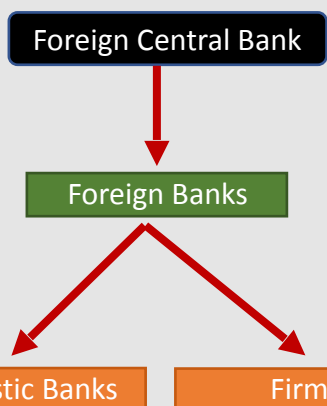


# Spillover Effects of Foreign Monetary Policy on the Foreign Indebtedness of Financial and Non-financial Companies

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## Motivation



### Cross-border bank-lending channel:

- Correa and Murry (2009)
- Temesvary et al. (2015)

### International portfolio-rebalancing channel:

- Correa et al. (2015)
- Buch et al. (2018).

## Data

Data	Characteristics	Freq.
Cross-border Loans to domestic located Financial Institutions	Outstanding loan amount, interest amount, id of borrower and lender. 10.000 loan observations. • Loans from 36 countries. • Largest Participation: US, Germany, Canada, UK	Quarterly 2001-2016
Cross-border Loans to domestic located Non-Financial Companies	Loan amount, the maturity, the rate, the purpose of the loan. 12.000 loan observations. • Loans from 29 countries. • Largest Participation: US, Bahamas, UK, Germany, Netherlands	Quarterly 2000-2015

## Empirical Strategy

The paper addresses the following research questions:

- i. Does foreign monetary policy affects the level of foreign lending of financial and non-financial domestic companies?

$$Y_{ijkt} = \beta_0 + \beta_1 \Delta ir_{kt-1} + \beta_2 \Delta ir_{t-1}^{COL} + \beta X_{it-1} + \theta_i + \theta_j + \theta_s + \epsilon_{ijkt}$$

- iii. Is foreign lending affected by prolonged monetary policy easing?

$$Y_{ijkt} = \beta_0 + \beta_1 \Delta ir_{kt-1} + \beta_2 \Delta ir_{t-1}^{COL} + \beta_3 Duration_{kt} + \beta_4 Duration_t^{COL} + \beta X_{it-1} + \theta_i + \theta_j + \theta_s + \epsilon_{ijkt}$$

where,

$$Duration_t = \begin{cases} Duration_{t-1} + 1 & \text{if } MA_t < MA_{t-1} \\ 0 & \text{otherwise,} \end{cases}$$

$$MA_t = \frac{1}{8} \sum_{\tau=1}^8 i_{t-\tau+1} \quad i_{t-\tau+1} : \text{two years sovereign bond yields}$$

- vi. Does transmission of foreign monetary policy depends on certain borrower characteristics?

Include interactions with borrower characteristics: size, liquidity, capital. It also includes lender-time FE.

- vii. Does transmission of foreign monetary policy depends on certain lender characteristics?

Include interactions with lender characteristics: size, liquidity, capital. It also includes borrower-time FE.

## Results

Foreign Loans to Domestic Financial Institutions				
Dependent Variable	Δ Log Loan Amount			
Δ ir(k,t-1)	0.084*	0.105**	0.201***	0.208***
	(0.050)	(0.050)	(0.071)	(0.070)
Δ ir(t-1)	0.033	0.053	0.202***	0.196***
	(0.039)	(0.041)	(0.058)	(0.058)
Duration(kt)			0.029***	0.027***
			(0.007)	(0.007)
Duration(t)			0.011	0.010
			(0.009)	(0.009)
Observations	11,735	11,731	9,636	9,634
Adjusted R-squared	-0.004	-0.003	0.001	0.003
Lender FE	YES	YES	YES	YES
Borrower X Seasonal FE	YES	YES	YES	YES
Borrower Characteristics	NO	YES	NO	YES

Foreign Loans to Domestic Non-Financial Companies				
Dependent Variable	Loan Amount			
Δ ir(k,t-1)	10.756**	9.187**	8.609***	5.091***
	(5.332)	(4.063)	(2.980)	(1.172)
Δ ir(t-1)	1.285**	-0.619	-0.869	-4.931**
	(0.578)	(0.684)	(0.590)	(2.213)
Duration(kt)			-1.293*	-1.061*
			(0.683)	(0.577)
Duration(t)			1.191**	1.384**
			(0.523)	(0.595)
Observations	11,821	11,821	6,503	6,503
Adjusted R-squared	0.325	0.356	0.397	0.427
Lender FE	YES	YES	YES	YES
Borrower X Seasonal FE	YES	YES	YES	YES
Borrower Characteristics	YES	YES	YES	YES

Foreign Loans to Domestic Financial Institutions			Foreign Loans to Domestic Non-Financial Companies		
Dependent Variable	Δ Log Loan Amount		Dependent Variable	Loan Amount	
In(assets(i,t-1)) * Δ ir(k,t-1)	-0.112	-0.132	In(assets(i,t-1)) * Δ ir(k,t-1)	-0.969	-1.044
	(0.113)	(0.112)		(0.867)	(0.749)
Liquidity(i,t-1) * Δ ir(k,t-1)	-1.159	-4.703	Current Ratio(i,t-1) * Δ ir(k,t-1)	-0.042	-0.013
	(10.289)	(11.918)		(0.057)	(0.036)
Capital Ratio(i,t-1) * Δ ir(k,t-1)	-3.687**	-4.272**	Capital Structure(i,t-1) * Δ ir(k,t-1)	0.077	0.604***
	(1.863)	(2.137)		(0.065)	(0.099)
Observations	11,748	11,748	Observations	11,821	11,821
Adjusted R-squared	0.305	0.304	Adjusted R-squared	0.325	0.356
Borrower FE	NO	YES	Lender FE	YES	YES
Lender X Time FE	YES	YES	Borrower X Seasonal FE	YES	YES
Cluster	Lender	Lender	Borrower Characteristics	YES	YES

## Conclusions

The results support the existence of spillover effects of foreign monetary policy into foreign lending of resident banks.

Increases (decreases) in the foreign monetary policy rates lead to increases (decreases) in the loan amount of foreign loans granted to domestic financial and non-financial companies (similar results using Wu-Xia shadow rate).

Prolonged periods of monetary easing in source countries increase the loan amount received by local financial institutions. On the contrary, it reduces the loan amount granted to domestic non-financial companies.

During periods of foreign monetary policy easing (tightening) the same foreign lender provide significantly higher (lower) financing to domestic financial institutions with high capital ratios and to domestic non-financial companies with lower liabilities to equity ratio.

Further work: interactions with lender characteristics, control for capital controls, purpose of the loan, estimate the effect over loan rates...