

# Comments on “Monetary Policy and Global Banks” by F. Bräuning and V. Ivashina



**Teodora Paligorova (Bank of Canada)**

**Bank of Canada Annual Conference, 2016**

Disclaimer: This presentation represents my own views and not necessarily those of the Bank of Canada or its staff.

# Overview

- What does this paper do?
  - Monetary policy spillovers through global banks' balance sheets
- Summary of the paper
- Contribution
  - Very interesting and timely paper; plausible channel
- Comments
  - Highlights instances when the model predictions are ambiguous
  - Identification of the channel
- Conclusion

# Summary of the Global Bank Model

- $R^f, R^d$  – fixed return on reserves,  $r_f, r_d / L^f, L^d$  – concave loan return functions

- Bank optimization problem:

$$r_d R^d + g(L^d) + r_f R^f + h(L^f) - c(S) - d(D^d)$$

- Constraints:

- balance sheet constraint (assets equal liabilities)
- capital constraint ( $L^d, L^f$ )
- FX swap constraint (all foreign assets must be funding through FX swap)

# Summary of the Global Bank Model

If foreign monetary policy tightens  $(r_f \uparrow / (r_f - r_d) \uparrow)$

1. Substitution of  $R^f$  and  $R^d$ :  $R^f \uparrow, R^d \downarrow$
2.  $S$  (swap amount)  $\uparrow$  /  $c(S) \uparrow$ , (cost of FX swap) [in equilibrium:  $c'(S) = r_f - r_d$ ]
3. Substitution of  $L^f$  and  $L^d$ :  $L^f \downarrow, L^d \uparrow$  (binding capital constraint)

# Summary of the Global Bank Model

If *domestic* monetary policy tightens ( $r_d \uparrow / (r_f - r_d) \downarrow$ )

1. Substitution of  $R^f$  and  $R^d$  :  $R^f \downarrow$  ,  $R^d \uparrow$
2.  $S$  (swap amount)  $\downarrow$  /  $c(S) \downarrow$  , (cost of FX swap)  
[in equilibrium:  $c'(S) = r_f - r_d$ ]
3. Substitution of  $L^f$  and  $L^d$  :  $L^f \uparrow$  ,  $L^d \downarrow$   
(binding capital constraint)

	Central Bank Reserves, $R^f$	Inter-Office Positions, $L^d$ , $L^f$	Foreign Lending, $L^f$	FX volume/FX cost, $S/c'(S)$	Domestic Central Bank Reserves, $R^d$
<b>1. Foreign Branches/Subsidiaries in the U.S.</b>					
Regressions	Yes	Yes	Yes		
Bank headquarters: Eurozone, UK, Japan, CH, CA					
Fixed Effects	Bank, Quarter		Bank, Quarter		
<b>2. Cross Country</b>					
Regressions	Yes		Yes	Yes	
Currency areas: US, Eurozone, UK, Japan, CH, CA					
Fixed Effects	Currency Area x Quarter		Currency Area x Quarter		
<b>3. Corporate (Syndicated) Loans</b>					
<i>3.1 Bank Level</i>			Yes, $L^f/(L^f+L^d)$		
Loans denominated in USD, GBP, JPY, CHF, CAD					
Borrowers headquarters in currency areas					
Fixed Effects			Bank, Quarter		
<i>3.2 Loan- &amp; Borrower-Level</i>		some	Yes, $L^f$ loan share		
Fixed Effects			Quasi Loan		
			Lender x Quarter		
			Borrower x Quarter		

## Contribution of the Paper

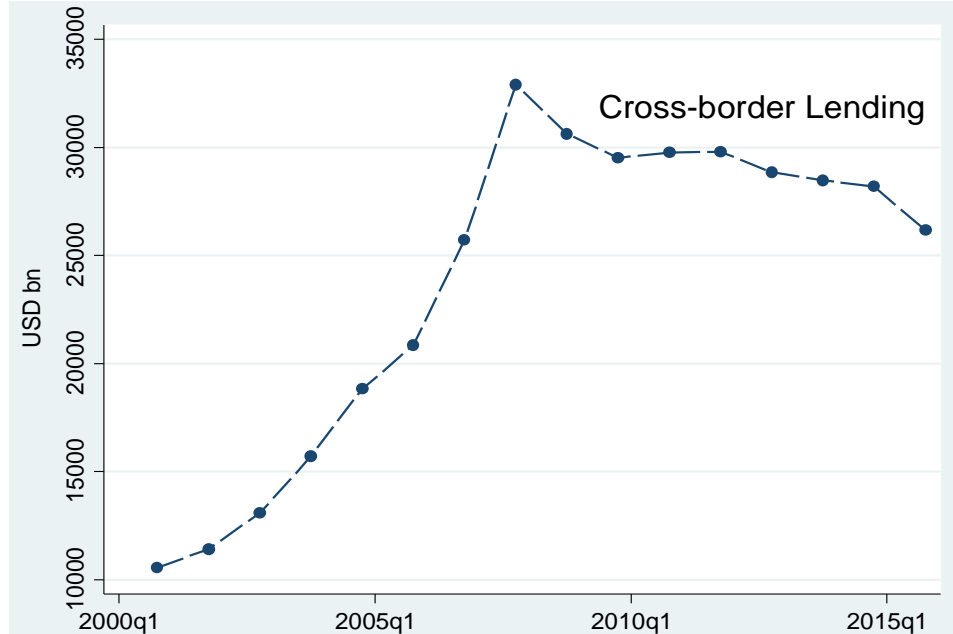
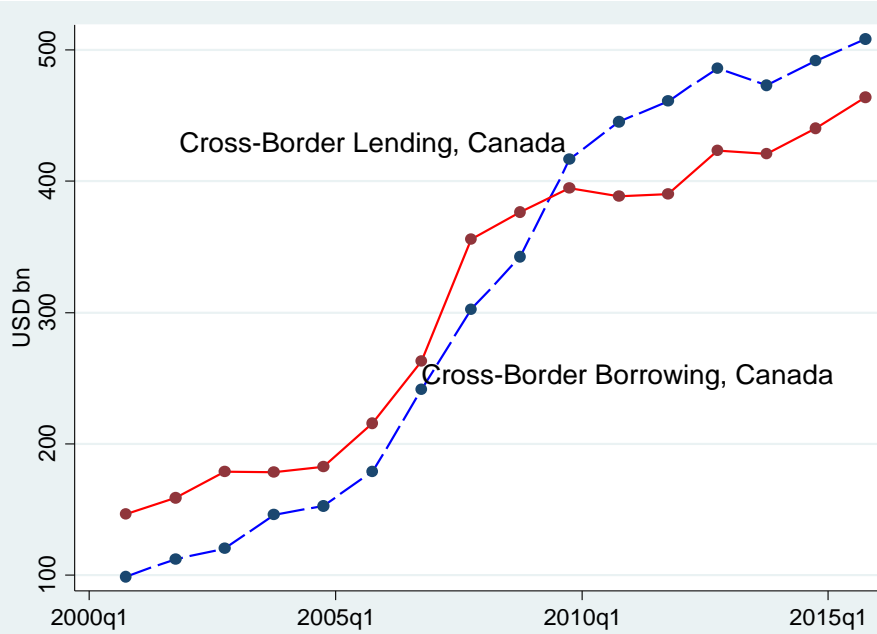
- The theoretical model offers comprehensive framework for understanding monetary policy spillovers through changes in banks' balance sheets
- Small literature on monetary policy spillovers & global banks
  - Cetorelli and Goldberg, 2012;
  - Morais , Peydro and Ortega , 2015;
  - Correia, Paligorova, Sapriza and Zlate, 2016

# Contribution of the Paper

- Policy Relevance:
  - Cross-border credit is non-negligible
  - MP spillovers through cross-border credit in the news, but not much is known on the channels through which they occur; relevant policies ( macroprudential, capital flow management ) to address possible risks
  - Raises additional questions: What is the monetary policy spillover effect on portfolio debt and equity flows?



# Cross-border credit is non-negligible



Source: BIS/L Outstanding Amounts, year end

## Comments: Model

1. Suppose  $r_f$  is very low and a foreign bank has  $R^f = 0$ ; if  $r_f$  is lowered further,  $R^f$  does not change; no change in the swap amount ( $S$ )/  $c'(S)$ , and no change in  $L^f$ .
  - Does your model (implicitly) require  $R^f > 0$ ? What is the fraction of foreign banks that do not hold any excess reserves with the central bank?
2. What is the level of banks' reserve balances at home and abroad? Does a substitution between  $R^f$  and  $R^d$  occur for any change in  $r_f$  and  $r_d$ ?
3. The capital constraint in the model is binding, which in practice is rarely the case
  - Introduce risk in the model

## Comments: Model (cont'd)

- If foreign banks raise foreign deposits , the model does not generate a change in  $L^f / R^f$ ? What if there is no currency mismatch?
  - Example : Global banks with US branches (post crisis) fund their excess reserves within the US.
  - Example: Global banks (pre-crisis) based in Europe with US dollars needs fund themselves from US money market funds.
  - Banks may not need to swap because they are currency matched

## Comments: Empirics

1. What are the must-have ingredients to identify the model empirically?
  - You need to estimate all channels from the model
  - It is important to estimate  $R^d$  and  $L^d$ ?
  - Supply affect that is driven by IOER changes
2. Is IOER comparable across countries? It is a tool to reinforce the target rate
  - (Uncontrolled) Global factor driving monetary policy rates: endogenous relationships

	Central Bank Reserves, $R^f$	Inter-Office Positions, $L^f$ , $L^d$	Foreign Lending, $L^f$	FX volume/FX cost, $S/c'(S)$	Domestic Central Bank Reserves, $R^d$
<b>1. Foreign Branches/Subsidiaries in the U.S.</b>					
Regressions	Yes	Yes	Yes		
Bank headquarters: Eurozone, UK, Japan, CH, CA					
Fixed Effects	Bank, Quarter		Bank, Quarter		
<b>2. Cross Country</b>					
Regressions	Yes		Yes	Yes	
Currency areas: US, Eurozone, UK, Japan, CH, CA					
Fixed Effects	Currency Area x Quarter		Currency Area x Quarter		
<b>3. Corporate (Syndicated) Loans</b>					
<i>3.1 Bank Level</i>			Yes, $L^f/(L^f+L^d)$		
Loans denominated in USD, GBP, JPY, CHF, CAD					
Borrowers headquarters in currency areas					
Fixed Effects			Bank, Quarter		
<i>3.2 Loan- &amp; Borrower-Level</i>		some	Yes, $L^f$ , loan share		
Fixed Effects			Quasi Loan		
			Lender x Quarter		
			Borrower x Quarter		

### 3. What is foreign lending: Cross-border vs. local lending?

No Access to the foreign Central bank,  $R^f = 0$

Global Bank  
(headquarter)

Access to the foreign Central bank

Cross-border lending/claims

$L^f?$

$L^f?$

Local claims:  
Foreign Affiliates lending in domestic/foreign currency  
\* Funding in foreign currency

# BIS banking statistics data

- Suggestion: Why not to use unified empirical framework? It will allow to evaluate the magnitude of the effect
- BIS consolidated (and locational) banking statistics
  - Cross-border claims
  - Local Claims of Foreign banks' affiliates in foreign currency
  - Local Claims of Foreign banks' affiliates in local currency
  - Supplement with the locational data for currency breakdowns, more refined sector classifications (bank, public sector, non-bank) and adjustments for exchange rates
  - exchange rate and break adjusted series across a large cross section of countries

# Conclusions

- This paper offers a comprehensive framework for the workings of monetary policy spillovers through global banks' balance sheets
- Policy relevant question
- Interesting paper; much work has been done on the empirical side
- Suggestion: unify the empirical framework around the BIS consolidated/location data; it will help to better gauge the impact of the rate differential on foreign lending



# Thank you!

