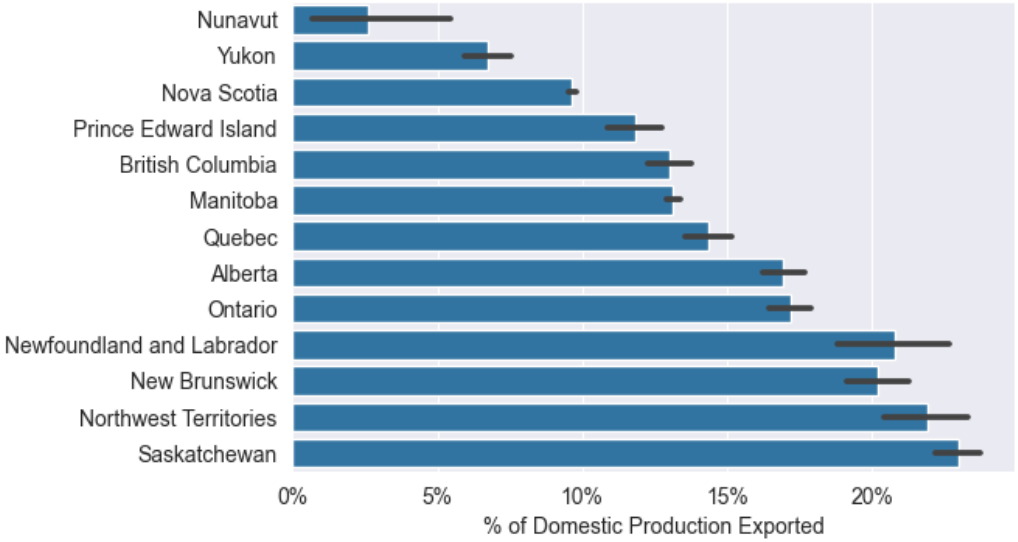
Exports and Transportation Infrastructure

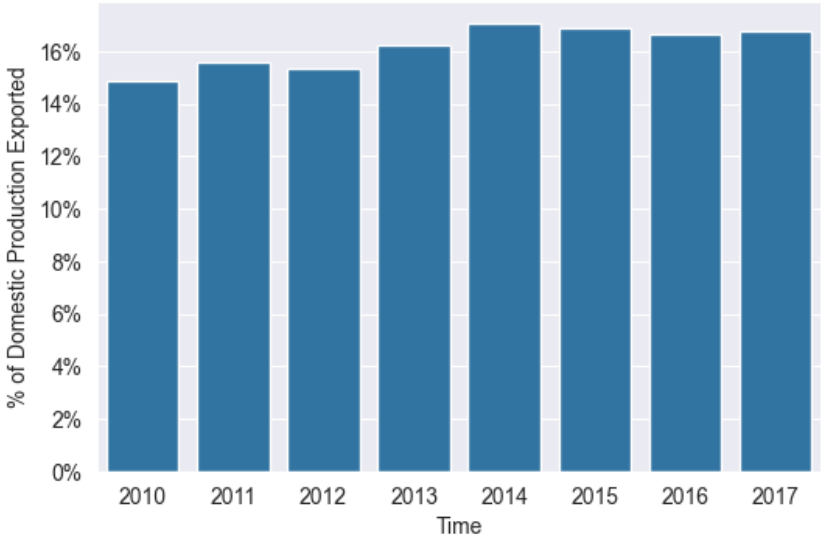
January 2022

CANADIAN CENTRE FOR ECONOMIC ANALYSIS

Exports in the Economy

Source: Statistics Canada, Table 36-10-0438

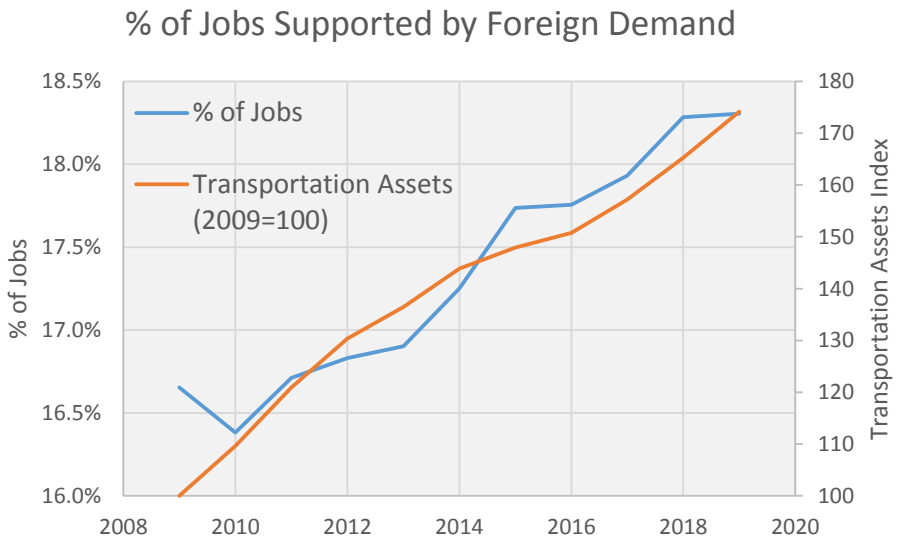


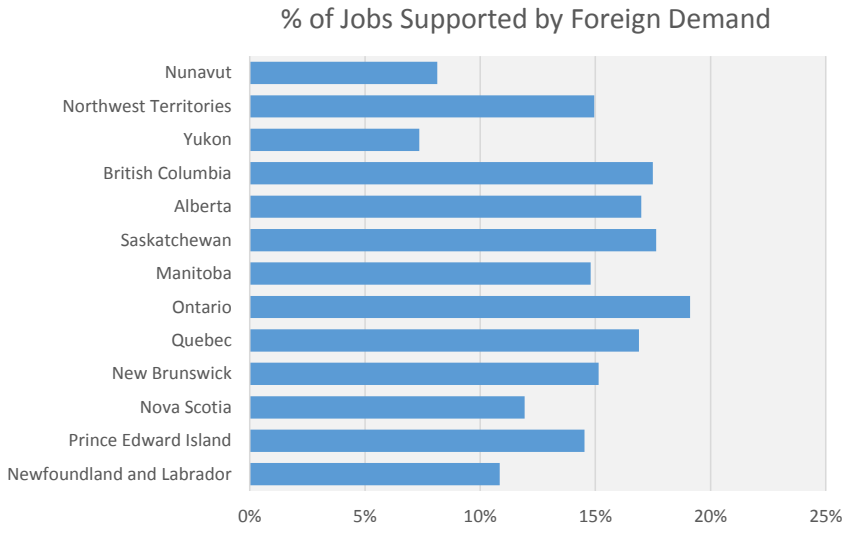


- Nationally, the percentage of domestic production that is exported has been growing since 2010
  - Currently over 16% of output is exported
- Provinces with major ports (BC, QC, NS) are not top exporters of local production
  - Transportation infrastructure critical to sustain growth in exports, particularly to diversify markets beyond the United States

Exports in the Economy

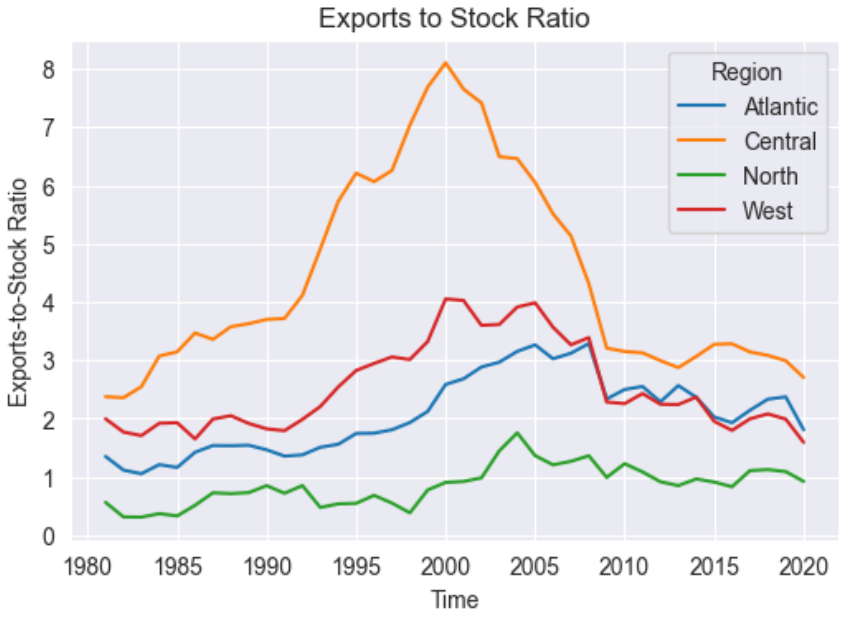
Source: Statistics Canada. Table 12-10-0100





- Jobs supported by foreign demand is a key driver of job growth in all regions across the country
  - Includes both direct exporters, and indirect industries supplying to the exporters
- Growth in jobs supported by exports is correlated with transport infrastructure assets
  - Investment levels are still well below many other countries, and much more unpredictable

Exports in the Economy



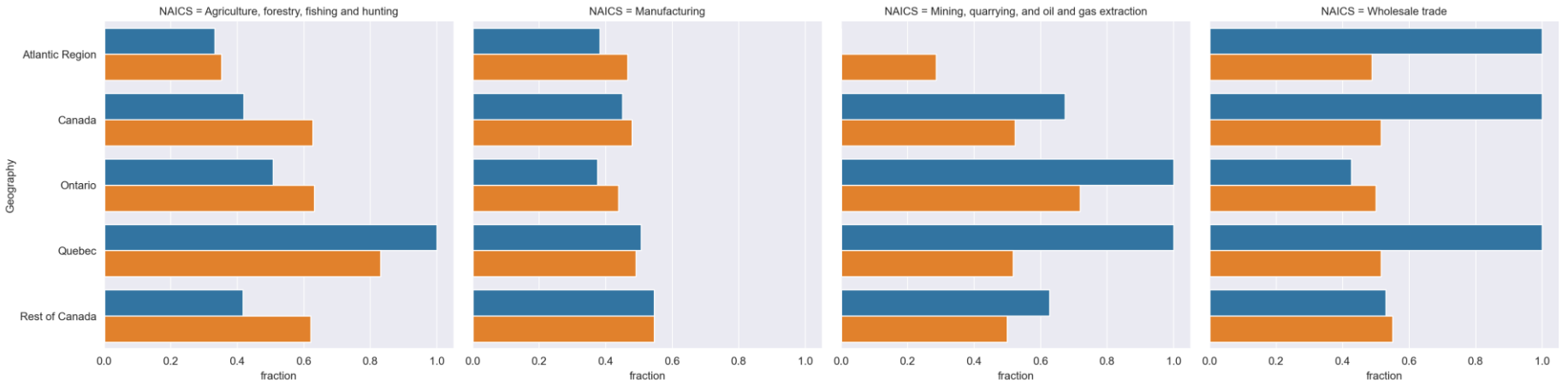
Sources: CANCEA calculations, Statistics Canada Tables 36-10-0222, 36-10-0608, 36-10-0013

- Since 2010, volume of trade in goods (export + imports) relative to transportation stock has flattened with volume of export trade is roughly proportional to transport stock
  - Trade in services is excluded
- Given current levels of investment in transport infrastructure, every additional $1M invested supports:
  - **151 jobs across the country, and $7.5M in wages and salaries**
  - **$17M in export-related GDP activity**

Export Challenges

Source: Statistics Canada. Table 33-10-0104

Fraction of businesses reporting transportation infrastructures as an obstacle to exporting



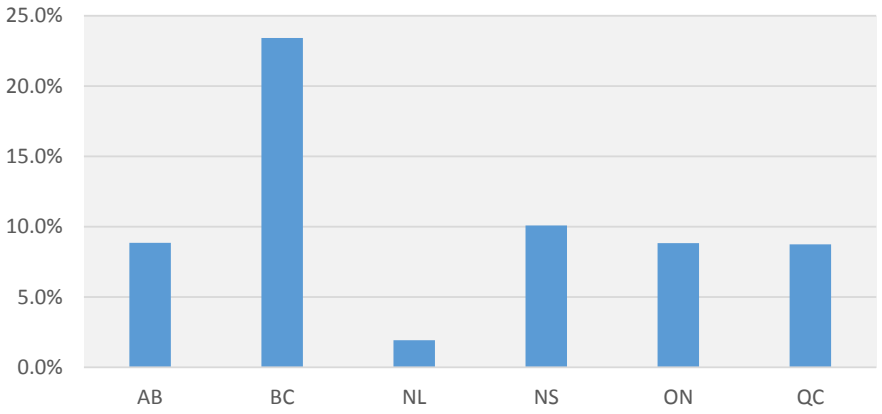
- Over 30% of businesses report transportation infrastructure as an obstacle to exporting, and in some regions and sectors, over 50%
- Percentage is growing in agriculture, with all regions except Quebec are having increasing difficulty exporting

- Data for figures is in the appendix

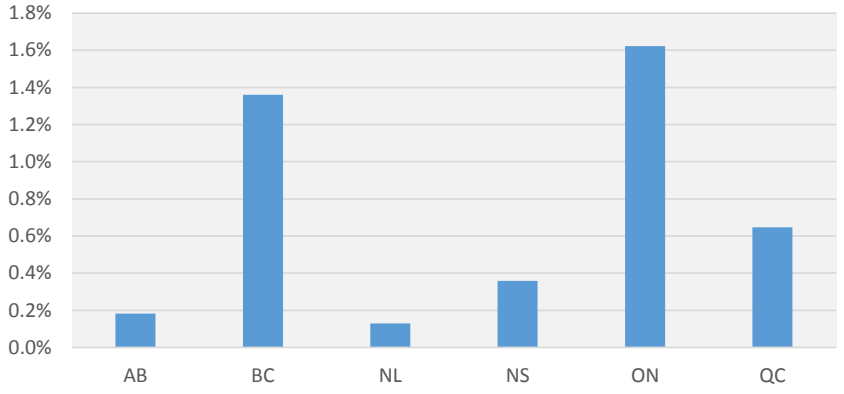
Inter-regional Dependence

- Provincial economies highly interconnected
- While a considerable amount of trade occurs with US/MX, trade to other markets is significant across the country
  - While BC has smaller percentage of jobs supported by exports, it has the largest % of freight destined for non-US sources
  - Almost 10% of Ontario's freight is destined for non-US sources despite having no major direct connections
- For Ontario, larger distances to non-US connections results in a greater dependence on transport network (as measured from Tonne-Km)

% of Freight Exported Destined for Non-US/MX Markets (by Value)



% of Freight Exported Destined for Non-US/MX Markets (by Tonne-Km)

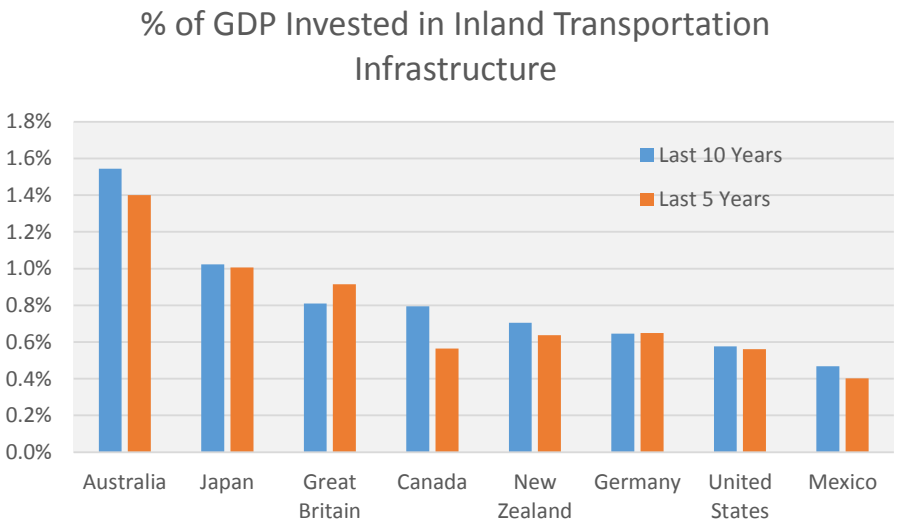


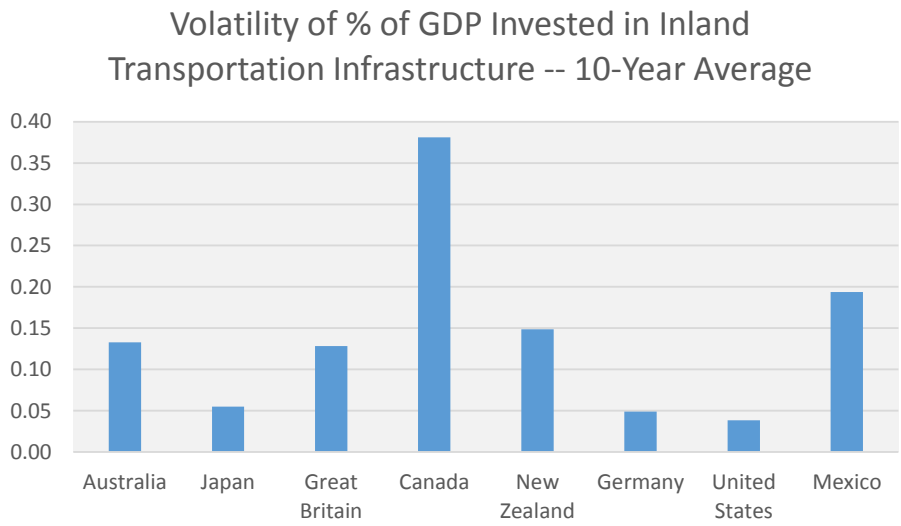
(Data not available for all provinces)

Source: Statistics Canada Canadian Freight Analysis Framework, Table 23-10-0142

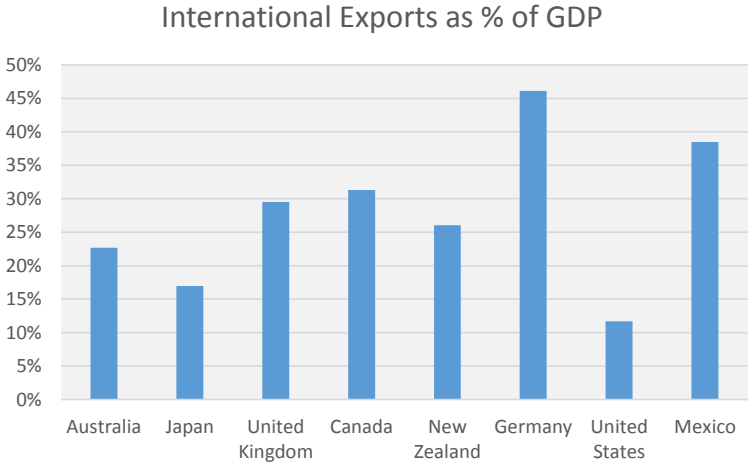
CANADIAN CENTRE FOR ECONOMIC ANALYSIS

Infrastructure Investments: International Comparisons





- Over last 10 years, Canada is mid-range, but investment has been falling
  - **About ½ the level of Australia's investments which would have similar economic profile to Canada (agri/resources, large distances between population centres, significant exports)**
  - **US investment is slightly lower but its volatility is a 10th of Canada**
- In addition, **volatility of investment in Canada is 3.6 times more than the average of its peers**
  - Indication of no long term investment plan, despite the importance of exports to Canada's economy
  - Volatility also makes investments of total equal value less productive (Public Infrastructure Underinvestment: The Risk to Canada's Economic Growth, 2010)



Source: OECD Transport Infrastructure Investment, https://data.oecd.org/transport/infrastructure-investment.htm

Additional Investment Goals

- Current total annual investment in transport infrastructure (all road, rail, air, and water) in Canada is about $21B annually, or about 0.9% of GDP
- To match Australia's percentage of GDP, an additional $20B annually would be required
  - To halve the difference in % GDP investment between Canada and Australia, $10B annually would be required
  - More than twice the expanded total of National Trade Corridors Fund over its entire duration
- To match the UK's percentage of GDP invested in transport infrastructure, an additional $13B would be required annually
- However, any additional investments should be part of a strategic long term plan
  - Highly volatile and sporadic investments in infrastructure diminish its productivity

Investment Environment

- Volatility of investment levels is of major concern and potentially Canada's biggest barrier to export success.
  - Volatility is 3.6 times the average of its peers, and twice as much as Mexico (the country with the second highest volatility)
    - Average of past 5 years of Canadian investment levels similar to the US as a % of GDP yet Canada's investment volatility is 10 times more than the US
- Volatility of investment levels is indicative of the absence and execution of a long term plan
  - Investments are reactive rather than proactive
- Core principles of infrastructure investment must urgently be addressed (next page)

Investment Environment (cont.)

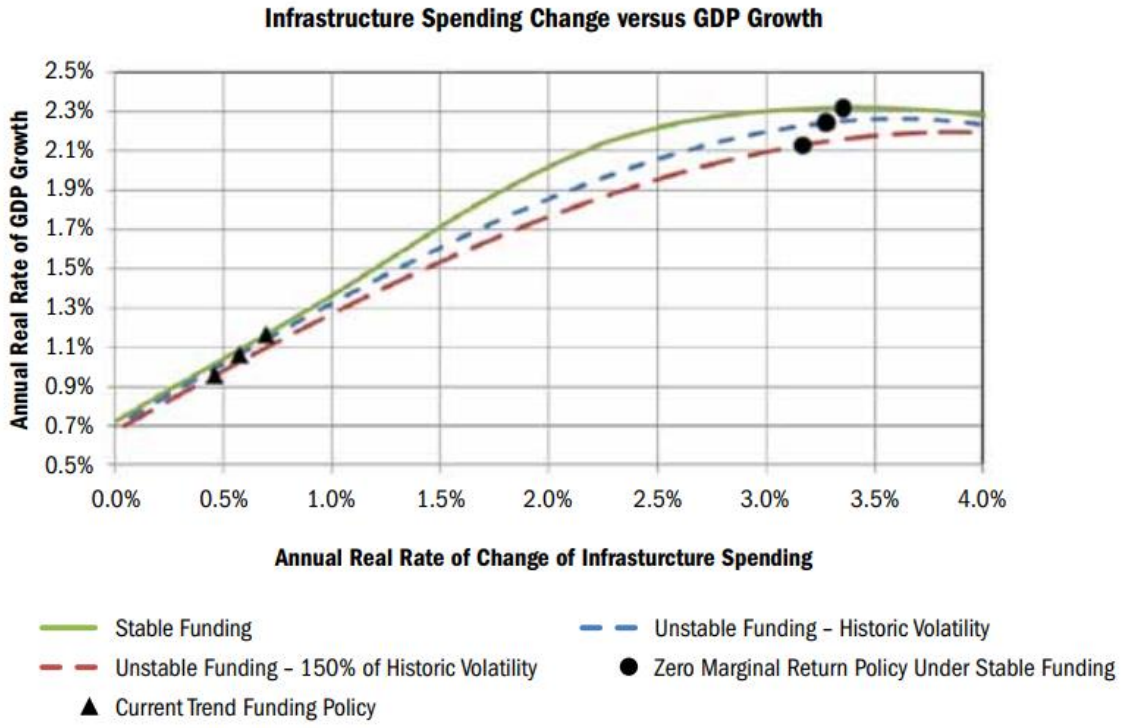
- Core principles of infrastructure investment pursued by Australia and the UK

- Independent statutory body, evidence-based, long-term planning, collaboration and facilitation, depoliticization
- To mitigate uncertainty and volatility of investment, rather than projecting forward the status quo, infrastructure planning should set an ambitious vision for the country, anticipate and adapt to change, manage risk, and adapt existing networks to changing user needs
- Decision-making processes should be robust, transparent and prioritise value for money
- Project proposals independently assessed by an appropriate third party organisation
- Business cases, cost/benefit analysis. Detailed, full business case analysis of a potential projects prior to political announcements and preferences

- Matching infrastructure problems with needs
- Identify risks to the viability and delivery before execution
- Infrastructure needs appropriately integrated into long-term land use plans
- Assess the viability of alternative funding sources
- Meaningful stakeholder engagement
- Publicly release all information supporting infrastructure decisions
- Post-completion reviews that provide opportunities for governments and others to learn from mistakes and successes
- Maintenance of existing infrastructure
- Stable long term pipeline to create a profitable, sustainable and resilient industry with a well-trained workforce for the future

Appendix: Infrastructure Volatility

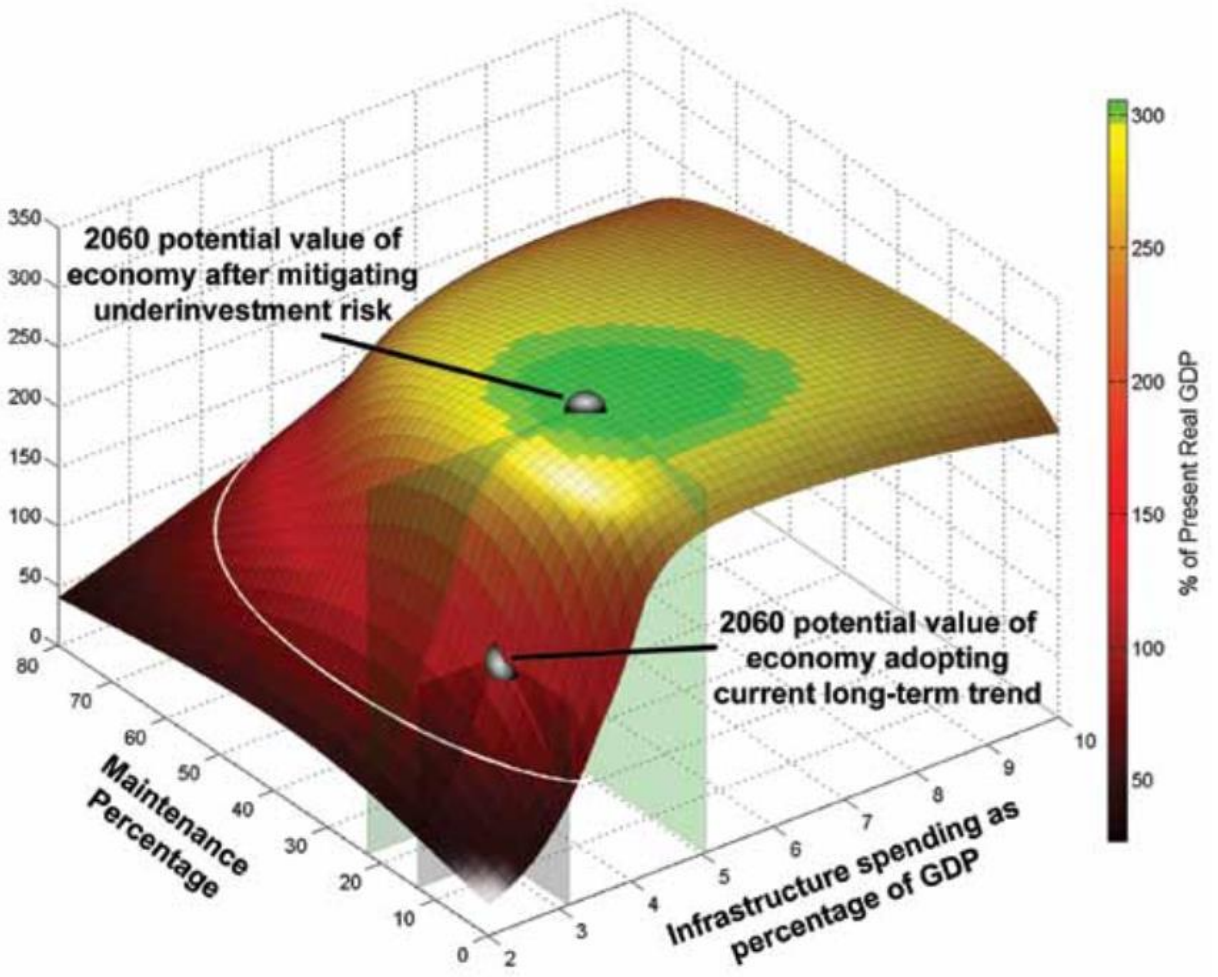
Impact of Sporadic Infrastructure Funding on Growth



- CANCEA research has shown the significant negative economic consequences on economic growth of unstable infrastructure funding
- Analysis looked at infrastructure as a whole,
  - volatility in transportation infrastructure investments is much larger than overall funding so consequences are expected to be greater
- Source: Public Infrastructure Underinvestment: The Risk to Canada's Economic Growth

Sensitivity of Growth to Infrastructure Investments

- Maintenance of current infrastructure and investment in new infrastructure are required for long term growth
- A long term plan to maximize economic growth requires both
- Analysis includes all types of infrastructure
  - A focus on critical infrastructure would likely result in even stronger dependency



Survey Results

Export Obstacles

	Industry	% of Businesses 2017	% of Businesses 2019
Atlantic Region	Agriculture, forestry, fishing and hunting	33.2	35.2
	Manufacturing	38.2	46.6
	Mining, quarrying, and oil and gas extraction	0.0	28.6
	Wholesale trade	100.0	48.8
Ontario	Agriculture, forestry, fishing and hunting	50.7	63.1
	Manufacturing	37.5	43.8
	Mining, quarrying, and oil and gas extraction	100.0	71.9
	Wholesale trade	42.6	50.0
Quebec	Agriculture, forestry, fishing and hunting	100.0	83.1
	Manufacturing	50.6	49.1
	Mining, quarrying, and oil and gas extraction	100.0	51.7
	Wholesale trade	100.0	51.6
Rest of Canada	Agriculture, forestry, fishing and hunting	41.6	62.1
	Manufacturing	54.5	54.6
	Mining, quarrying, and oil and gas extraction	62.7	49.9
	Wholesale trade	52.9	55.1
Canada	Agriculture, forestry, fishing and hunting	41.9	62.7
	Manufacturing	45.0	47.9
	Mining, quarrying, and oil and gas extraction	67.3	52.3
	Wholesale trade	100.0	51.5

- % of businesses reporting any difficulty to exports due to: Efficiency, capacity or reliability of transportation infrastructures
- Source: Statistics Canada Table 33-10-0104

Appendix: Additional Material

CCA Questions

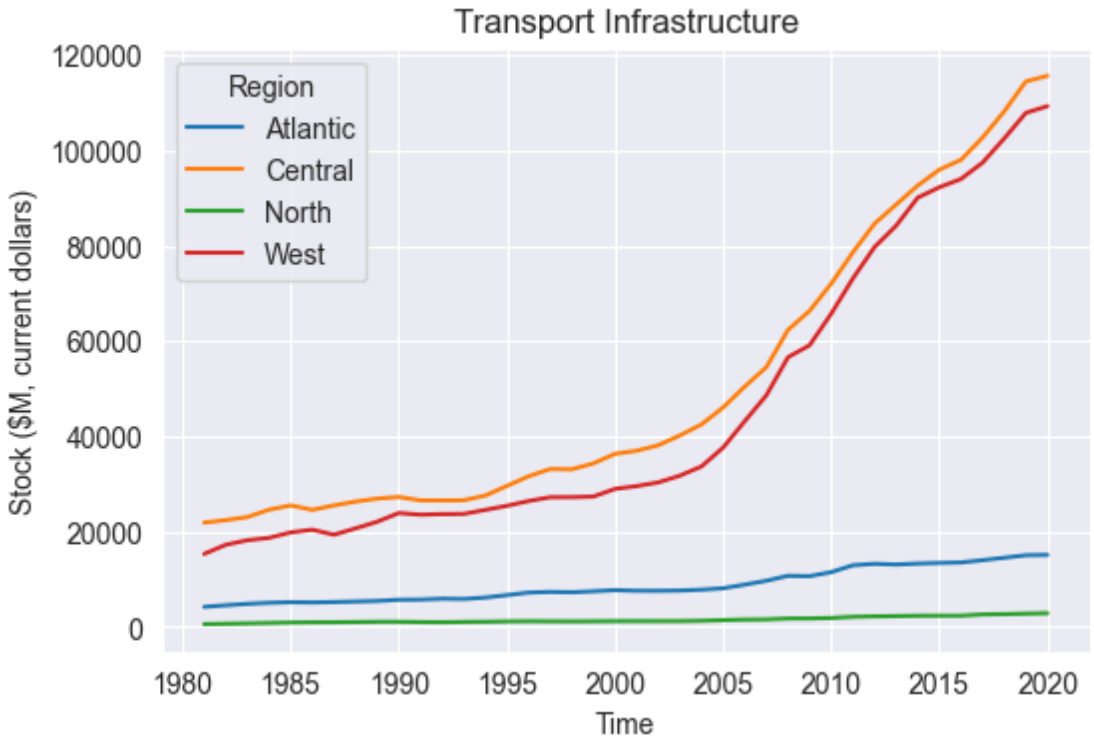
1. What is a reasonable expectation/target for recapitalization of the National Trade Corridors Fund. It sits at $1.9 billion now.
2. How much of the current $1.9 billion NTCF has been subscribed?
3. What additional data would assist our report in making the case for a significant recapitalization of the NTCF and separately for western Canada as part of the national solution?
4. Was there a final report/analysis of APGCI re:
5. Were there separate final reports/analyses for the National Policy Framework for Strategic Gateways and Trade Corridors; the Ontario-Quebec Continental Gateway; and, the Atlantic Gateway & Trade Corridor and if so what did they show?
6. Finally, regarding our need to point out particular infrastructure investment, have there been any analyses, particularly relating to Western Canada, that assessed the condition, needs and potential of marine, highway, rail trade infrastructure?

National Trade Corridors Fund

- What is a reasonable expectation/target for recapitalization of the National Trade Corridors Fund. It sits at $1.9 billion now.

- Comments:
  - In 2017, $1.9B allocated over 11 years (2017/18 to 2027/28)
  - 2021 budget expanded the original $1.9B budget to a total of $3.8B
    - plus additional $0.4B for Northern projects for a total of $4.2B
    - The 'new' $1.9B is also over 4 years ($475M annually) compared to the original which was over 11 years ($173M annually).
  - The 2021 budget almost tripled (2.75 times) the Feds annual investment over the next 4 years
    - Remains only a small fraction of total transportation infrastructure expenditures

Background: Transport Infrastructure Stock



- Transportation infrastructure assets has been significantly increasing in Central (ON + QC) and Western Canada
  - Increase seen after start of commencement of Asian Pacific Gateway Corridor Initiative in 2006, before slowing in 2015 near end of program
  - Additional uptick after start of National Trade Corridors in 2017

Source: Statistics Canada Tables 36-10-0608

Port and Rail Volumes

Port	Exports (TEUs, 2019)	Western Hemisphere Ranking (2019)
Port of Vancouver (BC)	1,121,973	7th
Montreal Port Authority (QC)	704,111	12th
Halifax Port Authority (NS)	235,223	20th
Prince Rupert Port Authority (BC)	192,068	22nd

Rail Division	Tonnes in 2019
Eastern Division	143,283,706 (37%)
Western Division	242,903,433 (63%)

- About 58% of goods shipped by boat left through Western Canada ports in 2019
- Almost 2/3rd of the total rail traffic carried (by tonnage) occurred in the Western Division (2019 data)
- Any investment in transport infrastructure should reflect this difference in demand
  - To match volumes, about 60% of transport infrastructure investment could be made in Western Canada

Sources: American Association of Port Authorities , https://www.aapa-ports.org/unifying/content.aspx?ItemNumber=21048
Statistics Canada Table 23-10-0216

National Trade Corridors Fund

- How much of the current $1.9 billion NTCF has been subscribed?

- Review of Transport Canada Datasets shows:
  - 96 projects
  - committed more than $2.1 billion to marine, air, rail and road projects.
  - Twenty of these projects are targeting Canada's Arctic and Northern regions.
- Of expanded total fund of $4.2B allocated since 2017, 50% is still not committed to projects

Source: Transport Canada, https://tc.canada.ca/en/programs/funding-programs/national-trade-corridors-fund

APGCI Analysis

- Was there a final report/analysis of:
  - APGCI
  - National Policy Framework for Strategic Gateways and Trade Corridors;
  - the Ontario-Quebec Continental Gateway;
  - the Atlantic Gateway & Trade Corridor

- Literature Review Results:
  - Some descriptive reviews on changes in capacity due to investments under the various programs
  - Some program efficiency reviews (what % of program was spent on administration/overhead)
  - There were no actual cost/benefit analysis to evaluate the full economic impact of these programs

Needs Analysis

- Regarding our need to point out particular infrastructure investment, have there been any analyses, particularly relating to Western Canada, that assessed the condition, needs and potential of marine, highway, rail trade infrastructure?

- Literature Review Results
  - No public reviews of the current needs was found
  - Recent weather events have prompted discussion of the requirements for a better understanding of the state of infrastructure