Transmission of Fed Announcements to Emerging Economies:
What Determines Market Reactions?

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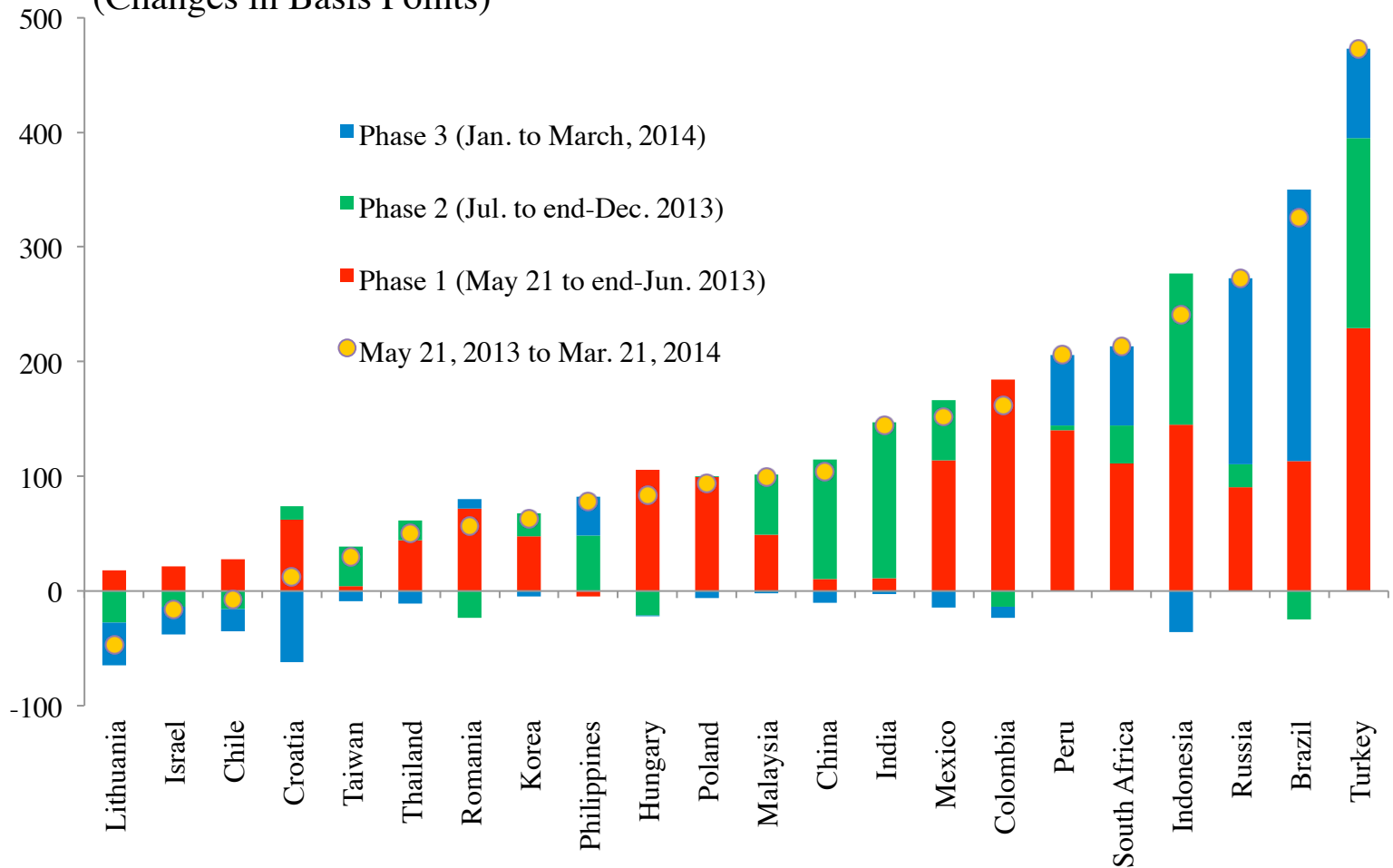
(joint with Papa N'Diaye and Lam Nguyen
IMF)

Emerging Market Finance Conference
Mumbai
December 18-20, 2014

Market volatility in emerging markets following FOMC announcements in 2013-14

Figure 2B: Government Bond Yields in Local Currency
(Changes in Basis Points)

Legend:
- Phase 3 (Jan. to March, 2014)
- Phase 2 (Jul. to end-Dec. 2013)
- Phase 1 (May 21 to end-Jun. 2013)
- May 21, 2013 to Mar. 21, 2014

Countries (x-axis): Lithuania, Israel, Chile, Croatia, Taiwan, Thailand, Romania, Korea, Philippines, Hungary, Poland, Malaysia, China, India, Mexico, Colombia, Peru, South Africa, Indonesia, Russia, Brazil, Turkey

Main question

- What factors influenced markets' reaction
  - Financial depth

Preview of main findings

- Countries with deeper domestic financial markets experienced smaller increases in government bond yields around events of volatility in 2013-14

- Controlling for time-invariant country characteristics, and time varying macroeconomic fundamentals

Plan of the talk

- Literature

- Data

- Methodology

- Results

- Conclusions

Literature

- Transmission of UMP to emerging markets (BIS, 2014; IMF, 2014)

- Nascent literature on importance of country characteristics in determining market reaction
  - Ahmed, Coulibaly, and Zlate, 2014
  - Eichengreen and Gupta, 2014
  - Aizenman, Binici, and Hutchinson, 2014

Contribution of this study

- Focus on a narrower question but dig deeper

- Identification strategy

  - Narrow time windows around dates of FOMC meetings and minutes in 2013-14

  - Main advantages of the framework
    - Other events over 3 month period
    - Monetary policy actions by other industrial central banks
    - Policy responses by individual countries

Data

- 26 emerging markets

- Period: January 1st, 2013 – January 22, 2014

- Long-term government bond yields (10-year)

- Financial depth
  - bank credit, M2, M3, stock market capitalization (all relative to GDP)

- Source: Bloomberg, IFS, Haver Analytics, IMF

2- step methodology

Step 1

➤ Market reactions around "events" and define negative events
  - ➤ Dates of press statements of FOMC meetings and release of minutes in 2013-14

Step 2

➤ Interaction of negative event dummy with country characteristics

Step 1: market reaction and events

$$\Delta y_{c,i-m,i+m} = \alpha + \beta * D_i$$

$i =$ Event

Dates of FOMC meetings and minutes

m: 2

Δy: Change in bond yields

Negative event: yields increase significantly
Positive event: yields decrease significantly
Non-event: neither positive nor negative

Step 2. Interaction framework

$$\Delta y_{c,i-m,i+m} = \alpha + \beta * D_i^N + \gamma x_{c,i-q} + \delta D_i^N * x_{c,i-q} + s_c$$

$$D_i^N = \text{Negative event} \qquad x : \text{country characteristic}$$

s_c Country fixed effects

All standard errors are clustered at the country-level

Key hypothesis

$$\delta < 0 \quad \textbf{For "good" country characteristic}$$

Table 1. FOMC meetings and minutes: 2013

Meeting No.	Date of Meeting		Release of Minutes
1	January	29-30	20-Feb-13
2	March	19-20	10-Apr-13
3	April/May	30-1	22-May-13
4	June	18-19	10-Jul-13
5	July	30-31	21-Aug-13
6	September	17-18	9-Oct-13
7	October	16	
8	October	29-30	20-Nov-13
9	December	17-18	8-Jan-14

Markets react negatively following tapering talks

Table 2. Market Reactions to FOMC Meetings and Release of Minutes
Dependent variable. 2-day changes pre and post event (in percent)

	[1] Government bond yields
meeting_3	-13.08*
meeting_4	32.59***
meeting_6	-9.07***
meeting_7	-8.16***
meeting_8	11.21***
minutes_3	11.34***
minutes_7	4.52**
Observations	437
Number of countries	26
R-squared	0.21

Meetings (1) January 30th (2) March 20th (3) May 1st (4) June 19th (5) July 31st (6) September 18th (7) October 16th (8) October 30th (9) December 18th **Release of Minutes** (1) February 20th (2) April 10th (3) May 22nd (4) July 10th (5) August 21st (6) October 9th (7) November 20th (8) Jan 8th, 2014

Deeper financial markets associated with smaller increase in yields

Table 3. Market Reaction, Financial Depth, and Macroeconomic Fundamentals
Dependent variable. 2-day changes in government bond yields pre and post event

	[1]	[2]	[3]	[4]	[5]
Dummy	21.38***	30.26***	33.16***	34.73***	27.16***
Interactions with					
Current account /GDP (Y/Y Change)	-1.40	-1.38	-1.57	-1.41	-1.54
Fiscal Balance /GDP (Y/Y Change)	-4.28***	-3.97**	-3.95**	-3.79**	-3.24**
Real GDP Growth (Y/Y Change)	-0.56	-0.35	0.06	0.03	-1.18
Inflation (Y/Y Change)	1.20	1.12	1.22	0.88	2.25
M2/GDP (Level)		-0.12***			
M3/GDP (Level)			-0.13***		
Bank credit/GDP (Level)				-0.19***	
Stock market cap/GDP (Level)					-0.10*
Observations	369	369	343	362	352
R-squared	0.21	0.23	0.25	0.25	0.21
Countries	22	22	21	22	21

Robustness

- Shorter time windows
- Include positive events
- Changes in financial depth
- Principal component

Additional findings

Table 8. Market Reaction and Additional Country Characteristics
Dependent variable. 2-day changes in government bond yields pre and post event

	[1]	[2]	[4]
Dummy	23.94***	27.79***	23.92***
	(4.33)	(4.67)	(5.59)
Interactions with			
Macro Prudential Measures	-0.43*		
Trade Linkage to China		-0.64**	
Portfolio Integration			-0.06
Observations	340	352	369
R-squared	0.21	0.23	0.22
Countries	20	21	22

Magnitudes are economically significant

Figure 5. Effect on Bond Yields from one standard deviation higher vulnerability (Annualized, Jan 2013-Jan 2014)
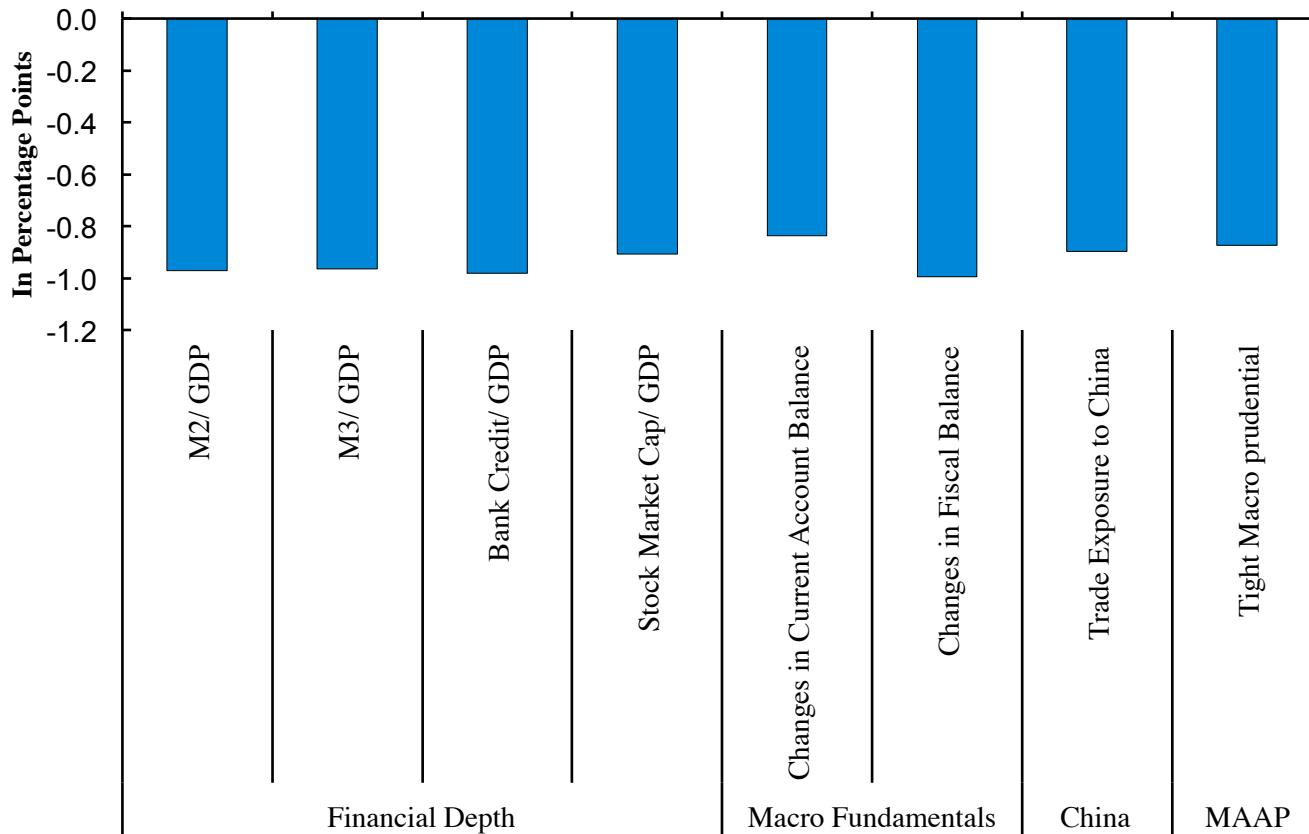
Conclusions

- Evidence for the importance of depth of domestic financial markets in determining market reactions

- Implications

  - Rather than treating EMs as a single asset class, markets differentiate across emerging economies based on country characteristics, particularly financial depth.

  - Deepening domestic financial markets can provide a cushion against external shocks

Thank you!
Questions?