

The Different Clocks of a Rate Rise

The Reserve Bank of India's figures for new education loans contain a puzzle. From April 2022 to August 2024, the average rate implied by its printed spreads for fresh repo-linked domestic-bank education loans rose 210 basis points. The corresponding derived rises were 170 basis points for public banks and 157 for private banks. If the domestic spread row is an exhaustive, comparable pool of those two bank groups weighted by eligible new-loan amounts, an unchanged group weight cannot produce a domestic rate rise above 170. Yet it does, by 40 basis points. The gap is at least 38 even after allowing for the table's two-decimal rounding. [S1]

That condition matters. The table does not identify the participating banks, the exact pooled denominator, or how eligibility and the bank merger during the period were treated. It cannot tell us whether borrowers changed lenders or what share of education lending came from public banks. It does show where a simple fixed-weight account would fail *if* the rows describe the same exhaustive loan pool. An aggregate lending rate can therefore conceal a question about who and what enters the average. The rate episode presents similar timing questions for government debt, household payments, business loans and bank deposits.

The repo rate rose from 4.00% before the May 2022 increase to 6.50% by February 2023, then remained there through August 2024. The RBI prints the education figures as *spreads over repo* on eligible fresh loans. From April 2022 to August 2024, the domestic spread narrowed from 4.71 to 4.31 percentage points; the public-bank spread from 4.42 to 3.62; and the private-bank spread from 5.71 to 4.78. Add the common 250-basis-point repo increase to each spread change and the respective 210, 170 and 157 basis-point rate rises follow. [S1] None is a rate on every outstanding education loan or a household's monthly payment.

Education is the only one of the five printed sectors whose domestic rise falls outside the range of its two bank-group rises:

Fresh repo-linked sector	Domestic rate rise	Public-bank rise	Private-bank rise	Range from unchanged nonnegative two-group weights	Outside range?
MSME	160 bp	141 bp	170 bp	141-170 bp	No
Housing	164 bp	170 bp	162 bp	162-170 bp	No
Vehicle	197 bp	175 bp	197 bp	175-197 bp	No
Education	210 bp	170 bp	157 bp	157-170 bp	Yes, conditionally
Other personal	186 bp	193 bp	59 bp	59-193 bp	No

Source: RBI October 2024 Monetary Policy Report, Chapter IV, Table IV.5, April 2022 and August 2024 spreads [S1]. The changes and ranges are derived basis points for the printed fresh repo-linked loan groups. The range tests a pooled average only if the public and private rows exhaust a comparable domestic pool at both dates. Falling inside it does not establish constant weights.

The domestic education spread was 3.52 percentage points in August 2023 and 3.98 in March 2024, before reaching 4.31 in August. [S2, S3, S1] Those sparse observations do not supply a monthly path. Changes in

borrower or product mix, loan terms, credit risk, reporting coverage or merger treatment could all alter the printed aggregate. RBI's generic explanation says fresh credit sanctioned can determine bank weights, but it does not establish how Table IV.5 pools this sector. [S4] The missing eligible loan amounts and reporting definition prevent a measured account of lender switching.

The government: new yields, old coupons

On 29 April 2022, before the first repo increase, a ₹7,000 crore face-value reissue of **7.10% GS 2029** cleared at a 7.09% auction cutoff yield. A ₹6,000 crore reissue of the *same security* on 24 February 2023 cleared at 7.4% as printed. That is a displayed increase of about 31 basis points, while the contractual coupon stayed 7.10%. Its remaining life fell from 6.96 to 6.14 years. The later yield is printed to one decimal place, and the comparison does not hold maturity or market conditions fixed. [S5, S6]

During the pause, reissues of a *different* bond, **7.10% GS 2034**, each carried ₹20,000 crore face value. They cleared on 9 and 30 August 2024 at 6.89% and 6.87%, with 9.7 and 9.6 years left to maturity. The named issue retained its 7.10% coupon. [S7] The 2029 and 2034 observations do not form a same-bond yield series. Nor is face value cash proceeds or an auction cutoff the weighted yield on all accepted bids. The narrower point is clear: a new auction price can move while an existing bond's coupon stays fixed.

The budget records a broader, slower measure. Gross interest under central-government **Market Loans**, Grant 39 item 2.01, rose from ₹653,109.21 crore in FY2022-23 to ₹726,415.54 crore in FY2023-24, or ₹73,306.33 crore more. [S8, S9] In one 2025 Receipt Budget vintage, the matching Market Loans book stock was ₹9,141,232.64 crore at March 2022, ₹10,248,882.74 crore at March 2023 and ₹11,199,792.91 crore at March 2024. [S10] Dividing gross interest by the simple mean of each year's opening and closing stocks gives 6.7365% and 6.7735%, a rise of about 3.7 basis points. The gross interest line itself grew 11.22%.

This gross-interest to two-endpoint-average book-stock ratio is an accounting indicator, not the cash coupon on either selected bond or a time-weighted cost of all government debt. It uses two stock dates rather than a daily balance, and its numerator covers many more Market Loans than the selected auctions. Treasury bills, state debt and other liabilities are outside the denominator. FY2023-24 also cannot supply an August 2024 interest-cost observation. The auctions price particular reissues; the budget relates an annual expense line to the book stock of a named debt class.

Households: a rate reset meets a contract

A floating-rate home loan need not pass a rate change straight into the next payment. A public HDFC Bank home-loan agreement form dated July 2023 describes an intended constant equated monthly instalment, or EMI, while allowing the repayment period to change. The bank may raise the EMI if negative amortisation arises or the principal would not be repaid within a period it determines. [S11] This is a contract template, not an executed borrower agreement or a count of how often either adjustment occurred.

Take a hypothetical ₹50 lakh balance with 120 monthly payments left, no fees or prepayment, and an immediate nominal annual rate reset from 7.5% to 10%, using monthly interest at the annual rate divided by twelve. The old EMI is ₹59,350.88. To keep the 120-month term, it would rise to ₹66,075.37, about ₹6,724 more, or 11.33%. Keeping the old EMI instead produces a 146th, smaller final payment in pure amortisation arithmetic, 26 months beyond the original schedule. [C1] Contract limits and bank discretion mean that longer path is neither a borrower entitlement nor a prediction.

At 10%, first-month interest on the assumed balance is ₹41,666.67, below the old EMI, so principal still falls. At about 14.2442% nominal annual interest, that EMI would only cover first-month interest. Above that rate, an unchanged payment would let the balance grow. [C1] The arithmetic shows why a rate reset and a cash-payment rise need not coincide. It measures no actual borrower payment. RBI's external-benchmark rules began for specified new floating retail and micro/small-enterprise loans in 2019 and extended to medium enterprises in 2020. They did not make every legacy loan reset immediately. [S12] Later EMI-reset requirements cannot be read back into the July 2023 form.

Firms: the borrowers inside an average

The RBI's annual-report averages separate newly sanctioned firm credit from outstanding loans at scheduled commercial banks excluding regional rural banks. Fresh MSME weighted rates were 8.66%, 9.84% and 9.99% in March 2022, 2023 and 2024. Fresh large-industry rates were 6.55%, 8.34% and 8.39%. The corresponding outstanding-loan sequences were 9.28%, 10.28% and 10.31% for MSMEs, and 7.76%, 8.78% and 8.69% for large industry. [S13, S14] The fresh flow changes as borrowers and loan terms change; the outstanding stock carries older contracts and reset dates. Large industry is a descriptive comparison, not an untreated control for MSMEs.

Another RBI chart covers *domestic banks* from May 2022 to August 2024. It reports fresh and outstanding MSME rate increases of 133 and 95 basis points, against 161 and 71 for large industry. [S1] The dates and coverage differ from the annual-report rows. Table IV.5's 160-basis-point MSME rise covers the narrower group of repo-linked fresh loans. Joining these three series into one panel would hide those differences. None identifies a firm's interest bill; borrower risk, product mix and external-benchmark eligibility could also change the averages.

Banks: deposits keep repricing

For scheduled commercial banks excluding regional rural and small-finance banks in RBI's lending-and-deposit releases, fresh and outstanding weighted loan rates were 9.32% and 9.72% in March 2023. Fresh and outstanding weighted term-deposit rates were 6.48% and 6.16%. By August 2024, those four rates were 9.41%, 9.91%, 6.46% and 6.93%. [S15, S16] An April 2022 comparison in the same order, 7.51%, 8.72%, 4.03% and 5.03%, is **back-calculated** from published August levels and cumulative changes. It is not a directly retrieved monthly cell. [S1, C2]

The outstanding term-deposit rate rose from 6.16% in March 2023 to 6.93% in August 2024 even as the repo stayed at 6.50%. New deposit prices and maturing deposits can feed into the stock after a policy-rate pause. Savings deposits accounted for roughly 30% of total deposits at March 2024 and current accounts for about 9%, according to the RBI, which also noted a declining low-cost current-and-savings-account share and pressure on net interest margins. [S1, S14] Subtracting a term-deposit rate from a loan rate would omit those accounts and other assets, liabilities, costs, maturities and weights. That difference is neither a bank net interest margin nor a profit estimate. The report's September 2024 benchmark-rate endpoints are separate from its August lending and deposit observations.

The education-loan puzzle has a direct empirical test. Recover Table IV.5's historical eligible-loan amounts, pooling rule and bank coverage, and the 40-basis-point gap can be assessed against a defined population. That would settle whether the printed rows really violate a fixed-weight two-group account. It would still leave a second question: who paid more, and when? That needs contract-level reset and payment histories, alongside the borrower and instrument identities behind the averages. The available evidence shows rates and obligations moving on different clocks. It does not assign the extra cash burden among households, firms, banks and the government.

Sources and calculations

[S1] [RBI Monetary Policy Report, October 2024](#), Chapter IV §IV.2, Table IV.5 (repo-linked fresh-loan spreads); Table IV.4 (aggregate May 2022-August 2024 rate changes, with September benchmark exception); Chart IV.29a (domestic sector changes); discussion near Chart IV.30 (deposits and NIM pressure).

[S2] [RBI Monetary Policy Report, October 2023](#), Chapter IV §IV.2, Table IV.5 (April 2022 and August 2023 spreads).

[S3] [RBI Annual Report 2023-24](#), Chapter III ¶III.30, Table III.6 (March 2024 repo-linked fresh-loan spreads).

[S4] [RBI lending-rate explanatory note](#), Tables 7-8 explanation of generic bank-group WALR weighting. It does not define Table IV.5's exact pool.

[S5] [Department of Economic Affairs Public Debt Management Report, April-June 2022](#), Statement 1, PDF p26 / printed p22, 29 April 2022 7.10% GS 2029 row.

[S6] [DEA Public Debt Management Report, January-March 2023](#), Statement 1, PDF p28 / printed p24, 24 February 2023 7.10% GS 2029 row.

[S7] [DEA Public Debt Management Report, July-September 2024](#), Statement 1, PDF p26 / printed p22, 9 and 30 August 7.10% GS 2034 rows.

[S8] [Union Budget 2024-25 Notes on Demands for Grants](#), Grant 39 item 2.01, PDF p152 / printed p144, FY2022-23 actual gross Market Loans interest.

[S9] [Union Budget 2025-26 Notes on Demands for Grants](#), Grant 39 item 2.01, PDF p148 / printed p140, FY2023-24 actual gross Market Loans interest.

[S10] [Union Budget 2025-26 Receipt Budget](#), Statement 1(i), PDF p60 / printed p54, March 2022-24 central-government Market Loans book stocks.

[S11] [HDFC Bank public home-loan agreement form](#), dated July 2023, Article 5.3(d)-(f). The retained PDF, rather than a current URL version, controls the claim.

[S12] [RBI External Benchmark Based Lending - Medium Enterprises](#), 26 February 2020, ¶1-2, recalling the 4 September 2019 rule effective 1 October 2019 and extending it to medium enterprises.

[S13] [RBI Annual Report 2022-23](#), Chapter III, Tables III.6-III.7, March 2022 and March 2023 sector fresh/outstanding WALRs.

[S14] [RBI Annual Report 2023-24](#), Chapter III Tables III.7-III.8 (March 2024 sector rates); discussion of savings/current-account shares. Same retained original as S3.

[S15] [RBI Lending and Deposit Rates of Scheduled Commercial Banks, 31 May 2023](#), March 2023 comparison levels in fresh/outstanding lending and term-deposit bullets.

[S16] [RBI Lending and Deposit Rates of Scheduled Commercial Banks, 30 September 2024](#), August 2024 lending/deposit bullets and merger-exclusion footnote.

[C1] Hypothetical amortisation calculation: $EMI = P r / (1 - (1 + r)^{-n})$, with monthly rate r equal to nominal annual interest divided by 12. Full inputs, rounding and tenor calculation are in accompanying calculation notes, Exhibit 4.

[C2] Derived April 2022 levels equal the observed August 2024 rates in S16 less the cumulative changes in S1 Table IV.4. See accompanying calculation notes, Exhibit 6; these are derived baselines, not directly retrieved monthly observations.