

EXTENDED ABSTRACT

Bank-level news sentiment and the transmission of monetary policy shocks to bank equity risk

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Research motive and objective

Monetary policy transmission and bank risk-taking hold a central place in financial economics, where information plays a crucial role; however, they remain underexplored. While most studies rely on accounting-based risk measures, they obscure the market's real-time perception of bank risk during policy cycles. Moreover, to our knowledge, no study has examined whether the informational environment surrounding individual banks conditions how policy surprises affect bank equity risk.

To address this, the paper examines the role of bank-level sentiment in moderating the transmission of monetary policy shocks to bank risk. In addition, we analyse whether banks with more favourable news coverage respond differently to unexpected policy tightening than those with negative news coverage. This moderation channel has not been explored in literature yet, especially in the emerging-market context.

Existing studies provide evidence on the bank risk taking channel of monetary policy (Borio & Zhu, 2012; Dell'ariccia et al., 2017; Jiménez et al., 2014). But it remains understudied in India. Sarkar & Sensarma (2019) is the first and only study, to our knowledge, to test the risk-taking channel for Indian banks. We extend their work by taking forward-looking, market-based risk measures (rolling-window equity volatility and distance-to-default) to capture bank risk and introduce the role of sentiment as a moderator in the transmission of monetary policy. Furthermore, we compare transmission effect across two distinct regimes, i.e., pre- and post-Monetary Policy Committee (MPC) establishment in 2016, which acts as a structural break toward rule-based, inflation-targeting monetary policy. The study addresses the following questions.

RQ1. Does market-based risk-taking channel of monetary policy operate in India?

RQ2. Did the adoption of MPC strengthen the risk-taking channel?

RQ3. Does bank-level sentiment independently affect bank risk, and do they moderate the relationship between monetary policy shocks and bank risk?

Hypotheses:

H1: Monetary policy easing leads to higher market risk and confirms the risk-taking channel.

H2: The adoption of MPC framework strengthened the risk-taking channel.

H3: Bank-level sentiment moderates the relationship between monetary policy shocks and bank risk-taking, such that the effect is amplified for banks with higher sentiment.

Data and methodology

The data is a quarterly unbalanced panel of 1,616 observations for 38 listed Indian banks from 2012-2025. Following Lakdawala & Sengupta (2025), monetary policy surprises are measured through high-frequency identification around RBI announcement windows. All other variables are detailed in Table 1. We checked the outliers of each variable and winsorized them the outliers at 1/99%.

Table 1: Variables' description

Variable	Description	Source
vol_mean_w	Mean of 60-day rolling annualised equity volatility within quarter (winsorized 1/99%)	Prowess
target_factor	Sum of HFI target rate surprises within quarter; captures current-rate surprise	Lakdawala & Sengupta (2025)
path_factor	Sum of HFI forward guidance surprises within quarter; captures path surprise.	Lakdawala & Sengupta (2025)
sentiment_eoq_lag1	Lagged end-of-quarter news sentiment (t-1); point-in-time measure; bounded -1 to +1	MarketPsych
log_funding_base_lag1_w	Log of funding base (Deposits + Borrowings + Shareholders Funds), lagged (winsorized 1/99%)	Prowess
gross_npa_lag1_w	Gross NPAs as % of advances, lagged (winsorized 1/99%)	Prowess
roa_lag1_w	Annualized return on assets (%), lagged (winsorized 1/99%)	Prowess
capital_lag1_w	Total capital adequacy ratio (%), lagged (winsorized 1/99%)	Prowess
nim_lag1_w	Net interest margin (%), lagged (winsorized 1/99%)	Prowess
cpi_inflation	Year-on-year CPI inflation rate (%)	RBI

Figure 1 shows the distribution of monetary policy shocks. Path factor measures forward guidance surprises while target factor measures current rate surprises.

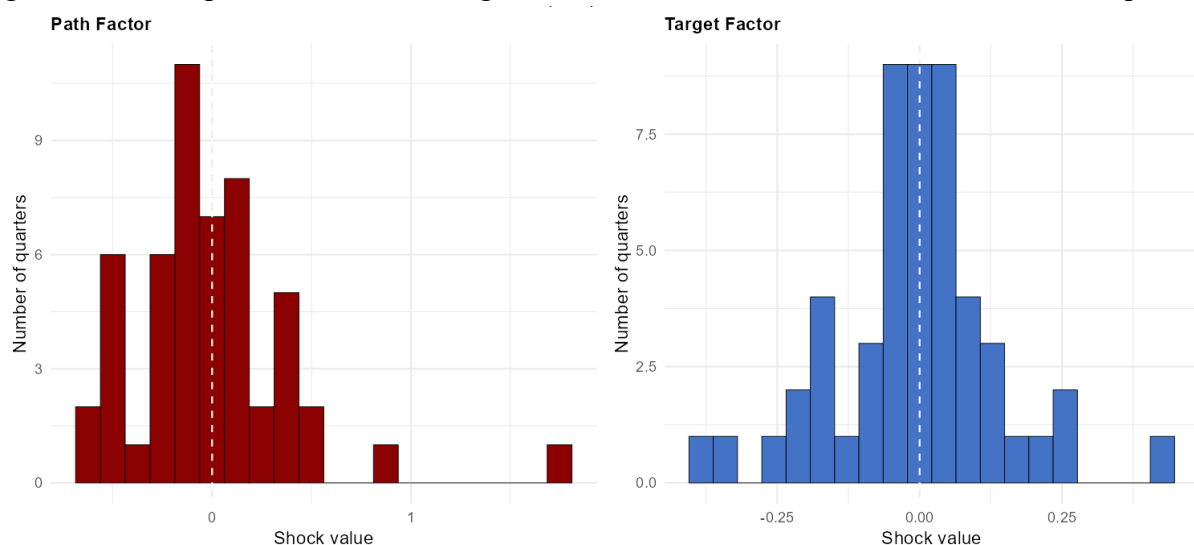


Figure 1: Distribution of quarterly monetary policy shocks

Note: The figure shows the sum of high frequency identification shocks per quarter from 2012 Q1 to 2025 Q1.

Figure 2 shows the cross-sectional dependence between average bank sentiment and bank risk (equity volatility). The negative slope provides preliminary support for sentiment as a meaningful indicator of bank risk.

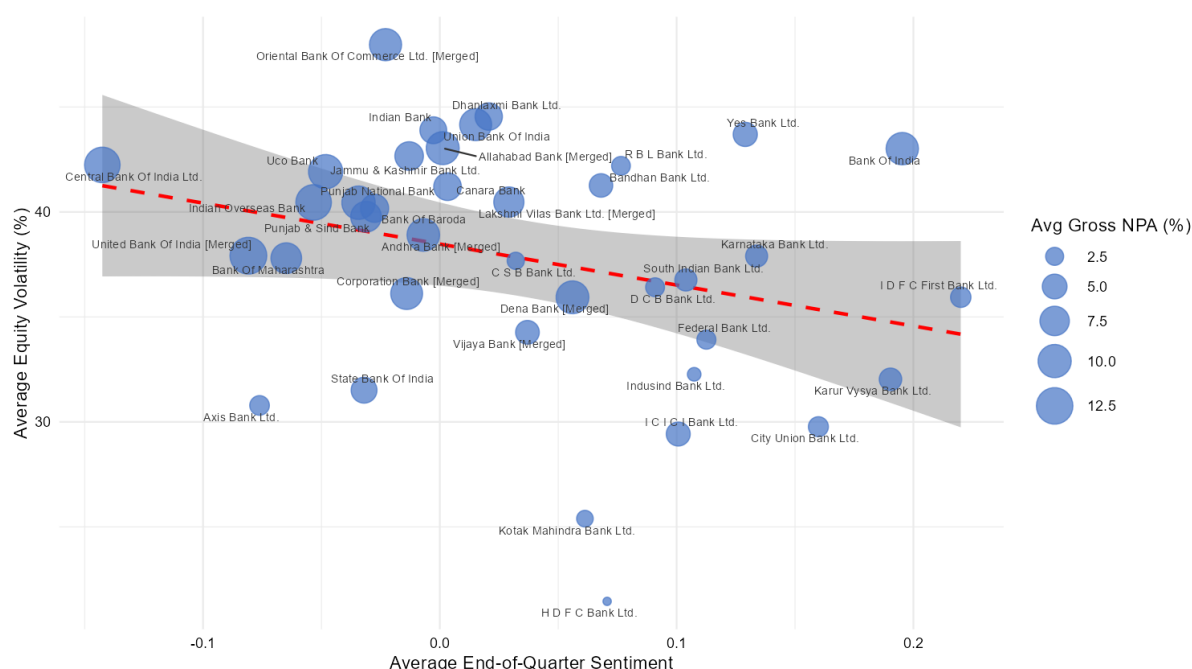


Figure 2: Bank sentiment vs. Equity volatility

Note: The figure shows end-of-quarter sentiment, averaged across 2012-2025.

Next, the summary statistics is given in Table 2. The dependent variable i.e., bank volatility (vol_mean_w) has a mean of 37.56, a range from 15.94 (most stable) to 83.77 (most distress). Target Factor (current rate surprise) has a mean of approximately -0.01 and range from -0.37 to 0.44. Path Factor (forward guidance surprise) has a mean of approximately -0.02 and range from -0.60 to 1.77. Sentiment has a mean of 0.04 (slightly positive on average) and range from -1 (severe negative coverage) to 1 (highly positive). We also performed various diagnostic tests including multicollinearity, heteroscedasticity, serial correlation, cross-sectional dependence and stationarity before running the analysis. Two non-stationary variables (log_funding_base_lag1_w and gross_npa_lag1_w) were then first differenced to make them stationary. Further, we find no evidence of multicollinearity in the data but find presence of heteroscedasticity, serial correlation and cross-sectional dependence in the data and used appropriate econometric method to address these issues. Table 3 shows the correlation matrix. Bank volatility is negatively correlated with sentiment (-0.086), showing that better-perceived banks less volatile. Bank volatility is also negatively correlated with monetary policy target shock (-0.125), consistent with risk-taking channel (loose policy leads to more bank risk).

Table 2: Summary statistics

Variable	n	mean	sd	min	median	max	stationary
vol_mean_w	1735	37.578	12.458	15.940	35.791	83.766	364.668***
target_factor	1735	-0.009	0.1432	-0.371	-0.007	0.438	87.526***
path_factor	1735	-0.015	0.3937	-0.599	-0.066	1.771	60.667***
sentiment_eoq_lag1	1701	0.036	0.3633	-1	0.025	1	263.403***
log_funding_base_lag1_w	1674	14.526	1.2372	11.692	14.555	17.520	100.44
gross_npa_lag1_w	1726	6.233	5.133	0.775	4.46	22.73	143.993
roa_lag1_w	1724	0.427	1.0169	-3.997	0.5	2.017	783.999***
capital_lag1_w	1724	14.166	3.104	8.144	13.68	24.840	799.738**
nim_lag1_w	1689	3.2118	1.001	1.48	3.08	7.624	640.953***
cpi_inflation	1735	5.727	2.128	2.202	5.2724	10.592	132.916***

Note: n refers to number of observations, sd refers to standard deviation, min and max refer to minimum and maximum values respectively.

Table 3: Correlation matrix

	vol_m ean_w	target _facto r	path_ facto r	sentiment _eoq_lag 1	log_funding_ base_lag1_w	gross_np a_lag1_ w	roa_l agl_ w	capital _lag1_ w	nim_l agl_ w	cpi_in flatio n
vol_mean_w	1	-0.125***	-0.027	-0.086***	-0.057**	0.303***	-0.252***	-0.154**	-0.173***	0.034
target_factor	0.125***	1	0.525***	0.022	0.007	-0.025	0.052**	0.072*	0.02	0.096***
path_factor	-0.027	0.525***	1	0.046*	0.002	-0.114***	0.11*	0.072*	0.02	0.339***
sentiment_eoq_lag1	0.086***	0.022	0.046*	1	-0.054**	-0.199***	0.183***	0.183**	0.118***	0.038
log_funding_base_lag1_w	0.057**	0.007	0.002	-0.054**	1	0.121***	-0.008	0.046*	0.092***	0.075***
gross_npa_lag1_w	0.303***	-0.025	0.114***	-0.199***	0.121***	1	0.658***	0.446**	0.457***	0.313***
roa_lag1_w	0.252***	0.052**	0.11**	0.183***	-0.008	-0.658***	1	0.46**	0.397***	0.195***
capital_lag1_w	0.154***	0.072***	0.072***	0.183***	0.046*	-0.446***	0.46**	1	0.658***	-0.022
nim_lag1_w	0.173***	0.02	0.02	0.118***	-0.092***	-0.457***	0.397***	0.658**	1	0
cpi_inflation	0.034	0.096***	0.339***	0.038	-0.075***	-0.313***	0.195***	-0.022	0	1

Note: *** significant at 1% ** significant at 5% and * significant at 10%.

The study estimates bank fixed-effects models with Driscoll-Kraay standard errors (Eq. 1) to account for the cross-sectional dependence and serial correlation confirmed in our diagnostic tests.

$$Y_{it} = \alpha_i + \beta_1 X_{1it} + \beta_2 X_{2it} + \dots + \beta_k X_{kit} + \varepsilon_{it} \dots (1)$$

Results and key findings

The results of baseline regression are illustrated in Table 4.

Table 4. Baseline regression

Variable	Baseline	MP_Shocks	Full_Sample	Post_MPC
roa_lag1_w	-1.961*** (-0.705)	-1.856*** (-0.636)	-1.82*** (-0.614)	-1.606** (-0.649)
capital_lag1_w	0.498* (-0.286)	0.529* (-0.277)	0.622** (-0.271)	0.173 (-0.299)
nim_lag1_w	1.525** (-0.747)	1.469** (-0.702)	1.342* (-0.686)	-0.552 (-0.944)
log_funding_base_lag1_w	0.865 (-2.441)	1.201 (-2.409)	1.042 (-2.402)	-8.036*** (-2.988)
gross_npa_lag1_w	0.475*** (-0.163)	0.501*** (-0.167)	0.494*** (-0.17)	-0.208 (-0.202)
cpi_inflation	0.919 (-0.592)	0.984* (-0.595)	0.999* (-0.606)	2.812** (-1.111)
target_factor		-13.46** (-6.715)	-13.65** (-6.826)	-27.827** (-12.471)
path_factor		1.129 (-1.985)	1.101 (-2.037)	4.986 (-3.828)
sentiment_eoq_lag1			-1.47* (-0.806)	-1.567* (-0.912)
target_factor*sentiment_eoq_lag1			-0.896 (-4.971)	-10.517* (-6.343)
Observations	1645	1645	1616	1087
R-squared	0.071	0.096	0.099	0.164
Bank FE	Yes	Yes	Yes	Yes
Time FE	No	No	No	No
Sample	2012-2025	2012-2025	2012-2025	2017-2025

Note: The table estimates the FE model with Driscoll-Kraay standard errors, reported in parentheses.

*** significant at 1% ** significant at 5% and * significant at 10%.

The results provide three key findings. First, unexpected rate hikes reduce bank risk, i.e., a one-unit hawkish surprise reduces annualised volatility by approximately 13.7 percentage points in the full sample. It confirms the existence of the risk-taking channel. The effect nearly doubles to 27.8 percentage points in the post-MPC period, suggesting that institutional credibility and communication strengthen the transmission of policy surprises to bank risk. Second, sentiment independently dampens equity risk by approximately 1.5 percentage points per unit, indicating that favourable information environments reduce investor uncertainty beyond what balance sheet fundamentals alone can explain. Third, in the post-MPC period, sentiment moderates the bank risk response to policy surprises, i.e., a one-unit increase in the target-sentiment interaction reduces risk by an additional 10.5 percentage points, with banks carrying more positive news coverage absorbing hawkish surprises with sharper risk reductions.

These findings are robust to alternative model specifications and cluster-robust standard errors. We prove that the risk-taking channel is universal; it works across ownership types, size groups,

and time periods. Further, the sentiment effect is strong for large banks. The results are not driven by any specific crisis; they are robust to excluding AQR, demonetisation, and COVID periods. Lastly, a placebo test is performed, using lead monetary policy shocks, that confirms the causal direction of our results by showing that future shocks carry no predictive power over current volatility.

To conclude, the study shows that monetary policy transmission is shaped by how individual institutions are perceived in the information marketplace. Therefore, clear forward guidance should be targeted to strengthen transmission.

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