

# Does Inflation Targeting Help Information Transmission?

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- Inflation targeting (IT) is increasingly adopted by central banks around the world
  - ▶ Target publicly announced inflation rate
- IT improves information transmission from central banks to the market
  - ▶ Standardizes date and format of central bank communications
  - ▶ Improves transparency and accountability
- Leads to better inference of central bank actions by market participants

Does IT improve information transmission?

- Utilize a hard switch to IT by India in 2015
- Monetary Policy Surprises → change market volatility (bond and equity)

Main Results:

- No change in market volatility after IT
  - ▶ Cannot be attributed to financial frictions
  - ▶ Change in communication about inflation but not growth

## Information Release and Market Reaction:

- Bernanke and Kuttner (2005), Bomfim (2003), Altavilla et al. (2019)

## Impact in EMDCs:

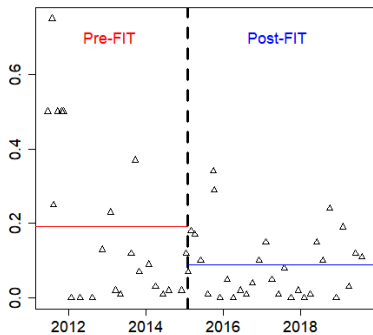
- Zare et al. (2013), Kim et al. (2014), Sun (2020)

## Impact of Central Bank Communication:

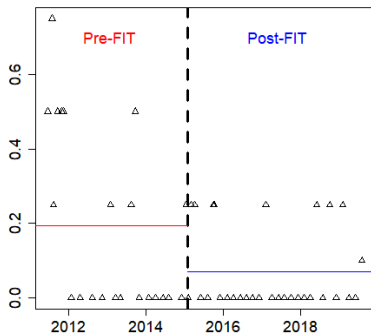
- Coibion et al. (2018), Picault and Renault (2017), Hansen et al. (2018)

- February 2015: Monetary Policy Framework Agreement signed between the RBI and the GoI
  - ▶ Two periods: BIT (before IT) vs. PIT (post IT)
- Major differences between BIT and PIT
  - ▶ RBI has an explicit inflation target of 4% with a band of 2%
  - ▶ Policy decisions taken on a single pre-announced dates
  - ▶ RBI explains each of its policy stances to the public in a standardized manner
- Repo rate continues to be the main policy instrument

# Impact on Professional Forecasters (Repo Rate)



(a) Absolute Mean Forecast Error



(b) Absolute Median Forecast Error

- Daily Market Data: 10-year benchmark G-Sec yields, NIFTY-50 index, 1-month OIS rates
- RBI policy dates and repo rate
- We have a total of 2072 days of observations, 999 days in BIT period and 1073 days in PIT period
- 32 RBI policy days in BIT period and 28 in PIT

- Event study approach - check market activity around policy days
- Daily volatility of returns in 10-year benchmark government securities (G-Sec) market and the stock market (NIFTY-50)
- EGARCH model with Multiplicative Heteroskedasticity to model volatility

$$s_t = \tau + \delta_1 I_t^{MPC-} + \delta_2 I_t^{MPC} + \delta_3 I_t^{MPC+} + \mu_1 I_t^{MP2--} + \mu_2 I_t^{MP2-} + \mu_3 I_t^{MP2} \\ + \delta_4 I_t^S + I_t^{PIT} (\gamma_1 I_t^{MPC-} + \gamma_2 I_t^{MPC} + \gamma_3 I_t^{MPC+} + \gamma_4 I_t^S)$$



# No Change in Bond Market Volatility

	Model			
	(1)	(2)	(3)	(4)
$\mu_1$ : Day Before Two-day Policy	-1.565*** (0.393)	-1.522*** (0.398)	-1.590*** (0.393)	-1.545*** (0.398)
$\mu_2$ : First Day of Two-day Policy	0.740 (0.664)	0.684 (0.644)	0.532 (0.730)	0.486 (0.707)
$\mu_3$ : Second Day of Two-day Policy	0.678 (0.525)	0.617 (0.498)	0.562 (0.597)	0.564 (0.570)
$\delta_1$ : One Day Before Policy (All Days)	-0.236 (0.286)	-0.252 (0.279)	-0.031 (0.406)	-0.047 (0.395)
$\delta_2$ : Day of Policy (All Days)	1.043*** (0.293)	0.727** (0.302)	0.993** (0.408)	0.687 (0.414)
$\delta_3$ : One Day After Policy (All Days)	-0.507*** (0.109)	-0.452*** (0.125)	-0.327** (0.132)	-0.298** (0.143)
$\delta_4$ : Day of Surprise Policy		0.569*** (0.124)		0.486*** (0.159)
$\gamma_1$ : PIT $\times$ One Day Before Policy			-0.417 (0.608)	-0.416 (0.599)
$\gamma_2$ : PIT $\times$ Day of Policy			0.239 (0.648)	0.376 (0.691)
$\gamma_3$ : PIT $\times$ One Day After Policy			-0.562* (0.311)	-0.524 (0.362)
$\gamma_4$ : PIT $\times$ Day of Surprise Policy				-0.160 (0.336)
$N$	2052	2052	2052	2052

# No Impact on Stock Market Volatility

	Model			
	(1)	(2)	(3)	(4)
$\mu_1$ : Day Before Two-day policy	-0.318 (0.501)	-0.308 (0.503)	-0.341 (0.504)	-0.341 (0.505)
$\mu_2$ : First Day of Two-day Policy	-0.144 (0.820)	-0.143 (0.825)	-0.442 (0.845)	-0.443 (0.846)
$\mu_3$ : Second Day of Two-day Policy	0.779 (0.646)	0.765 (0.652)	0.955 (0.674)	0.956 (0.674)
$\delta_1$ : One Day Before Policy (all days)	0.351 (0.188)	0.347 (0.188)	0.643** (0.269)	0.643** (0.269)
$\delta_2$ : Day of Policy (All Days)	-0.156 (0.291)	-0.199 (0.300)	-0.492 (0.437)	-0.489 (0.458)
$\delta_3$ : One Day After Policy (All Days)	-0.427 (0.231)	-0.421 (0.232)	-0.251 (0.341)	-0.252 (0.343)
$\delta_4$ : Day of Surprise Policy		0.083 (0.115)		-0.003 (0.152)
$\gamma_1$ : PIT $\times$ One Day Before Policy			-0.743 (0.433)	-0.744 (0.434)
$\gamma_2$ : PIT $\times$ Day of Policy			0.876 (0.632)	0.840 (0.662)
$\gamma_3$ : PIT $\times$ One Day After Policy			-0.463 (0.465)	-0.456 (0.471)
$\gamma_4$ : PIT $\times$ Day of Surprise Policy				0.083 (0.298)
$N$	2069	2069	2069	2069

Key takeaway:

- Move to IT did not change how markets react to monetary policy announcements

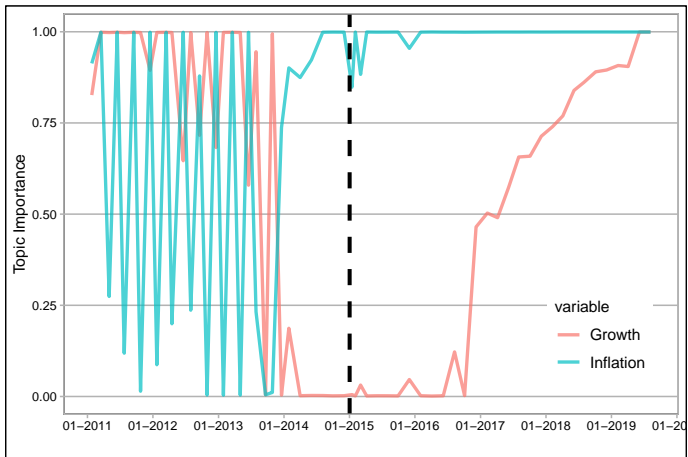
Two plausible explanations:

- Market Frictions prevent impact on stock market volatility
  - ▶ However, markets react to FOMC announcements!
- No fundamental change in RBI communication

# Change in RBI Communication?

- Change to IT will only matter for the market if RBI's communication changes
- Text analysis of RBI policy statements and economic outlook reports released with each policy announcement
  - ▶ Focus on inflation vs. growth in statements
  - ▶ Topic Modeling using LDA

# Increased focus on Inflation, but not Growth



- Switch to IT did not improve information transmission
  - ▶ No change in bond or stock market volatility after policy announcements
- The lack of impact is not caused by:
  - ▶ No change in RBI communication; increased focus on inflation
  - ▶ Market frictions
  - ▶ Other factors: Fiscal Dominance?

# OIS captures the Expected component of Monetary Policy

