Policy Challenges
After COVID: What Can Research Tell Us?

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Outline

- Contribution of Bank research during the pandemic
  - Theme: New data and heterogeneity
- Financial vulnerabilities: three examples
  1. Housing and house price expectations
  2. Effects of pandemic on savings and indebtedness
  3. Implications of climate change for household vulnerabilities
- Post-COVID and beyond
Investment in research helped us assess impact of the COVID-19 pandemic and provided new insights

- Bank researchers helped address pandemic related issues
  - Identifying High-Frequency Network (Payment) Expenditure Data; Alternative CPI (to track shift in spending patterns due to COVID)
  - Implications of lockdowns across households & firms
  - Effectiveness of extended monetary policy tools

- Key contributions to major longer term policy projects
  - Inflation Target Renewal;
  - CBDC and payments
  - Model development initiatives: Nexus MP-FS
Example 1: House Price Dynamics

- Canadian housing market has been exceptionally strong during the pandemic

- Strong increase in house prices driven by fundamental factors
  - Shift to working from home led and preference for more living space
  - Record-low mortgage rates further contributed to strong demand

- But, some markets showed signs of extrapolative expectations

- Bank researchers built a model to detect periods of extrapolative expectations in house prices across Canadian cities
Housing, house prices and extrapolative expectations

House price expectations edged lower but remain above pre-COVID levels

Median expected change in house prices over next 12 months

A large share of GTA homes are still selling over asking

Percent of homes sold over asking (GTA)

Housing markets identified as exuberant in the May FSR continue to hover around the exuberance threshold

House price exuberance indicator

Source: Canadian Survey of Consumer Expectations
Last observation: 2021Q3

Source: Realsosophy Realty Inc.
Last observation: September 2021

Source: Bank of Canada calculations
Last observation: 2021Q3
Example 2: Model simulations provide insights into heterogeneous impact of COVID on Canadian household finances... Savings by income groups during COVID; savings highest for the wealthy
... debt increases for some households, increasing number of those seen as financially vulnerable

Agent-base model simulations:
- Only include employed (pre-covid) households who borrow after the COVID shock.
- Middle-income households account for the largest rise in debt
  - Middle-income earners see only partial replacement of loss income from CERB
  - Some middle-income households have relatively large mortgage

Rise in Debt by Pre-COVID Earnings Quintiles (Employed Households Who Borrow Only)
Example 3: Natural disasters can stretch consumers...

- Panel regression across provinces (1980m1-2019m12)
  - Shocks: 520 storms, floods and wildfires
  - Quantile regression to get tail elasticities

- Higher odds of high unemployment on impact
  - More persistent for wildfires

- Consumption patterns change after disaster
  - On impact move away from durables towards non-durables
  - Later, sales of non-durables increases (esp. after floods) to replace damaged goods

Natural disasters increase the odds of high unemployment
Effect within a month of a disaster that destroys 1% of monthly provincial GDP

Source: Canadian Disaster Database, Statistics Canada, and Bank of Canada calculations
Last observation: 2019

Note: Shaded areas represent insignificant results.
... with asymmetric impact on mortgage arrears

Quantify the impact of 40 natural disasters between 2016-2019 on mortgage arrears using machine learning and synthetic control method

Natural disasters can lead to increases in mortgage arrears

Effect on mortgage arrears across 40 different natural disasters

Sources: Canadian Disaster Database, TransUnion and Bank of Canada calculations
Going forward: research will continue to be key for a robust post-pandemic recovery

- Inflation dynamics and risks
  - Supply chains, stock-out and expectations
  - Price-wage interactions
  - Co-existence of Labour shortages and unemployment

- Forces affecting $r^*$
  - Inequality
  - Digitalization
  - Debt

- Implications of climate change
  - Physical risk and Transition risk
Thank you