

# E-commerce Resilience in Canada's Agrifood Trade Amidst COVID-19

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## 1. Introduction

- COVID-19 outbreak has caused a global health crisis and economic downturn affecting multiple sectors including agrifood
- Decrease: 3.3% global economy and 5.3% in trade in 2020 (World Bank, 2020)
- Canada is a key player in the global agrifood market
- Negative repercussions on Canada's trade due to its substantial exports and labor-intensive industry.

Canada's Trade flow trend



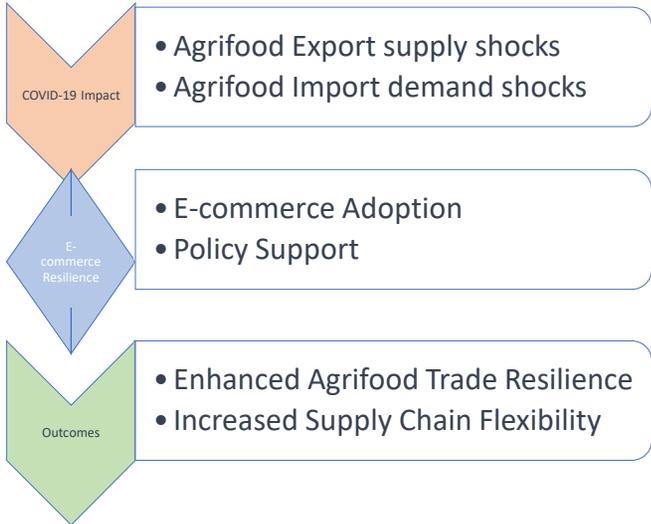
- Upward trend in global e-commerce sales globally during the same period
- The COVID-19 pandemic has resulted in significant demand and supply shocks, but e-commerce presents the solutions to minimize their impact (Hayakawa et al., 2021).

Value of e-commerce sales over time in Canada



## 2. Research Question

How did e-commerce mitigate the impact of COVID-19 on agrifood trade between Canada and its partners during the pandemic?



## 3. Data

The study used **monthly trade** data between Canada and 152 importing countries from 2018-2022 as follows

Variable	Source
Agrifood Trade	OMAFRA
COVID-19 variables	Johns Hopkins University
Policy Stringency Index	Oxford University
Domestic E-commerce	Statistics Canada
Readiness of e-commerce adoption index ranking	UNCTAD
CEPII data	

## 4. Model and Empirical Strategy

$$Trade_{ijym} = \text{Exp} \left\{ \beta_{i(j)} M_{i(j)ym} + \gamma_{i(j)} covid_{i(j)ym} + \theta_{i(j)} Ecom_{i(j)ym} + \alpha_{i(j)} (covid_{i(j)ym} * Ecom_{i(j)ym}) + \rho_{ij} + \alpha_y + \alpha_m + \alpha_{ym} \right\} + \epsilon_{ijmy}$$

## 5. Result

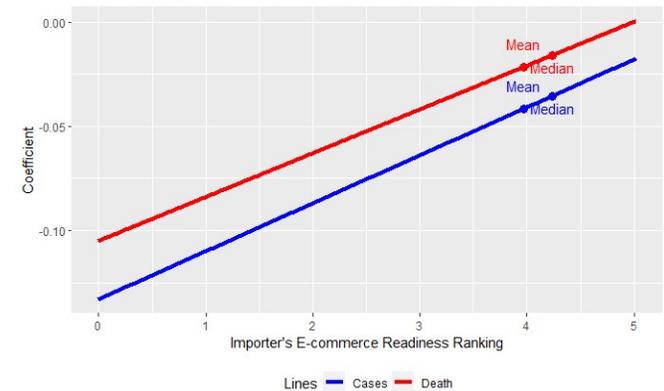
VARIABLES	cases	death	stringency
Log(cases importer)#	-0.133** (0.055)		
Log(rank)#	0.211* (0.108)	0.195* (0.108)	0.200* (0.107)
Log (cases)*Log (rank)##	0.023* (0.013)		
Log(GDP importer)	0.050 (0.039)	0.040 (0.038)	0.040 (0.039)
Log(deaths importer)#		-0.105** (0.046)	
Log (death)*Log (rank)##		0.021** (0.010)	
Log(stringency importer)#			-0.151** (0.064)
Log (stringency)*Log (rank)##			0.023 (0.014)
<b>Observations</b>	1,436	1,436	1,436

Robust standard errors in parentheses \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. In all regressions, we control for GDP and distance. In all specifications, we control for country pair-year fixed effects, country pair-month fixed effects, and exporter-year-month fixed effects

The coefficient of COVID-19 amidst increasing e-commerce adoption will be

$$Coefficient = \frac{\delta_{Trade_{ijym}}}{\delta covid_{i(j)ym}} = \gamma + \alpha Ecom_{i(j)ym}$$

Trade amidst COVID-19 Coefficients at different value of E-commerce



## 6. Conclusion

E-commerce lessened COVID-19's impact on Canada's Agrifood trade, particularly when domestic e-commerce is robust.