenger transportation and warehousing; and professional, scientific, and technical services
- During the same period of 2023-2020, the Metro Vancouver economy grows at a sustainable pace of 2.2%

Prolonged Recovery industry GDP projections



Sources: Deloitte Estimates, the Conference Board, and Statistics Canada.

Worst Case Scenario: Qualitative Overview

The worst case scenario developed sees the Metro Vancouver economy not recovering to pre-COVID levels across the horizon of the analysis (2020-2024)

The economy does not fully recover over the horizon of the scenario as a result of poor virus containment, extreme job losses, unprecedented amounts of debt, and limited capacity of government to mitigate economic losses.

GDP

The initial drop in GDP is similar to that of our prolonged recovery scenario, however, the recovery is much slower. With multiple businesses bankrupt, the border closed for a year, and uncertainty driving off investors, GDP does not return to pre-pandemic levels over the horizon of the scenario (2020-2023)

Health

The virus is contained initially, but a virus resurgence strains BC's health care system. This forces emergency orders to extend into 2021. Metro Vancouver's residence compliance with social distancing rules diminishes, resulting in reoccurring breakouts until a vaccine is found

Employment

Extended lockdowns force more companies out of business, leading to lay-offs across the region and province. The government runs out of fiscal capacity to mitigate these losses as available resources are focused on mitigating the health crisis

Investment

Economic uncertainty is very high, causing investors to hold off on planned projects. At the provincial level, major projects like LNG Canada and Site C are put on hold until past 2022. At the regional level, investment projects like YVR's CORE infrastructure upgrades have been cancelled. Rising debt levels and a low growth environment further subdues public and private investments.

Worst Case Scenario: Summary of Key Observations

Recovery is more muted in 2021 compared to the prolonged recovery scenario, with high uncertainties that contribute to reduced consumption and investment flows

Economic and demographic observations

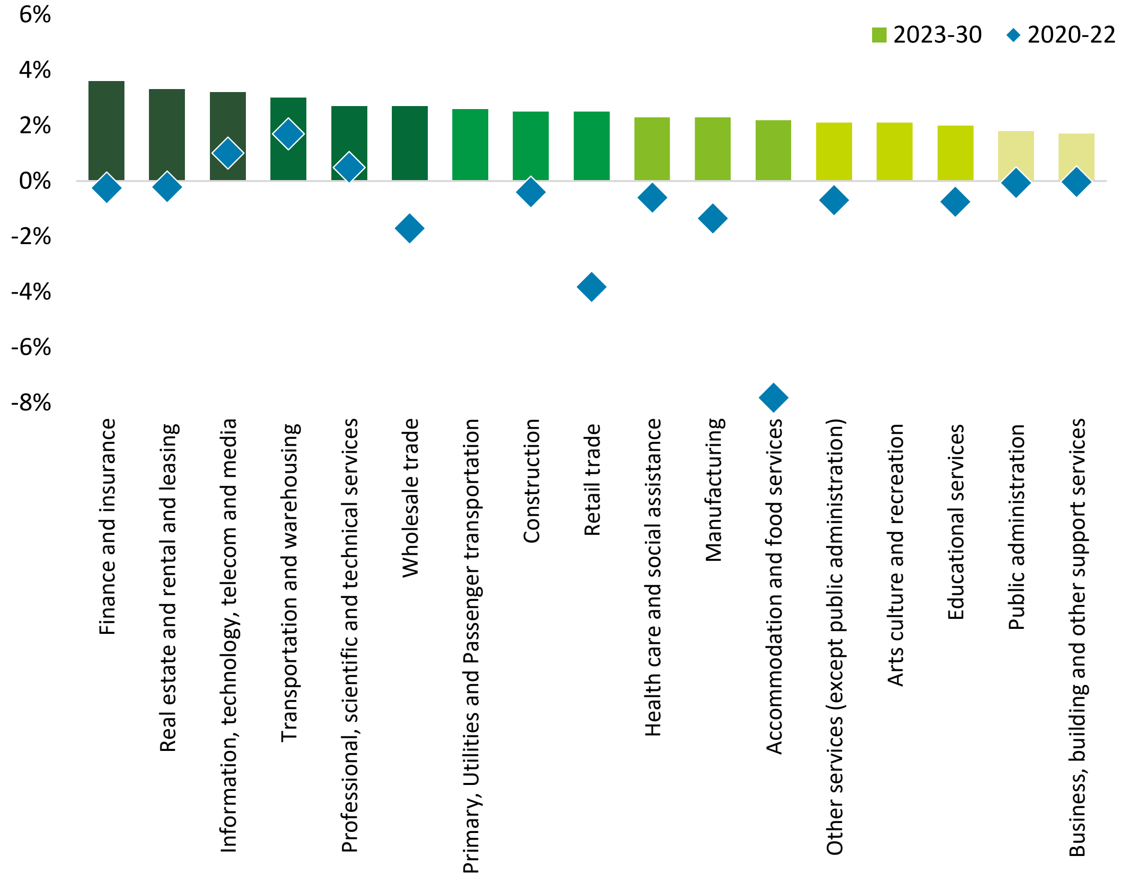
- In the immediate term, this scenario is similar to the prolonged recovery scenario since there are moderate declines in the level of unemployment in Q4 of 2020 and a pick-up in Q1 of 2021. However, the recovery is more muted in 2021 as the unemployment level stays above 8.5% for almost 3 additional quarters
- The depression fuels increased uncertainties that hold back consumption and investment flows which considerably restrain growth. Only some industries begin rehiring and there are continued layoffs in the poor performing sectors. The unemployment rate only gradually comes down to 6.5% by 2025
- The impact of the COVID19 pandemic on population growth is expected to be slightly more severe in this scenario; the drop of 0.4% in 2020 will be followed by a flat 2021 in 2021. However, moderate immigration inflows are expected in 2022 and beyond
- Over the medium term, population growth will be in the 1.0% to 1.2% range

Industry observations

- Over the recovery period of 2020-2022, the technology; non-passenger transportation and warehousing; professional services industries are projected to experience relatively more growth compared to other segments of the economy
- When considering the post-recovery period of 2023-2030, the following industries are best poised for long-term growth: finance, insurance, and real estate; technology; non-passenger transportation and warehousing; and professional, scientific, and technical services
- During the same period of 2023-2020, the Metro Vancouver economy is projected to grow at a pace of 2.6%

Worst case scenario industry outlook

Percent change, CAGR



SWOT Analysis

Introduction to SWOT Analysis

Our analysis aims to identify dimensions relevant to an investor

Investment attraction is a multifaceted activity that is highly interconnected with the economic performance of a jurisdiction(s), government policy, business sentiment and structural shifts in society. Accordingly, it is important to hone analysis in to focus on specific dimensions of economic development to provide actionable advice. Our SWOT (Strength, Weaknesses, Opportunities and Threats) analysis is from the perspective of an international or domestic investor. We note that we have written this section from an 'agnostic' foreign or domestic investor (i.e., identification of a specific sector, investment scenario or source market is out of scope of this analysis). This investor would be contemplating a new, greenfield investment into Metro Vancouver currently, as the COVID-19 restrictions are current in place. We note this is a 'point in time' analysis and findings may shift or take on different levels of relevance as macroeconomic conditions continue to change.

The analysis that follows is organized into four sub-sections: strengths, weaknesses, opportunities and threats.

SWOT Framework

- Existing comparative advantages and assets that make Metro Vancouver attractive to investors (and remain relatively unaffected by COVID-19)

- Existing challenges or gaps that negatively impact the attractiveness of Metro Vancouver to investors

- Emerging or potential opportunities for Metro Vancouver to increase attractiveness to investors in the future

- Emerging or potential factors and risks that could impact the attractiveness of Metro Vancouver to investors in the future

SWOT Approach

To help Metro Vancouver understand the perspective of an investor, Deloitte developed a framework of factors to guide the SWOT analysis

Within the SWOT, Metro Vancouver's performance vis-à-vis investment attraction is grouped according to the following key factors relevant to investors identifiable through it's icon.

Macroeconomic stability	• Metro Vancouver's relative stability of economic and financial institutions, key macroeconomic trends affecting investment prospects, and the affect of COVID-19 on macroeconomic factors . We also include reference to the perceived attractiveness and strength of the region's institutions.
Access to talent	• A comparative overview of Metro Vancouver's immigration policies, access to educational institutions and training programs, and other factors affecting employee attraction/retention. Dimensions related to the regions ability to attract and retain talent based on strong quality of life dimensions are also mentioned.
Cost competitiveness	• Selected comparisons of Metro Vancouver to peers based on dimensions including: tax rates, labour costs, office space, land availability, utility costs, and more.
Access to markets/logistical positioning	• Dimensions related to market size, proximity to markets, trade coverage and links, transportation capacity
Incentives/economic policy	• Public policy factors that could influence investment decisions and help or hinder the attractiveness of investing in Metro Vancouver including identification of key incentives relevant to investmentattraction.

Strengths (1/4)

- **A stable macro-economic and political climate reduces investment risk**: Investing in the Metro Vancouver provides international investors entry into the national economy, with notable features of Canada's value proposition extending to the region. For international investors, Metro Vancouver's attractiveness can be reinforced by these national investment features.

  For example:

  - Canada has the most sound banking system among G7 countries and ranks sixth in the world (World Economic Forum, 2019).
  - Canada is seen as the second least corrupt country among G20 members and 12th globally (Transparency International, 2019).
- **Strong public institutions, high degree of social resiliency and public trust reduce investment risk and support talent attraction:** Metro Vancouver has a historically stable economy and strong financial and legal institutions that protect and value individual rights. Relative to other North American peers, there is also a high degree of perceived trust in government, the rule of law and institutions broadly. In light of global events, BC's economic and public health policy response to the COVID-19 crisis can help convey confidence to investors, as the region has been seen as relatively successful in curbing the effects of the pandemic. In addition, the lack of civil unrest in recent months can also reduce the entrance and business disruption risk of the regional market and enable companies to develop meaningful relationships and partnerships within the community to meet shared goals.

- **Located at a strategic "T" connecting Asian and North American markets and the Cascadia Corridor**: Geographical proximity to Asia and key North American markets allows Metro Vancouver to operate in strategic corridors and economic zones. These location advantages are bolstered by the presence of strong supporting gateway infrastructure such as the Port of Vancouver, Vancouver International Airport, as well as established rail and trucking networks that enable access to global supply chains and markets. For example, Metro Vancouver remains the highest-ranked North American port in terms of port container throughput scaled by GDP according to the 2018 Greater Vancouver Scorecard. For investors seeking to sell into broader North American or Asian supply chains, establishing in the Metro Vancouver can lower distribution/transportation costs.
- **Canadian trade agreements such as USMCA, CETA and CPTPP provide preferred access to North American, European and Asian markets**: Investors locating in Metro Vancouver will gain access to the USMCA, CETA and CPTPP agreements that offer preferred access to North American, European and Asian markets. Aside from market access, international investors may also benefit from these trade agreements as they provide dispute resolution mechanisms and transparency that can de-risk global trade activities. This can reduce the cost and time to international markets and support global diversification.

Strengths (2/4)

- **Favorable national immigration policies and provincial express immigration programs**: Metro Vancouver is a net attractor of talent from other provinces and countries and is home to a highly diverse workforce. According to the 2018 Greater Vancouver Scorecard, Metro Vancouver ranks second out of 20 comparator jurisdictions with regards to share of foreign-born population. This share of foreign-born population has been enabled by open immigration policies. For example, the Skills Immigration and Express Entry BC policies help employers attract and retain talent by providing an immigration pathway for skilled and semi-skilled workers. Notably, these types of initiatives can decrease the time and costs related to sponsoring global executives or other key positions from other countries.
- **Home to world-renowned education institutions, academics and research assets:** The region is home to several world-renowned educational institutions, including the University of British Columbia, which is the second highest ranked university in the country and is consistently ranked in the top 40 universities in the world. The province's workforce is highly educated, with more than 60% having taken post-secondary education and well over one quarter possessing a university degree (Trade and Invest BC, 2019). For knowledge-based industries, access to this talent can help to reduce skills gaps, attract further talent from across the globe, and develop a pipeline of future talent.
- **A high quality of life supports talent attraction, retention and the relocation of staff to region**: Metro Vancouver boasts a desirable quality of life which can help to attract and retain talent as well as relocate staff to the region. While Canada generally is able to attract immigrants through its macroeconomic and social stability, Metro Vancouver offers specific benefits that enhance it's quality of life such as its proximity to the mountains and ocean and the region's world-class educational institutions. To illustrate, the Economist Intelligence Unit (EIU), consistently ranks Vancouver as one of the most livable cities in the world. The Mercer Human Resource Consulting group's 2019 Quality of Living Survey also ranked Vancouver third out of 231 cities worldwide and first in North America.

- **Lower operating costs in certain categories (e.g. labour, office space, utilities) relative to other global metropolitan areas**: According to some estimates, the region can have more competitive effective corporate tax rates, office space costs and utility costs. Examples include:
  - In combination with the federal rate, British Columbia businesses pay a combined corporate income tax rate that is among the lowest in the G7 at 27% (Trade and Invest BC, 2019).
  - According to the 2018 Greater Vancouver Scorecard, Vancouver ranks sixth out of 18 peer jurisdictions with regards to office rent based with an average rent of $US40 per square foot (compared to Hong Kong, the Scorecards most expensive office market with US$300 per square foot).
  - Metro Vancouver recorded the third lowest electricity cost at $7.9/kWh for large power customers in 2019 compared to other Canadian cities, after only Montreal and Winnipeg (Hydro Quebec, 2019)

Strengths (3/4)

- **Investors looking to locate in specific industries (such as film or technology), may be eligible for tax credits and other benefits through government incentives in Metro Vancouver**: Investors looking to locate in specific industries may be eligible for tax credits and other competitive advantages when investing in the region. Examples of incentives that investors in Metro Vancouver may leverage include:
  - **Small business venture capital tax credit**: This allows investors to reduce their taxes with a special tax credit if they make equity capital investments in BC's small businesses.
  - **Film and television**: **BC's Interactive Digital Media Tax Credit, Film and Television Tax Credits, and Production Services Tax Credits** – These tax credits allow for investors to: reduce salary and wage costs through a tax credit in developing interactive digital media products, claim special tax credits for film or video productions with Canadian content, and receive tax credits for accredited film and video production corporations working in B.C. Examples include:
    - British Columbia Production Services Tax Credit – which offers Canadian, or international film and TV production companies with a permanent establishment in BC, a 28% refundable tax credit on eligible labour costs.
    - Film Incentive BC Tax Credit – a labour-based tax incentive offering a refundable tax credit of 35% to Canadian-controlled production companies
    - Canadian Film or Video Production Tax Credit – Provided by the Government of Canada, it offers a credit of 25% of qualified labour to Canadian-controlled production companies, with a credit of 16% of qualified labour costs to Canadian controlled production companies and those with a permanent establishment in Canada
    - BC Digital Animation or Visual Effects (DAVE) provides a tax credit of 16% on qualifying labour costs to production companies employing BC talent for post-production and sound.
  - **Research intensive/ innovating companies**: **Scientific Research and Experimental Development Tax Credit**: The BC SR&ED tax credit is intended to encourage corporations to perform research and development (R&D) that will lead to new or improved scientific or technological advancements. Corporations that are Canadian- controlled private corporations conducting SR&ED can receive a refundable tax credit.
  - **Technology companies**, **BC Tech Co-op Grant**: Non-profit technology companies in B.C. employing less than 99 employees can receive a BC Tech Co-op Grant of $2700

Strengths (4/4)

- **Strong technology start up ecosystem which can provide acquisition targets, investment opportunities, or strategic partnerships for incoming investors**: The region has developed a strong technology start up ecosystem through a combination of a growing STEM sector and linkages to key markets including Silicon Valley, Asia and the Cascadia Innovation Corridor. For investors, the clustering of technology start ups in fields such as data visualization, AR-MR-VR, simulation, augmentation, super computing, quantum computing, machine and deep learning, and the internet-of-things can be positive in several ways:
  - Start ups in cutting edge technology can be acquired and/or partnered with as traditional segments of the economy seek to leverage new approaches to remaining competitive (e.g., an agricultural company seeking to adopt new technologies to break into 'Ag-tech')
  - Start ups can be incorporated into supply chains as service providers to enhance competitiveness
  - Start ups can be acquisition targets for firms that want to expand their scope of services or market share
- **Home to Canada's Digital Technology supercluster, undertaking leading technology research in core sectors such as natural resources, health, and manufacturing**: Canada's Digital Supercluster is a cross-industry collaboration of diverse organizations, including some of Canada's biggest names in healthcare, communications, natural resources, technology, and transportation. BC was selected for the location of this Supercluster based on " [the] strength in British Columbia and Canada as the starting point for developing and applying digital technologies to support the digital transformation ambitions of industry leaders" (Government of Canada, 2020). For investors, this Supercluster is an explicit statement of intent for the region and an opportunity to participate and benefit from an ambitious innovation and growth agenda.

Weaknesses (1/3)

- **Relatively small domestic market within a global context and is located relatively far from other major markets (other than Seattle)**: Metro Vancouver is constrained by it's relatively small market size (as measured by the total income of the population within a 500-mile radius). It is ranked 16th out of 20 metro areas in the 2018 Greater Vancouver Scorecard in terms of market size. A smaller market renders it more challenging for local businesses to realize economies of scale and grow rapidly. In addition, businesses located in Metro Vancouver may need to rely on an open economy to access major markets and achieve economies of scale. With regards to other metropolitan areas in Canada, Toronto's market is more than seven times the size of Metro Vancouver's, and Montréal's is almost six times larger. While Metro Vancouver provides strategic access to the Western US, it is far from major cities in the US Northeast. For example, Toronto and Montréal are both close to major markets such as Boston, New York, Philadelphia, and Washington DC. By comparison, Metro Vancouver is in close proximity to Seattle and Portland in the United States, which represent smaller markets compared to those in the U.S. Northeast.
- **Lacks a high concentration of corporate head offices, which may reduce business opportunities in the region**: BC and Vancouver in particular have historically struggled to develop a strong cluster of major corporate head offices. According to Statistics Canada's 2018 Annual Head Office Survey, BC was ranked fourth in terms of head offices and jobs relative to other Canadian provinces (after Ontario, Quebec, and Alberta). However, BC trails far behind Alberta in head office employment, with less than half as many corporate jobs. Similarly, Metro Vancouver is ranked third among metropolitan regions in Canada with regards to the number of head offices, but fourth in terms of head office employment. Headquarter offices are typically responsible for key decision making and strategy for companies. Thus, a lack of these types of offices can limit the scale of senior decision makers within the region's workforce and lead to a perception that the region is not hospitable for national or international headquarters and a 'regional' city only.

- **Relatively high marginal effective tax rate on capital investments, and relatively high construction costs**: Metro Vancouver ranks 17th out of 17 peer metro regions for the marginal effective tax rate ("METR") on capital investment for business according to the 2018 Greater Vancouver Economic Scorecard.[1] The METR measures the proportion of the rate of return from a new investment that is required to pay all capital-related taxes. Metro Vancouver's poor showing on the METR can be in part attributed to BC's unharmonized retail sales tax, which results in a significant tax on business capital purchases. In addition, the 2018 US tax legislation changes contributed to Metro Vancouver's poor performance, as the recent tax cuts in the US lowered the METR in all US comparator regions. Aside from the METR, Metro Vancouver exhibits high construction costs which may deter investors looking for development opportunities in the region. According to an international construction market survey by Turner & Townsend, Vancouver's average construction cost was US$2,720.8 per m^2 in 2019. This represented the most expensive place to build in Canada among major cities.

1 –The 2018 Greater Vancouver Scorecard analyzes how Metro Vancouver performs relative to 19 other international city-regions measured on 38 key economic and social indicators. Due to the strategic importance of transportation to Metro Vancouver's economy, the majority of these city-regions were selected because they are also major transportation gateways (for more information, please refer to the Appendix). The 17 metro regions cited refer to the regions where data on the METR was available for comparison.

Weaknesses (2/3)

- **Limited availability of industrial land, due to competing land-use priorities**: Metro Vancouver is projected to run out of vacant and undeveloped industrial-zoned land in the next 10 to 15 years, barring any intervention. This was determined by Wollenberg Munro Consulting in a report commissioned by the Metro Vancouver Regional District, which states that it is likely that there will be sustained industrial growth and a corresponding need for industrial land to accommodate development. The availability of industrial land is crucial for economic growth, as about 23% (275,000) of the region’s jobs are located on industrial lands. Due to the current shortage, Metro Vancouver has developed the Regional Industrial Lands Strategy (“RILS”) which aims to ensure sufficient industrial lands to meet the needs of the growing regional economy by the year 2050. At present, however, the lack of available land and high costs could discourage businesses from locating or expanding in the region.

- **Poor housing affordability may constrain ability to attract talent and relocate staff to the region**: Housing affordability is one of Metro Vancouver’s most pressing challenges, with the median household price being 12.6 times higher than gross yearly household income. According to the 2018 Greater Vancouver Scorecard, Metro Vancouver ranks 13th of 15 metro regions for housing affordability, illustrating that Metro Vancouver performs poorly on this metric compared to peers. As a result, investors may struggle to attract and retain workers that are challenged with housing prices. This could be particularly relevant for lower wage or entry level jobs. In addition, investors may be required to compensate workers at a higher level to account for high housing prices, thereby driving talent related costs.
- **Relatively low labour productivity levels, a factor that contributes to relatively low after-tax incomes**: According to the 2018 Greater Vancouver Scorecard, Metro Vancouver ranks 13th out of 20 comparator jurisdictions with regards to labour productivity. Low levels of labour productivity is a cause of concern as it can reflect a lack of capital or R&D investment that can hinder long-term growth. It is also interlinked with the region’s relatively poor performances with regards to levels of real GDP per capita (13th/20) and after-tax incomes (14th/20). Among the Canadian metro areas, Calgary and Toronto both do better with regards to labour productivity, although Calgary’s better performance can largely be attributed to the prominence of the capital-intensive oil and gas sector. With relatively low levels of labour productivity and corresponding after-tax incomes, Metro Vancouver may struggle to retain talent in a context of poor housing affordability. Illustratively, Metro Vancouver’s after-tax income was measured at US$25,400, while front-runner San Francisco’s was US$64,300 or 2.5 times higher (2018 Greater Vancouver Scorecard).
- **Underinvestment in Metro Vancouver’s regional transit infrastructure compared to peers and associated congestion costs hamper productivity and impact quality of life:** According to TomTom's Traffic Index, Vancouver had the 40th highest congestion of 403 global cities in 2019, costing the region’s economy an estimated $1.5 billion annually (conservatively estimated by Transport Canada). Since 2001, Metro Vancouver’s population has grown by 27% which has led to increasing congestion costs on our transportation corridors, creating a constraint on business competitiveness. According to Metro Vancouver, regional congestion is forecasted to increase by 40% by 2030 and population expected to grow by another million people by 2050 which can create supply chain and delivery challenges for companies distributing goods. In addition, a lack of investment in public transit infrastructure impedes on a region’s quality of life and may compound housing affordability issues through limiting options to live outside of the city core due to a lack of connectivity.

Weaknesses (3/3)

- **Perception of a high regulatory burden and a lengthy permitting process:** The permitting process and regulatory requirements across Metro Vancouver are perceived as lengthy and complex by some investors in comparison with other major metropolitan regions. The added time and uncertainty can result in increased costs associated with the investment and discourage potential investors. Further harmonization and streamlining of the regulatory process across the region can mitigate this challenge.
- **Perceived lack of "one stop shop" regional service to potential investors (which can be addressed as Metro Vancouver continues to build out and advertise the Regional Economic Prosperity service)**: Metro Vancouver is home to 23 diverse municipalities, many of which have individual economic development strategies, plans, and functions at various stages of maturity. While this can enable the provision of localized services, the region has historically lacked a 'one stop shop' to service incoming investors (similar to Toronto Global, Edmonton Global, or Montreal International, for example). The Metro Vancouver Board has addressed this need through the creation of the Regional Economic Prosperity service, which will provide a similar service to investors looking to locate in the region as Metro Vancouver continues to build out and advertise the service.

Opportunities (1/3)

- **A potential global shift towards sustainable investments could result in investment opportunities in the emerging green economy, bolstered by the CleanBC plan**: According to recent analysis by UNCTAD, investor preferences may change in light of the current COVID-19 pandemic. Investors looking for investment opportunities in global markets will likely not be looking for investment projects in manufacturing, but for value-creating projects in infrastructure, renewable energy, water and sanitation, food and agriculture, and health care.[1] As the pandemic exposed vulnerabilities in the oil and gas sector, the International Renewable Energy Agency projects that green energy investments could see returns of up to $8 on every dollar spent. Metro Vancouver is home to an emerging green economy cluster, and therefore may leverage its assets in order to attract sustainable investments. This is supported by the CleanBC framework, a plan introduced in 2018 to reduce GHG emissions while supporting economic growth. The Province has committed $902 million to fund CleanBC initiatives over the next three years to electrify the industrial and transportation sectors and increase building efficiency. In addition, BC has committed $3.24 million in 2019-20 to support pre-commercial clean energy technology products through the Innovative Clean Energy (ICE) Fund.
- **The emerging Liquefied Natural Gas ("LNG") sector in BC could result in opportunities for Metro Vancouver to attract energy companies as well as supporting businesses that are part of the supply chain**: The global LNG market has been one of the fastest growing segments of the world's energy sector over the past two decades. Due to BC's proximity to Asian markets, it has a geographic cost advantage in supplying growing energy demand in Asian nations through LNG trade. This is particularly salient as Asian countries seek to transition towards cleaner energy sources to support economic growth. BC's LNG market is poised for growth, particularly with the $40 billion LNG Canada's Kitimat LNG project's estimated completion of 2025. As the business centre of BC's economy, Metro Vancouver is well positioned to house supporting businesses that are part of the LNG ecosystem.
- **Rising global demand in specific sectors such as health care and the digital economy could provide an opportunity to capitalize on existing industry clusters in Metro Vancouver:** The onset of COVID-19 has increased demand for health care, pharmaceutical and digital capabilities as consumers shift spending habits. Correspondingly, the health care and information services sectors have raised their capital investment plans in Canada. These sectors are projected to be contributors to GDP growth in Metro Vancouver between 2020-2024, according to Deloitte's macroeconomic forecasts. Anticipated growth in these sectors could be used to develop bespoke, targeted investments to capitalize on these forms of opportunities and take advantage of changing consumer habits. This approach would be in contrast to 'broad based' incentives or policy supports and could help to attract specific, targeted investments.

1 – (UNCTAD,2020).

Opportunities (2/3)

- **Metro Vancouver could be a hospitable setting for medtech related investments due to the emerging cluster in the region and large presence of health institutions, universities and research talent:** The medical technology sector may be poised for growth in the region due to growing demand in the sector accelerated by COVID-19, as well as regional capabilities stemming from the presence of health institutions, universities, the Innovation Boulevard healthtech accelerator and research talent. In terms of growing demand, a recent survey conducted by Green Shield Canada (a not-for-profit organization that specializes in providing individual health and dental insurance and group benefits) suggests that there is increasing interest in virtual healthcare services with the reduction of in-person interactions brought on by the COVID-19 pandemic. Out of 500 Green Shield Canada health benefits plan members, more than two-thirds said they would fill a prescription from an online pharmacy. Metro Vancouver has an emerging 'MedTech' sector and has demonstrated recent success in this region. As one example, PocketPills, a Surrey-based digital pharmacy startup that delivers medication from pharmacies directly to patients, has been enhancing its platform during the pandemic as a way for customers to easily receive prescription medication while social distancing. Since the start of the pandemic, PocketPills reports that usage tripled from late February 2020 to late March 2020.
- **Major productions in the United States may see Metro Vancouver (i.e. Canada's "Hollywood North") as a more desirable location if the region continues to manage the COVID-19 pandemic well:** Canada, and BC in particular, have fared relatively better than it's southern neighbors with regards to curbing the effects of the COVID-19 pandemic. Although film production was put on pause in early 2020 in BC, it has since received the green light to resume as the Province entered Phase 3 of its restart plan in June (with several health and safety measures put in place). There have been several announcements of productions moving from the United States to BC to avoid COVID-19 and continue production.
  - For instance, the production of Hypnotic, an action thriller starring Ben Affleck and directed by Robert Rodriguez, has announced intent to begin shooting in Vancouver in October. The production cited availability of COVID tests, turnaround time of lab results, and the reputation of Vancouver as a world-class film city as key factors influencing it's move to BC from California.
- **Opportunities to attract investors to an established Gaming cluster:** The gaming industry has seen an increase in economic activity since lockdown measures were introduced in early 2020 to curb the COVID-19 pandemic. At the height of the pandemic, video game sales in March reached $1.6 billion, representing a 35% year over year increase according to the NDP group. Vancouver already boasts a prominent video game cluster with over 170 video game development studios located in the area. This could encourage investors in the gaming industry to locate in Vancouver, especially due to the fact that companies in the sector have access to competitive government incentives, such as the BC Interactive Digital Media Credit, which offers a 17.5% refundable credit on qualified BC labour expenditures for interactive digital media.

Opportunities (3/3)

- **Commitments in BC's Economic Recovery Plan could set attractive conditions for the Agriculture sector in the region:** As a means to support BC's economic recovery, the province has allocated $25 million to food security and farming programs designed to increase the agricultural capacity of the region and support food security. These programs involve investments in local food producers, increased funding for digital connectivity and investments in innovation and Agritech broadly. These priorities could help to create business opportunities for firms within this segment of the economy and the supporting ecosystem.

- **Recovery stimulus efforts could drive investments to invest in critical infrastructure that improves the value proposition of the region**: As the province and region consider opportunities to stimulate economic activity, investments in critical infrastructure could enhance the value proposition of the region in the long term. Examples include: new conference facilities, 'landmark' transportation/infrastructure projects, skytrain expansion, tunnel and bridge replacements, etc. These types of projects would not only stimulate the economy, but could also contribute to solving longstanding transportation challenges.
- **Divesting of non-essential assets could create investment attraction opportunities**: As municipalities plan to mitigate the financial impacts of the crisis, municipalities may consider selling non-essential assets to assist with cash-flow needs, including vacant land. Unconventional instruments, such as sale and lease-back opportunities of parks or roads, may also provide immediate cash inflows to cover operating expenses. Notably, provincial and federal governments may also consider these levers thereby creating a broader range of opportunities in the region. In these forms of investment scenarios, incentives would be less relevant as demonstrable commercial return would dominate decision making and investments could be done via competitive processes. Therefore, the region may be better positioned to capitalize on these forms of opportunities relative to 'traditional' investment scenarios in which incentives can be at play.

- **Movement towards repatriating supply chains and developing supply chain resiliency could create domestic investment opportunities:** COVID-19 exposed supply chain vulnerabilities across several sectors. It is possible that companies that are reviewing their supply chains could consider an investment or expansion in the region to ensure access to critical supplies, complete timely delivery to customers or to limit exposure to potential further lockdowns or border disruptions that may occur.
  - Some Canadian headquartered firms that encountered challenges with global suppliers/distributors may seek to repatriate global supply chain activity to gain greater self-sufficiency in the production/capacity at home and thus may consider the region as a means to grow a footprint in Canada.

Threats (1/4)

- **FDI flows into Canada are expected to significantly decline due to the pandemic, reducing the sense of urgency for investors to execute on deals**: FDI flows into Canada have been on a downward trajectory since 2016 and are expected to decline sharply as a consequence of the pandemic and the resulting supply chain disruptions, demand contractions, and uncertain macroeconomic outlook. Global FDI flows are expected to fall by more than 30% this year compared to 2019. As companies withdraw, cancel or pause large scale investments, competitors and suppliers will often follow as there may be a reduced sense of urgency to invest. In addition, tighter restrictions on international trade and investment have already emerged as a result of the pandemic. The trend towards rationalization of international operations, reshoring, nearshoring and regionalization looks likely to accelerate, leading to downward pressure on FDI.
- **Canadian business investment is expected to fall which could weaken the strength of businesses cases for new investment in Canada**: As the COVID-19 crisis has unfolded, Canadian businesses have reported declines in investment which can weaken the need to engage in expansion exercises, or enter into new Canadian markets. The following findings from Statistics Canada illustrate weakening business investment in Canada as a result of the pandemic:
  - Prior to the public health crisis, firms were signaling an increase of business investment by 2.8% in 2020.
  - Firms are now predicting $32.9 billion less investment, with a 10.1% decrease in non-residential construction and a 15.4% drop in machinery and equipment.
  - A big part of the story is the oil and gas extraction industry, which has gone from a prior expectation for a modest increase in investment to cutting investment by 31.7%
  - Other industries that drastically lowered investment plans include the hardest hit services sectors, including the accommodation and food services sector that is anticipating a 39.2% fall in investment across the entire country. The manufacturing sector is also anticipating an 18.5% decline in capital spending (Statistics Canada, Deloitte Analysis).
- **Metro Vancouver's individual spending patterns have not yet returned to pre-pandemic levels and will likely not for some time, thereby limiting the scale of potential sales opportunities:** Consumer spending accounts for nearly 60% of economic activity and has been strongly affected by the pandemic. Households may be cautious in their spending and the labour market recovery could take considerable time. The recent Impact Pulse survey led by the BC Chamber of Commerce, the Greater Vancouver Board of Trade and the Business Council of British Columbia found that 75% of business leaders in BC reported challenges attracting customers or revenues. These findings were gathered from surveying 1,343 business leaders between May 11–15, 2020.

Threats (2/4)

- **Global forces and a changing structure of the BC economy may limit opportunities in some resource sectors, such as Forestry and potentially Mining**: Forest products are central to B.C.'s economy, with wood-based products representing 32% of the province's international goods exports in 2018. The nature of the industry, however, is changing as a result of challenges associated with the softwood lumber trade dispute with the United States, the Mountain Pine Beetle epidemic, and the increasing frequency of fires in Interior BC. Although the majority of the industry is located outside of Metro Vancouver, the metropolitan region has served as a location for a variety of legal, accounting and technical services to resource-based firms throughout the province.
  - For example, two-thirds of BC's largest forestry companies are headquartered in Metro Vancouver according to the Vancouver Economic Commission. With a decline in the forestry industry, opportunities for investment in the professional services segment of the sector may dwindle
  - Similarly, BC's mining sector is encountering structural challenges such as difficulties gaining social license, increased scrutiny on environmental and sustainable practices, forecasted labour force shortages and susceptibility to boom-and-bust cycles. These factors reduce the sector's ability to remain commercially viable (WorkBC, 2017). In the last two years no new mines have been established in BC (Vancouver Sun, 2020).
- **Investment opportunities in Metro Vancouver's service intensive economy may be limited due to the impact of COVID-19**: Metro Vancouver was one of the hardest hit regions in terms of employment losses compared to other Canadian urban centres. This is largely due to its service intensive economy, which was directly affected by measures enacted to curb the spread of the virus. Going forward, service-based sectors that play a large role in Metro Vancouver's economy (such as, tourism, retail, and hospitality industries) will be in the process of recovery and therefore will be less poised to receive investment.
- **The normalization of remote working could diminish business cases for new investments:** As a metropolitan region, Metro Vancouver could be a natural destination for office spaces or regional centers. Several sectors, however, have transitioned towards remote working due to the pandemic and may reconsider the need for large footprint office spaces. While this could have impacts on the construction industry, this could also impact the outlook of service providing companies that typically sell into large offices – thereby reducing demand for downtown offices, or investments in major Canadian cities. For example, Shopify said most of its 5,000-plus staff would continue to do their jobs from home while it also adjusts its workflow and office-space needs accordingly (Globe and Mail, May 2020).
- **In recent years, BC's business environment has been flagged for corruption risks damaging perception on its investment climate**: Canada has fallen from its position within the top 10 least corrupt countries on Transparency International's annual Corruption Perceptions Index (CPI). Canada fell four points in one year to the number 12 position, with a score of 77 out of 100. This position leaves the country trailing behind peers like the Germany, the Netherlands, and Norway. The CPI outlined that national money laundering has contributed to the reduction in the index. This has been particularly salient in British Columbia, where two different government-commissioned reports examined the problem of money laundering in the real estate, casinos and luxury goods sectors. This could dampen Metro Vancouver's reputation to the global business community and diminish the perceived safety of the region as a setting for investment.

Threats (3/4)

- **Global policy responses to COVID-19 related to FDI are uncertain, potentially discouraging investors from making any timely investments:** The pandemic could have lasting effects on investment policymaking. Growing senses of economic nationalism may encourage a shift towards more restrictive admission policies for foreign investment in strategic industries. At the international level, the pandemic will accentuate the need for international investment agreements ("IIA") reform as government responses to the health crisis and its economic fallout could create friction with IIA obligations. Taken together, this could create an uncertain environment which does not encourage investment.
- **Canada has released a policy statement on FDI that could signal tightening of government reviews/oversight of specific FDI initiatives:** In April 2020, the Canadian government issued a policy statement on Foreign Investment Reviews in Canada. While the Canadian government has not introduced any new review procedures or powers, the policy will rely on existing powers such as the ability to request additional information or extend timelines and to ensure that certain types of investments are adequately reviewed during the COVID-19 pandemic.
  - The Canadian government recognized that the current state of the financial markets and global economy as a result of the COVID-19 pandemic is a "unique" environment that could lead to "opportunistic investment behavior." While foreign investment is typically a welcome and integral element to the success of Canadian businesses, the current "extraordinary circumstances" and market conditions require appropriate regulatory and policy changes.
  - Therefore, the policy advises that the Canadian government will increase oversight of certain foreign direct investments to protect the Canadian economy and national security. For investors in strategic sectors (e.g., energy, telecommunications) this could result in more engagement with government officials prior to investment. (Government of Canada, Norton Rose Fulbright).
  - While the policy statement does not directly restrict investment, it could drive the perception that Canada has become more difficult to invest in.
- **The uncertainty associated with the reconciliation process with First Nations creates additional risk in the minds of potential investors; successful reconciliation is fundamental in addressing this risk and ultimately attracting investment:** BC is the only jurisdiction in Canada where a majority of the land has not been settled by the Government of Canada through treaties with First Nations. In the absence of treaties that detail the rights and title of First Nations, investors may perceive greater complexity and risks associated with the region. It is estimated that the uncertainty surrounding First Nations rights and title could potentially cost the province billions of dollars in lost investment, due to the delay, disruption, or legal actions that arise due to disputed land claims (Indigenous and Northern Affairs Canada). Successful reconciliation is fundamental in addressing this risk and ultimately enabling economic growth and investment attraction.

Threats (4/4)

- **Fiscal pressures on municipalities could limit investments that could enhance Metro Vancouver's competitiveness and affect the cost profile of investing in the region**: Like other Canadian cities, the COVID-19 crisis has created pressures on municipal services and caused potential risks associated with lower residential tax receipts. In this environment, it is possible cities will work to reduce non-essential services with variable costs, cut discretionary spending and pause/cancel planned investments. Taken together, municipalities may consider new levers such as new fees, revised tax structures or changes to municipal services which could potentially change the cost profile associated with investing in the region.
- **Due to the COVID-19 pandemic, global investors will have less access to traditional investment attraction tactics that profile and market jurisdictions like Metro Vancouver**: For investors, large scale conferences and/or investment forums (i.e., BIOMEDevice, Hannover Messe etc) will likely be cancelled and/or less easy to attend due to the COVID-19 pandemic. As a result, investors will have less access to traditional investment attraction tactics that profile and market jurisdictions like Metro Vancouver. To advertise the value proposition of a region, investors may require alternative marketing tactics and further one-to-one investment attraction support from economic development organizations. This could add time and cost to the business casing and site selection process for investors.
- **Given a decline in deal flow, investors could expect generous incentives to attract investment, an approach historically not prioritized by BC**: Under the most optimistic scenario, global FDI flows are expected to fall by more than 30% in 2020 compared to 2019. Due to the reduced amount of investment opportunities as a result of COVID-19, jurisdictions may adopt more aggressive investment attraction tactics (e.g., more robust incentives, policy/regulatory assistance, co-investments etc.). BC has historically not prioritized this approach as a tactic to attract investment, which could put the region at a disadvantage compared to other global or Canadian peers. Further, given the economic and financial climate, incentives may play a more pronounced role in influencing investors decisions. New forms of incentives, investor services and business casing may be required for the region to compete successfully against peers.

Elements of Metro Vancouver’s Value Proposition

Elements of a Value Proposition to Global Investors

The region's value proposition could rest on five foundational elements: access to talent, access to global markets, quality of life, cost of doing business, and resilient civil society; these elements are largely agnostic to sector but may be more or less applicable in different source markets or for different types of investors

Supporting evidence is provided for each element in the following pages and is based on the report's economic landscape, SWOT analysis, as well as third-party research conducted from various sources such as the Vancouver Economic Commission, industry reports, and Statistics Canada. The content should be viewed as an input to a tailored value proposition document/business case for investment.

Access to Talent

- Metro Vancouver boasts a highly educated workforce that can help to reduce skills gaps, attract globally competitive talent and develop a pipeline of future talent
- Favorable immigration policies reduce the time and effort required to access global talent and contribute to Metro Vancouver's position as a net attractor of talent from other provinces and countries

Access to Global Markets

- By investing in Metro Vancouver, investors gain strategic access to Asian and North American markets
- With access to the Cascadia Corridor, investors in Metro Vancouver stand to benefit from it's strong technology start-up ecosystem and potential growth opportunities in the region
- Key trade agreements such as the USMCA, CETA and CPTPP offer investors access to North American, European and Asian markets, helping develop global supply chains

Quality of Life

- Metro Vancouver is consistently ranked as one of the most livable, healthy and safe cities in North America
- Metro Vancouver is home to a young, diverse and progressive population that contributes to the attraction and retention of employees
- Metro Vancouver's vibrant arts and culture scene and top-rated food destination enhance residents' quality of life while attracting visitors to the region

Cost of Doing Business

- Stable business climate, financial and legal institutions can reduce investment risks for global investors
- Investors stand to benefit from relatively low effective corporate tax rates as well as low labor, office space, and utility costs
- BC has a suite of sector specific incentives and initiatives to offset costs for investments

Resilient Civil Society

- There is a high degree of trust in public institutions and social resiliency in the region, creating a stable and favorable climate for investors
- For example, local health authorities have effectively gained public trust as part of COVID-19 containment efforts
- Furthermore, the region has not exhibited the levels of civil unrest seen in other large metropolitan areas such as Seattle, Portland, New York and Hong Kong

Access to Talent

Metro Vancouver consistently attracts global, high-quality talent through it's quality of life, world-renowned educational institutions, and immigration policies; a trend that will likely be disrupted as a result of COVID-19 related impacts and restrictions

Metro Vancouver offers favorable immigration policies that ensure that companies can seamlessly bring in global talent to Canada

Approximately **35,000 global citizens immigrate to the region** on an annual basis in recent years, and immigrants make up more than 40% of Metro Vancouver's population as of the latest 2016 Census. Immigration is key to bolstering the future workforce and Metro Vancouver is ranked second out of 20 jurisdictions with regards to it's share of foreign-born population according to the 2018 Greater Vancouver Scorecard.

These trends are enabled by the following key immigration policies:

- **Global Skills Strategy:** High-skilled workers coming to Canada can benefit from two-week processing of applications for work permits and temporary resident visas. Open work permits for spouses and study permits for dependents are also processed in two weeks.
- **BC Government's Provincial Nominee Program:** BC can fast-track nominations for permanent residence and also offer work permit support letters while awaiting permanent residency processing. BC can also facilitate access to the Canadian Government's Visa and Work Permits process when recruiting foreign workers.
- **The Startup Visa Program:** The Startup Visa program provides fast-track Canadian residency for tech investors and entrepreneurs, in as little as two-and-a-half months.
- **Permanent Residency:** Qualified, high-skilled workers from around the globe can apply for permanent residency through the federal government's Express Entry system, as well as BC's Provincial Nominee Program (PNP). These two programs alone admitted over 16,000 permanent residents to the province in 2016.

Notably, the COVID-19 pandemic will severely limit global migration and therefore will have an effect on Metro Vancouver's demographic composition in years to come.

Metro Vancouver is home to world-renowned educational institutions that contribute to its highly diverse and educated workforce

Metro Vancouver's world-renowned post-secondary institutions help develop high-quality, highly-educated, and industry ready talent that's helping grow the region's economy. For example, the Province's leading university, the University of British Columbia, is the **second highest ranked** university in the country and is consistently ranked in the **top 40** universities in the world.

At the provincial level, the Student Transition Project estimates that BC attracts 60,000 international students to post-secondary institutions each year, and has been recently ranked by the Conference Board of Canada as having the third-best education system in the world. According to a study by the B.C. Council for International Education, international students cite quality of education, quality of life, friendly and diverse population, and climate as the key factors motivating their choice to study in the region.

At the Metro Vancouver region level, the 2019 QS Best Student Cities list ranked Vancouver as the sixteenth best student city in the world. Importantly, many educational institutions are offering virtual classes due to COVID-19, which will reduce the number of international students in the region at least in the short-term.

Key Post-Secondary Institutions in the Metro Vancouver region

- University of British Columbia (UBC)
- Simon Fraser University (SFU)
- British Columbia Institute of Technology (BCIT)
- Brainstation
- Capilano University
- Centre for Digital Media
- Douglas College
- Emily Carr University of Art and Design
- Justice Institute of British Columbia
- Kwantlen Polytechnic University
- Langara College
- Lighthouse Labs
- Lost Boys Studios
- Vancouver Community College (VCC)
- Vancouver Film School

Source: Statistics Canada Census, Vancouver Economic Commission, NewToBC, 2018 Greater Vancouver Scorecard, Student Transitions Project (STP), Conference Board of Canada

Access to Global Markets

Metro Vancouver serves as an important gateway to North American and Asian markets due to its geographic location and key trade agreements that enable the flow of goods and services

Metro Vancouver has historically been North America's strategic gateway for the flow of goods and services across the Pacific Region

Marking its first historical milestone in 1864 with overseas shipments of lumber, the Port of Vancouver is the largest port in Canada and the third largest port in North America by tonnage capacity. It currently trades in approximately **C$240B worth of goods across more than 170 economies globally** and has witnessed an increase of **11% in the total metric tonnes** traded between the years 2015 and 2019, from 138mn metric tonnes to 144mn metric tonnes (Port of Vancouver, 2019). With the growth in trade, the federal government has initiated a **Greater Vancouver Gateway 2030** program to strengthen their trade access to global markets. Under this initiative approximately 40 projects will be undertaken to improve the movement of goods and people through the Vancouver Gateway.

Top 5 Ports in Canada in FY2019

Rank	Port	Metric Tonnes (mn)
1	Port of Vancouver	144
2	Port of Montreal	40
3	Port of Prince Rupert	30
4	Port of Halifax	4
5	Port of Saint John	28

Source: iContainers, 2020

Geographical proximity to Asia and key North American markets allows Metro Vancouver to operate in strategic corridors and economic zones

- **Canada's Asia-Pacific Gateway:** Metro Vancouver offers the shortest distances to Asia from any major North American city. Due to its location, several "Pacific Gateway" initiatives have been implemented over the past years with the aim of strengthening Canada's ties with Asia. More recent policies include: the BC provincial government's Asia Pacific Gateway Initiative, which called for $12.1 billion to be invested in new infrastructure, as well as the Asia Pacific Gateway and Corridor Initiative ("APCGI") which provides funding for infrastructure to ultimately increase the transportation of both people and goods between North America and Asia.
- **Cascadia Corridor:** Metro Vancouver, Seattle and Portland form the Cascadia Corridor and are located in the Pacific Northwest. The cities draw specific advantages from their proximity to Asia as well as their strength in key sectors. The Cascadia Innovation Corridor, established in 2016, is a cross-border initiative between governments, companies, and universities that aims to create a global hub of innovation and commerce in the Cascadia Corridor. The initiative is poised to create growth opportunities for the high-tech, life sciences, clean tech and data analytics industries in the Corridor. This is particularly important given Metro Vancouver's strong technology start up ecosystem that leverages linkages to key markets including Silicon Valley, Asia and the Cascadia Innovation Corridor.

Key trade agreements allow Metro Vancouver to gain access across several markets

- **United States-Mexico-Canada Agreement (USMCA):** Covers all the aspects of North American trade with new provisions in intellectual properties, digital trade, labor and environmental standards. Metro Vancouver looks to benefit from this agreement, as it safeguards industries that rely on the constant trade.
- **Canada-European Union Comprehensive Economic and Trade Agreement (CETA):** The Agreement opens new markets in the EU for Canadian exporters and generates significant benefits; in terms of goods, services, non-tariff barriers, investment, government procurement, labor and environment. This allows the city to gain valuable access to the nations second largest trading partner.
- **Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP):** A comprehensive trading agreement between Canada and 10 countries operating in the Asia-Pacific region. The trading bloc represents around 495M consumers and 13.5% of global GDP. With this agreement firms can now gain access to dynamic markets in the Asia Pacific.
- **Canada-Korea Free Trade Agreement:** The agreement strengthens business ties with Metro Vancouver with South Korea. This deal reduces around 98.2% duties on tariff lines that benefit sectors like LNG sector, mining, forestry, fish, seafood, agriculture, agri-foods, wine, spirits, and industrial goods, amongst others which mainly operate in British Columbia.

Source: Canada's Asia-Pacific gateway and Corridor Initiative pitch; Port of Vancouver Website; Port of Vancouver FY19 report; Flight Connection website; Government of Canada website; Greater Vancouver Gateway 2030 Pitch; Vancouver Board of Trade website; Amazon HQ2 Proposal, Vancouver Economic Commission, Asia Pacific Foundation of Canada

Quality of Life

Factors like convenient transportation, healthcare options, a low carbon footprint and cultural diversity make Metro Vancouver one of the most livable cities in the world

Metro Vancouver is consistently ranked one of the most livable cities in North America and the world

- Metro Vancouver's economic stability, healthcare options, low carbon footprint, vibrant cultural mix and recognized educational institutions are key factors that allow Metro Vancouver to be consistently ranked among the **top 10** most livable cities across North America and Globally.
- In addition, the region boasts of wide range of traffic-free transportation options like skytrains, seaplanes, ferries, and almost **4,600 km** of bike trails (HUB and Translink)
- The government has taken active measures to ensure a safety in Metro Vancouver. Homicide and violent crime rates are **less than 10%** as compared to most US cities (FBI Uniform Crime Report, 2015).

3d Most livable City in the World – *Mercer 2019 Quality of Living Survey*

5th Healthiest City in the World – *Travel Supermarket, 2019*

#6 City for millennials in the world – *Nestpick, 2018*

Median Age of **39.9** years – *Statistics Canada Census 2016*

The region has a growing population and is attracting a young and diverse population

- With a total population of **2.5M in 2020**, Metro Vancouver is projected to **grow at 40% to reach a population 3.5M by 2040** (World Population Review, 2020)**.**
- The region has a relatively younger population with many millennials choosing to relocate to Metro Vancouver. As of Statistics Canada's latest Census in 2016, millennials accounted for **21.5% of the overall population**, making them the largest age group in the region.

An ideal tourist destination for outdoor enthusiasts, foodies, and beachgoers

- The region offers expansive access to biking trails, hiking trails, beaches, snowboarding, skiing, and rollerblading amongst others. It's natural beauty and access to the outdoors attracts tourists from around the world.
- Metro Vancouver has an internationally renowned food & drink scene with established chefs, restaurants, food trucks and bars across different cuisines. In fact, **19 of Canadas top 100 restaurants** are located in Metro Vancouver, according to Canada's 100 Best list for 2020.
- In addition, Metro Vancouver is home to a vibrant arts and culture scene with many world-class performing arts, comedy, music, and theatre events and festivals. Visitors and residents also can enjoy several museums and art galleries in the region.

#1 Destination in Canada, *TripAdvisor's 2019 Travelers' Choice Awards*

Largest Ski-Resort in North America – Whistler Blackcomb

Source: Amazon HQ2 Proposal; Greater Vancouver Economic Scorecard 2018; Tourism Vancouver; City of Vancouver website; USA Today article; Canadian Sky article; Canada's 100 Best; World Population Review, Hub and Translink

Cost of Doing Business

Businesses in Metro Vancouver benefit from relatively operating costs compared to other major metropolitan regions, and may have access to competitive government incentives

Businesses operating in Metro Vancouver can benefit from competitive government incentives and policies that lower the cost of doing business

- Businesses looking to locate in specific industries (such as the film or technology industries), may be eligible for tax credits and other benefits through government incentives in Metro Vancouver. For example, BC offers competitive tax credits for film, television and interactive digital media, scientific research and experimental development, and technology-focused companies.
- According to Trade and Invest BC, the Province of BC has also enacted several policies that effectively lower the cost of doing business, for example:
    - BC has no capital tax and no sales tax on most production machinery or equipment.
    - BC employers pay only 4.95% of payroll for social security taxes and 2.32% for employment insurance
    - BC provides training tax credits to employers based on the wages paid to an eligible apprentice (a maximum $4,000 per apprentice per year depending on factors such as level and salary).

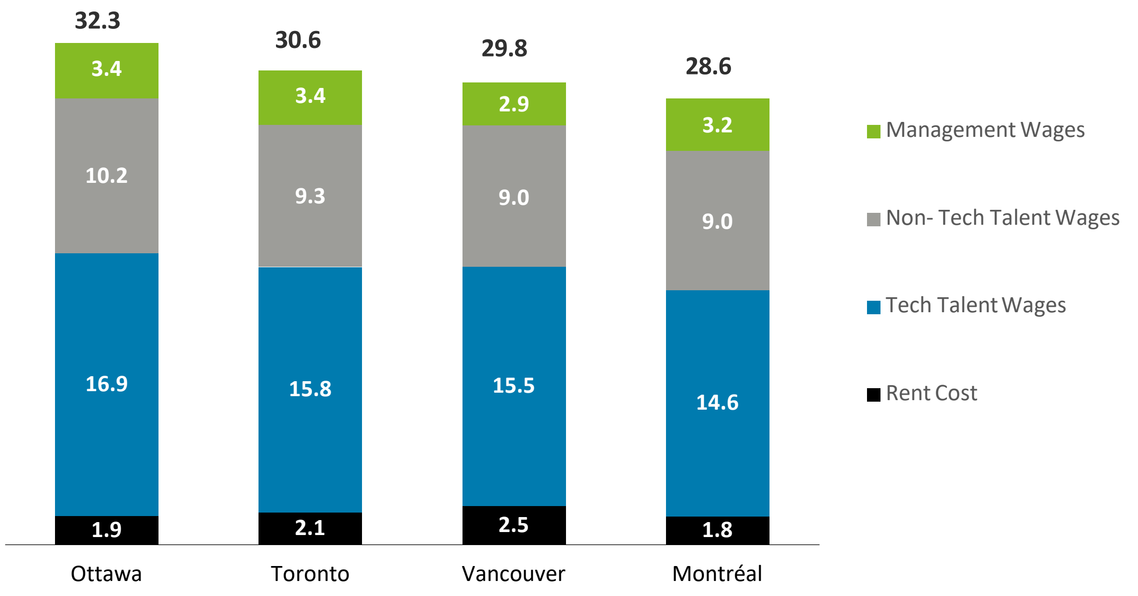
Lower electricity costs, wages and rents have contributed to declining office vacancy rates observed in the region

- In 2019, Metro Vancouver's average non-tech wage stood **at $55,024** as compared to tech wages of **$80,106**. These costs are relatively lower when compared to Toronto, which reported a non-tech wage of **$57,212** and tech wage of **$81,828** (CBRE, 2019).
- In the first quarter of 2019, Metro Vancouver had recorded an average office rent cost of **$43.2/sq.ft**. In the third quarter of 2017, the city witnessed the second lowest vacancy rate in North America at 5% owing to increased demand for tech office space. In 2019, the city recorded a **vacancy rate of 4.7%** (CBRE, 2019).
- Metro Vancouver recorded the third lowest electricity cost at **$7.9/kWh** for large power customers in 2019 compared to other Canadian cities, after only Montreal and Winnipeg (Hydro Quebec, 2019)

Metro Vancouver offers relatively low commercial tax rates as compared to other regions making it a favorable location for businesses to operate

- Businesses operating in British Columbia pay a combined provincial and federal corporate tax rate of 27% which is among the lowest in the G7
- In 2019, Metro Vancouver recorded a **14% drop** in the commercial property tax rates. The city had recorded a decrease in the tax burden for the 14th consecutive year, resulting in the rate for commercial properties dropping **from 4.4x the residential rate to 3.6x** in comparison to the previous year (Altus Group, 2019).

Wage & Rent Obligation for a Typical Tech Firm ($M) – *CBRE 2019*



Source: CBRE Scoring Tech Talent Report

Source: City of Vancouver website; Amazon HQ2 Proposal; Daily Hive articles; CBRE Scoring Tech Talent Report; 2019 report on Comparison of Electricity Prices in Major North American Cities, Trade and Invest BC, Canadian Property Tax Rate Benchmark Report

Resilient Civil Society

There is a high degree of trust in public institutions and social resiliency in the region, creating a stable and favorable climate for investors

The response of local health authorities to the COVID-19 pandemic has served to further strengthen the trust of the populace in public institutions

Despite being one of the first locations in Canada to have reported cases of COVID-19 in January 2020, British Columbia has been relatively successful in curbing the effects of the virus in the region. This success occurred in spite of the region's proximity to Washington state and the region's large population that travels back and forth to China, where the outbreak began. The effectiveness of the region's containment efforts can be in part attributed to the leadership of BC's health officer, Dr. Bonnie Henry, and the public's trust in her guidance and direction. In fact, the New York Times praised Dr. Henry as "one of the most effective public health officials in the world" due to her decisive action with respect to the pandemic.

From a national perspective, the level of trust that Canadians place in their public institutions has surged since the onset of the pandemic. According to the 2020 Edelman Trust Baromoter, Canada's overall Trust Index increased by 10 points between January 2020 and May 2020 to an average percent trust of 63.[1] As a component of this, the percent trust in Canada's government increased to record-highs from a 50% trust in government to 70% trust in government, representing the second-highest increase out of the 11 global markets surveyed.

The region has not exhibited the levels of civil unrest seen in other large metropolitan areas such as Seattle, Portland, New York and Hong Kong

While the majority of countries in 2020 are responding to the coronavirus pandemic and sharp economic downturns, we have also witnessed large levels of civil unrest across the world and particularly in the U.S. Protests in major cities such as Seattle, Portland, and New York have exposed the country's vulnerability to business disruption and eroding trust in public institutions. A recent study found that just 20% of adults in the US say they trust the government in Washington to "do the right thing" just about always or most of the time (Pew Research Centre, 2020).

Research has also revealed that 18% of U.S. respondents believe their country to be more united now due to the outbreak, and 77% said they are more divided (Pew Research Centre, 2020). In contrast, two-thirds of Canadians believe their country is more united due to the outbreak. Overall, Canada's relative lack of civil unrest and trust in public institutions mitigates the risk of business disruption for investors. This provides a degree of stability and confidence in the regional investment climate that may not be found in other major cities.

[1]The 2020 Edelman Trust Barometer Spring Edition is an online survey conducted in 11 markets between April 15 and April 23 2020. The Trust Index represents the average percent trust in NGOs, business, government and media. The 11 global markets included in the survey are: Canada, China, France, Germany, India, Japan, Mexico, Saudi Arabia, S. Korea, U.K. and U.S., and the survey is distributed across 1,200 respondents per market.

Looking Forward

This study finds a vibrant, growing regional economy that is currently navigating through the impacts of COVID-19; while each scenario of economic recovery yields a different set of factors that could shape investment, the following next steps are recommended to establish the region's investment attraction approach:

01 **Regular update on the impact of COVID-19 crisis on the region:** In the coming months, we can anticipate further datasets to be made available on the true depth of economic contraction and distribution of impacts. We recommend regularly updating the economic analysis in the coming months to provide a refreshed perspective on the impacts of COVID-19 to the region.

02 **FDI flow analysis:** Several organizations such as the OECD, UNCTAD and World Bank have forecasted a decline in expected FDI activity globally. An analysis of FDI activity in Canada or the region in the coming months/years could help to identify key source markets that have invested in the region.

03 **Ecosystem analysis of nascent sectors**: This report identifies several examples of nascent sectors that are developing in the region. As these segments of the economy are emerging relative to established ones an investigation into the economic characteristics, demand drivers and key assets of these sectors could help provide new, refreshed value proposition elements and up-to-date research on the regional economy.

04 **Investment attraction strategy:** Historically, investment attraction organizations have focused on growing investment into a relatively prosperous Canadian economy. In the coming months, given ongoing uncertainty – a new approach and role for investment attraction organizations may be required. A strategy which positions the Regional Economic Prosperity Service to better respond to conditions today should include elements such as identification of priority opportunities, target domestic and global markets, defined tactics/programming, identification of additional resourcing requirements (as appropriate), an aftercare service/approach and reporting/data collection initiative(s).

Appendix

Vancouver Census Metropolitan Area

Our preliminary analysis of Metro Vancouver uses the Vancouver Census Metropolitan Area which is presented below. Metro Vancouver is a partnership of 21 municipalities, one Electoral Area and one Treaty First Nation.

Metro Vancouver Members

Municipalities
Village of Anmore
Village of Belcarra
Bowen Island Municipality
City of Burnaby
City of Coquitlam
City of Delta
Electoral Area A
City of Langley
Township of Langley
Village of Lions Bay
City of Maple Ridge
City of New Westminster
City of North Vancouver
District of North Vancouver
City of Pitt Meadows
City of Port Coquitlam
City of Port Moody
City of Richmond
City of Surrey
Tsawwassen First Nation
City of Vancouver
District of West Vancouver
City of White Rock

Greater Vancouver Economic Scorecard 2018

Supporting data is provided below from the Conference Board of Canada's 2018 Greater Vancouver Economic Scorecard on Metro Vancouver's overall, economic, and social ranking compared to peer jurisdictions

Overall Ranking

Ranking 2018	Metro area
1	Singapore
2	Calgary
3	Seattle
4	San Francisco
5	Copenhagen
6	Toronto
7	**Greater Vancouver**
8	Manchester
9	Seoul
10	Montréal
11	Sydney
12	Hong Kong
13	Los Angeles
14	Halifax
15	Portland
16	Houston
17	Barcelona
18	Shanghai
19	Rotterdam
20	Miami

Economic Ranking

Ranking 2018	Metro area
1	Singapore
2	Copenhagen
3	Hong Kong
4	San Francisco
5	Seattle
6	Shanghai
7	**Greater Vancouver**
8	Calgary
9	Houston
10	Los Angeles
11	Toronto
12	Seoul
13	Manchester
14	Rotterdam
15	Miami
16	Montréal
17	Barcelona
18	Portland
19	Sydney
20	Halifax

Social Ranking

Ranking 2018	CMA
1	Calgary
2	Toronto
3	Seattle
4	Halifax
5	Sydney
6	San Francisco
7	Montréal
8	**Greater Vancouver**
9	Copenhagen
10	Portland
11	Manchester
12	Singapore
13	Barcelona
14	Seoul
15	Los Angeles
16	Rotterdam
17	Houston
18	Hong Kong
19	Miami
20	Shanghai