The second wave of global liquidity: Why are firms acting like financial intermediaries?

Julian Caballero Ugo Panizza Andrew Powell

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- New trends in EM financing
- Do non-financial corporates act like banks?
 - International bond issuances by non-financial firms and domestic credit
- Carry trade and the role of capital controls
- Alternative hypotheses
- Policy implications

Overall trends

- Non-banks are becoming more important in international markets
 - A lot of financing is through bonds
- Offshore issuances of EM nationals have surpassed offshore issuances by nationals of advanced economies
- In many countries international issuances have surpassed domestic issuances (reversal of prior trend)
- Increase in USD borrowing by EMs

Net external financing of EMs



Bond issuances in offshore centers



Image: A matrix and a matrix

New trends in EMs financing



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Issuance of bonds by corporations (LAC5)



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Issuance of bonds by corporations (Brazil)





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- Banks and financial intermediaries borrow in order to lend (Shin and Zhao, 2013).
 - Therefore, we expect a **positive** correlation between financial liabilities (such as deposits and financial assets) and new lending and purchases of securities
- Non-financial firms fund investments by either drawing on their existing financial resources or by borrowing (or both).
 - The pecking order theory of corporate finance suggests that the firms will draw on internal funds first because this is the cheapest form of financing.
 - There should be a **negative** correlation (or no correlation at all) between financial assets and financial liabilities

- We collected annual data for the period 2000-2014 on firms' balances sheets and bond issuances from two different sources.
 - Thomson-Reuters Worldscope
 - Dealogic's DCM database
 - We match the two datasets "by hand"
- We focus on 18 emerging markets and (up to) the 50 largest non-financial non-foreign owned firms per country
 - The baseline analysis includes a total of 766 firms
 - One-third of these firms have issued abroad

Sample

	All firms	Market capitalization	Share
	in sample	(% of total)	of issuers
Argentina	47	100	0.17
Brazil	49	80	0.51
Chile	46	93	0.37
Colombia	26	100	0.23
Czech Republic	6	100	0.17
Hungary	22	100	0.05
Indonesia	47	81	0.26
Israel	45	89	0.09
Malaysia	45	82	0.53
Mexico	43	97	0.53
Peru	50	100	0.16
Philippines	48	96	0.27
Poland	48	88	0.13
Russia	48	96	0.40
South Africa	49	89	0.27
South Korea	50	67	0.48
Thailand	47	82	0.49
Turkey	50	88	0.06
Total	766		0.30

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	N. Obs	μ	σ	Min	Max
Total Bond Issuances	8,248	117	693	0.00	15,332
Local Currency Bond Issuances	8,248	72	497	0.00	14,820
Foreign Currency Bond Issuances	8,248	46	369	0.00	11,000
Total Assets	8,248	5,393	17299	3.87	408,462
Total Debt	8,248	1,485	4522	0.00	112,168

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• We follow Shin and Zhao (2013) and Bruno and Shin (2015)

$$\ln\left(\frac{C}{SA}\right)_{i,c,t} = FXB_{i,c,t}\left(\beta + \delta\widetilde{SP}_{c,t}\right) + X_{i,c,t} + \alpha_i + \theta_{c,t} + \varepsilon_{i,c,t}$$

•
$$\frac{C}{SA}$$
 is cash over sales

- SP is demeaned spread (LC deposit rate borrowing cost in US)
- FXB is foreign bond issuances
 - Three definitions: $\ln(1 + FB)$; $\ln(1 + \frac{FB}{5})$; FXB = 1 if FB > 0
- X are firm-specific controls
 - log of debt over sales; log sales; leverage
- α_i and $\theta_{c,t}$ are firm and country-year fixed effects

	(1)	(2)	(3)	(4)	(5)	(6)
FXB	0.0148*	0.0144*	0.791**	0.832**	0.110**	0.108**
	(0.00852)	(0.00832)	(0.399)	(0.362)	(0.0504)	(0.0490)
FXB*SP		0.00205		0.0584		0.0121
		(0.00164)		(0.0555)		(0.00955)
N. Obs.	8,243	7,881	8,243	7,881	8,243	7,881
N. Firms	766	749	766	749	766	749
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes
C-Y FE	Yes	Yes	Yes	Yes	Yes	Yes
FXB is	$\ln(1+FB)$	$\ln(1+FB)$	$\ln(1+\frac{FB}{S})$	$\ln(1+\frac{FB}{S})$	Dummy	Dummy

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	(1)	(2)	(3)
FXB*HP	0.0238**	1.004**	0.176***
	(0.0101)	(0.444)	(0.0597)
FXB*LS	0.00518	0.599	0.0455
	(0.0116)	(0.440)	(0.0675)
N. Obs.	8,243	8,243	8,243
N. Firms	766	749	766
Firm FE	Yes	Yes	Yes
C-Y FE	Yes	Yes	Yes
FXB is	$\ln(1+FB)$	$\ln(1+\frac{FB}{S})$	Dummy

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- Carry trade
 - It may be more profitable when banks are more regulated
- To complete markets
- Because international banks have retreated

Credit growth in Latin America



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International issuances by financial firms and domestic loans



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International issuances by non-financial firms and corporate deposits



Evolution of capital controls in our sample



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Evolution of capital controls in our sample



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• We augment the previous model with a measure of capital controls

$$\ln\left(\frac{C}{SA}\right)_{i,c,t} = FXB_{i,c,t}\left(\beta + \delta\widetilde{SP}_{c,t} + \eta K_{c,t} + \phi\widetilde{SP}_{c,t}K_{c,t}\right) + X_{i,c,t} + \alpha_i + \theta_{c,t} + \varepsilon_{i,c,t}$$

- *K* is a continuous measure of capital account openness that ranges between 0 and 1
- δ measures how the relationship between foreign bond issuances and cash holdings varies with SP for countries with a fully closed capital account
- $\delta + \phi$ measures how the relationship between foreign bond issuances and cash holdings varies with SP for countries with a fully open capital account

	(1)	(2)	(3)	(4)	(5)	(6)
FXB	0.019	0.02	-0.26	0.53	0.10	0.00
	(0.0188)	(0.0167)	(0.683)	(0.744)	(0.109)	(0.106)
FXB*SP	0.002	0.009***	0.080	0.458***	0.012	0.043**
	(0.002)	(0.003)	(0.058)	(0.136)	(0.009)	(0.019)
FXB*K	-0.009	-0.026	2.37**	0.561	-0.008	-0.027
	(0.036)	(0.032)	(1.17)	(1.21)	(0.21)	(0.19)
FXB*SP*K		-0.014**		-0.754***		-0.069*
		(0.006)		(0.245)		(0.037)
N.Obs.	7,881	7,881	7,881	7,881	7,881	7,881
N. Firms	749	749	749	749	749	749
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes
C-Y FE	Yes	Yes	Yes	Yes	Yes	Yes
$\phi + \delta$		-0.006		-0.29		-0.026
p-value		0.12		0.17		0.22
FXB is	$\ln(1+FB)$	$\ln(1+FB)$	$\ln(1+\frac{FB}{S})$	$\ln(1+\frac{FB}{S})$	Dummy	Dummy

	(1)	(2)	(3)	(4)	(5)	(6)
FXB*SP	0.008**	0.009***	0.006*	0.0096***	0.023***	-0.012
	(0.003)	(0.003)	(0.003)	(0.003)	(0.008)	(0.012)
FXB*SP*K	-0.0126***				-0.004	-0.005
	(0.0048)				(0.009)	(0.009)
FXB*SP*KI		-0.012***		-0.025***		
		(0.004)		(0.009)		
FXB*SP*KO			-0.012*	0.016		
			(0.007)	(0.014)		
FXB*SP*KIR			. ,	. ,	-0.035*	
					(0.019)	
FXB*SP*KOR						0.035*
						(0.019)
N. Obs	7,881	7,881	7,881	7,881	7,881	7,881
N. Firms	749	749	749	749	749	749
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes
C-Y FE	Yes	Yes	Yes	Yes	Yes	Yes

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- Alternative hypotheses
 - Financial depth and creditors' rights
 - Sovereign risk (ratings)
 - Liabilities with BIS reporting banks
- Robust within regions (but results are stronger in Asia and LAC)
- Robust to dropping one country at a-time
- Robust to splitting the sample into two sub-periods (2000-06 & 2007-14)
- Robust to using cash holdings at time t+1

	(1)	(2)	(3)	(4)
FXB	0.0480***	0.0487***	0.0499**	0.0510***
	(0.0177)	(0.0185)	(0.0222)	(0.0182)
FXB*SP	0.00907***	0.0114**	0.00744*	0.0124***
	(0.00339)	(0.00501)	(0.00436)	(0.00356)
FXB*K	-0.0471	-0.0453	-0.0654*	-0.0539*
	(0.0324)	(0.0328)	(0.0391)	(0.0323)
FXB*K*SP	-0.0142 [*]	-0.0174 [*]	-0.00937	-0.0145* ^{**}
	(0.00754)	(0.0101)	(0.00613)	(0.00505)
N. Obs.	3,638	3,638	7,307	5,030
N. Firms	704	704	735	484
Firm FE	Yes	Yes	Yes	Yes
C-Y FE	Yes	Yes	Yes	Yes
	OLS	OLS	IV	IV
Capital account openness	s K in 2008 KI instrumente		ented with KO	
Period	2009-14 2000-14		00-14	
Sample	ALL	ALL	ALL	Asia & LAC

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Conclusions

- We corroborate two results already found in the literature
 - Non-financial firms do not issue bonds solely to finance real investment but also to maintain liquid assets
 - They do so when the conditions for carry trade activities are more attractive.
 - This suggests that these firms behave like financial intermediaries.
- Non-financial firms may behave like financial intermediaries to:
 - Correct market failures
 - (and hence serving a role in trying to complete incomplete financial markets)
 - Replace of global banks that have been retreating due to impaired balance sheets or increased regulatory pressure
 - To elude capital controls (as they have mechanisms that are not available to banks to elude such controls).
- Our results are consistent with this latter hypothesis

- We find that non-financial firms engage in carry trade activities when controls on inflows are prevalent.
 - Any evaluation of the efficacy of capital controls should take into account the possibility that they may be evaded through such means
 - Macro-prudential policies applied on local financial systems may be more effective than those controls in managing risks
 - The activities of non-financial firms should be monitored and any systemic risks, either in terms of currency mismatches or liquidity risks, should be carefully assessed.