Global spillovers: Managing capital flows and forex reserves

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(based on “Capital flow management with multiple instruments” w/ Arvind Krishnamurthy, Stanford Graduate School of Business)

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Outline

- Motivation – Sudden stops and reversals -> Forex reserves

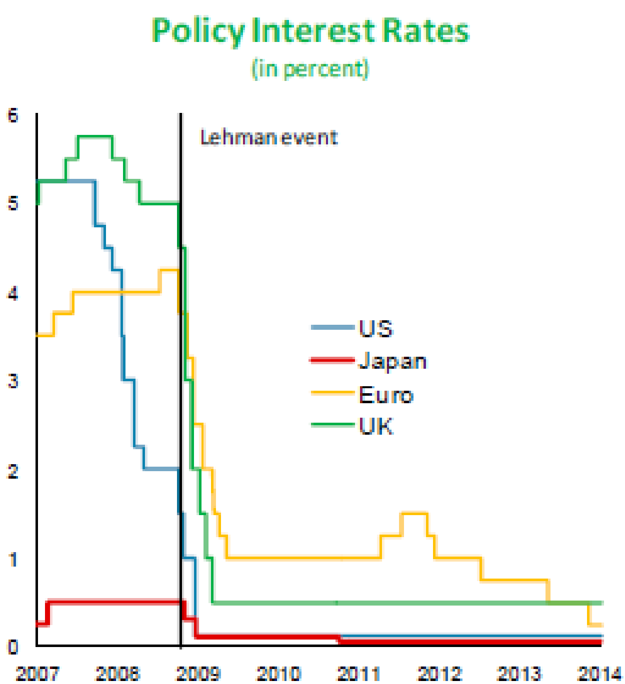
- A measure of external sector resilience
  - (Foreign-reserves – Short-term external debt or flows)/GDP

- Key insights:
  - Reserves and capital controls are complements
  - Foreign reserves do not work absent macro-pru/capital controls
    - Reserves undone by short-term external debt; can make things worse!
    - Macro-prudential comes first; makes reserves effective
  - Macro-prudential measures to deal with the tradeoff
    - Size limits, maturity of investors and investments, rationing the risky
  - FPI flows in domestic debt versus external debt
    - Tradeoff: Lower external issuance costs versus greater vulnerability
    - Arbitrage may exist between foreign debt and FPI in domestic debt
    - Greater the reliance on external debt, greater the needed reserves

SUDDEN STOPS AND REVERSALS: THE TAPER "TANTRUM"

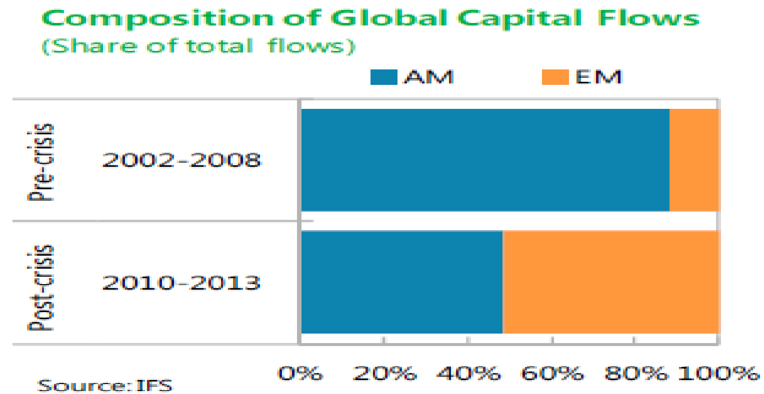
Monetary easing->EM capital flows

Rock-bottom interest rates…

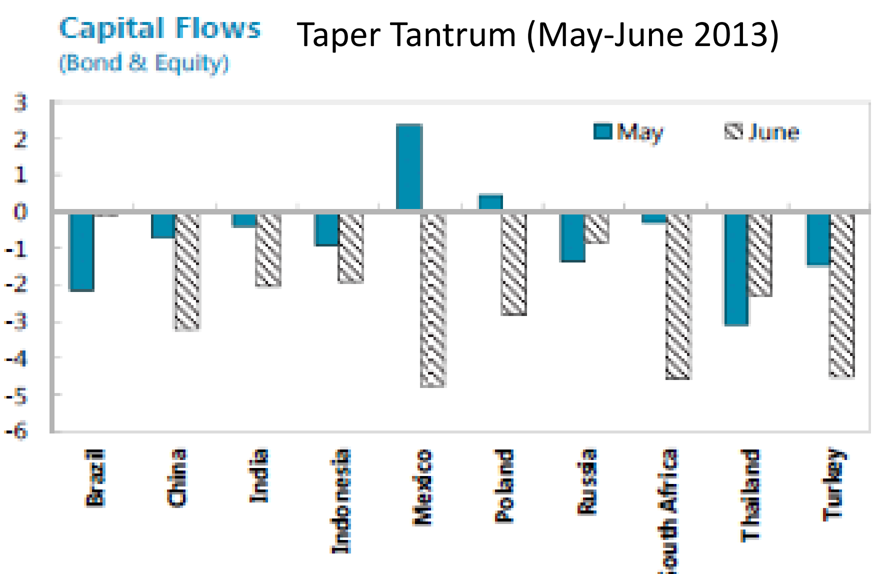


Source: IMF staff estimates.

Emerging markets received close to half of global inflows after the crisis compared with less than 20 percent before…

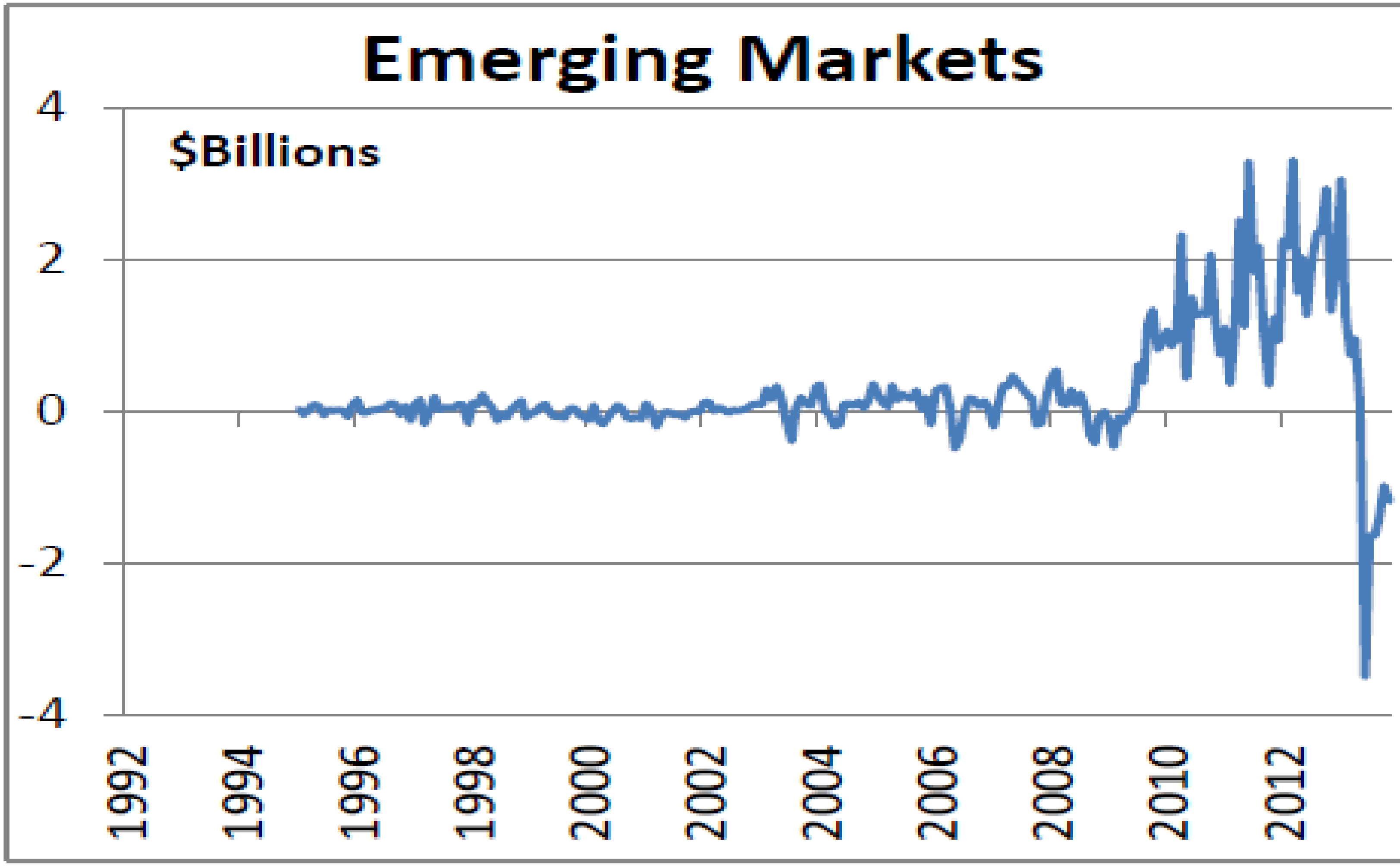


Taper Tantrum (May-June 2013)



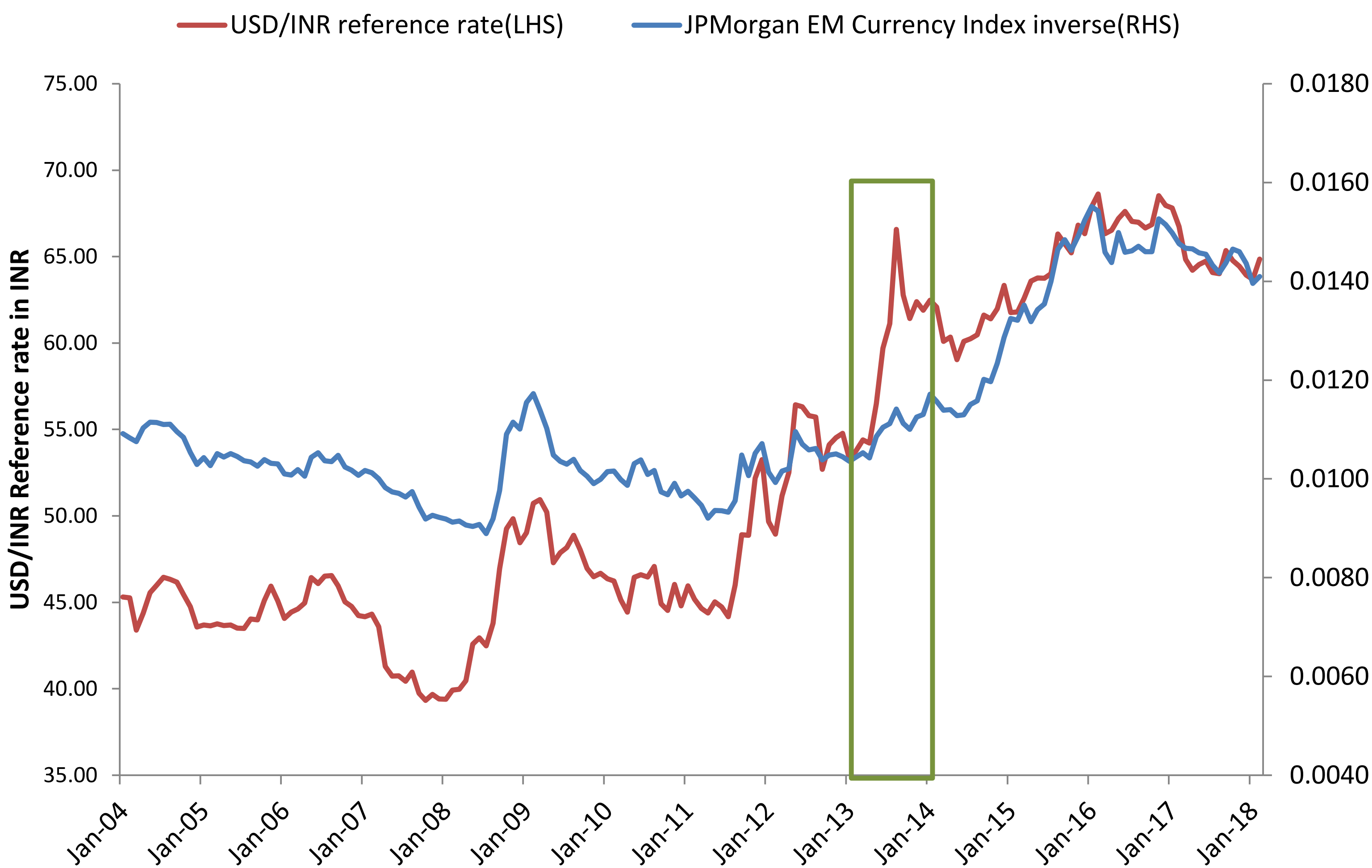
Source: Emerging Market Volatility – Lessons from the Taper Tantrum, IMF Staff Discussion Note, September 2014

QE, Taper Tantrum, EM MF Flows



Source: Market Tantrums and Monetary Policy by
Feroli, Kashyap, Schoenholtz and Shin (Feb 2014)

Taper Tantrum and Exchange rate



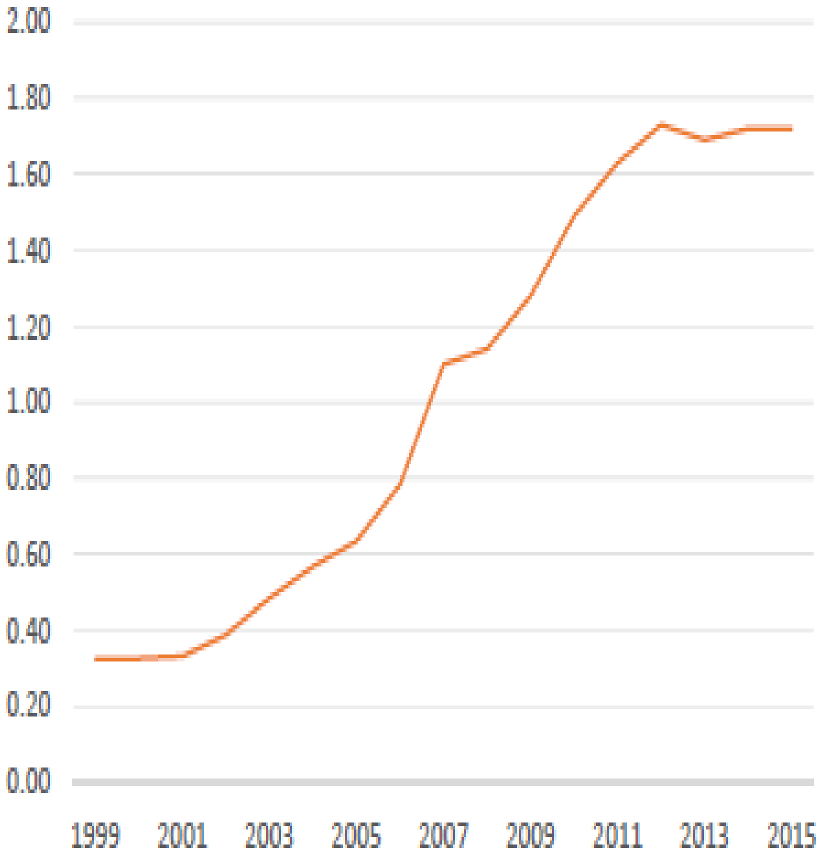
Source: Bloomberg and RBI

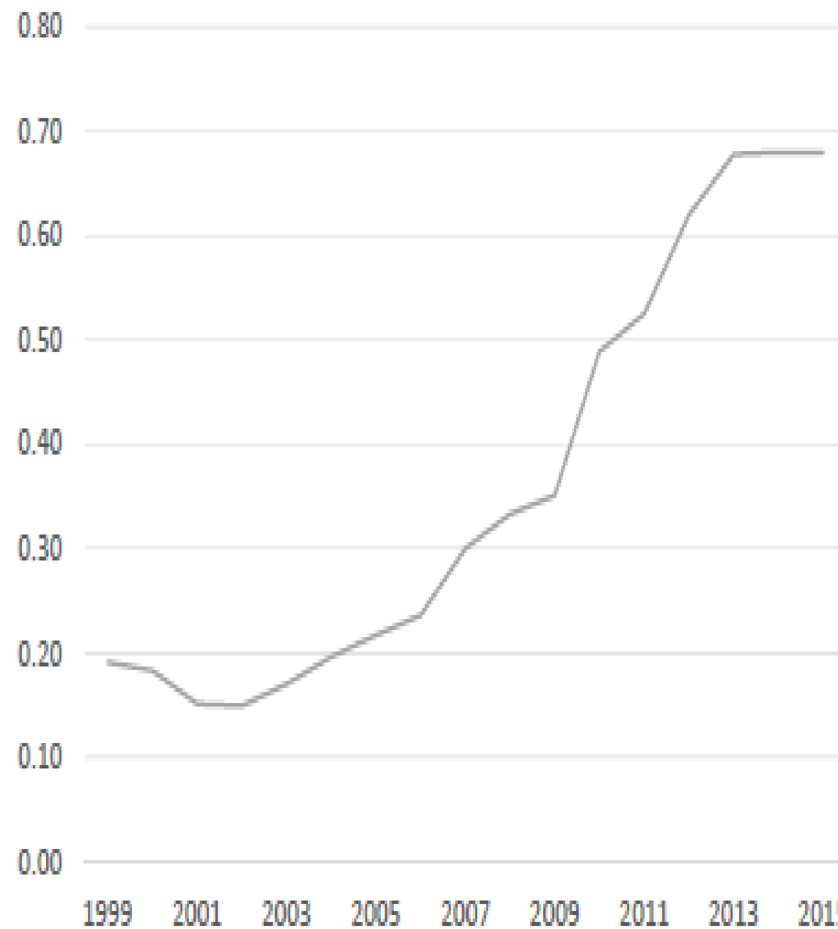
MEASURING RESILIENCE

A measure of external resilience

- International or external-sector liquidity
  - Country has issued net short-term (ST) debt claims to foreign investors
    - In the aggregate, should include unhedged foreign exposures and all reversible “hot money” flows
  - If foreigners run, does the country have adequate FX reserves?
  - $Liquidity_i = \frac{FX\ Reserves_i - ST\ Ext\ Debt_i}{GDP_i}$
  - Simply looking at reserves is inadequate and a potentially misleading indicator of vulnerability
  - Akin to Guidotti-Greenspan (1999) “rule”

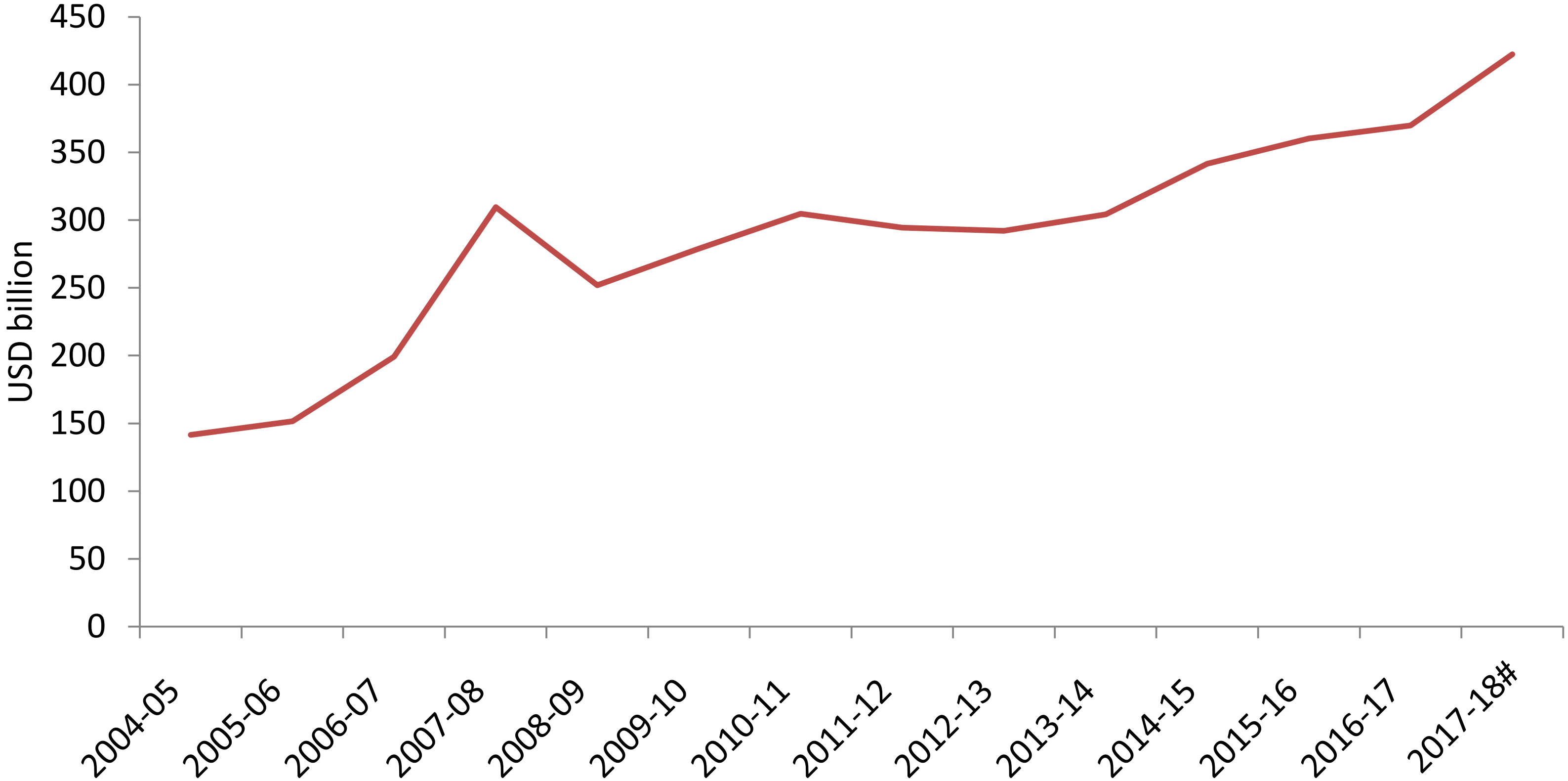
Foreign reserves and short-term debt for EMs tend to rise together





Source: IMF (in trillion USD), see also Carstens (2016)

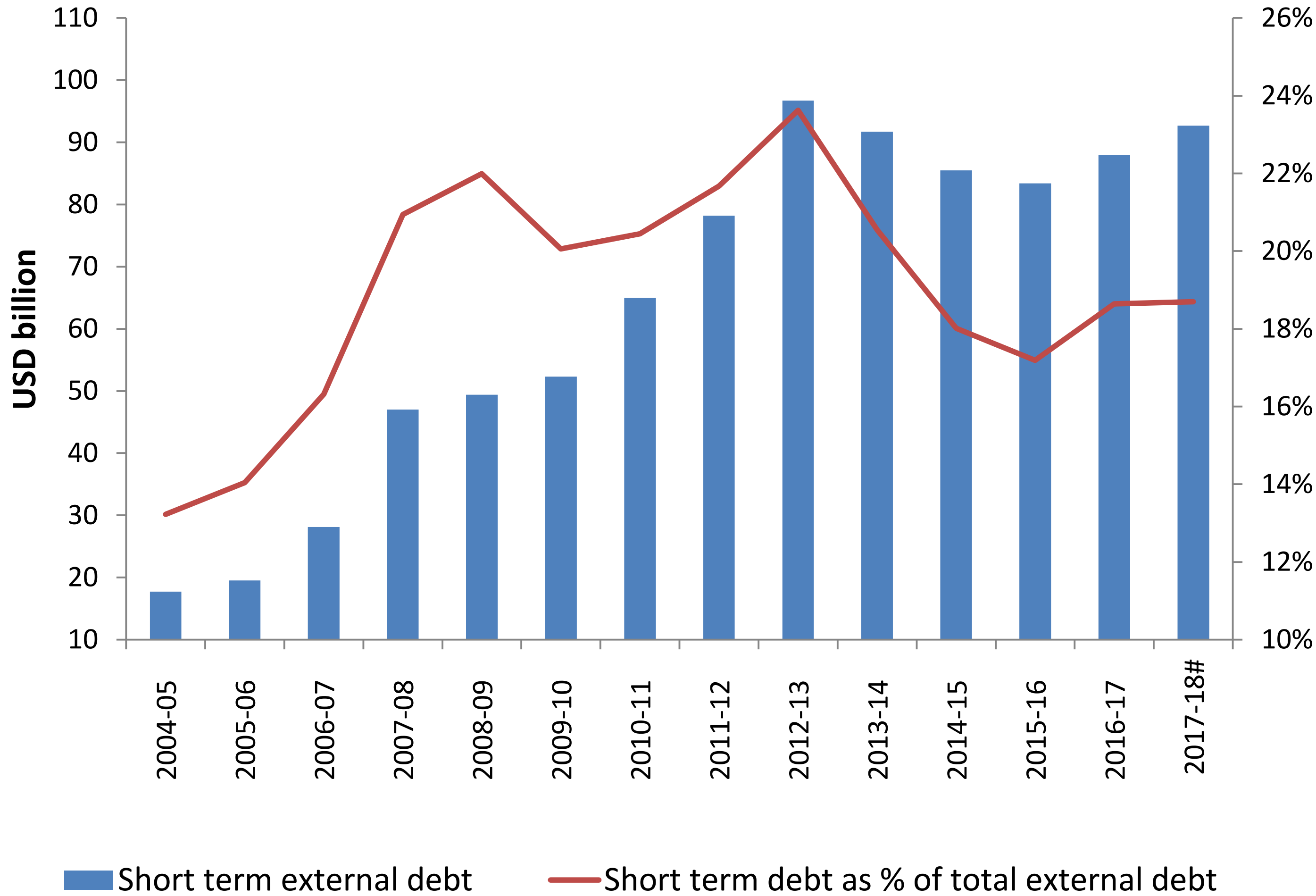
Trend in Forex Reserves for India



Source: RBI

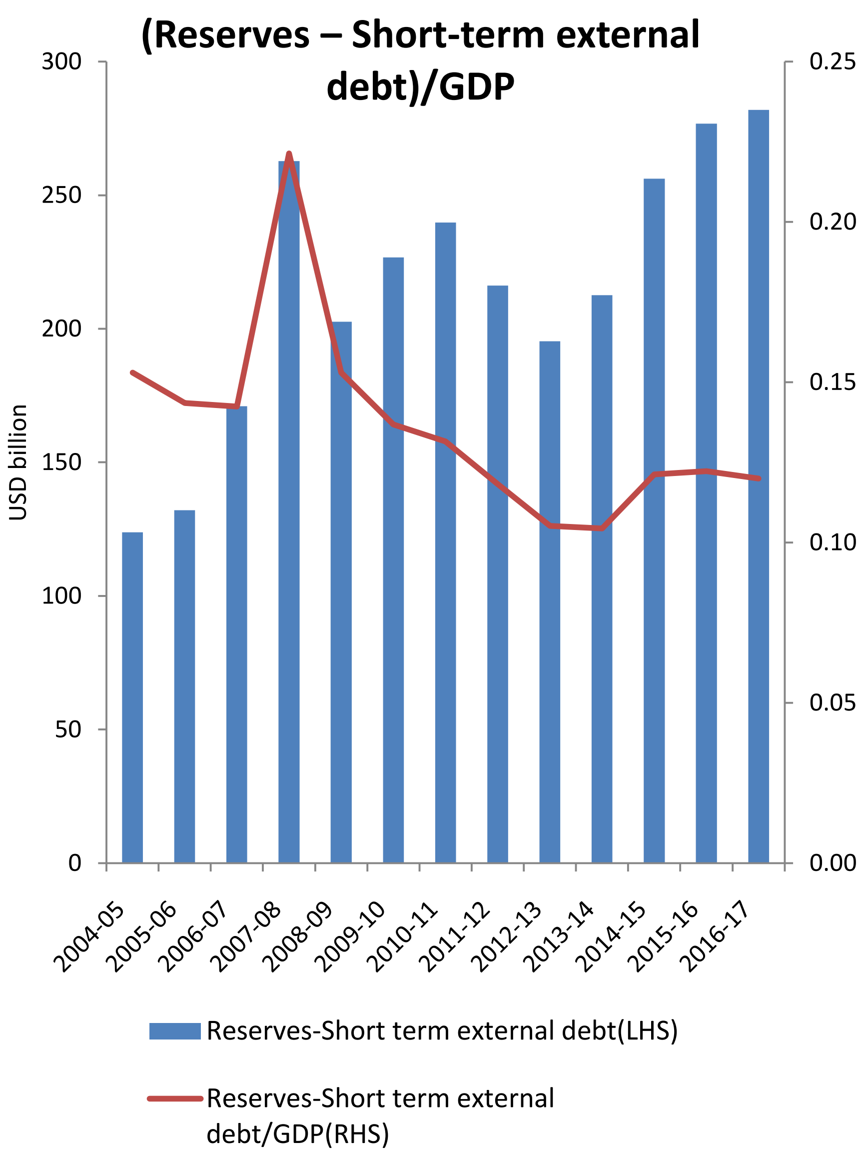
 # - Updated as at end Jan -2018

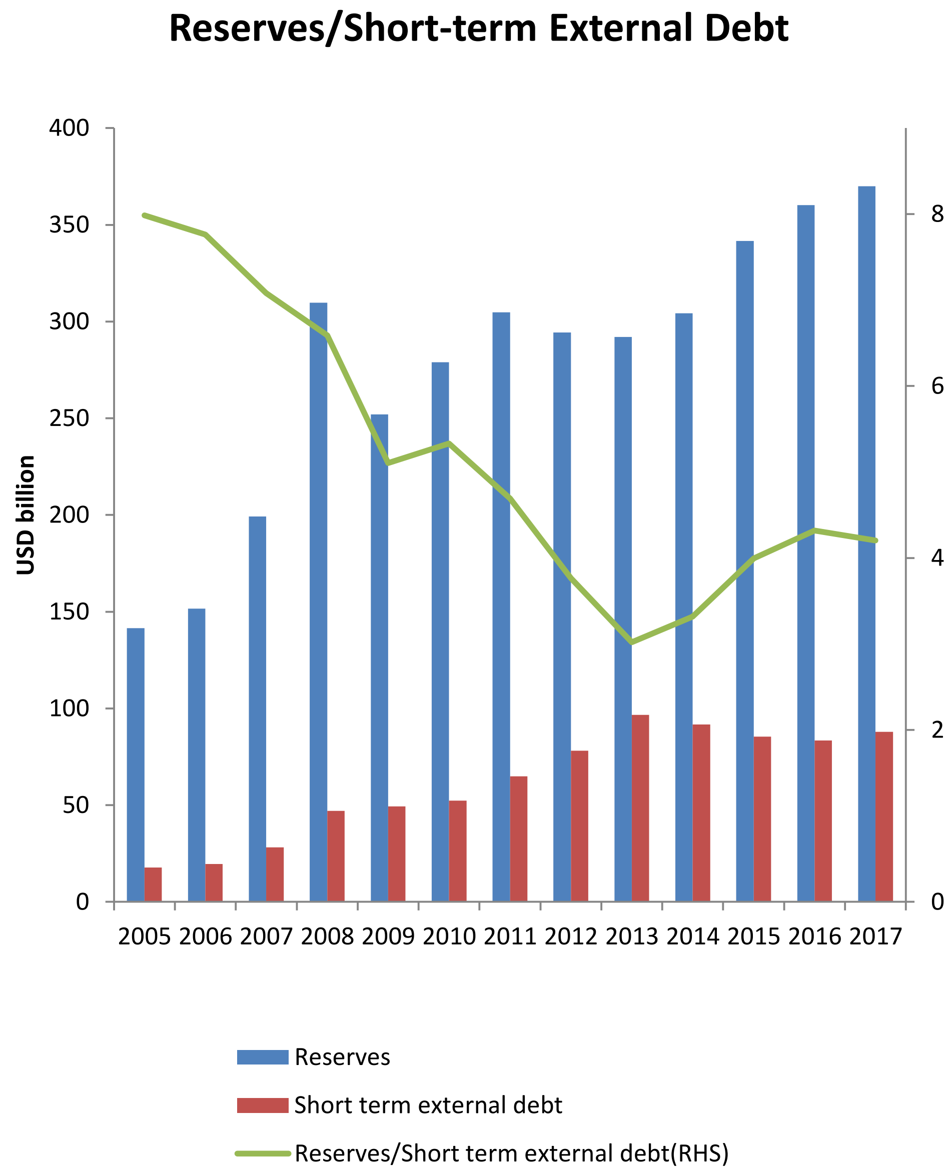
Movement in Short term External debt



Source: *RBI*

 # - Data updated till Dec-17





Source: *INDIA'S EXTERNAL DEBT, A Status Report, 2016-17* by Government of India

MANAGING CAPITAL FLOWS: THE RBI APPROACH

Key insights

- Foreign reserves do not work absent macro-pru/capital controls
    - Reserves undone by short-term external debt; can make things worse!
    - <u>Macro-prudential comes first; makes reserves effective</u>
- Macro-prudential measures to deal with the tradeoff
    - Size limits, maturity of investors and investments, rationing the risky
- FPI flows in domestic debt versus external debt
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    - Arbitrage may exist between foreign debt and FPI in domestic debt, that policy must address
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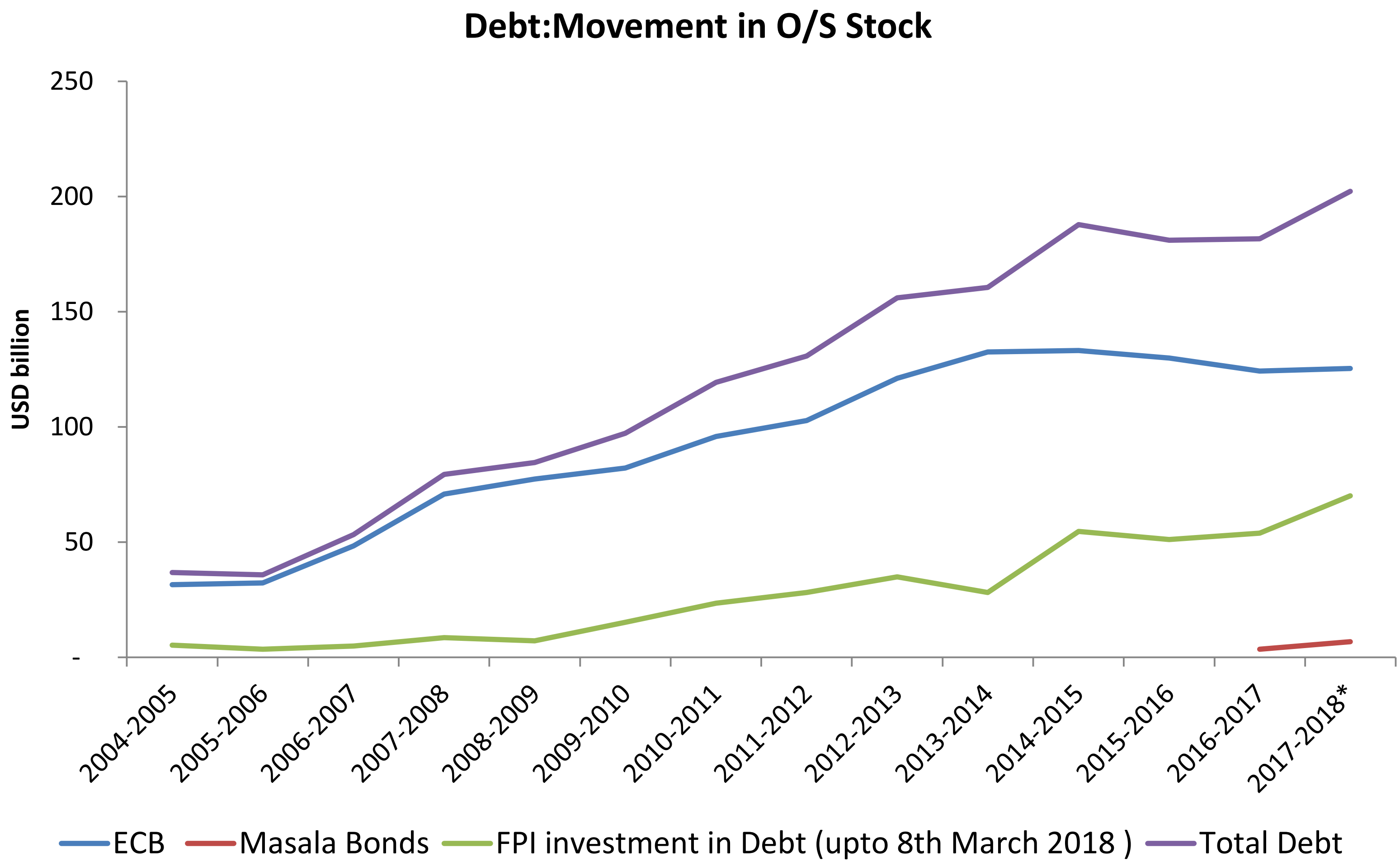
I. Caps on external debt

- Three primary types of non-government debt
  - Foreign Portfolio Investment (FPI) in domestic currency debt (both Government of India securities at center and state level, as well as corporate bonds)
  - External Commercial Borrowings (ECB) in foreign currency, typically loans to Indian corporations
  - Rupee Denominated Bonds (RDB) or “Masala” bonds issued overseas, typically listed on LSE
- Limits as of 2017-18 Q3 (Q4):
  - FPI G-sec: $39 bn ($40 bn); SDL: $6 bn ($6 bn); Corporate: $36 bn ($ 38 bn)
  - Cap also on ECB + Masala bonds

Current FPI Debt Investments in India



Source: RBI, NSDL and SEBI

* Updated as at Dec-2017

II. Limits by investor horizon

- FPI limits by <u>Long Term</u> vs <u>General</u> investors:
  - Long Term includes Insurance firms, Endowments and Pension Funds, Sovereign Wealth Funds, Central Banks, and Multilateral Agencies

	Central Government Securities			State Development Loans		
Effective for Quarter	General	Long Term	Total	General	Long Term	Total
2017-18 Q3	29.29	9.31	38.60	4.63	1.44	6.07

	Corporate Bonds		
Effective for Quarter	Long term FPIs infrastructure	General	Total
2017-18 Q3	1.47	33.64	35.10

Source: RBI, DBIE.

III. Limits on maturity of investments

- Presently, FPIs are disallowed from investing in liquid short-term money-market instruments such Treasury bills or commercial paper (CP).
  - Prior to the taper tantrum, there was a carve-out for FPI investments in Treasury Bills and CP.

Type of securities	April-2013 $ bn	Jun-2013 $ bn	Nov-2013 $ bn
1. Government debt	25	30	30
a. T-bills within overall limit	5.5	5.5	5.5
b. Carved out limit for SWFs & other LT FIIs	-	5	5
2. Corporate bond	51	51	51
a. CPs within overall limit	3.5	3.5	3.5
b. Credit enhancement bonds within overall limit	-	-	5
3. Total Limit (1+2)	76	81	81

Source: DBIE, RBI.

III. Limits on investment maturity (cont'd)

- Since the taper tantrum
  - Residual maturity restrictions of investments by FPIs in debt holdings of minimum three years of maturity at origination or purchase.
  - In ECBs, borrower can take on debt up to \$50 million with minimum average maturity (MAM) of 3 years; or up to \$50 million if the maturity is 5 years
    - Foreign currency denominated under the so-called Track-I of ECB, or INR denominated under Track-III of ECB.
  - In contrast, no borrowing limits within the overall ECB limit is imposed for borrowings meeting a minimum average maturity of 10 years
    - Foreign currency denominated borrowing under Track-II.

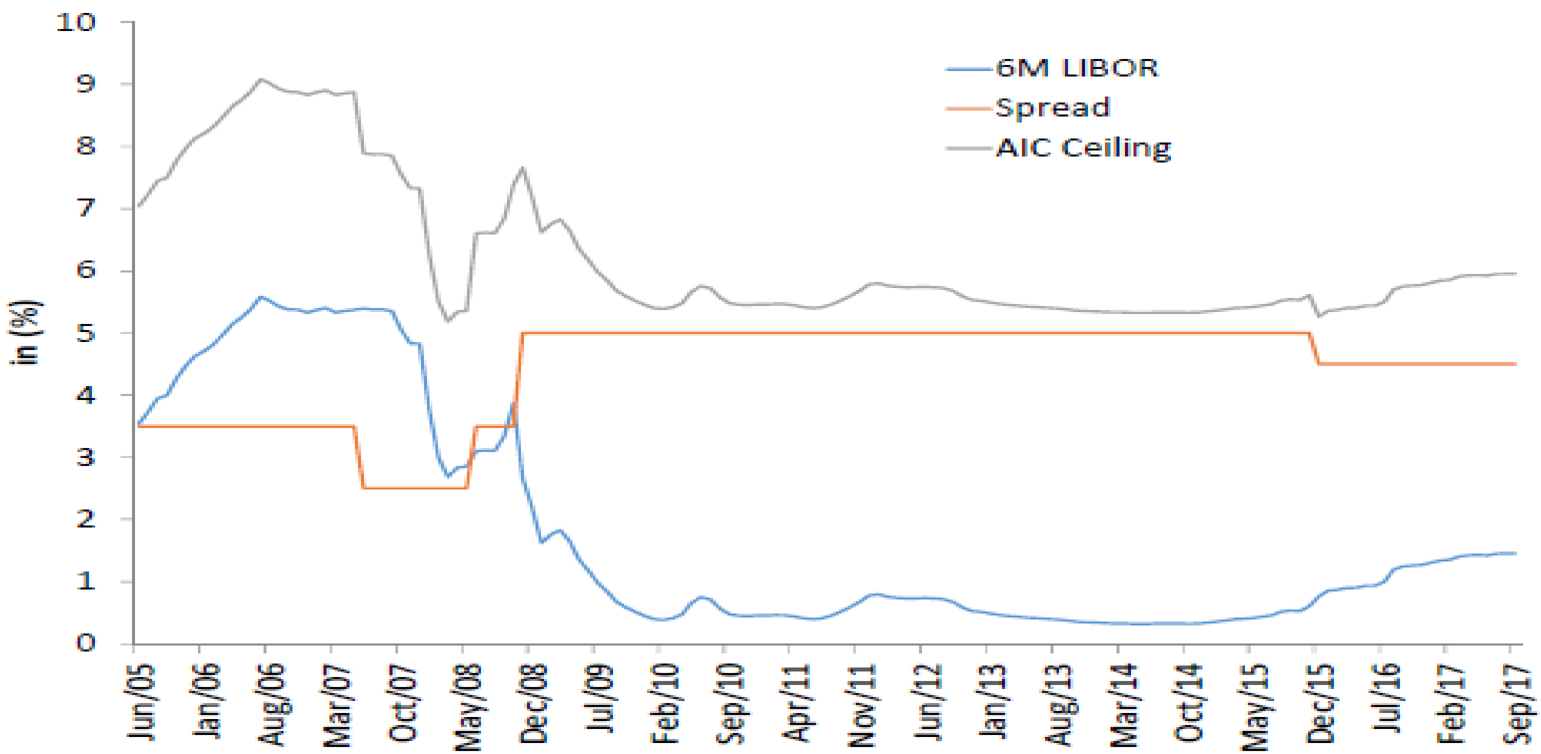
IV. Rationing high-liquidity demanders

- Only relatively high credit quality borrowers can tap into ECBs:
  - <u>Coupon or “all-in-cost” ceilings by debt issue</u>
  - Imposing sub-limits on investments in risky instruments such as unlisted corporate bonds and security receipts (a form of distressed asset resolution instrument)
  - Ruling out excessive correlated liquidations by imposing investment sub-limits by sector.
- These restrictions limit ECBs to high-rated borrowers, as suggested by our model.
- On the other hand, this form of taxation does not exist for domestic debt issuances purchased by the FPIs.

Table 5: Evolution of AIC spread (in bps) over Libor-6 month/Swap

Minimum average maturity	3 year to 5 year	More than 5 year
2004-05	200 bps	350
2007-08	150	250
2008-09	200	350
2009-10	300	500
2011-12	350	500
2015-16	300	450

Source: DBIE, RBI.



V. Harmonizing ECB and Masala Bonds

- Masala Bonds envisioned to provide wider access for Indian entities to international debt markets without currency risk
- Guidelines were more relaxed than ECB norms: No restrictions on investors; any corporate eligible to issue; no cost ceiling
- <u>Masala Bonds route gained popularity in the past year as “arbitrage” over ECB and FPI in domestic corporate bonds</u>
  - Used by related parties to circumvent ECB/FDI; Rates not linked to market
  - Used to camouflage ECBs
- Recent Measures to address macro-prudential concerns:
  - June 2017: Restrictions on ‘related party’ transactions
  - All-in-costs ceilings of G-Sec + 300 bps imposed
  - Minimum tenor which was originally 5 years aligned to ECB
    - Upto USD 50 mn: 3 years; above USD 50 mn: 5 years

Thank You