How Do Artificial Intelligence and Tariffs Affect International Trade and Interprovincial Trade in Atlantic Canada?

A Marine Underwriter's Guide to New Routes, New Risks, and Regional Resilience

Tony Fang, Full Professor and Stephen Jarislowsky Chair in Cultural and Economic Transformation
Memorial University of Newfoundland

MEMORIAL UNIVERSITY
Stephen Jarislowsky Chair
Cultural and Economic Transformation

CBMU Spring Conference 2026 | May 13-14, 2026 | St. John's, Newfoundland and Labrador

MEMORIAL UNIVERSITY 100

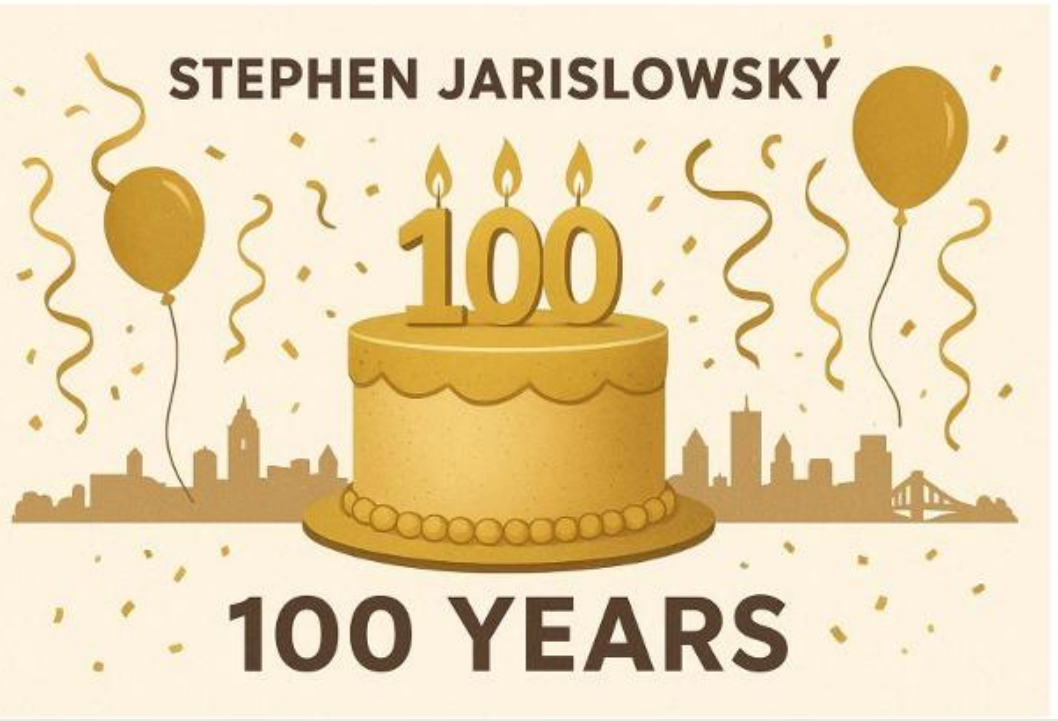
LOOKING BACK | LAUNCHING FORTH

COUNTDOWN *to the* CENTENNIAL



Stephen A. Jarislowsky



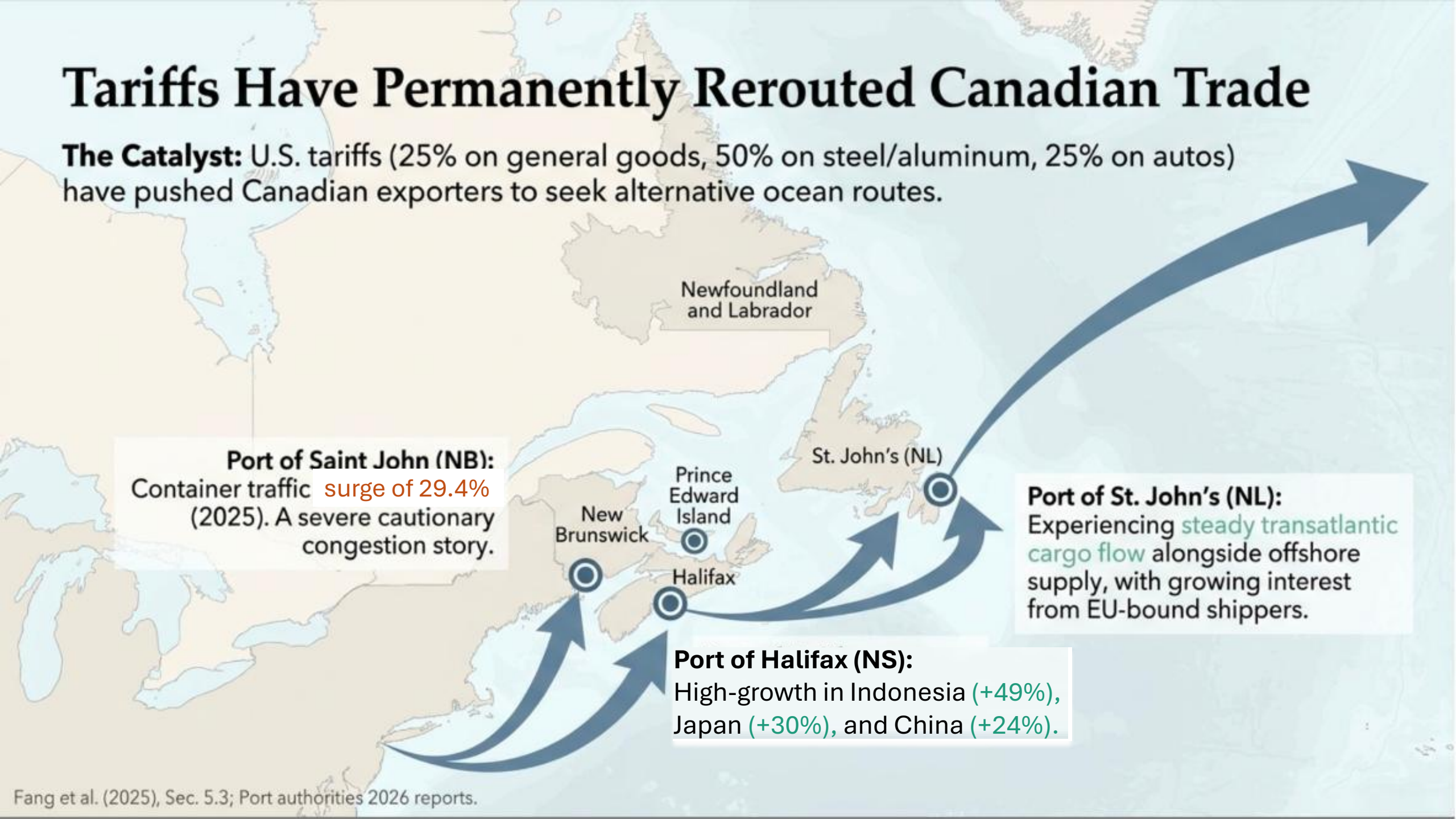





HOW, MUCH TRUMP'S WALL THE TRUMP?!!
TRUMP TARIFFS
US-CANADA BORDER
Inter-provincial Trade Barriers
No Alberta Beef
MINIA TOLL ONLY
Quebec Dairy Only

Tariffs Have Permanently Rerouted Canadian Trade

The Catalyst: U.S. tariffs (25% on general goods, 50% on steel/aluminum, 25% on autos) have pushed Canadian exporters to seek alternative ocean routes.



Port of Saint John (NB):
Container traffic surge of 29.4% (2025). A severe cautionary congestion story.

Port of St. John's (NL):
Experiencing steady transatlantic cargo flow alongside offshore supply, with growing interest from EU-bound shippers.

Port of Halifax (NS):
High-growth in Indonesia (+49%), Japan (+30%), and China (+24%).

Fang et al. (2025), Sec. 5.3; Port authorities 2026 reports.

The Sudden Volume Surge Introduces New Congestion Liabilities

The Exporter Shift

62.5%

of Atlantic SMEs actively want to access new international markets.

2x

The AI Multiplier: Firms adopting AI are 2x more likely to pursue non-US exports compared to non-adopters.

The Risk Equation

Risk Implication:

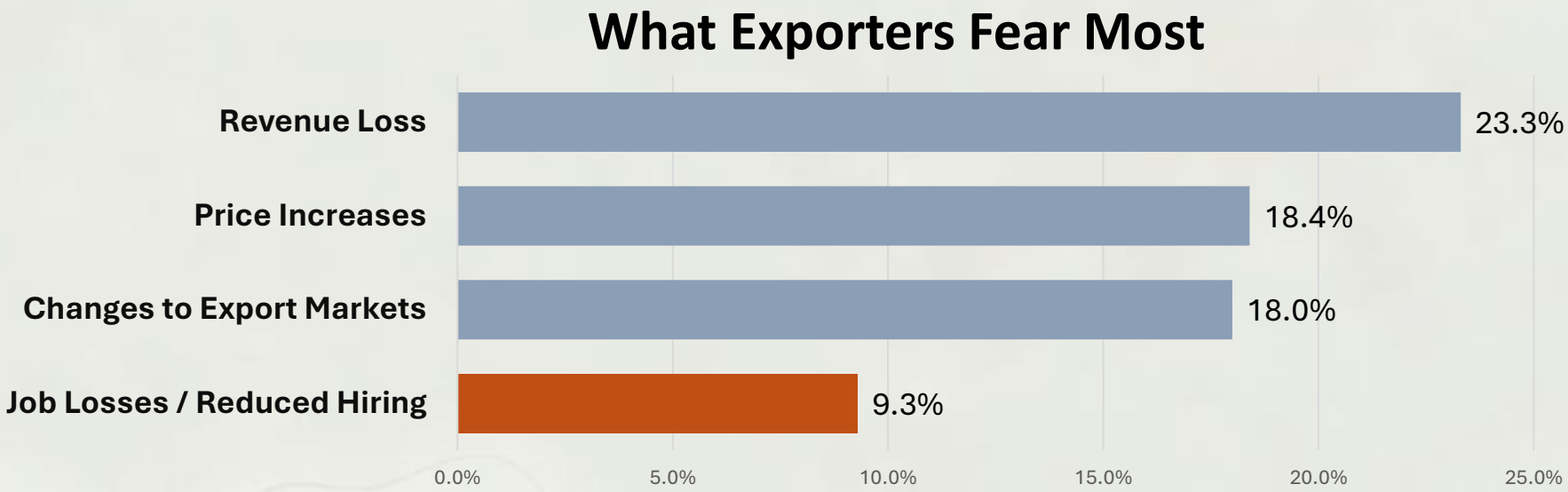
Sudden volume surges at any regional port trigger a direct cascade:

Congestion = **Higher Cargo Damage** + **Delay Liabilities** + **Increased Storage Claims**

Fang et al. (2025), Employer Survey Report.

Financial Stress from Supply Chain Disruption Predicts Claims Activity

67.5 of Atlantic exporting firms expect negative tariff impacts. This ranges significantly by province, peaking at 81.8% in NL versus 65-67% regionally.



The Underwriter's Translation:

The 9.3% regional employment impact drastically overshadows the 2.9% rate in the rest of Canada (ROC). For marine policies, financially stressed shippers directly correlate with an increased frequency of cargo abandonment, fraudulent claims, and trade credit defaults.

Fang et .al (2025), Sec. 25 & Table 8 (Survey of 1,700 SMEs, oversampled in Atlantic Canada)

Artificial Intelligence Acts as a Double-Edged Sword for Marine Policies



AI as a Mitigator (The Good)

AI adoption successfully reduces the probability of a negative tariff impact by 10-13 percentage points.

Mechanism:
Advanced algorithms significantly improve inventory management precision and expand export market access.



AI as a New Exposure (The Bad)

Data Integrity & Cyber Threats: Heavy reliance on AI introduces risks of data poisoning, resulting in false shipping instructions or manipulated bills of lading.

The Black Box Problem: Underwriting fundamentally requires evaluating risk management systems. AI introduces opaque decision-making processes that underwriters cannot fully audit.

Valuation Inflation: AI adoption inherently increases the cost of finished goods, particularly in manufacturing. Higher declared cargo value strictly equals higher exposure per container.

Fang, Chai & Zhu (2026), Tables 2 & 3, Hypothesis 2 (2SLS regressions)

Infrastructure Saturation Creates Inevitable Spillover Risks

Spillover Risk Cascade

Saint John (NB) Hub Crisis: A 29.4% container surge with a notable 153% surge in Ontario-originated cargo driven by shifting trade routes and enhanced, modernized rail/terminal infrastructure—following a $247M West Side expansion.

Halifax Tension: Tariffs forced a reroute. The Port of Halifax's 2025 results show that doubling down on high-growth markets: Indonesia (+49%), Japan (+30%), and China (+24%). Our underwriting models should reward shippers who target these resilient, non-US trade lanes.

Regional Saturation: Secondary ports (St. John's, Charlottetown) face impending spillover if major hubs critically fail.

Emerging Claims Trends



Cargo damage directly resulting from extended dwell times.



Escalating demurrage and detention contractual disputes.



Increased frequency of theft originating from congested, highly targeted holding yards.

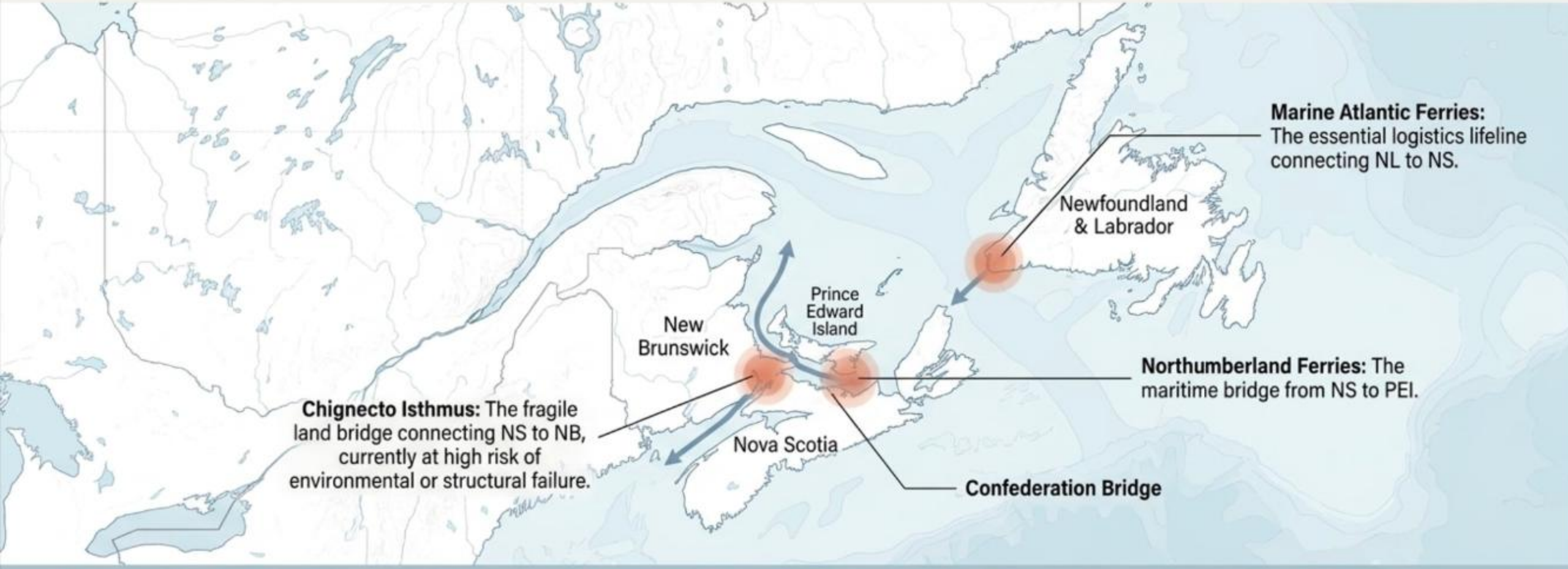
The AI Irony: AI-optimized routing platforms successfully diverted cargo to Atlantic ports, but the physical ports' internal AI systems were fundamentally unprepared to handle the optimized volume.

Port authority reports; FreightWaves (2026).

Interprovincial Trade Expansion Relies on Fragile Single Points of Failure

The Domestic Shift: Facing external tariffs, 72.7% of Atlantic exporters are willing to expand domestic trade (rising to 82.1% for AI adopters).

Primary Domestic Targets: Ontario (41.2%), Quebec (32.3%), and PEI (28.8%).



The Correlation Question for Underwriters: A single choke point failure (e.g., a ferry strike or isthmus flooding) strands cargo across multiple provinces simultaneously. Are current rating models accurately pricing this highly correlated regional risk?

Fang et al. (2025), Sec. 5.3 & Figure 16; Transport Canada.

The Hidden Supply Chain Threat of Immigrant Labour Retention

Regional Baseline: Only **45.3**% of Atlantic firms have hired immigrants in the past 3 years, lagging behind the Rest of Canada (ROC) average of **50.8**%.

The Retention Disconnect: The region is facing a labour and talent retention crisis. **15.4**% of immigrant workers have left the province-exactly double the ROC departure rate of **7.4**%.

Newfoundland and Labrador (NL)

- Demonstrates the **lowest** hiring rate (**34.9**%) but yields the highest positive integration experiences **(85.7**%).

Prince Edward Island (PEI)

- Drives the highest hiring rate (**54.0**%) but sufers the **lowest** retention rate (**27.3**%).

Fang et al (2025), Sections 3.3, 3,4 & 4.4,Table 8.

High Labour Turnover Translates Directly to Cargo Handling Liabilities

The Technology Gap:

Despite advanced logistics deployment, AI is almost entirely unused for workforce integration:

Only 15.2% of firms utilize AI for language training.



Only 7.2% of firms utilize AI for cross-cultural communication.



The Underwriting Angle

Phase 1: High Turnover

Immigrant labor shortages and poor retention at regional ports and logistics centers.

Phase 2: Inexperienced Labour

A constant churn of unseasoned workers operating heavy machinery and managing complex stowage.

Phase 3: Increased Claims

A direct, measurable rise in cargo handling damage, physical drops, and terminal safety incidents.

Three Structural Adjustments Required for Regional Marine Policies



Update Route-Specific Clauses

Action: Overhaul load and congestion clauses.

Why: Regional ports are saturated; traditional reasonable dispatch legal assumptions are fundamentally broken.

Evidence: Saint John (+29.4%), 153% surge in Ontario-originated cargo, and severe ongoing spillover risks.



Mandate AI Governance Disclosures

Action: Require formal AI oversight disclosures from large shippers.

Why: Automated data errors cause massive cargo misrouting and false valuations.

Evidence: AI implementation directly drives finished goods cost up by 11.3%.



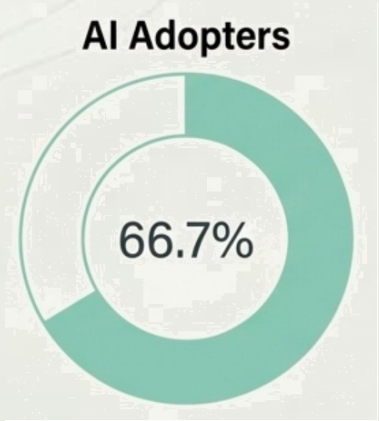
Model Interprovincial Dependencies

Action: Build and price internal correlation models.

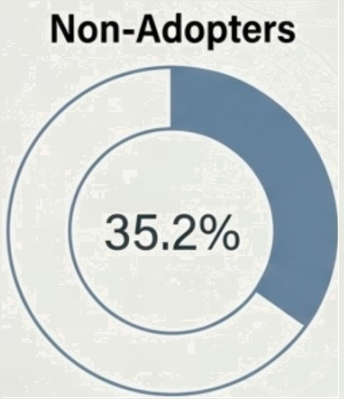
Why: A single infrastructure failure cascades across multiple interprovincial policies simultaneously.

Evidence: 72.7% of surveyed firms are actively increasing domestic trade volume.

Diversification as Risk Reduction: The Case for Premium Credits



While 62.5% of total Atlantic exporters want new non-US markets, the divergence is massive.



Target Geographies: The primary international diversification targets are the **European Union (21.9%), the UK (7.6%), Australia (4.6%),** and **Japan (4.6%)**.

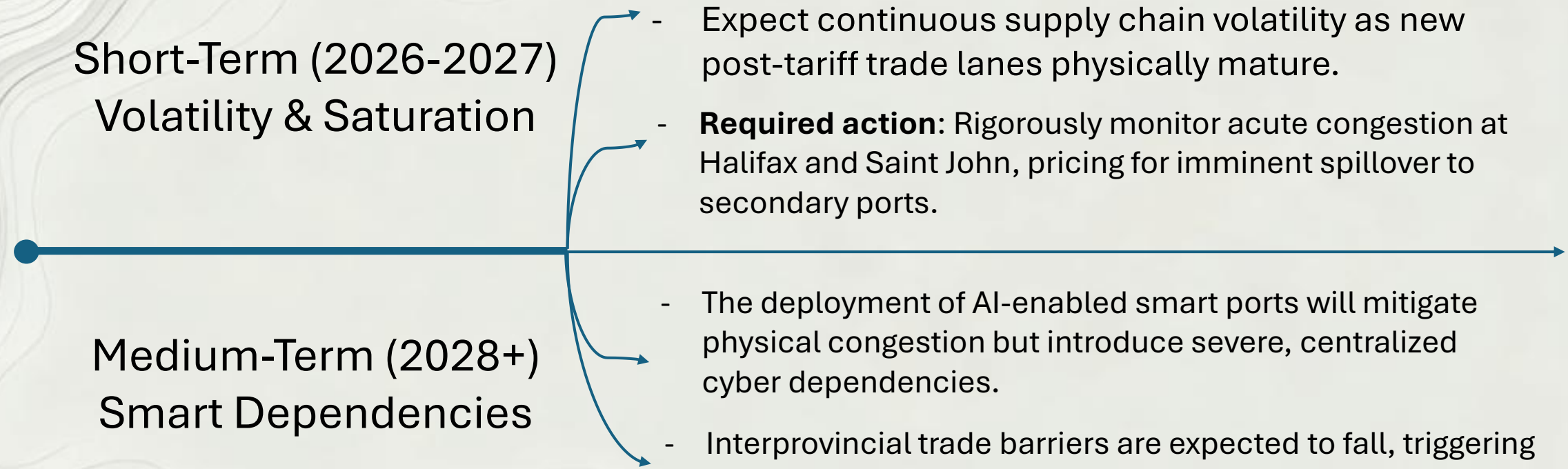
The Econometric Proof: Regression analysis proves **AI adoption increases the probability of seeking new export markets by 34.6 percentage points** ($p<0.01$), holding firm size and region constant.

Underwriting Application:

Underwriters should actively offer premium credits for shippers who present verifiable, AI-driven geographic diversification plans, as they present a mathematically lower risk profile.

Fang, Chai & Zhu (2026), Table ;4 Fang et .al (2025), Sec. 5.3.

A Temporal Roadmap for Future-Proofing Atlantic Coverage



Immediate Ground-Level Actions:

- Collaborate with regional port authorities on real-time data sharing.
- Draft new policy wordings that explicitly address AI-related cargo misdirection.
- Train claims staff on emerging tariff-driven fraud patterns specific to Atlantic sectors (seafood, forestry, energy, manufacturing).

Structural Realities Reshaping the Atlantic Market



Route Diversion

Tariffs have permanently diverted Canadian trade to Atlantic sea routes-Halifax, Saint John, and St. John's are now frontline gateways.



AI's Double Nature

AI mitigates physical cargo risks (inventory/logistics) but introduces un-modeled data integrity and valuation exposures.



Acute Congestion

Port congestion is the definitive immediate claims driver; the Saint John (+29.4%) breakdown serves as the baseline for spillover modeling.



Systemic Bottlenecks

Interprovincial trade is surging, making aging domestic infrastructure (ferries, Chignecto Isthmus) a highly correlated single point of failure.



The Labour Deficit

Immigrant labour retention is a critical hidden risk; persistent high turnover at terminal facilities directly guarantees elevated handling claims.



Rewarding Resilience

Underwriters who rapidly adopt AI governance requirements and issue diversification credits will capture the most profitable risks.

We have ports from St. John's to Halifax to Saint John, all experiencing radically different levels of tariff-driven volume.

What is the one underwriting gap you see as common across all of them-and what will it take to close it?

Key Source Material:

Fang, T., Zhu, J., & Pracek, T. (2025), How Do Labour Shortages, Artificial Intelligence, and Trump Tariffs Affect, Businesses and Immigrant Hiring in Atlantic Canada? https://www.mun.ca/jchair/media/production/memorial/administrative/jchair/bedrock-migration-sites/jchair/news-import/images/news/Employer%20Survey%20Report%20-%20December%2020%202025.pdf

Fang, T., Chai, G, & Zhu, J. (2026). U.S. Tariff, Al, and Exporting SMEs in Canada, Working Paper.

Bank of Canada (2026). Tariff and other assumptions. Monetary Policy Report—January 2026—Canadian economy. https://www.bankofcanada.ca/publications/mpr/mpr-2026-01-28/section-8/

Port authorities of Halifax, Saint John (NB), St. John's (NL), and PEl - monthly statistics (2026).

Thank you!