Economic and Financial Linkages in the Western Hemisphere
Seminar organized by the Western Hemisphere Department
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Real Implications of Financial Linkages Between Canada and the United States

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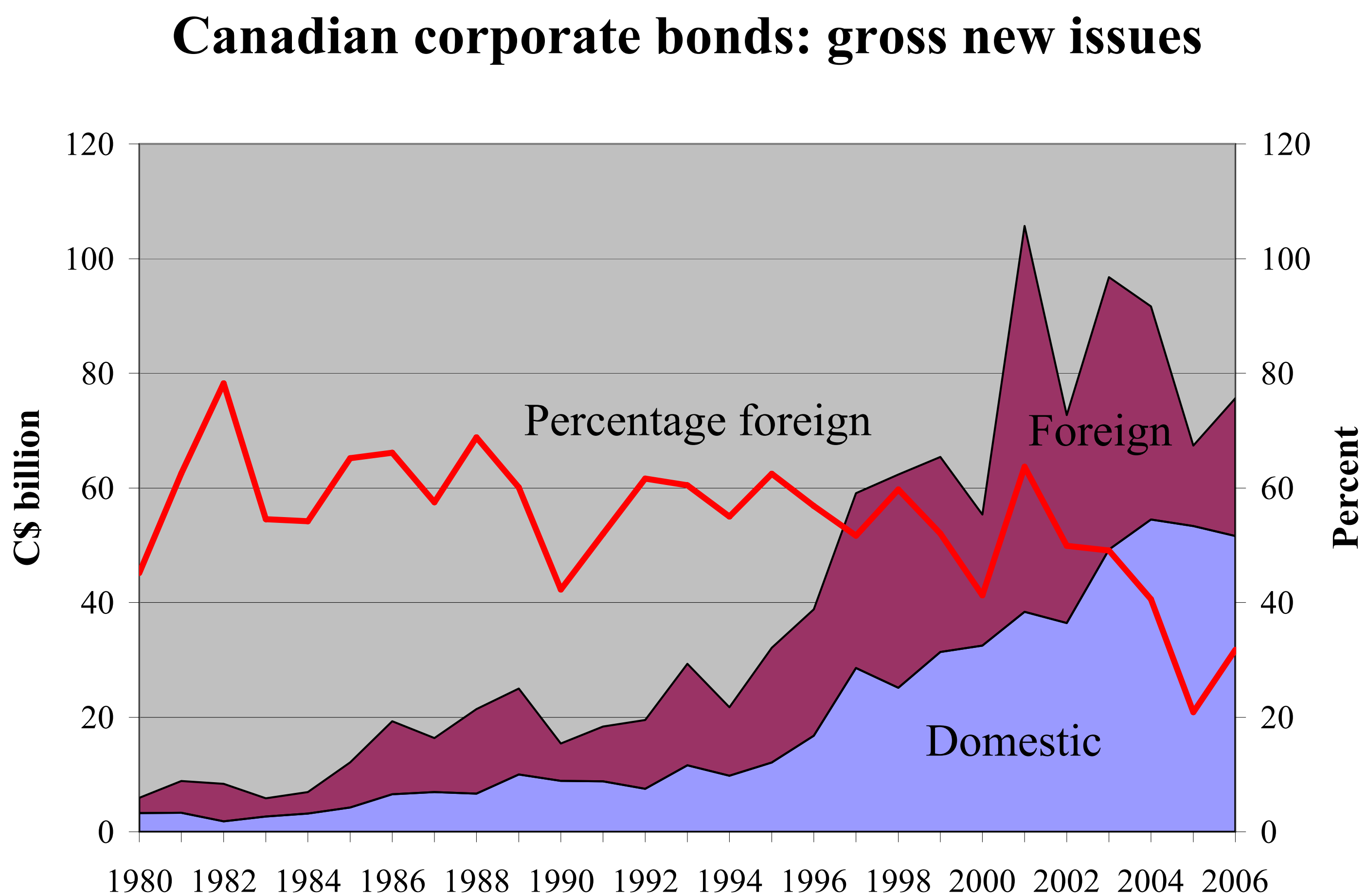
Motivation

- Extent and implications of trade linkages between Canada and the United States are well documented
  - ➢ More than ¾ of Canadian exports are destined for the United States
  - ➢ A 1 p.p. increase in U.S. real GDP growth raises growth in Canada by 0.3 − 0.7 p.p.
- Financial linkages are substantial, but much less explored
- Financial linkages, and their interplay with the real economy, may be particularly important at current juncture

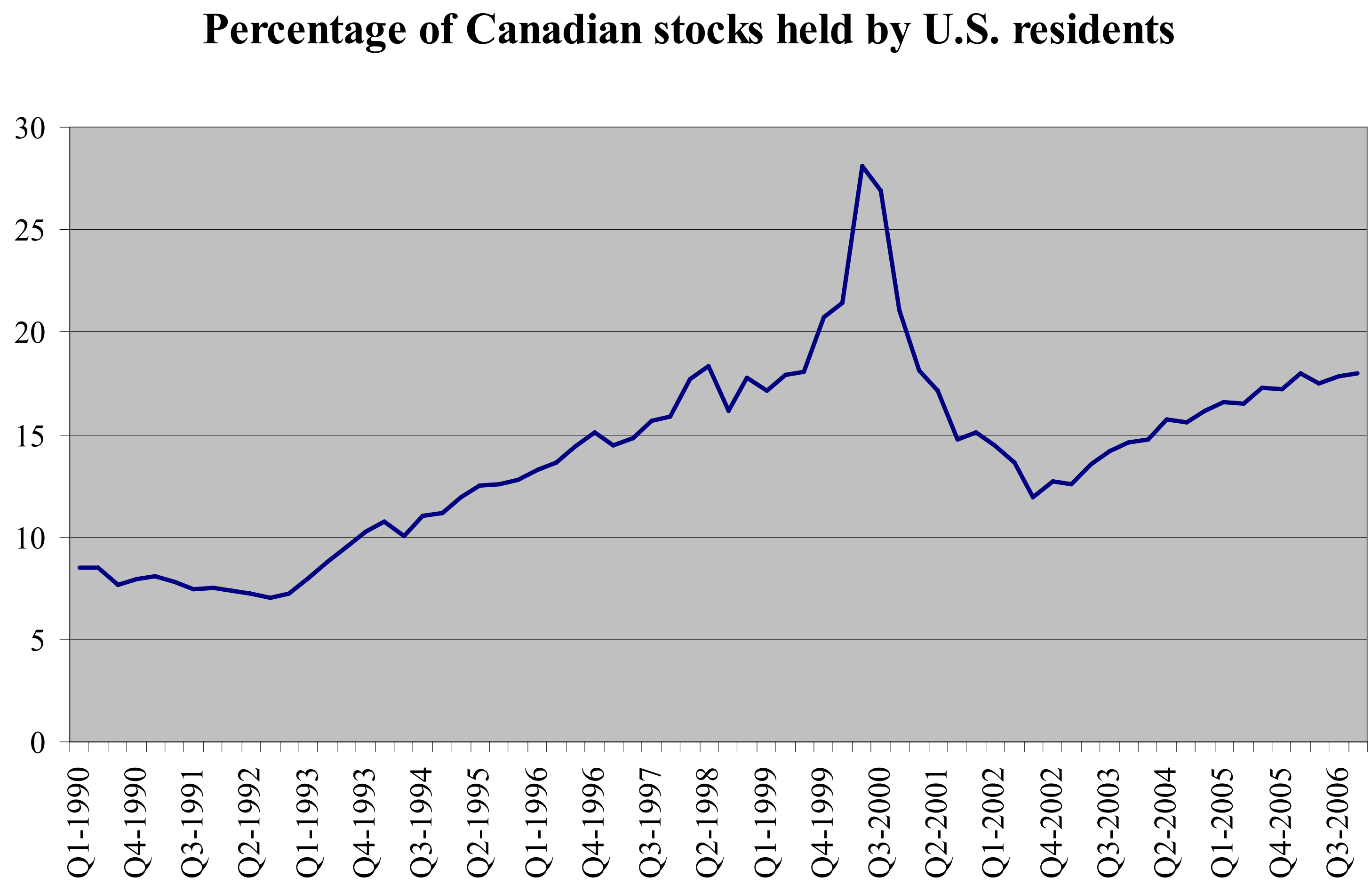
Outline

- Extent of financial linkages
- Transmission of U.S. financial shocks to Canada
- Econometric methodology
- Estimation results
- Extensions
- Conclusions

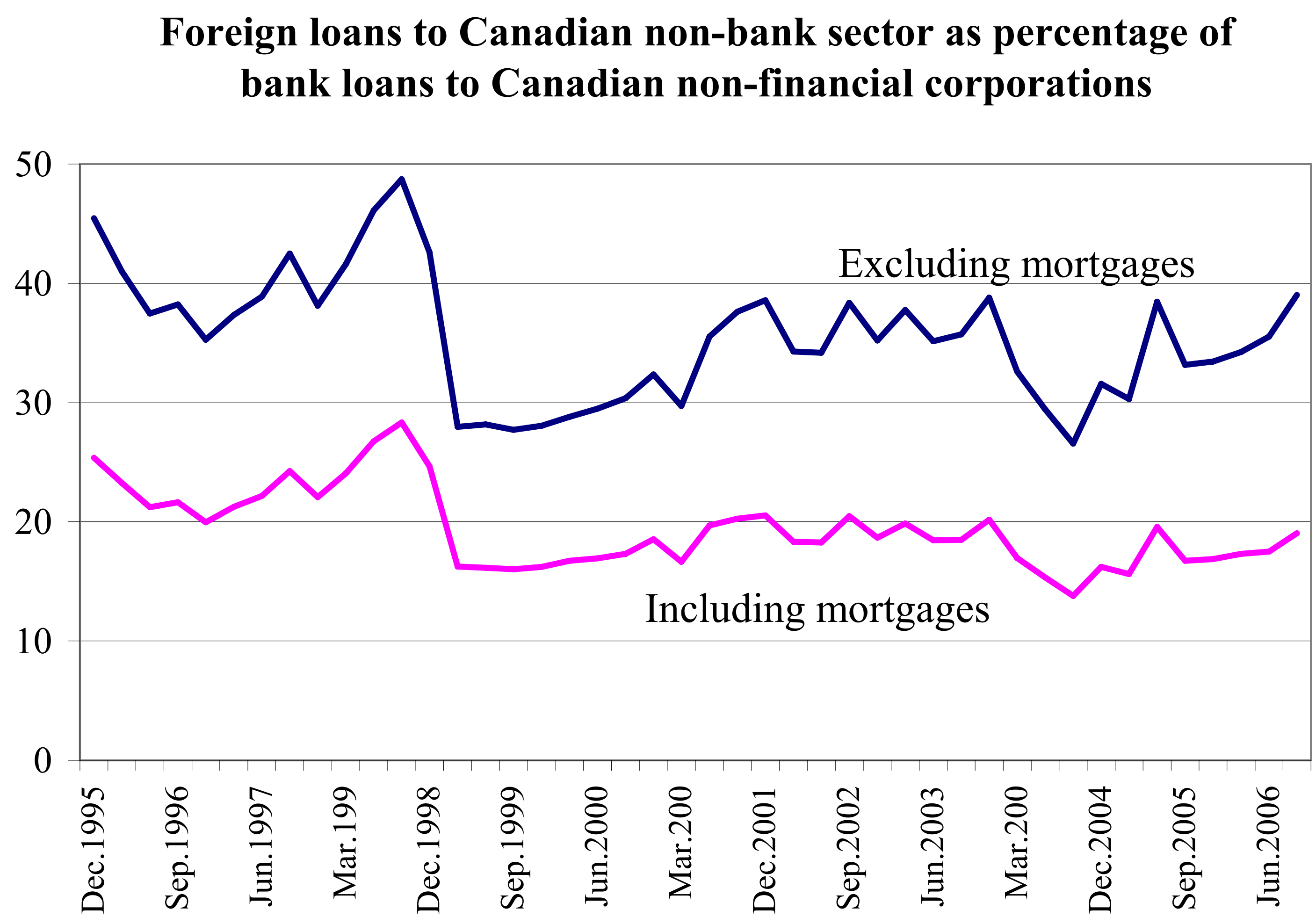
Financial linkages



Financial linkages



Financial linkages



Financial linkages

- Canadian corporations rely on the United States for:
  - 30 – 50 percent of bond issuance
  - 15 – 20 percent of stock financing
  - 20 – 40 percent of bank loans
- All in all, about ¼ of long-term financing by Canadian firms is raised south of the border

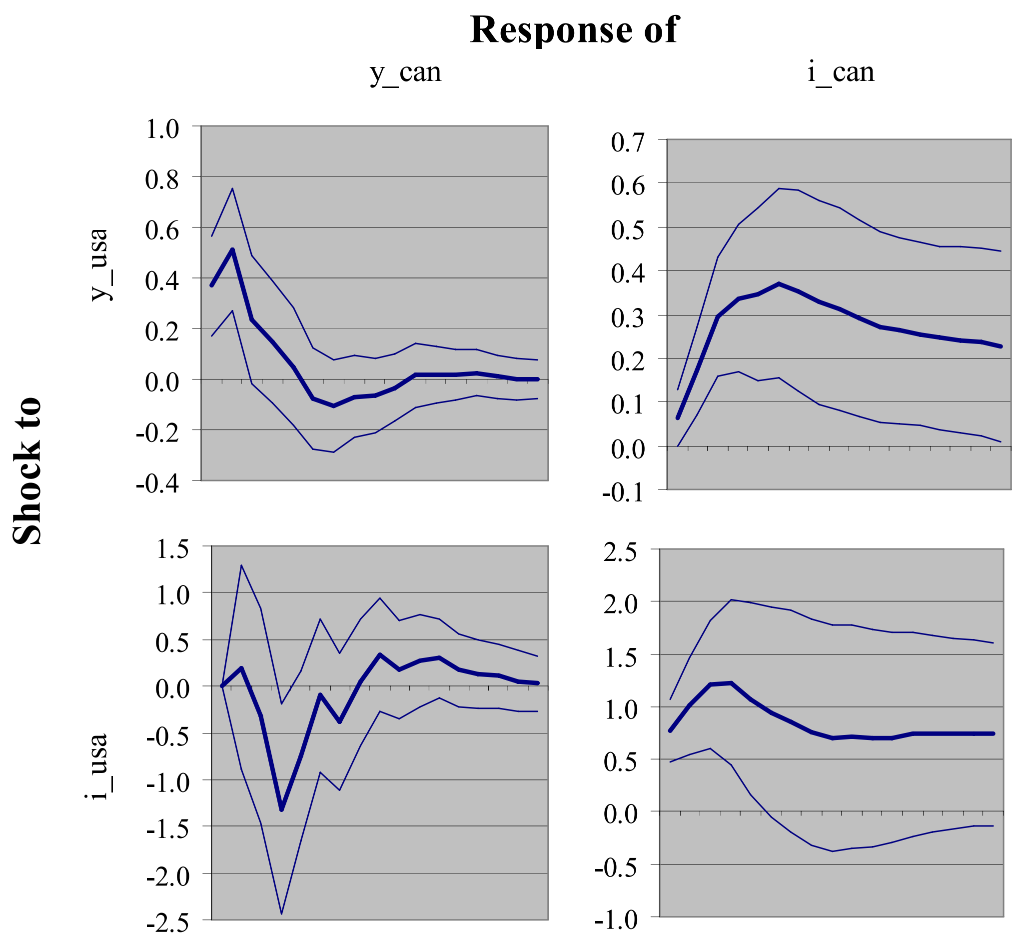
Transmission of U.S. financial shocks to Canada

- Tighter financial conditions in the U.S. make it more difficult/expensive for Canadian corporations to raise capital => dampen activity in Canada [direct financial channel]
- Tighter financial conditions in the U.S. lead to tighter financial conditions in Canada => dampen activity in Canada [indirect financial channel]
- Tighter financial conditions in the U.S. lead to slower activity and less import demand => dampen activity in Canada [trade channel]

Econometric methodology

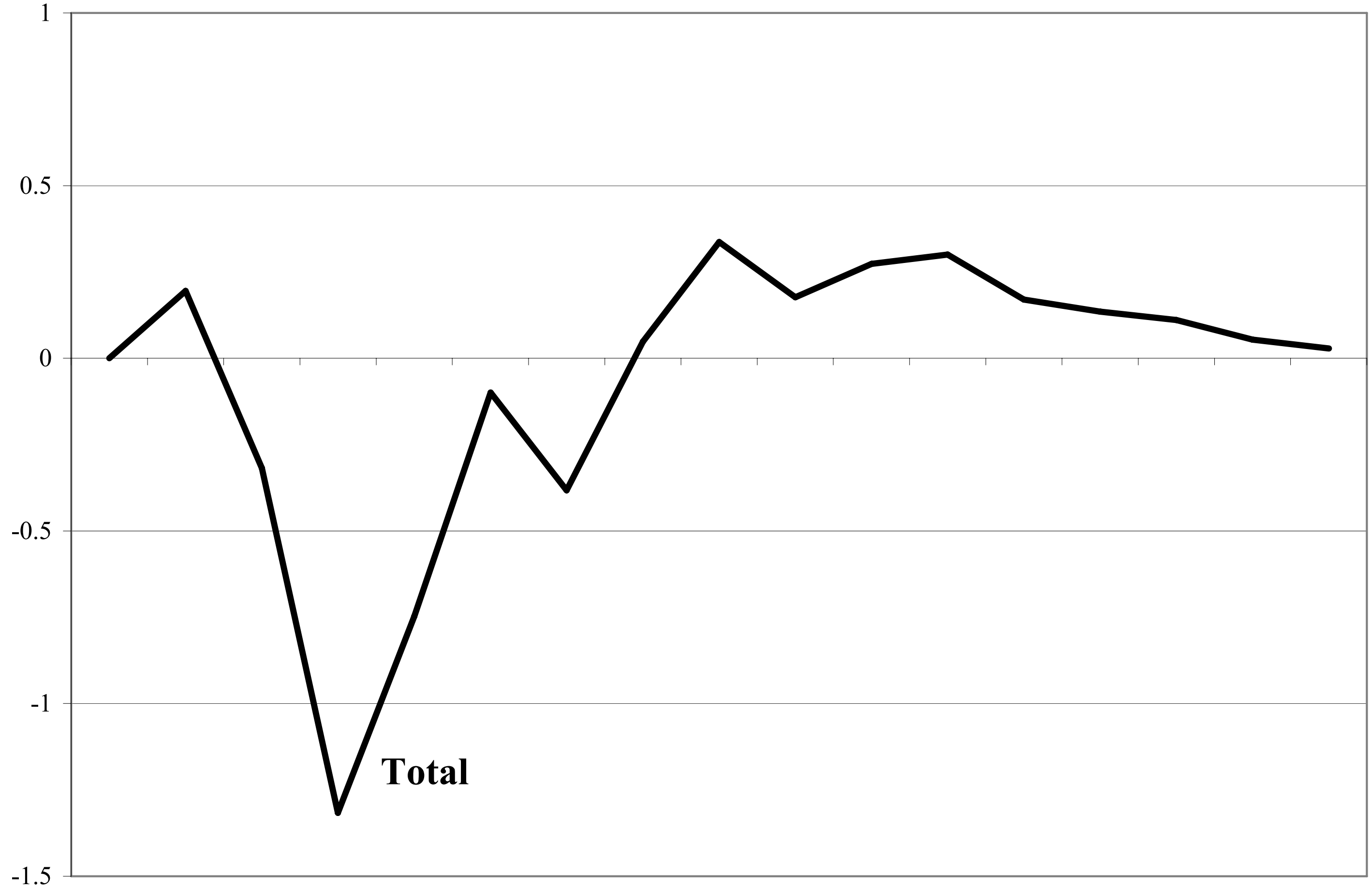
- Structural vector autoregression (SVAR)
- Two blocks – U.S. and Canada
- Variables – CPI inflation (qoq, saar); real GDP growth rate; 3-month T-bill rate
- Ordering within each block
- Block exogeneity assumption
  - Canadian variables do not affect U.S. variables
  - U.S. variables may affect Canadian variables simultaneously and with a lag
- Estimation period: 1983Q1 – 2007Q1

Impulse responses

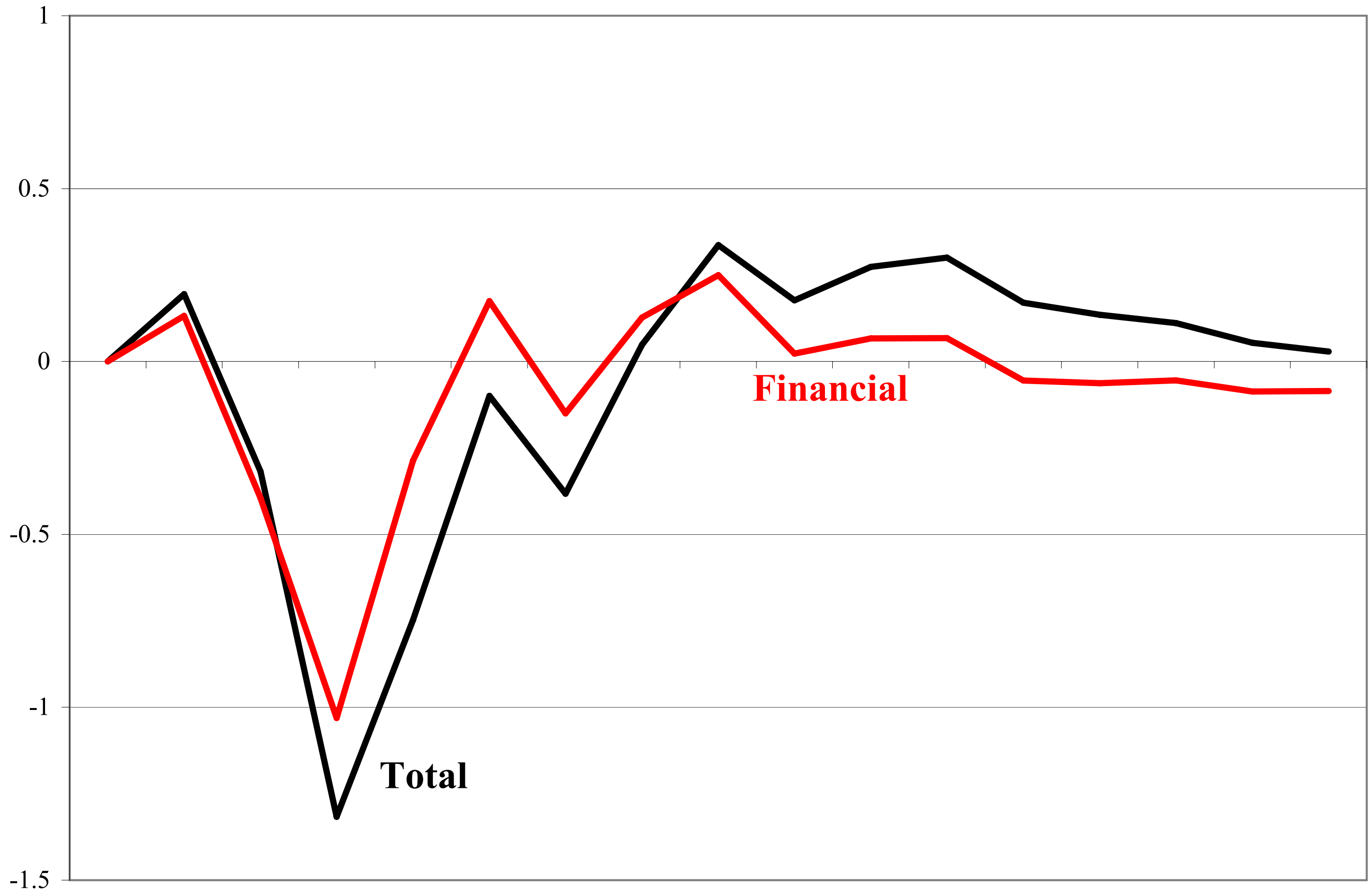


Channels

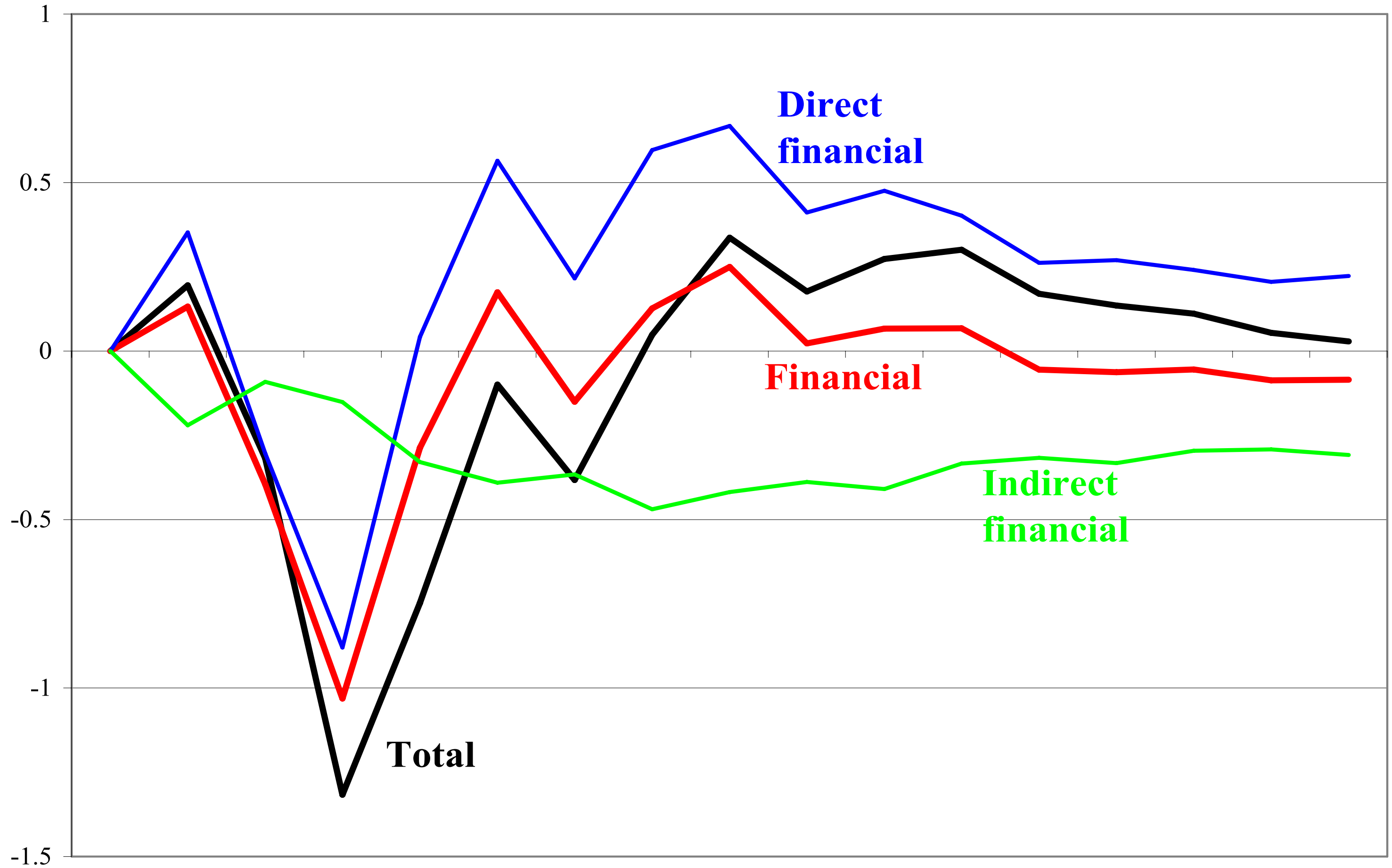
Impulse response of Canadian real GDP growth
to one percentage point increase in U.S. 3-month T-bill rate



Channels



Channels

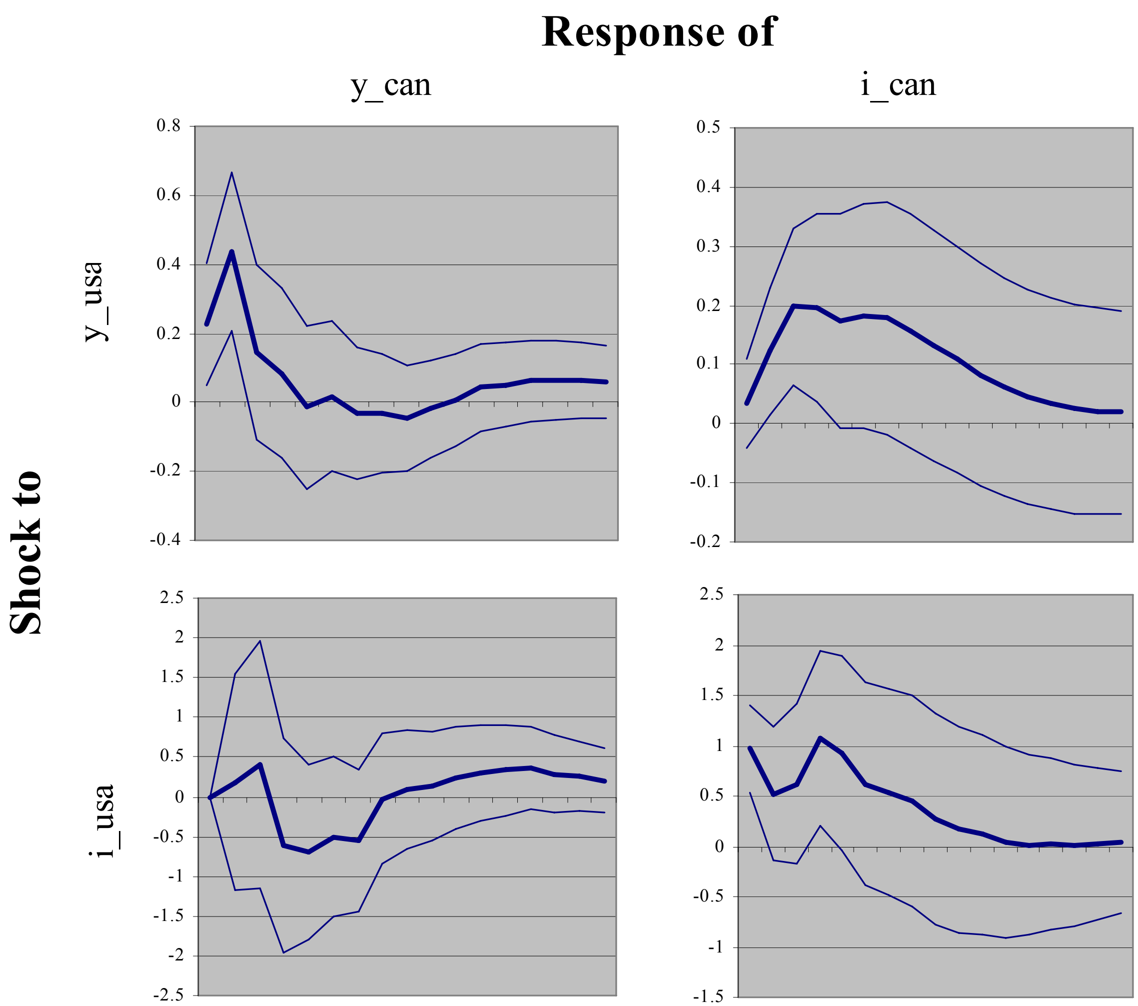


1
0.5
0
-0.5
-1
-1.5
Direct financial
Financial
Indirect financial
Total

Extensions and robustness checks

- Oil price
- Exchange rate
- Stock market variables
- Spread on corporate bonds
- Financial conditions indices
- Shorter period (since 1991Q1)
  - Qualitatively similar results
  - Wider confidence bands
  - Somewhat smaller responses
  - Decomposition looks similar, but direct effect a bit smaller

Impulse responses
Shorter sample



Summary

- Exports to the United States equal ¼ of Canada's GDP
- Canadian corporations raise about ¼ of long-term capital in the United States
- A one percentage point shock to U.S. real GDP growth moves Canadian real GDP growth by about half a percentage point
- A one percentage point shock to U.S. short-term interest rate leads to a similar change in Canadian interest rate and to an approximately one percentage point change in Canada's real GDP growth
- Direct financial channel is the most important for transmitting the effect of U.S. financial conditions on Canadian output, particularly in the short run
- Results are robust to specification changes

Conclusions

- Canadian businesses depend on the United States for a substantial share of their financing
- Financial conditions in the United States have considerable effect on both financial conditions and real economic activity in Canada
- Major financial shock emanating from the United States may have severe implications for the Canadian economy