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A Monetary Policy Framework for a Volatile World

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Agenda

Context: flexible inflation targeting after the pandemic

Monetary policy trade-offs in a more shock-prone global economy

- Deglobalization, trade conflicts, supply chain disruptions
- Decarbonization, extreme weather events

The risks of looking-through supply-driven inflation

- Inflation expectations, de-anchoring risk, and communication

Further flexibility needed?

- Control range and horizon
- A new playbook: when and how to lean against supply shocks (contingent use of flexibility)

Reassessing the Framework: Approach

Bank of Canada suites of models

- Deglobalization and climate change/policies

New experimental evidence

- Expectations & communication

Taking stock of the literature

Context

Traditional Monetary Policy Playbook

- Pre-2020: looking through temporary supply shocks (e.g., Nakamura et al, 2025; Sekkel et al, 2025)
- Post-2020: larger, more persistent shocks complicate that approach
- Monetary policy response tailored to breadth/persistence of inflationary pressures

A New Monetary Policy Playbook?

Post 2020

- Pandemic: severe supply disruptions
- Energy/food price spikes after Russia–Ukraine war

Framework preserved credibility and avoided a deep downturn

- Long-term inflation expectations stayed anchored around 2%
- Short-term expectations temporarily rose but re-anchored quickly
- Rapid tightening from 0.25% to 4.5% in 2022 and soft landing

However, significant challenges ahead

- How much more volatility can FIT withstand?
- What de-anchoring risks entail looking through “new” supply shocks?

Deglobalization

Deglobalization: Implications for Monetary Policy

- Rising protectionism & fragmented supply chains raise costs
- Inflationary pressures can coexist with weaker output/investment
- Implications: tougher inflation–output trade-offs for Canada

A Canada–U.S. Trade Model

- Historically “small” tariff hikes, modest macro effect: inflationary and contractionary
  - Stronger effects for intermediate-input tariffs (e.g., Barattieri and Cacciatore, 2023)

- Two-country, multi-sector New Keynesian with input–output links to analyze large shocks

- Shocks to iceberg trade costs (tariffs/fragmentation)
  - Scenarios: +10 pp increase across tradable goods (excluding energy)

Scenario Results: Unilateral Tariffs

- Assuming historical monetary policy

- U.S. tariffs:
  - Canadian exports ↓
  - Output ↓
  - CPI ↑ via imported input costs

- Canadian tariffs:
  - Imports ↓
  - Output ↓ (despite demand shifts to domestic goods)
  - CPI ↑ via higher import prices

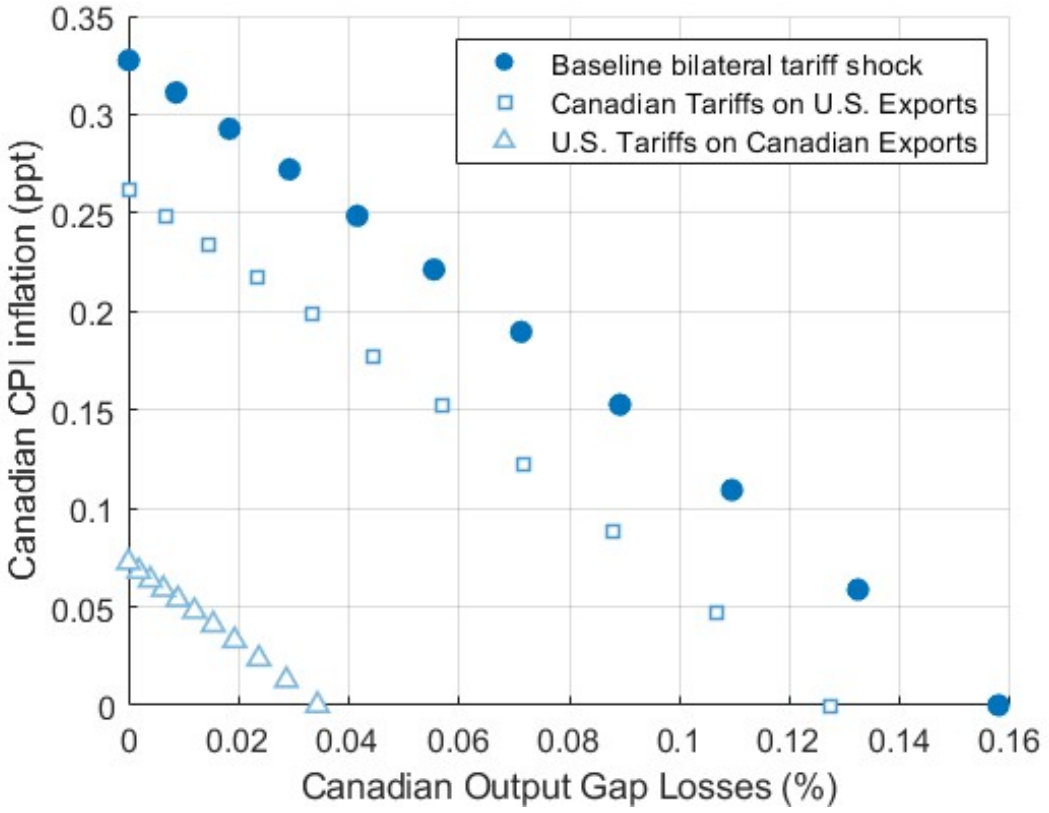
Monetary Policy Frontiers

- Simulate model under alternative monetary policies

- Policies span a range of outcomes between two extremes (Del Negro et al., 2023)
  - Full price stability → inflation anchored at 2%
  - Full output-gap stabilization → output remains at potential

- No divine coincidence following a trade war

No Divine Coincidence in a Trade War



Trade-off can be managed… with caution

Output stabilization possible with inflation still inside control range

- But the size of the shock matters
- Intermediate tariffs imply less severe trade-off, but larger output losses driven by fall in potential

Look-through policies viable with current shocks

- De-anchoring risk may be too high if shocks are larger

Missing channels

- De-anchoring
- Uncertainty and confidence
- Tariff revenue redistribution
- Trade diversification

Climate Change

Decarbonization and Climate Disasters

- Climate change increasingly important for central banks
  - Decarbonization policies: resource reallocation and technological change
  - Climate disasters (e.g. wildfires, floods, storms): production disruption
- Wide-ranging economic implications
  - Higher costs and lower output
- Tougher inflation–output trade-offs for Canada?

Decarbonization models and scenarios

BoC climate model (Dahlhaus, 2025)

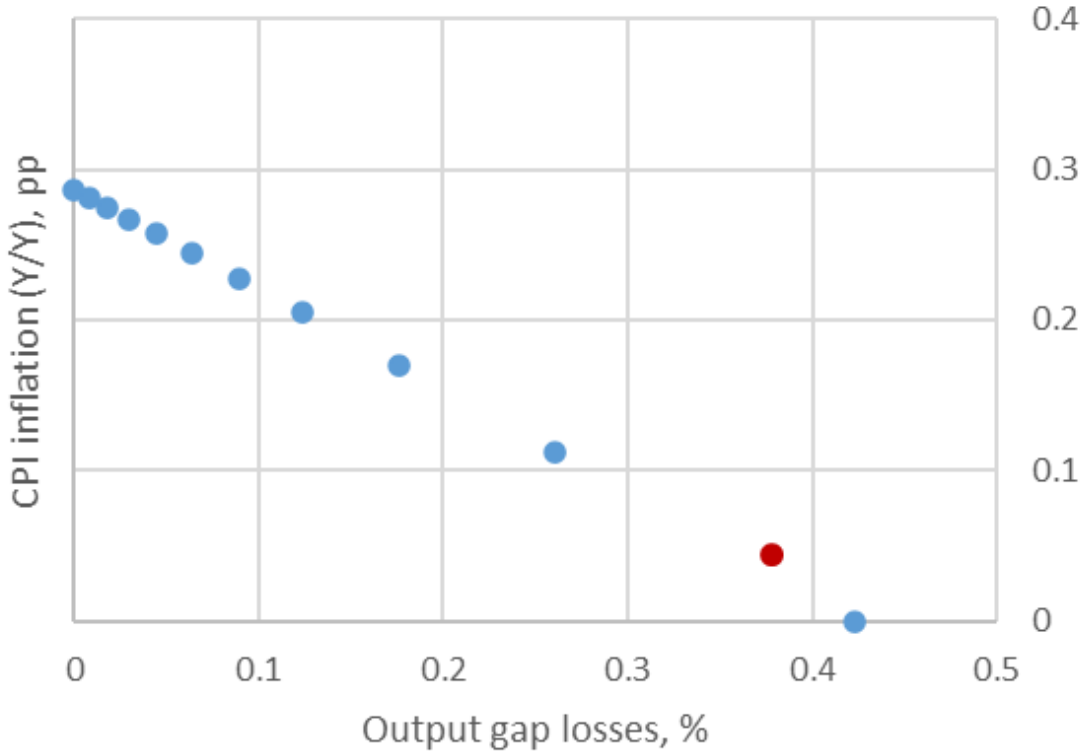
- Elastic global demand for energy and non-energy commodities
- Green and brown energy sectors

Transition scenario: Canada and other advanced economies reach net zero by 2050

Compute policy frontier as for deglobalization

- Average trade-off over a two-year horizon until 2030

Net Zero: Moderate Trade-Off But a Long Way To Go



Climate Disasters: Impact & Trade-Offs

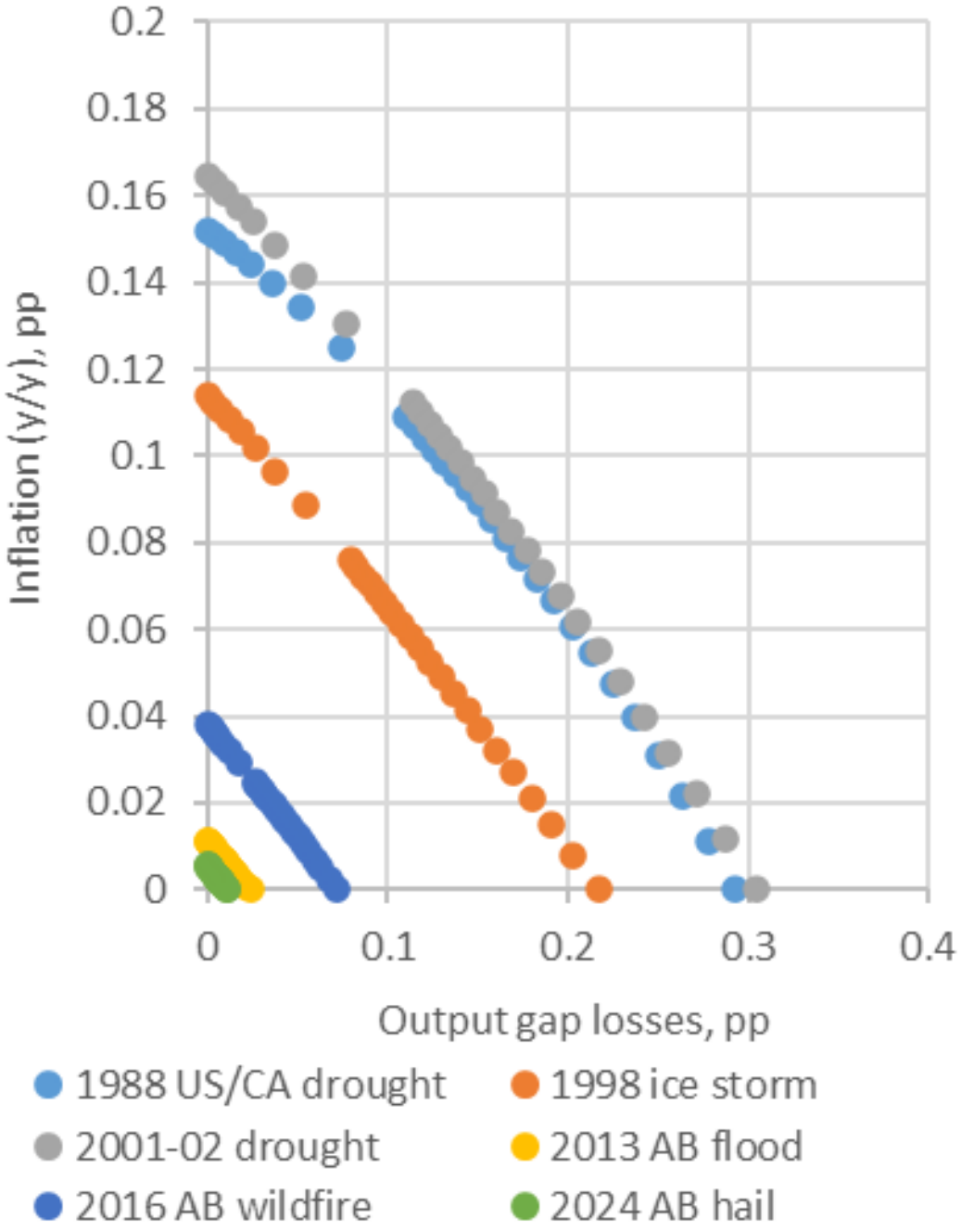
Climate disasters are often inflationary and contractionary

- Empirical work: Duprey & Fernandez (2025); Dahlhaus et al. (2025).
- Historic examples: 1998 Ice Storm, 1988 drought.

DSGE model featuring climate disasters (Dahlhaus, 2025) to assess monetary-policy trade-offs

- Canadian historical events (e.g.1998 Ice Storm, 1988 drought) used to calibrate the model.

Drought and Ice Storms Hit the Hardest



Room for monetary policy to relieve climate-driven economic losses

Trade-off is greatest if disruptions affect the commodity and agricultural sectors

- 1998 ice storm damaged the power grid leading to reduced electricity production
- 1988 drought reduced crop yields and livestock production

Climate shocks are shorter-lived than transition to net zero

- Trade-off is manageable within control range
- Look-through policies carry a lower de-anchoring risk

Results do not factor in the role of fiscal relief packages

Inflation expectations, de-anchoring risk, communication

Inflation Expectations and De-anchoring Risk

- Traditional rational-expectations models unfit to analyze de-anchoring risks in a shock-prone environment

- Leverage recent experimental evidence to complement analysis

New experimental evidence on de-anchoring risk

- Kostyshyna, Petersen and Yang (2025): controlled macroeconomic experiment
  - Compare alternative policies following an increase in supply-shock volatility
- Persistent inflation surges potentially de-anchor expectations
- Central bank communication can effectively steer expectations and avoid expectations de-anchoring
  - E.g. releasing inflation and output projections

Taking Stock: Monetary Policy in a Volatile World

Monetary Policy in a Volatile World

- Shock-prone world: supply disturbances can be larger, persistent, or structural
  - Potentially permanent structural supply-side changes (Nuno et al., 2025)
- Traditional playbook: look through temporary supply shocks
- Traditional playbook can backfire
  - Inflationary pressure may not fade

The Risks of Looking Through

De-anchoring

- Pivot framework: look through at first, but turn hawkish if de-anchoring risks rise (Beaudry et al., 2023)
- Timing over strength: early action can prevent expectations from drifting at lower output cost (Bullard et al., 2025)

Output costs of future disinflation

- Delayed tightening may lead to prolonged inflation episodes and wage-price spirals (Erceg, Lindé & Trabandt, 2024)
- Price-change frequency steepens Phillips curve and reduce sacrifice ratio (Blanco et al., 2024)

A new monetary policy playbook