

From Policy Transmission To Business Adaptation: A Dual-Perspective PLS-SEM Analysis of Post-COVID Monetary Policy Effectiveness in India

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Abstract

Purpose – Monetary policy effectiveness in emerging economies depends less on the design of instruments than on how efficiently policy signals travel through financial intermediaries to economic agents. This study examines post-COVID monetary policy effectiveness in India through a dual-perspective framework capturing the supply side (banks) and the demand side (Micro, Small and Medium Enterprises, MSMEs) of transmission simultaneously.

Design/methodology/approach – Adopting a positivist, deductive, cross-sectional design, primary data were collected from 175 banking professionals and 159 MSME owner-managers in India using a structured five-point Likert instrument. Two structural models were estimated by Partial Least Squares Structural Equation Modelling (PLS-SEM) with 5,000 bootstrap resamples: the banker model links Policy Alignment (PA) to Banking Operational Resilience (BOR) through Transmission Efficiency (TE), and the MSME model links Policy Support (PS) to Adaptive Business Behaviour (ABB) through Credit Accessibility (CA).

Findings – Policy Alignment drives Transmission Efficiency ($\beta = 0.574$), which strengthens Banking Operational Resilience ($\beta = 0.475$), with TE partially mediating PA–BOR (VAF $\approx 61\%$). Policy Support improves Credit Accessibility ($\beta = 0.734$), which enhances Adaptive Business Behaviour ($\beta = 0.562$), with CA partially mediating PS–ABB (VAF $\approx 63\%$). All eight hypotheses are supported, and the demand-side model explains substantially more variance.

Originality/value – The study integrates the bank-lending and credit channels within a single stakeholder-centric, primary-data framework for the post-pandemic period, reframing transmission effectiveness as an organisational and behavioural phenomenon and identifying two intermediary mechanisms through which policy intentions become operational and adaptive outcomes.

Keywords: Monetary policy transmission; Bank lending channel; Credit accessibility; MSMEs; Banking operational resilience; Adaptive business behaviour; PLS-SEM; Post-COVID India.

JEL Classification: E52; E58; G21; G28; L25

1. Introduction

Monetary policy reaches the real economy only at a remove. A central bank sets an instrument; whether that decision alters what firms borrow and how banks lend depends on a long chain of intermediation in between. Effectiveness therefore turns less on formulation than on the efficiency with which signals travel to the agents who finally act on them (Bernanke & Gertler, 1995) — a problem sharper in emerging economies, where thin capital markets and bank-dominated intermediation leave conventional channels weak (Mishra et al., 2012).

India has spent a decade rebuilding this machinery. Flexible inflation targeting, a statutory liquidity framework and successive overhauls of lending-rate benchmarks were designed to make policy bite more predictably. Pass-through is now more complete under the Marginal Cost of Funds-Based Lending Rate regime than under the Base Rate system (Chattopadhyay & Mitra, 2023), external benchmark-linked pricing tightened the link between policy rates and loan decisions (Acharya, 2020), and under inflation targeting the response of inflation to policy strengthened, though this weakened during the COVID years (Alex, 2025). In a bank-dominated economy the bank-lending channel carries most of the load (Kashyap & Stein, 2000), with bank capital and competition conditioning its strength (Muduli & Behera, 2023; Rakshit & Bardhan, 2023). MSMEs occupy the demand side: when formal finance is scarce they cannot expand, modernise or absorb a shock, and constrained firms cut investment first when conditions tighten (Aristei & Gallo, 2024).

COVID-19 rewrote the terms of the problem. Conventional instruments were overlaid with emergency liquidity, targeted long-term repo operations, the Emergency Credit Line Guarantee Scheme, moratoriums and regulatory forbearance (Patra & Bhattacharya, 2022). These measures calmed markets and compressed yields, with targeted

operations doing the heaviest lifting (Rao & Kumar, 2023). Yet doubts persist: transmission runs stronger when the stance is accommodative than when restrictive (Kalsie & Yadav, 2026), and pandemic-era shocks left only a faint mark on inflation and output (Kumar & Kumar, 2024).

Research gap. Indian transmission research has concentrated on macroeconomic aggregates, interest-rate pass-through and secondary data, leaving four gaps: few studies examine banks and MSMEs within one framework; post-COVID evidence remains scarce although pandemic-era instruments differ substantially from conventional ones; primary-data studies of behavioural and organisational responses are rare; and transmission efficiency and credit accessibility have seldom been modelled as intermediary channels in their own right. The study therefore asks how, and through what mechanism, Policy Alignment shapes Banking Operational Resilience (RQ1), and how, and through what mechanism, Policy Support shapes Adaptive Business Behaviour among MSMEs (RQ2).

2. Theoretical Background and Hypotheses

Three traditions anchor the study. The credit channel holds that policy affects activity through the supply and accessibility of credit, not merely its cost, with the external-finance premium amplifying real effects (Bernanke & Gertler, 1995). The bank-lending channel adds that policy shifts loan supply through bank reserves, liquidity and funding conditions, so balance-sheet characteristics condition transmission strength (Kashyap & Stein, 2000). The resource-based view treats access to finance as a strategic resource enabling adaptive capabilities under uncertainty (Barney, 1991). Together they motivate a model in which policy antecedents reach outcomes through intermediary mechanisms.

Policy Alignment and Transmission Efficiency. Policy Alignment is the extent to which banks perceive policy measures as transparent, credible and operationally compatible with banking objectives. Transmission requires institutional acceptance, not only announcement: when measures appear predictable, banks adjust lending, pricing and liquidity practices accordingly (Acharya, 2020; Chattopadhyay & Mitra, 2023).

H1. Policy Alignment positively influences Transmission Efficiency.

Transmission Efficiency and Banking Operational Resilience. Efficient transmission improves liquidity allocation, reduces funding uncertainty and strengthens shock absorption, since interbank-liquidity dynamics demonstrably shape lending behaviour and policy responsiveness (Ansari & Sensarma, 2025).

H2. Transmission Efficiency positively influences Banking Operational Resilience.

H3. Policy Alignment positively influences Banking Operational Resilience.

H4. Transmission Efficiency mediates the relationship between Policy Alignment and Banking Operational Resilience.

Policy Support, Credit Accessibility and Adaptive Business Behaviour. Policy Support encompasses relief measures, accommodative policies and credit-facilitation programmes. The credit channel holds that these improve outcomes chiefly by enhancing access to institutional finance (Bernanke & Gertler, 1995), and targeted programmes reduce firm vulnerability during crises (Aristei & Gallo, 2024). Adaptive Business Behaviour covers liquidity management, digital adoption, financial planning and strategic flexibility, capabilities that the resource-based view expects better-financed firms to build (Barney, 1991).

H5. Policy Support positively influences Credit Accessibility.

H6. Credit Accessibility positively influences Adaptive Business Behaviour.

H7. Policy Support positively influences Adaptive Business Behaviour.

H8. Credit Accessibility mediates the relationship between Policy Support and Adaptive Business Behaviour.

Figure 1. Conceptual Framework (Banker Model)

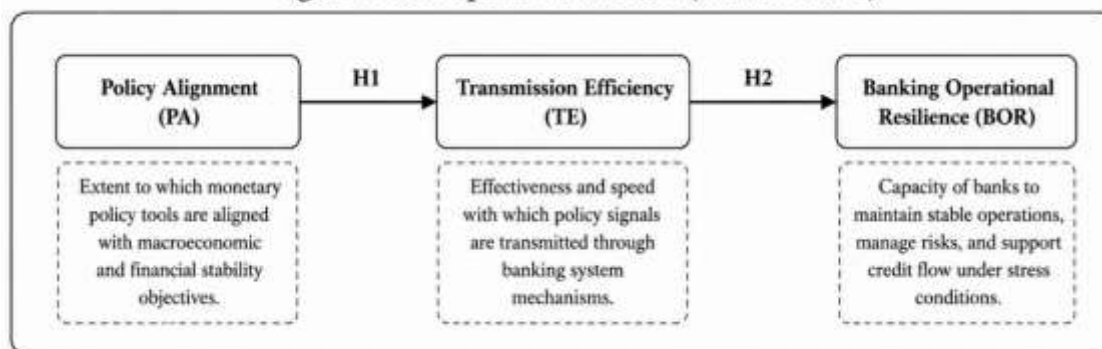
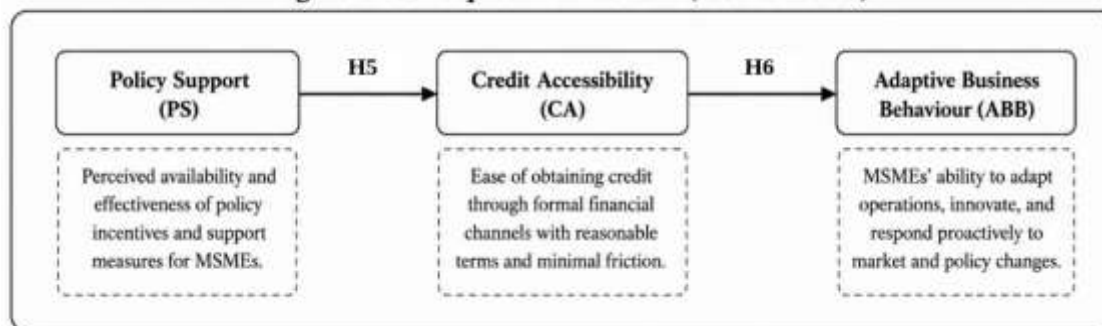


Figure 2. Conceptual Framework (MSME Model)



3. Research Methodology

The study adopts a quantitative, cross-sectional, explanatory design grounded in positivism and a deductive approach, suited to testing theoretically derived relationships among latent constructs and evaluating mediation (Hair et al., 2022; Saunders et al., 2023). Purposive sampling was used, appropriate for respondents holding specialised knowledge. The banker sample ($n = 175$) comprised branch, credit, relationship and operations managers across public-sector, private-sector, regional-rural and cooperative banks; the MSME sample ($n = 159$) comprised owners and senior managers across manufacturing, services, trading and technology-based enterprises with direct experience of bank financing and post-pandemic support schemes. Both exceed PLS-SEM minimum sample requirements.

Table 1. Demographic and Institutional Profile of Bank Officials ($n = 175$)

Variable	Category	f	%
Type of Bank	Public Sector	92	52.6
	Private Sector	64	36.6
	Foreign/Other	19	10.9
Experience	10–20 years	86	49.1
	5–10 years	57	32.6
	20+ years	32	18.3
Primary Area	Retail Banking	60	34.3
	MSME Lending	55	31.4
	Corporate Credit	36	20.6
	Treasury	24	13.7
Region	Urban	71	40.6

Variable	Category	f	%
	Metro	60	34.3
	Semi-Urban/Rural	44	25.1

Table 2. Demographic and Business Profile of MSME Owners (n = 159)

Variable	Category	f	%
Firm Category	Micro	69	43.4
	Small	58	36.5
	Medium	32	20.1
Nature of Business	Services	80	50.3
	Manufacturing	52	32.7
	Trading	27	17.0
Years in Operation	10–15 years	61	38.4
	5–10 years	57	35.8
	15+ years	41	25.8
Primary Finance Source	Public Bank	60	37.7
	Private Bank	50	31.4
	NBFC	31	19.5
	Self-funded	18	11.3
Location	Urban Center	72	45.3
	Industrial Hub	50	31.4
	Other	37	23.3

The instrument was developed from the literature on transmission, banking efficiency, organisational resilience, credit accessibility and MSME adaptation, adapted to the post-COVID Indian context and reviewed by academic experts and practitioners for content validity. All constructs used five-point Likert scales. Data were collected between January and April 2026 through online platforms, email and professional networks; participation was voluntary and anonymous.

Common method bias was addressed procedurally through anonymity, unambiguous items and construct separation, and statistically through Harman’s single-factor test (first factor < 50% of variance) and full-collinearity variance-inflation factors below threshold (Podsakoff et al., 2003; Kock, 2015). Data were analysed in SmartPLS following the two-stage procedure of Hair et al. (2022) with 5,000 bootstrap resamples. PLS-SEM suits prediction-oriented, mediation-based models at moderate sample sizes without assuming multivariate normality.

4. Results

Table 3. Measurement Model: Banker Model (n = 175)

Construct	Item	Loading	α	CR	AVE
Banking Operational Resilience (BOR)	BOR1	0.875	0.896	0.928	0.763
	BOR2	0.891			
	BOR3	0.873			
	BOR4	0.854			
Policy Alignment (PA)	PA1	0.853	0.881	0.918	0.737
	PA2	0.879			
	PA3	0.854			
	PA4	0.847			
Transmission Efficiency (TE)	TE1	0.840	0.861	0.906	0.706
	TE2	0.858			

Construct	Item	Loading	α	CR	AVE
	TE3	0.846			
	TE4	0.833			

Table 4. Measurement Model: MSME Model (n = 159)

Construct	Item	Loading	α	CR	AVE
Adaptive Business Behaviour (ABB)	ABB1	0.889	0.893	0.933	0.823
	ABB2	0.929			
	ABB3	0.905			
Credit Accessibility (CA)	CA1	0.904	0.909	0.936	0.785
	CA2	0.880			
	CA3	0.885			
	CA4	0.890			
Policy Support (PS)	PS1	0.919	0.908	0.942	0.844
	PS2	0.921			
	PS3	0.916			

Note. All loadings > 0.70, CR > 0.70 and AVE > 0.50 in both models.

Table 5. Discriminant Validity (HTMT)

Banker model	BOR	PA	TE	MSME model	ABB	CA	PS
BOR	—			ABB	—		
PA	0.500	—		CA	0.824	—	
TE	0.651	0.657	—	PS	0.731	0.804	—

Note. All HTMT values < 0.85 (Henseler et al., 2015).

Table 6. Structural Model Results (5,000 bootstrap resamples)

Hyp.	Relationship	β	t	p	Decision
H1	PA → TE	0.574	11.917	< 0.001	Supported
H2	TE → BOR	0.475	6.894	< 0.001	Supported
H3	PA → BOR (direct)	0.173	2.808	0.005	Supported
H5	PS → CA	0.734	19.284	< 0.001	Supported
H6	CA → ABB	0.562	7.831	< 0.001	Supported
H7	PS → ABB (direct)	0.247	3.412	< 0.001	Supported

Table 7. Explanatory Power (R^2), Effect Size (f^2) and Predictive Relevance (Q^2)

Model	Endogenous variable	R^2	f^2	Q^2
Banker	Transmission Efficiency	0.330	[insert]	[insert]
Banker	Banking Operational Resilience	0.350	[insert]	[insert]
MSME	Credit Accessibility	0.538	[insert]	[insert]
MSME	Adaptive Business Behaviour	0.581	[insert]	[insert]

Table 8. Mediation Analysis

Hyp.	Indirect path	Indirect β	Direct β	Total β	VAF	Result
H4	PA → TE → BOR	0.273*	0.173	0.446	61.2%	Partial mediation
H8	PS → CA → ABB	0.413	0.247	0.660	62.6%	Partial mediation

Note. $p < 0.001$ for both indirect effects; VAF of 20–80% indicates partial mediation. Indirect β for H4 computed as the product of path coefficients; insert the bootstrap t^* -statistic and confidence interval from SmartPLS.

Both measurement models met every reliability and validity threshold, and all eight hypotheses were supported. In the banker model, Policy Alignment strongly affects Transmission Efficiency, which in turn raises Banking Operational Resilience, while the direct alignment–resilience path is significant but modest. In the MSME model, Policy Support

substantially improves Credit Accessibility, which drives Adaptive Business Behaviour, alongside a smaller direct effect. In each model the indirect pathway carries the majority of the total effect, establishing partial mediation.

5. Discussion

The strength of the Policy Alignment–Transmission Efficiency path reinforces the argument that transmission depends not only on rate changes but on the credibility, clarity and operational compatibility of measures, consistent with evidence that benchmark-linked frameworks strengthen the link between policy rates and lending decisions (Acharya, 2020) and that pass-through improves when liquidity management is aligned with the stance (Chattopadhyay & Mitra, 2023). That efficient transmission then enhances resilience accords with evidence on interbank-liquidity dynamics and policy responsiveness (Ansari & Sensarma, 2025). Transmission Efficiency's mediating role ($VAF \approx 61\%$) carries the sharper implication: policy intentions alone are insufficient, since effectiveness depends on how efficiently signals move through the banking system — renewing the relevance of the bank-lending channel (Kashyap & Stein, 2000; Rakshit & Bardhan, 2023).

The demand-side results are stronger still. The substantial Policy Support–Credit Accessibility effect underlines the role of accommodative measures, relief packages and communication in easing access to finance during recovery (Aristei & Gallo, 2024). This perception-based finding contrasts with the weak credit channel reported by Mohanti and Banerjee (2024) using a structural VAR over 1998–2022. The divergence is instructive rather than contradictory: the present study isolates a period in which targeted instruments acted directly on credit supply, and uses stakeholder perceptions rather than macro-aggregates — suggesting that targeted credit-facilitation measures activate the credit channel more strongly than conventional policy captured in long-horizon macro data. Credit Accessibility's effect on Adaptive Business Behaviour supports the resource-based view of finance as a strategic resource (Barney, 1991), while its mediating role ($VAF \approx 63\%$) indicates that policy alters firm behaviour chiefly through financing conditions.

Taken together, the results describe a two-stage transmission process. The stronger explanatory power of the MSME model ($R^2 = 0.538$ and 0.581) relative to the banker model ($R^2 = 0.330$ and 0.350) suggests that demand-side responses to targeted support outweighed supply-side responses to policy alignment during the period studied, plausibly because pandemic-era instruments were designed to act directly on firm-level credit access.

6. Implications

Theoretically, the study extends the bank-lending and credit channels by recasting transmission effectiveness as an organisational and behavioural construct, introducing Policy Alignment and Policy Support as antecedents, and validating two intermediary mechanisms. It also broadens adaptive behaviour beyond investment to include liquidity management, digital adoption and strategic flexibility.

For the RBI, effectiveness depends on the clarity and credibility of communication, and policy should be evaluated on realised transmission within banks rather than on announcements alone; the strong Policy Support–Credit Accessibility effect argues for retaining targeted liquidity-support and credit-facilitation instruments alongside conventional ones. For banks, the priority is systems and staff capabilities that translate policy changes rapidly into lending and liquidity decisions. For MSMEs, building formal financial relationships and raising awareness of guarantee-backed schemes matters, since interventions under-deliver where beneficiaries are unaware of them. For policymakers, supply- and demand-side constraints should be addressed together, with behavioural outcomes built into evaluation frameworks.

7. Conclusion, Limitations and Future Research

Using a dual-perspective PLS-SEM framework, this study shows that post-COVID monetary-policy effectiveness in India depends not on formulation alone but on the intermediary mechanisms operating between the central bank, financial institutions and firms: Policy Alignment reaches Banking Operational Resilience largely through Transmission Efficiency, and Policy Support reaches Adaptive Business Behaviour largely through Credit Accessibility. Four limitations qualify these conclusions. The cross-sectional design captures perceptions at one point in time, so causal claims require caution; the data are self-reported, and remedies mitigate but do not eliminate subjectivity; the single-country focus limits generalisation to systems with different financial structures; and the study measures perceptions without integrating objective indicators such as lending rates or credit volumes. Future research could

adopt longitudinal designs across policy cycles, compare emerging and developed economies, add regulators and fintech intermediaries as stakeholders, triangulate survey data with macro-financial indicators, and examine how digital finance reshapes transmission.

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