

International spillovers and capital flows

'Global Liquidity and Drivers of Cross-border Bank Flows'

Cerutti, Claessens, and Ratnovski*

'Macro-prudential Capital Controls and the Shadow Economy'

Bengui* and Bianchi

'Crisis Transmission in the Global Banking Network'

Hale, Kapan, Minoiu*

Discussion by A. Rebucci

Johns Hopkins University

Commonalities and differences

- Same broad topic, but ...
 - Very different methods
 - Very different data
 - Different questions



Hum!

What am going to do? ☹️

- Summarize contributions and story line
- Some comments, suggestions and my perspective on the issues



Papers' main questions

- What are the key drivers of the global cross-border credit supply?
 - Are non-US drivers relevant? Or is the global supply of credit still mostly US-lead?
- Does interbank exposure affect profitability during banking crises?
 - If so, how? Through which mechanisms?
- Which policies or country characteristics best insulate economies from negative transmissions?
- Are capital controls and macro-prudential policies still desirable even if they can be partially circumvented?

'Global Liquidity and Drivers of Cross-Border Bank Flows' (Lev et al.)

- Define GL as a shifter of the cross-border credit supply and use BIS locational banking data
- The find that VIX and US term premium are the main drivers of global liquidity
- Banking conditions in other global centers also matter: UK and euro area leverage and TED spread
 - Evidence by Camelia et al. not inconsistent with this (Many key intermediaries in other AEs and EMs)

'Global Liquidity and Drivers of Cross-Border Bank Flows' (cont.)

- Exchange rate flexibility and capital flow management policies can help insulate economies from negative transmission
 - Partially consistent with Bengui and Bianchi paper
 - Mechanisms harder to investigate in the network framework of Cameila et al.



The VIX as capital flow driver

The VIX correlates well with global liquidity measures

	<i>Off. Liquidity (level)</i>	<i>Priv. Liquidity (level)</i>	<i>Off. Liquidity (level)</i>	<i>Priv. Liquidity (level)</i>
			<i>VIX index (level)</i>	<i>VIX index (level)</i>
Full Sample	0.92	-0.05		0.01
Pre-Crisis	0.99	-0.30		-0.28
Post-Crisis	-0.12	0.00		-0.41
	<i>Off. Liquidity (log diff.)</i>	<i>Priv. Liquidity (log diff.)</i>	<i>Off. Liquidity (log diff.)</i>	<i>Priv. Liquidity (log diff.)</i>
			<i>VIX index (level)</i>	<i>VIX index (level)</i>
Full Sample	0.29	-0.18		-0.06
Pre-Crisis	0.38	-0.13		-0.23
Post-Crisis	0.43	0.12		0.32

Source: Cesa-Bianchi, Cespedes, and Rebucci (2013)

The US and the G4 are not the only sources of global volatility

China equity market correlates as close as the US with the global market (about .6):

Other asset markets, including FX volatility, contribute to global volatility:

	<i>Equity</i>	<i>Exch. Rate</i>	<i>Bond</i>	<i>Commodity</i>
<i>Equity</i>	1.00	—	—	—
<i>Exch. Rate</i>	0.52	1.00	—	—
<i>Bond</i>	0.49	0.32	1.00	—
<i>Commodity</i>	0.16	0.14	0.24	1.00

Source: Cesa-Binachi, Pesaran and Rebucci (2014)

The VIX as a capital flow driver is problematic

- FX Volatility can have a macro-prudential role to play which most EMs tend to underappreciate for other reasons
 - But some SOEs rely heavily upon it: Norway, New Zealand, Australia, Canada, Chile, Mexico etc.)
 - EMs have been successful in regulating FX exposures to cope with FX volatility

The VIX is endogenous

	$v_{EQ,t}$	$v_{FX,t}$	$v_{LB,t}$	$v_{COM,t}$
c	0.09 [3.91]	0.05 [5.25]	0.04 [2.97]	0.08 [5.50]
$v_{EQ,t-1}$	0.53 [5.86]	-0.08 [-2.16]	-0.03 [-0.55]	-0.09 [-1.52]
$v_{FX,t-1}$	0.08 [0.36]	0.55 [6.54]	0.00 [-0.01]	0.00 [0.02]
$v_{LB,t-1}$	-0.01 [-0.06]	-0.03 [-0.64]	0.71 [9.37]	0.11 [1.37]
$v_{COM,t-1}$	-0.14 [-1.12]	-0.01 [-0.19]	-0.03 [-0.37]	0.48 [6.02]
Δy_{i+1}^*	-3.37 [-5.41]	-0.98 [-4.04]	-1.21 [-3.17]	-0.99 [-2.50]
$\Delta \pi_{i+1}^*$	0.60 [1.57]	0.17 [1.14]	0.07 [0.28]	-0.50 [-2.03]
Δy_t^*	0.63 [0.85]	-0.50 [-1.73]	-0.21 [-0.46]	-0.71 [-1.52]
$\Delta \pi_t^*$	-0.07 [-0.17]	0.23 [1.50]	0.11 [0.44]	0.23 [0.94]
Δy_{t-1}^*	-0.01 [-0.02]	-0.08 [-0.32]	-0.11 [-0.27]	0.11 [0.27]
$\Delta \pi_{t-1}^*$	-0.23 [-0.61]	-0.07 [-0.48]	0.11 [0.48]	-0.06 [-0.25]

Source: Cesa-Bianchi, Pesaran, and Rebucci (2014)

'Crisis Transmission in the Global Banking Network' (Camelia et al)

- Network analysis of granular, loan-by-loan data matched to bank characteristics
- Direct and indirect inter-bank exposure via syndicated loans in countries negatively affected by banking crisis affects profitability, even after controlling for exposure to other borrowers, fixed effects and time effects
 - Key intermediaries in the network hit the hardest by crisis in the home country



'Crisis Transmission in the Global Banking Network' (Cont.)

- Different results than in the literature
 - Diversification versus negative transmission
 - Can we partial out the two channels?
- The model estimates transmission, but the mechanisms are unclear:
 - possibly write-downs
 - but also lack of shock absorbing capacity, or poor regulation, and poor risk management
- Pricing of credit risk has no role



'Crisis Transmission in the Global Banking Network' (Cont.)

- At the wholesale, both pricing and exposure are used to manage credit risk and safeguard profitability
- Consider simple version of Moody's Analytics Portfolio Manager:
$$R_i = CS_i - (EDF_i \times LGD_i)$$
$$\sigma_i (UI_i) = [EDF_i(1-EDF_i)]^{1/2} \times LGD_i$$

(There is a role for volatility as macro prudential tool!)



'Crisis Transmission in the Global Banking Network' (Cont.)

- Consider distinguishing between expected and unexpected crises
- Profitability does not affect exposure contemporaneously to avoid endogeneity issues
 - What is documented is predictability (i.e., Granger causality?)
 - Can we identify causation?



‘Macro-prudential Capital Controls and the Shadow Economy’ (JJ)

- Capital flow management policies are desirable under certain circumstances and might be effective (Lev et al. among others)
- But more stringent banking supervision and regulation can lead to a larger shadow banking system
 - Worrisome developments in China
 - Potentially more beneficial in the US?
- Capital controls leak and their benefits are quantitatively unclear when they do so



'Macro-prudential Capital Controls and the Shadow Economy' (Cont.)

- Capital controls are desirable as they address pecuniary externality
 - Regulated agents borrow and consume less
 - Capital controls encourage unregulated agents to borrow and consume more
- Planner trade off pecuniary externality with distortion introduced by behavior of unregulated agents
- Which effects dominate is a quantitative matter

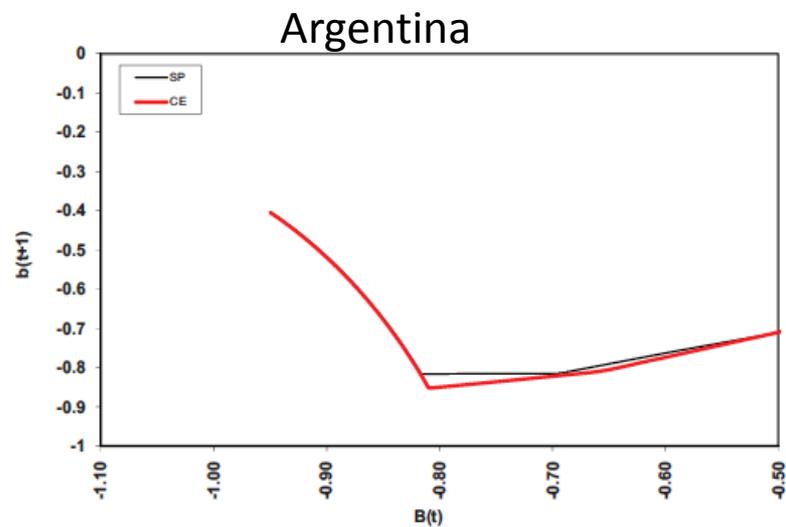
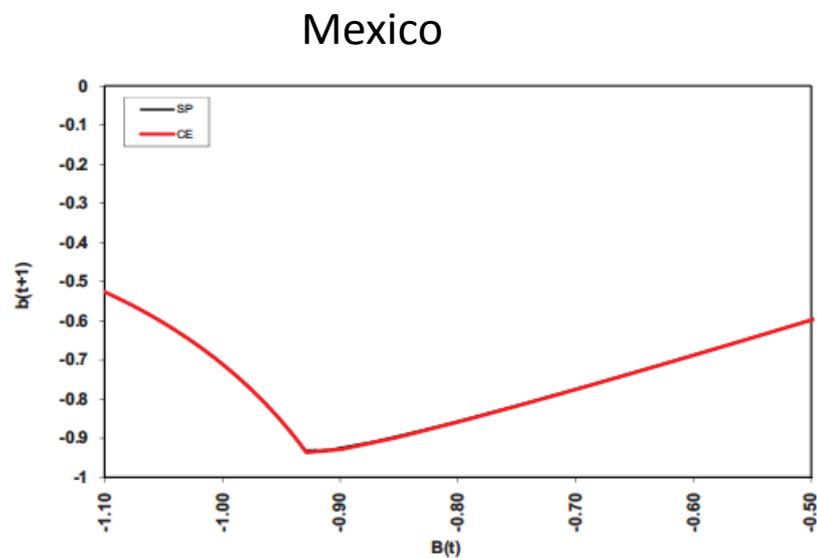


'Macro-prudential Capital Controls and the Shadow Economy' (Cont.)

- Quantitative analysis of infinite horizon model is preliminary
- But is the benchmark economy a good candidate (Argentina)?
- My conjecture is that in a model calibrated to a more representative EMs the distortion introduced by the leakage would dominate



Calibrating to Mexico rather than Argentina (More patience and less volatility)



Benigno et al. (2011)

Is there scope for using two instruments?

- In the same economy, without leakages, combining capital controls with another instrument that can support P_n when the constraint binds yields twice as large welfare gains
- Capital controls that leak could be more desirable if combined with second instrument that addresses the spillover on the unregulated agent
 - Exchange rate policy affects all agents in the economy

Welfare gains are much larger than capital controls alone

	Ergodic Averages		
	Debt to Income	Prob. of Crisis	Welfare Gain
CE	-29.2%	6.7%	NA
SP	-28.4%	1.2%	0.41%
UE	NA	0.0%	33.8%
OP	-30.5%	4.9%	1.10%

- Welfare gains from OP are quite large
- The economy with OP borrows more than the CE and macroprudential policies remain desirable

Conclusions

- High-quality papers
- Important questions
- The answers are taking shape
- I look forward to seeing the next versions.

