



**Economic and Financial Linkages in the Western Hemisphere
Seminar organized by the Western Hemisphere Department
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Discussion by

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Discussion of the paper: Real Implications of Financial Linkages Between Canada and the United States

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First, I would like to say that I enjoyed reading the paper. It is well written, easy to understand and it provides useful empirical evidence.

Bank of Canada, 11/22/2007

Outline of the paper

- Analyzes the impact of a U.S. financial (interest rate) shock on Canada.
- 2 country SVAR.
- “Structural shocks” are identified using contemporaneous restrictions.
- The baseline model: CPI inflation rate, real GDP growth and interest rate (3 months T-bill).
- Large number of very relevant sensitivity analysis.

Key results

- U.S. interest rate shock has a large impact on the Canadian economy.
- Direct financial channel is very important in the short run.

Key comments

- Some surprising results from the U.S. interest rate shock
 - Possible explanations: the interest rate shock could include other types of shocks (e.g. productivity shocks and inflation target shocks)
 - Supply shocks and demand shocks may not be identified properly
- Methodology used to decompose the impact of a U.S. interest rate shock on Canada.

Some surprising results

- +100 bp. U.S. interest rate shock induces:
 - +100 bp. increase in the Canadian interest rate.
 - Not sure what's driving this (Canada is an inflation targeter)
 - A depreciation in the C\$
 - Not sure why given the interest rate response.
 - Commodity prices?
 - A fall in Canadian GDP that is larger than the fall in the U.S.
 - Difficult to understand
 - An increase of U.S. and Canadian inflation

Financial shocks could be contaminated by productivity shocks

- Real GDP has a unit root.
- Shocks are identified exclusively through contemporaneous restrictions: all of the shocks **may** have a permanent effect on the level of real GDP.
- The supply shock identified by the model is a shock that originates from prices (*mark-up* shocks).
 - This restriction may not be well suited to identify permanent productivity shocks.
- Not obvious to know where the model will assign the permanent productivity shock.
 - Lots of evidence that this shock is important for explaining GDP growth.

An Alternative Identification Scheme

- Assume that:
 - Real demand shocks and interest rate (monetary) shocks do not have a permanent effect on real GDP (2 long run restrictions)
 - Monte-Carlo study show that SVAR based on long run restrictions needs more lags (around 8).
 - Interest rate shocks do not have a contemporaneous effect on real GDP (1 short-run restriction).
- Ensures that the interest rate shock would be purged from productivity shock or other supply shocks.

Common disinflation shocks

- The U.S. financial shock could also be contaminated by common disinflation episodes (i.e. inflation target shocks).
- Bai-Perron structural breaks test show one structural break in the U.S. inflation rate and the Canadian inflation rate in the first half of the 90s.

Possible options:

- Use a more recent sample (like the author does)
 - Short sample problems
- Remove these break from the inflation data in the SVAR.

Decomposing the effect of a U.S. financial shock on Canada

- The author turns off coefficients associated to some variables in the Canadian block to identify the components.
- Very interesting approach but the result should be taken with a grain of salt.
 - These coefficients have a important reduced form aspect. Therefore, it is not obvious what we are shutting down.

Other suggestions

- Add the slope of the yield curve in the model
 - Contain lots of information to explain Canadian GDP fluctuations
- Include and discuss the variance decomposition.

Conclusion

- Some issues could be addressed by more sensitivity analysis.
- Overall, it is very interesting paper.
- It is a nice piece of evidence showing that the trade channel only captures a share of the international transmission mechanisms.
- Confirms that DSGE model that rely mainly on the real economy and trade channels should include a richer financial sector.

Financial shocks could be contaminated by productivity shocks

- The missing productivity shock could also be correlated across countries.
- Common TFP shocks could explain part of the strong correlation between U.S. and Canadian variables.
 - If taken into account, this would reduce the importance of the U.S. interest rate shock to Canada.
- Solution is to better address the presence of permanent shocks on output.
 - Use a combination of long-run and short-run restrictions.

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how does this relate to the argument that the productivity shocks are correlated?

cole, 11/21/2007