

From the Policy Rate to the Business Loan

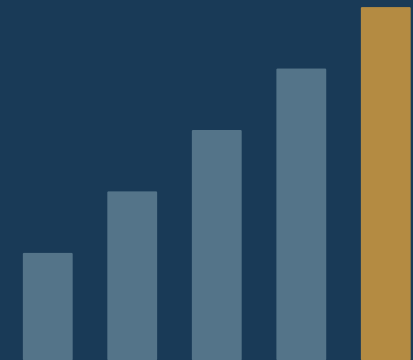
Monetary Transmission in Ghana

Speed. Extent. Borrower-level cost.

An evidence-based examination of monetary repricing and business finance

Authored by Dr. Felix Larry Essilfie
Executive Director, Institute of Development and Economic Research

RESEARCH BRIEFING | PUBLICATION EDITION | SEPTEMBER 2026



EVIDENCE CUT-OFF
18 SEPTEMBER 2026

Matched monthly rates through February 2026

From benchmark signals to borrower outcomes

Three connected research pillars; read observed results separately from illustrations and proposed causal work.

01 BENCHMARK

How does the policy signal move?

Policy rate, interbank conditions,
Treasury yields and the Ghana
Reference Rate.

Monthly timing • basis-point changes
Event windows • observed thresholds

[Framework and rate evidence](#) | pp. 7–26

02 LOAN PRICE

What changes in borrowing cost?

Contractual spreads, borrower risk,
actual fees and comparable repayment
cash flows.

Historical SME pricing • all-in cost
Reset dates • loan-level reconciliation

[Pricing](#) | pp. 27–35 and 40–42

03 CREDIT ACCESS

Who can obtain and use finance?

Collateral, restricted cash, applications,
approvals and borrower selection.

Security conditions • usable liquidity
Access outcomes • research delivery

[Access](#) | pp. 36–39; [methods](#) | pp. 43–51

Publication note 3 | Executive findings 4–6 | Technical appendices 52–57 | References 58–61 | Synthesis 62

Publication details and analytical scope

Institutional identity, evidence coverage and interpretation limits for this edition.

SUGGESTED CITATION

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EVIDENCE WINDOW

Matched monthly inputs: September 2023–February 2026.
Historical SME pricing: September 2024.
Evidence cut-off: 18 September 2026.

A descriptive research briefing—not a causal impact evaluation

Separate numerical replay checks the retained inputs. Full revalidation of the original BoG rate and APR tables remains outstanding; selected endpoints are corroborated by a separate BoG publication.

An IDER publication. No commission, endorsement, certification or institutional review by the Bank of Ghana, World Bank or IMF is implied.

The observed response varies sharply across episodes

Observed changes in published aggregates; horizons and comparison windows differ.

SEPTEMBER 2024 CUT 33.5% –67 bp / –200 bp By February 2025; h = +5	JULY 2025 CUT 95.0% –285 bp / –300 bp By August 2025; h = +1	JUNE 2025 → FEBRUARY 2026 62.6% –783 bp / –1,250 bp Multiple policy decisions
Benchmark changes matter The policy rate, interbank rate and Ghana Reference Rate do not move one-for-one.	The residual is not profit A wider lending-minus-GRR differential does not identify bank margins, fees or borrower risk.	Access is a separate outcome Lower published lending rates do not establish cheaper credit for every SME—or more approvals.

Different horizons are not like-for-like speed comparisons. None of these ratios isolates a causal policy effect.

Research question, evidence and principal findings

How quickly, and by how much, do reported lending rates change after monetary-policy rate decisions?

DESIGN

Thirty matched monthly observations contain six cuts and one increase. Each change uses the prior month as its baseline; event windows end before the next rate change. Unchanged decisions are not modelled.

OBSERVED RESULTS

At the same next-month horizon, lending declined by 17.0% of the September 2024 cut and 95.0% of the July 2025 cut. Across June 2025–February 2026, the lending decline was 62.6% of cumulative policy easing; the lending-minus-GRR differential widened by 1.39 percentage points.

INTERPRETATION

Aggregate lending rates do not identify same-borrower policy effects. Benchmark rates, spreads, fees, collateral and risk need separate records. Reproducibility does not resolve missing source or borrower-level evidence.

Keep observations, calculations and proposed research distinct

The report delivers a completed descriptive analysis and specifies the additional work needed for causal attribution.

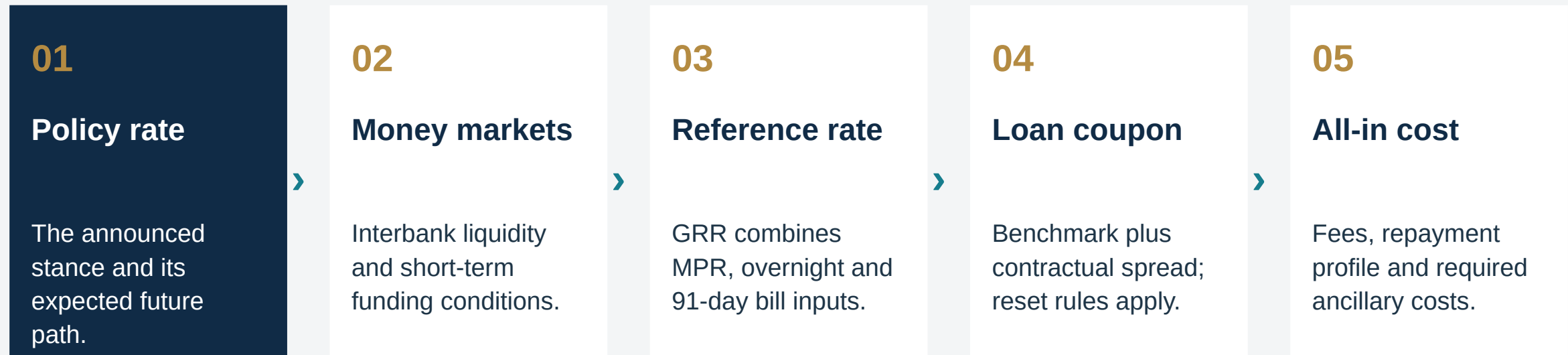
Table 1. Evidence classification and analytical boundaries

Evidence layer	Delivered here	Boundary
Published observations	Retained monthly rate inputs; SME pricing; dated firm-survey evidence	Aggregates and indicative values—not matched loan contracts
IDER calculations	Seven policy-change windows; independent arithmetic and chart checks	Conditional on the retained inputs; no causal coefficient
Borrower-level inference	Specified identification, sampling and data-quality protocol	Proposed, not an analysis already carried out
Dated benchmarks	September 2026 GRR; March 2026 MPR decision	Separately dated observations; not a matched current loan spread

Full core-table revalidation remains open. Selected endpoints are corroborated by a separate BoG report; see the validation section.

One policy decision passes through several distinct prices

The Ghana Reference Rate is a composite benchmark; the business loan is a contract.



Parallel channels: Treasury yields and funding mix → bank pricing; collateral, risk and approval decisions → access.

Five components require five different measurements

Do not collapse a benchmark, a margin, a fee, a security requirement and a risk measure into “the interest rate”.

Table 2. Pricing components and measurement units

Component	Correct unit / record	What it is not
Benchmark	MPR, interbank, GRR; % p.a.; exact effective date	The bank’s complete funding cost
Bank / loan spread	Percentage points over the contract’s benchmark	A pure profit measure from aggregate subtraction
Fees and charges	Cash amount, base, timing, required / optional status	A fee rate added once to an annual coupon
Collateral	Type, valuation, haircut, coverage, cash pledge, release date	A charge equal to the asset’s full market value
Borrower risk	Risk grade; annual PD; LGD; cash-flow and arrears indicators	A residual inferred from high interest alone

Sources: BoG, March 2026 rates and September 2024 APRs [S04, S08]; GSS definitions [S12].

The core panel contains 30 fully matched monthly observations

September 2023–February 2026; selected earlier values provide historical context.

Table 3. Dataset coverage and observation dates

Dataset	Window / sample	Treatment
Matched monetary and lending rates	30 months: Sep 2023–Feb 2026	Frozen core; all seven nonzero MPR changes
Earlier BoG rate observations	Selected 2022–2023 values	Historical inputs retained; missing values preserved
Indicative one-year SME pricing	September 2024; 22 numerical APRs	Historical cross-section, not current offers
Enterprise Surveys	713 firms; interviews Feb 2023–Feb 2024	Published survey estimates; no new variance calculation
Dated benchmark context	GRR to Sep 2026; Mar 2026 MPR decision: 14.00%	Separate dates; not a September loan-cost estimate

Core sample unchanged. Endpoint corroboration does not substitute for full revalidation of the source tables.

Define the response window before reading the result

All seven nonzero MPR changes in the continuous panel are included.

$$\text{Observed response}(h) = 100 \times [\text{rate}(t+h) - \text{rate}(t-1)] / [\text{MPR}(t) - \text{MPR}(t-1)]$$

Extent: show signed numerator and denominator in basis points.

Timing: $h = 0$ is the decision calendar month, not an instantaneous effect.

Speed: first observed 50% / 90% crossing; disclose non-crossing and endpoint.

Window: stop before the next MPR change; no interpolation or extrapolation.

Monthly timing cannot identify a delay in days; “first crossing” is not a causal half-life.

The next-month lending response is not constant

Changes are measured against the month before each reported MPR change.

Table 4. Observed decision-month and next-month lending changes

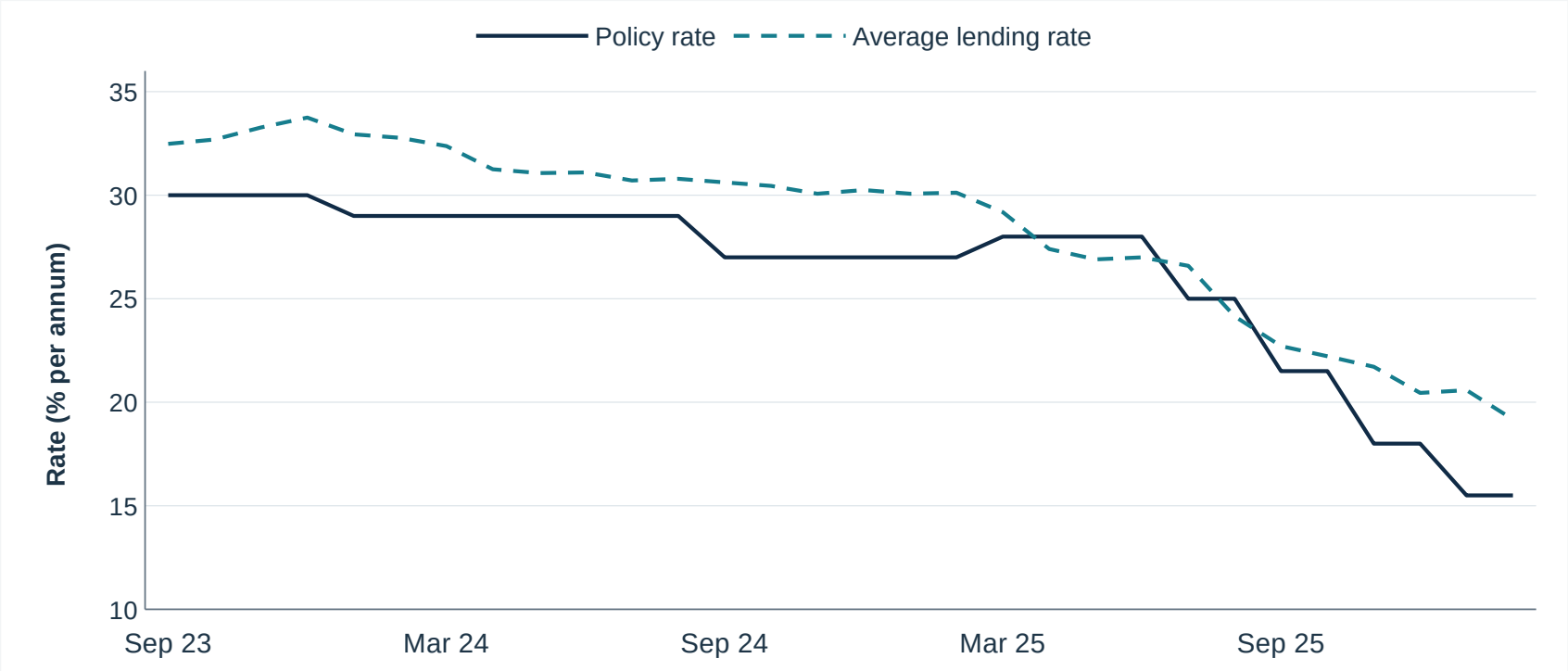
Policy-change month	MPR change (bp)	Lending: h=0 (bp)	Lending: h=+1 (bp)	h=+1 / MPR change
Jan 2024	-100	-81	-98	98.0%
Sep 2024	-200	-17	-34	17.0%
Mar 2025	+100	-94	-272	-272.0%
Jul 2025	-300	-41	-285	95.0%
Sep 2025	-350	-144	-193	55.1%
Nov 2025	-350	-51	-177	50.6%
Jan 2026	-250	+13	-128	51.2%

Sign convention: negative basis points = a fall. Ratios are descriptive and not bank compliance ratings.

Policy and lending rates do not move one for one

Monthly reported rates, September 2023–February 2026 (% per annum).

Figure 1. Policy and average lending rates



End of matched panel

February 2026
MPR: 15.50%
Average lending: 19.17%

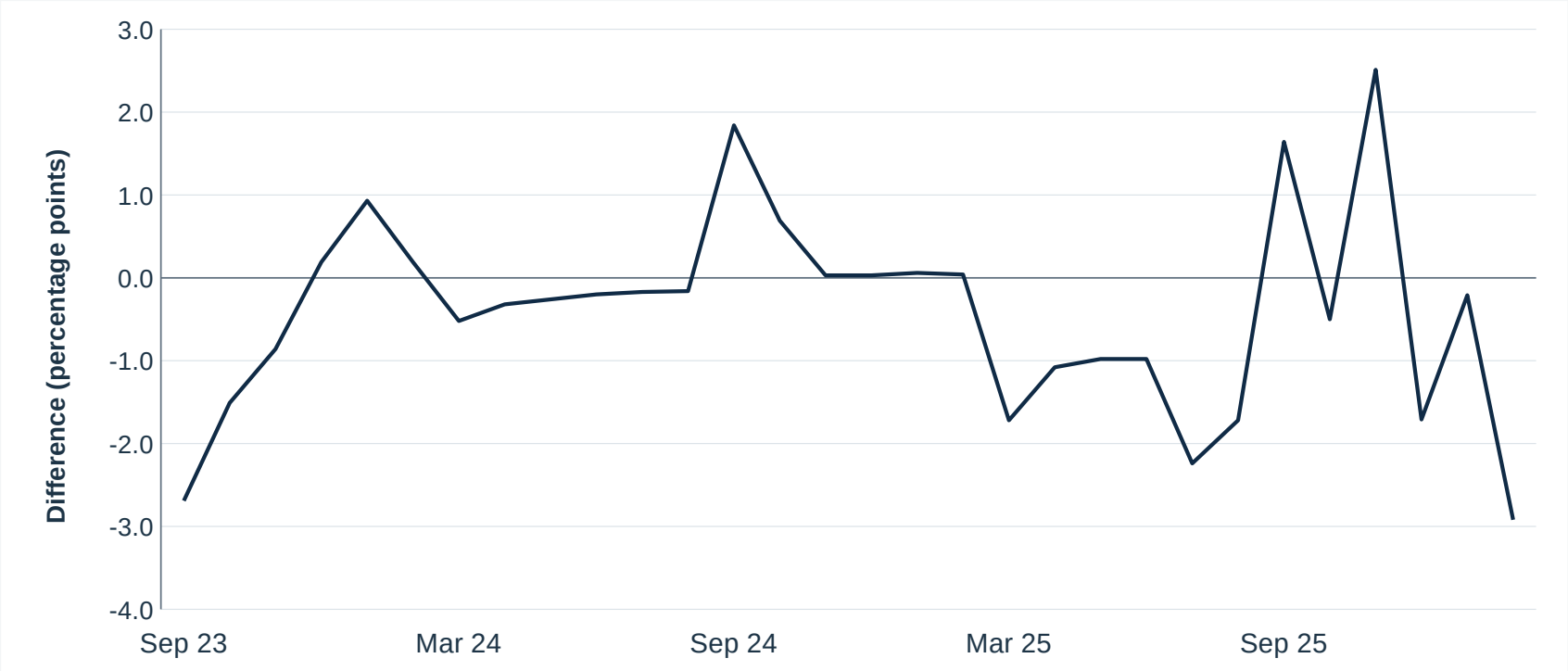
Do not substitute these aggregate values for an individual loan quotation.

ALR is not a fixed basket of business loans; the series does not identify SME-only or matched-borrower repricing.

The interbank rate can diverge from the reported policy rate

Interbank minus MPR, percentage points; same-month published observations.

Figure 2. Interbank–policy-rate differential



A separate diagnostic

February 2026 gap:
–2.92 percentage points

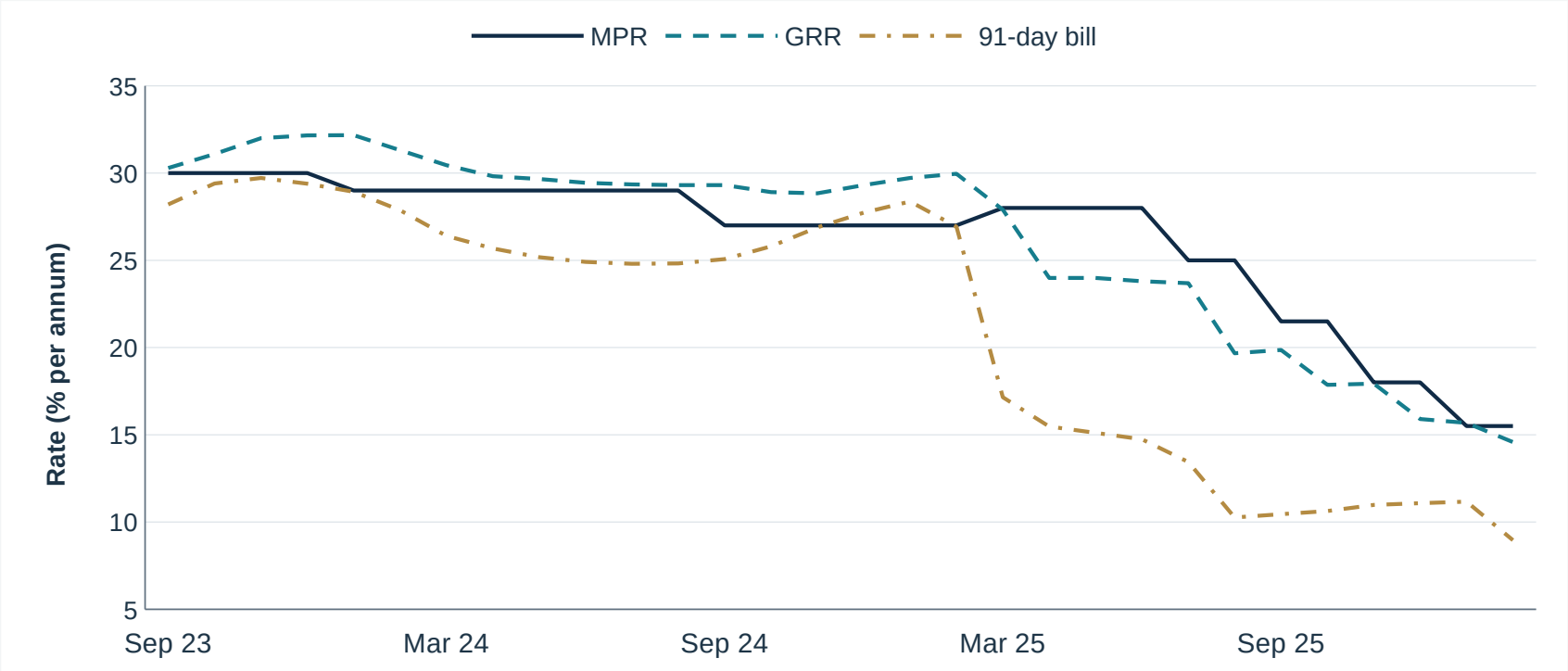
Evaluate daily operational
transmission separately from
the retail lending response.

A monthly average versus policy-level gap is not a test of compliance with a daily operational corridor.

The GRR reflects more than the policy rate

Reported benchmark inputs and reference rate, September 2023–February 2026 (% p.a.).

Figure 3. Policy, reference and Treasury-bill rates



Three moving inputs

The GRR is not the policy rate.

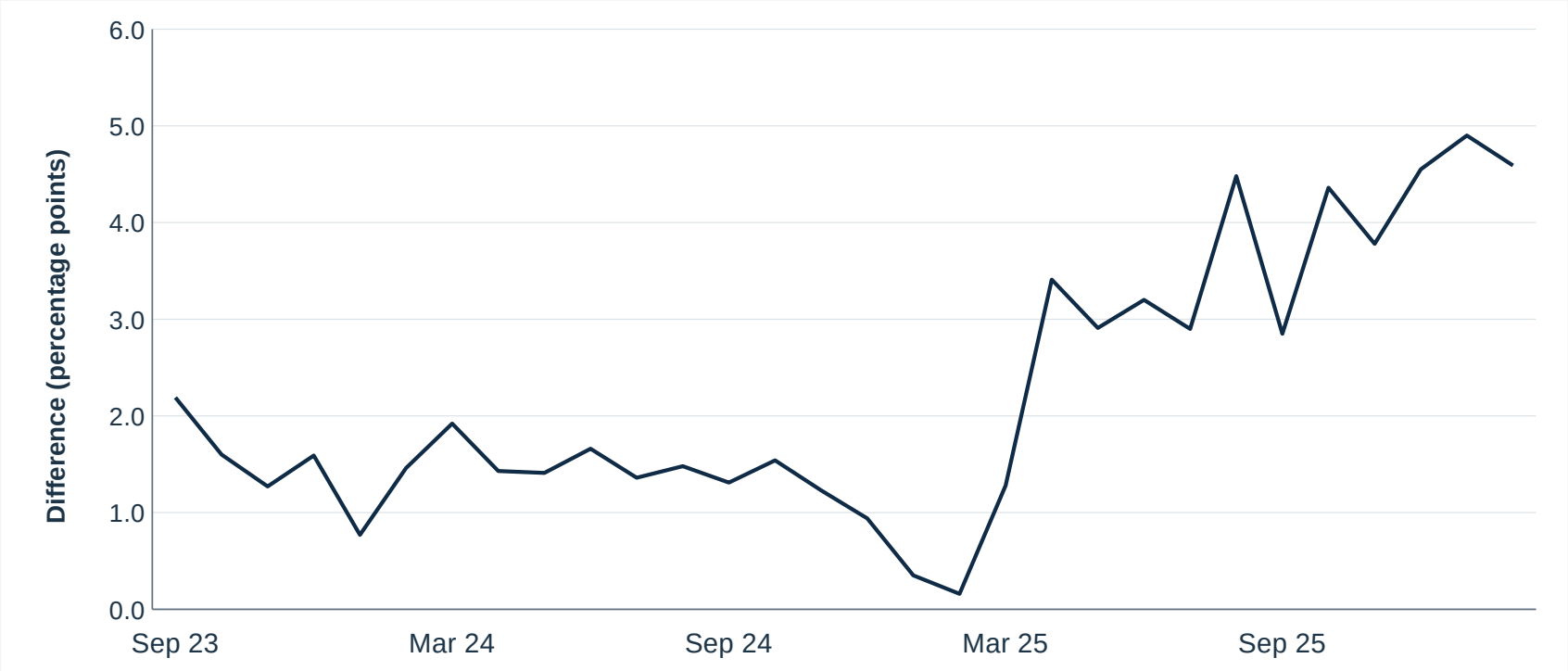
The published methodology identifies its components, but this report does not assume undisclosed numerical weights.

The benchmark formula's weights, timing and version require the operational methodology—not inference from a fitted correlation.

Lending-minus-GRR widened during the easing cycle

Percentage points; an accounting residual, not a bank profit estimate.

Figure 4. Average lending rate minus the GRR



A wider residual

3.20 pp in June 2025
→ 4.59 pp in February 2026

Change: +1.39 pp

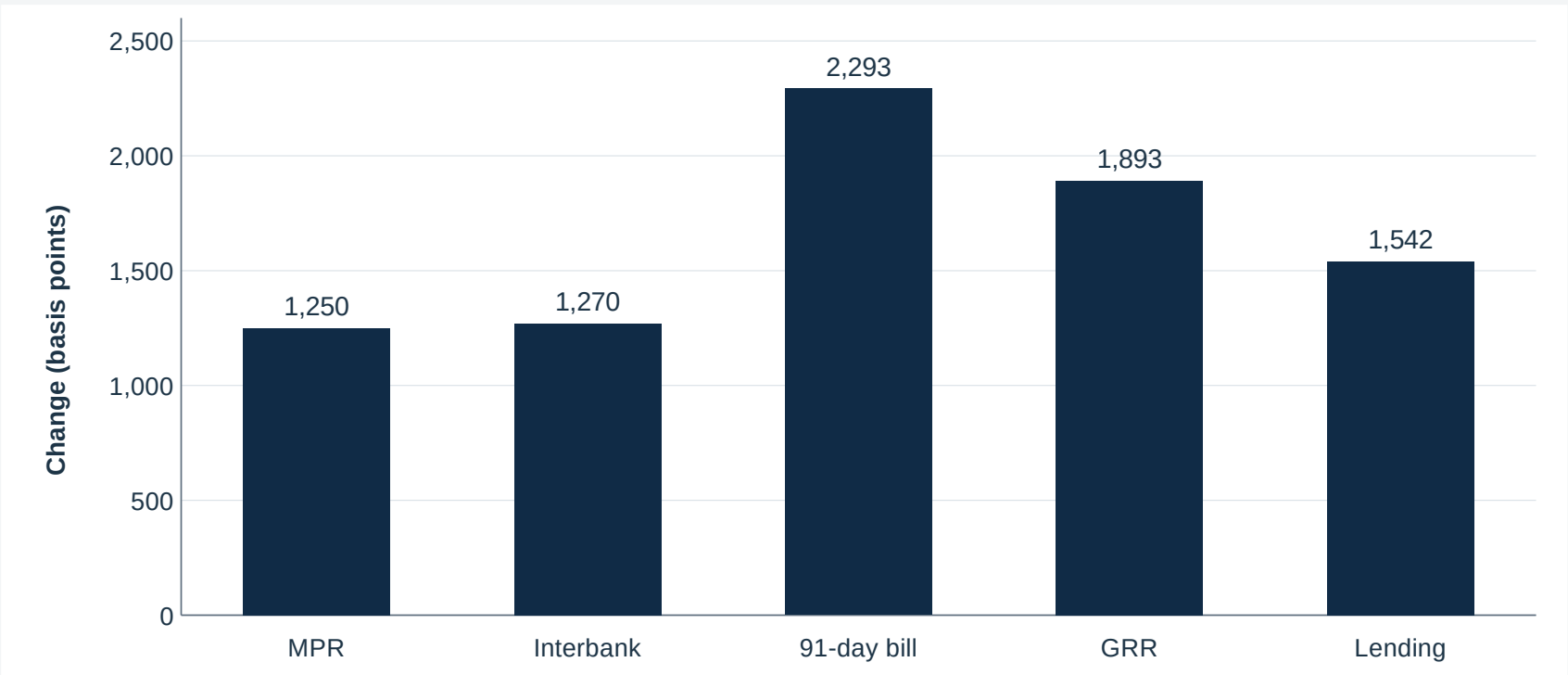
The source of that widening is not identified here.

ALR – GRR is not net interest margin, profit, fee income or a risk-standardised contractual spread.

The 2022 increase exceeded the policy-rate change

January–December 2022 endpoint changes, basis points; multiple policy decisions and concurrent shocks.

Figure 5. Changes in published rates during 2022



Observed ratio

1,542 / 1,250
= 123.4%

Compare this as an episode description—not as the counterpart of a clean easing experiment.

An endpoint ratio above 100% can reflect simultaneous repricing drivers; it is not evidence of “over-compliance”.

January 2024: lending fell almost as much as the policy rate

Baseline: December 2023. Policy rate fell from 30.00% to 29.00%.

Table 5. January 2024 episode: published levels and changes

Rate	Dec 2023 baseline	Jan 2024 (h=0)	Feb 2024 (h=+1)	Change by +1
Policy rate	30.00%	29.00%	29.00%	−100 bp
Interbank	30.19%	29.93%	29.19%	−100 bp
GRR	32.16%	32.17%	31.31%	−85 bp
Average lending	33.75%	32.94%	32.77%	−98 bp

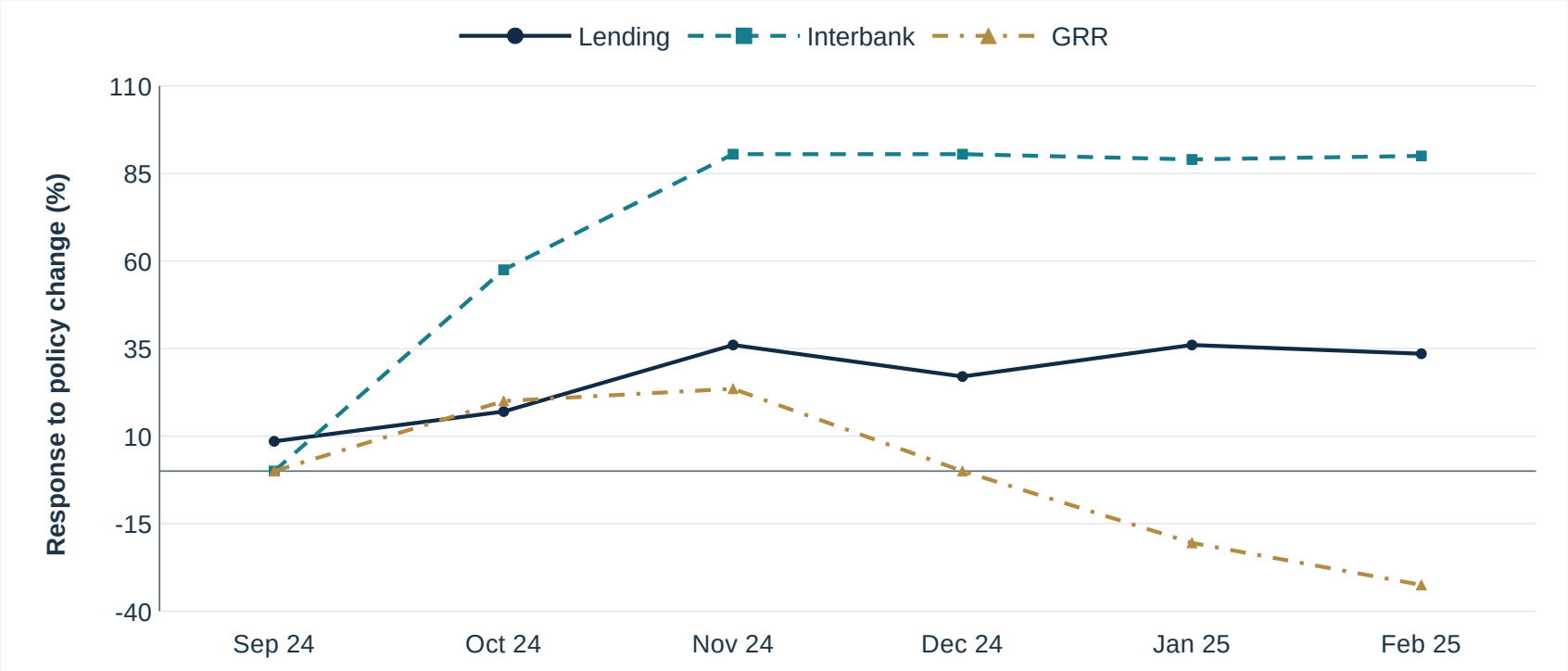
Lending response: 81% in the decision month; 98% by the following month.

The same-month decline is not entirely attributable to the announcement; daily timing is not observed.

September 2024: the observed lending response stayed below 50%

Response as a percentage of the initial 200-basis-point reduction; baseline August 2024.

Figure 6. Observed response after the September 2024 cut



Incomplete in this window

By February 2025:
Lending: 33.5%
Interbank: 90.0%
GRR: -32.5%

No single common lag describes these rates.

February 2025 is $h=+5$: the sixth monthly observation including the decision month, not six full months after it.

Threshold crossings describe speed without inventing a half-life

First observed crossing relative to the September 2024 cut; monthly rather than daily timing.

Table 6. September 2024 episode: first observed threshold crossings

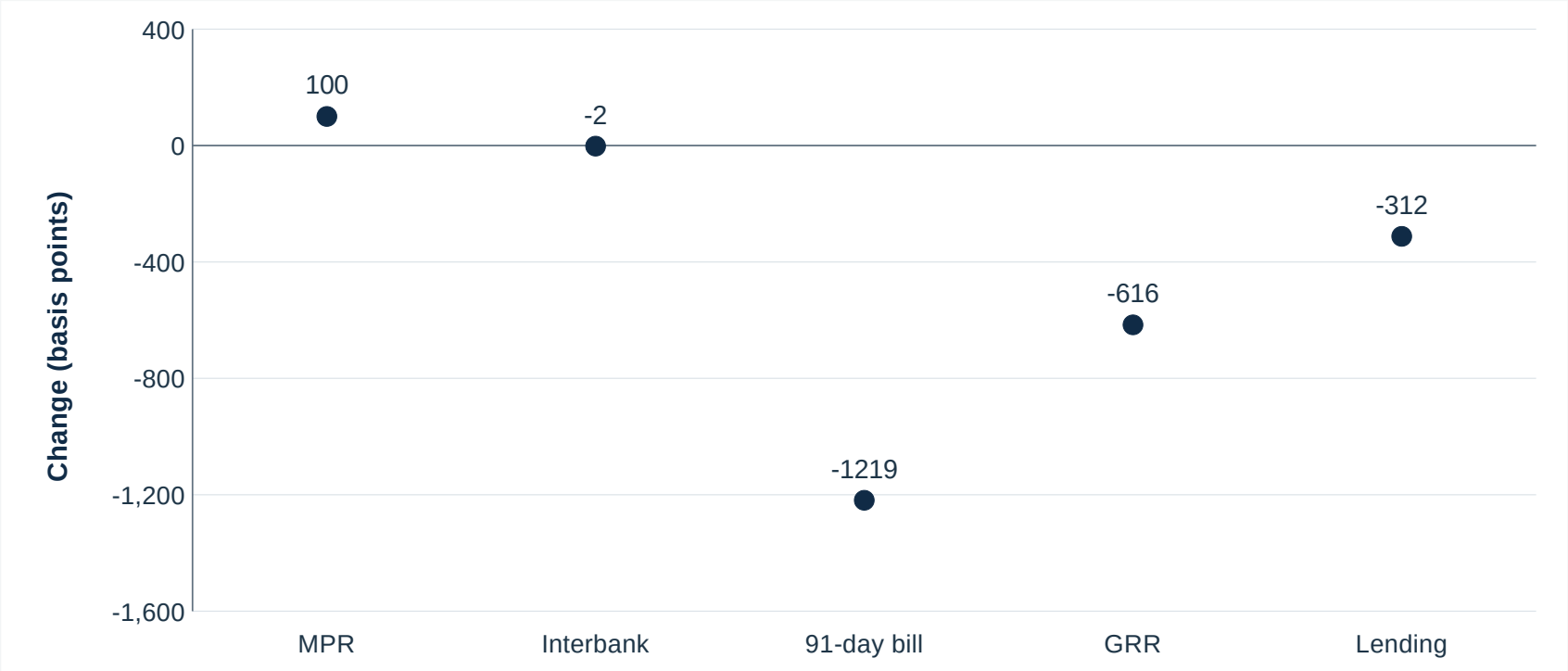
Series	50% of initial cut	90% of initial cut	Observed end of window
Interbank rate	October 2024: h=+1	November 2024: h=+2	90.0% response by February 2025
Average lending rate	Not reached by h=+5	Not reached by h=+5	33.5% response; observed decline 67 bp
Ghana Reference Rate	Not reached by h=+5	Not reached by h=+5	32.5% movement in the opposite direction

A censored threshold is a bounded empirical statement—not evidence of zero eventual transmission.

Lending rates fell during an interval with a higher policy rate

Signed February–June 2025 changes, in basis points; the zero line separates increases from decreases.

Figure 7. Signed changes in benchmark and lending rates



Attribution matters

A benchmark-only story would miss the 12.19-point Treasury-yield decline.

Measure the distinct stages before assigning causes.

Opposite observed movements are not a causal coefficient and do not establish that a policy-rate increase lowers loan prices.

By August, lending had fallen by 285 basis points

Baseline June 2025; MPR reduction of 300 basis points in July.

Table 7. July 2025 episode: published levels and changes

Rate	June baseline	July (h=0)	August (h=+1)	Change by +1
MPR	28.00%	25.00%	25.00%	−300 bp
Interbank	27.02%	22.76%	23.28%	−374 bp
GRR	23.80%	23.69%	19.67%	−413 bp
Average lending	27.00%	26.59%	24.15%	−285 bp

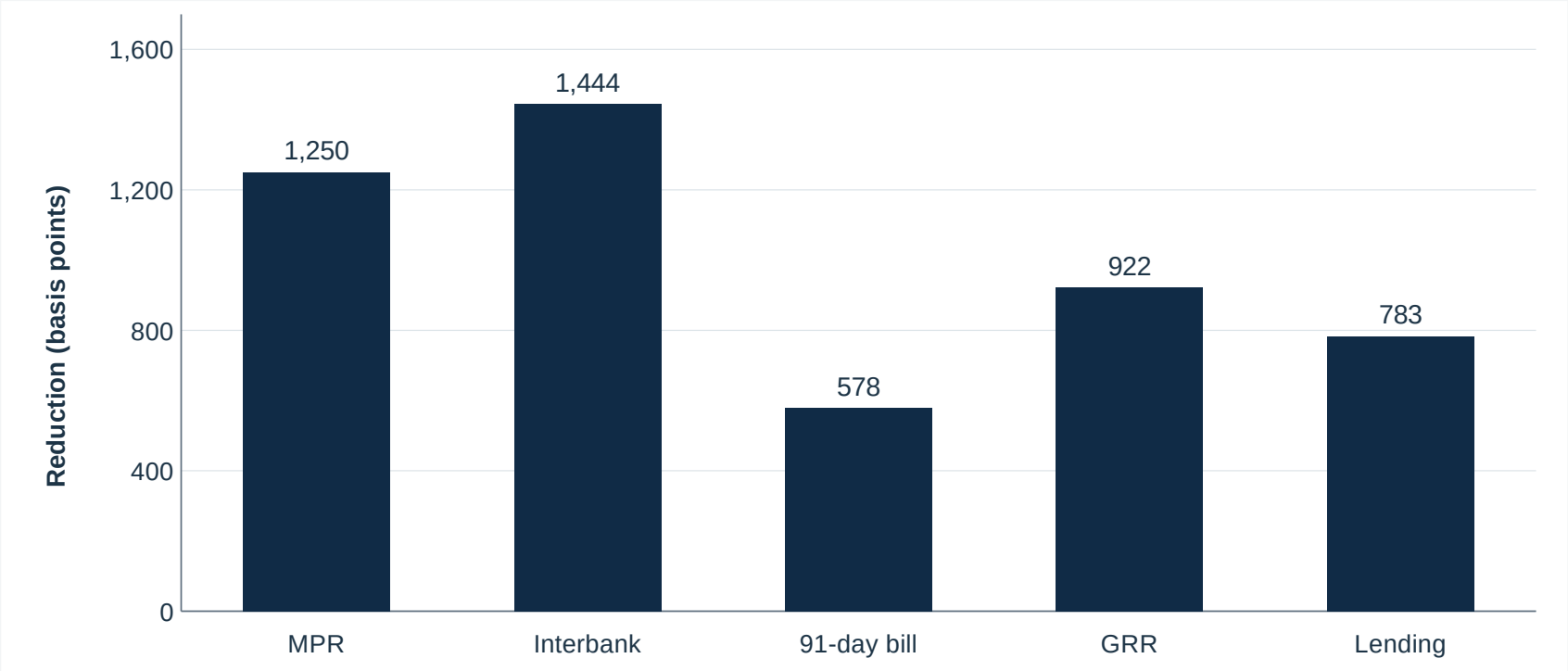
Observed lending ratio: 13.7% in July → 95.0% in August.

The next MPR cut occurs in September 2025; later changes belong to overlapping or cumulative policy windows.

The easing-cycle lending response was 62.6%

June 2025–February 2026; reductions shown as positive basis-point magnitudes.

Figure 8. Cumulative rate reductions, June 2025–February 2026



Two distinct ratios

Lending / MPR decline:
62.6%

Lending / GRR decline:
84.9%

Different denominators answer different questions.

A multi-decision cycle describes cumulative repricing; it does not isolate the marginal effect of any one decision.

Benchmark decline and residual widening reconcile exactly

June 2025–February 2026; percentage-point changes.

REFERENCE RATE CHANGE

−9.22 pp

GRR: 23.80% → 14.58%

RESIDUAL CHANGE

+1.39 pp

ALR − GRR: 3.20 pp → 4.59 pp

LENDING RATE CHANGE

−7.83 pp

ALR: 27.00% → 19.17%

$$\Delta \text{ lending rate} = \Delta \text{ GRR} + \Delta \text{ aggregate differential}$$

Reconciliation is exact; interpretation is not automatic.

The differential still contains unseparated contract timing, funding, borrower risk and composition effects.

A different starting month changes the headline ratio

Two valid endpoint comparisons describe different policy and market paths.

Table 8. Sensitivity to the baseline month

Window	MPR change	Lending change	Observed ratio	Interpretation
Jun 2025 → Feb 2026	−1,250 bp	−783 bp	62.6%	Multi-decision easing interval
Feb 2025 → Feb 2026	−1,150 bp	−1,095 bp	95.2%	Also includes a hike and pre-easing loan-price declines

Disclose the baseline

Show the date, starting rate and policy decisions inside the window.

Retain intermediate months

A similar endpoint can conceal a different sequence of adjustment.

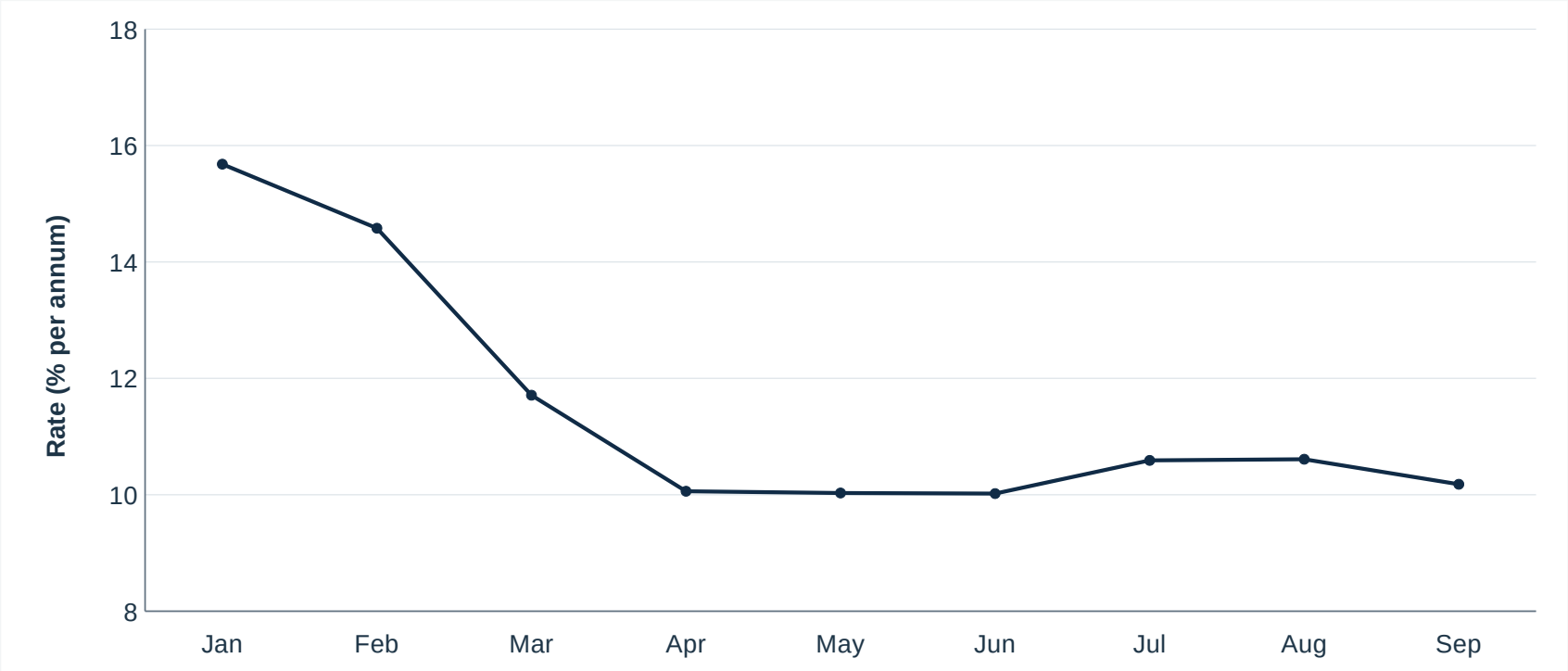
Avoid a single league-table score

A response ratio is not a risk-adjusted measure of bank or policy performance.

Keep later benchmarks separate from older loan data

GAB reference-rate history, January–September 2026 (% p.a.).

Figure 9. Ghana Reference Rate in 2026



Separate date stamps

GRR: 10.18%
Effective 2 September 2026

March 2026 MPR decision:
14.00%

Matched ALR ends
February.

March's MPR decision and September's GRR are differently dated observations—not a September lending spread or all-in cost.

Sources: GAB, September 2026 [S05]; BoG, March 2026 report [S19]. Observation dates differ.

Published research motivates tests—not imported coefficients

Historical Ghana findings and international studies have different samples and identification limits.

Table 9. Research precedents and their applicability

Evidence	What it contributes	What cannot be carried over
Ghana ARDL / NARDL study	Historical 2002–2018 quarterly evidence on asymmetric adjustment	A validated coefficient for 2024–2026 SME contracts
IMF European study	Product, funding and liquidity heterogeneity	A Ghana pass-through benchmark or target
GAB descriptive brief	Industry perspective on macro-financial comovement	Causal attribution from parallel trends
Contract-reset research	A precedent for exploiting predetermined timing	Proof that Ghana reset exposure is exogenous

The matched panel contains six cuts and one increase; it cannot establish a general tightening–easing asymmetry.

A contractual spread combines several different costs

The benchmark is only the starting point for a loan-specific pricing reconciliation.

Funding and liquidity

Deposit mix, wholesale funding, maturity transformation and liquidity buffer costs.

Operating and capital costs

Origination, monitoring, collections, servicing and capital allocated to the exposure.

Borrower risk and margin

Expected loss, recovery assumptions, market conditions and the negotiated commercial margin.

Borrower risk changes the expected-loss component

A transparent illustration—not calibrated Ghana borrower-risk data.

Table 10. Hypothetical expected-loss calculation

Illustrative exposure	Annual PD	LGD	EAD	Expected annual loss
A	2%	30%	GHS 100,000	GHS 600 = 0.60% of EAD
B	6%	45%	GHS 100,000	GHS 2,700 = 2.70% of EAD

Expected loss = probability of default × loss given default × exposure

Hold borrower quality constant before attributing a changing contractual spread to the monetary-policy decision.

Illustrative parameters only. This calculation is not a complete fair-price model or a recommended loan rate.

The official SME pricing table separates rates, spreads and fees

Historical illustration: one-year SME facilities, September 2024—not current offers.

COMMON REFERENCE RATE 29.31% September 2024 GRR in the table	NUMERICAL APR ENTRIES 22 banks One additional bank is marked NL	INDICATIVE APR RANGE 25.10–59.44% One-year SME facilities; not current quotations
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Median of reported bank entries: 35.48% (unweighted).

The next two pages preserve the source’s historical values, arrange banks alphabetically and avoid presenting them as matched-risk offers.

A historical cross-bank range cannot measure monetary pass-through without a matched time series and comparable borrower mix.

Indicative one-year SME loan pricing 1 / 2

September 2024; percentages except the spread, which is in percentage points. Alphabetical order.

Table 11. Historical SME pricing, September 2024 (part 1)

Bank, as named in the historical release	Nominal lending (%)	Spread over GRR (pp)	Indicative APR (%)
Absa Bank Ghana	15.78	-13.53	25.10
Access Bank Ghana	31.40	+2.09	35.47
Agricultural Development Bank	40.69	+11.38	45.76
Bank of Africa Ghana	29.12	-0.19	38.27
CalBank	32.96	+3.65	33.88
Consolidated Bank Ghana	34.80	+5.49	33.38
Ecobank Ghana	34.14	+4.83	34.82
FBNBank Ghana	33.96	+4.65	34.28
Fidelity Bank Ghana	40.47	+11.16	59.44
First Atlantic Bank	33.56	+4.25	35.57
First National Bank Ghana	34.87	+5.56	40.30
GCB Bank	35.10	+5.79	30.25

NL = no loan of this one-year tenor granted in that month. Values are indicative; borrower-specific offers can differ.

Indicative one-year SME loan pricing 2 / 2

September 2024; percentages except the spread, which is in percentage points. Alphabetical order.

Table 12. Historical SME pricing, September 2024 (part 2)

Bank, as named in the historical release	Nominal lending (%)		Spread over GRR (pp)		Indicative APR (%)
Guaranty Trust Bank Ghana	NL	35.00	NL	+5.69	36.71
National Investment Bank				NL	
OmniBSIC Bank Ghana		31.00		+1.69	35.04
Prudential Bank		34.00		+4.69	35.10
Republic Bank Ghana		33.73		+4.42	38.73
Societe General Ghana		34.46		+5.15	38.81
Stanbic Bank Ghana		37.24		+7.93	43.49
Standard Chartered Bank Ghana		25.34		-3.97	33.82
United Bank for Africa Ghana		36.00		+6.69	39.00
Universal Merchant Bank		31.89		+2.58	32.90
Zenith Bank Ghana		27.54		-1.77	35.48

NL = no loan of this one-year tenor granted in that month. Values are indicative; borrower-specific offers can differ.

APR minus nominal lending is not an identified fee burden

Even the published cross-section contains entries that require loan-level reconciliation.

Table 13. Reported APR discrepancies requiring reconciliation

Illustrative source entry	Nominal rate	Indicative APR	Research treatment
GCB Bank, one-year SME	35.10%	30.25%	Keep reported values; flag unmatched bases
Consolidated Bank Ghana, one-year SME	34.80%	33.38%	Request loan-level and weighting reconciliation

Capture actual fees

Record amount, percentage base, date and whether each fee is compulsory.

Rebuild the cash flows

Use the disbursement, repayment schedule and required ancillary payments.

Reconcile the convention

Distinguish annualised monthly IRR from effective annual compounding.

Do not “repair” source values by inventing fees or mechanically summing maximum charges.

A 24% coupon with a 3% upfront fee costs more than 24%

GHS 100,000; 12 equal monthly repayments; reducing balance; no other charges.

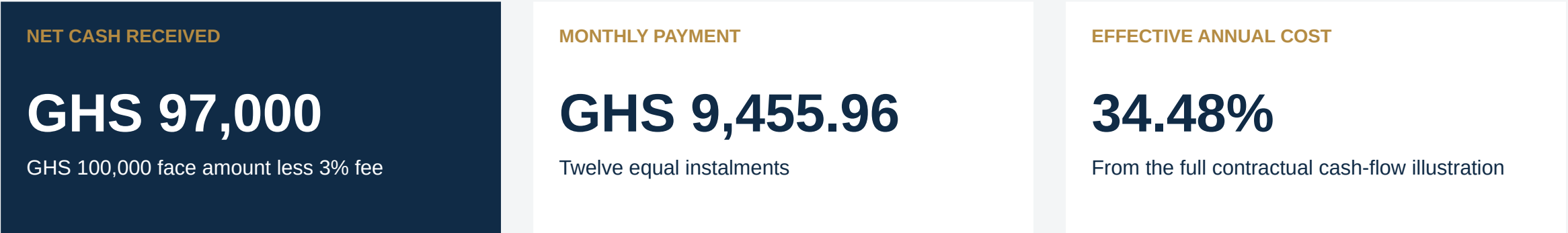


Table 14. Loan-cost annualisation conventions (hypothetical)

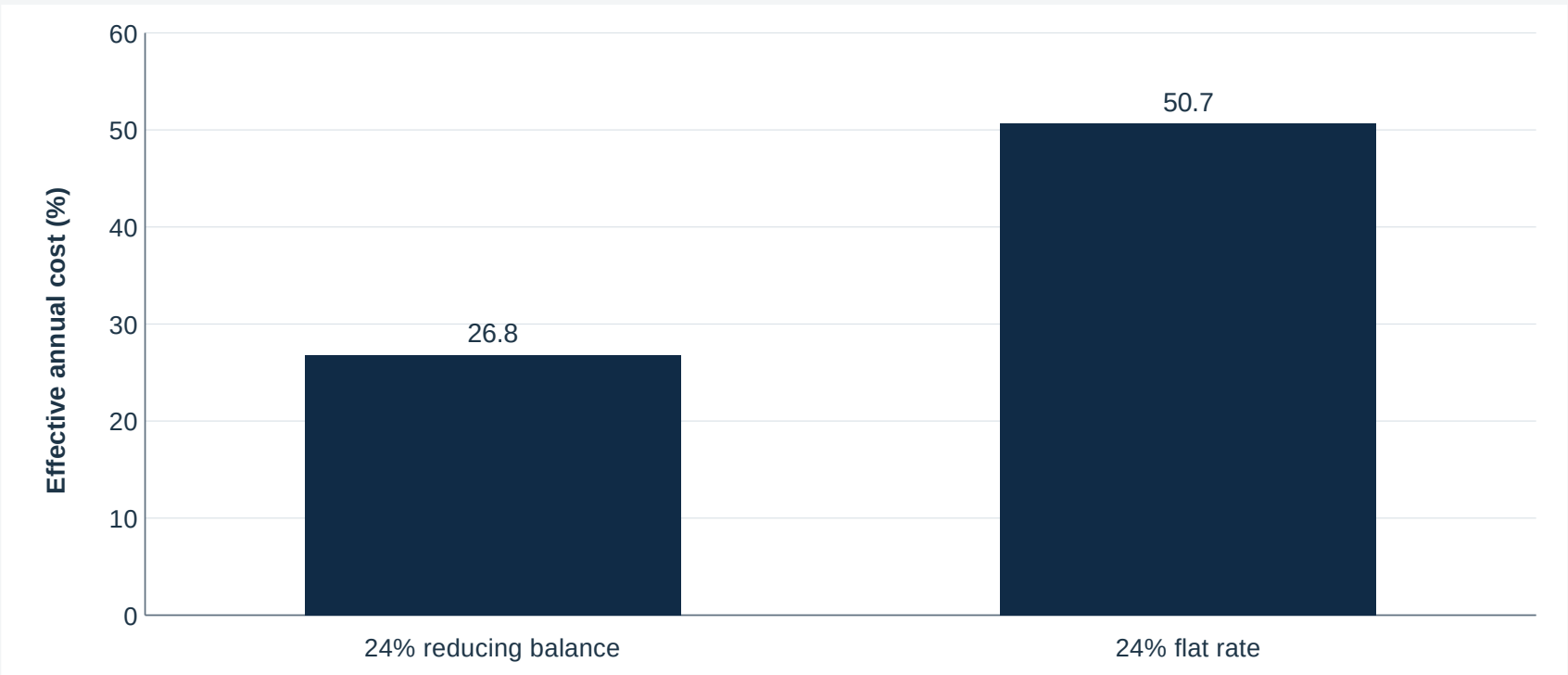
Convention	Calculated rate	Meaning
Stated nominal coupon	24.00% p.a.	2.00% per month on the declining balance
Annualised monthly IRR	29.99%	12 × the monthly cash-flow IRR
Effective annual cash-flow cost	34.48%	$(1 + \text{monthly IRR})^{12} - 1$

Illustration only. “Effective annual cash-flow cost” is explicitly compounded; it is not silently substituted for a regulatory APR convention.

A flat rate and a reducing-balance rate are not comparable labels

GHS 100,000, 12 monthly repayments, a quoted annual rate of 24%, and no fees in either case.

Figure 10. Effective annual cost under alternative interest conventions



Monthly repayment

Reducing balance:
GHS 9,455.96

Flat rate:
GHS 10,333.33

No fees in this comparison.

Equal advertised percentages do not imply equal financing costs when interest bases differ.

A lower coupon can coincide with a higher all-in cash-flow cost

The example changes fees as well as the interest rate; it is not an observed Ghana repricing event.

Table 15. Coupon and fee changes under common repayment assumptions

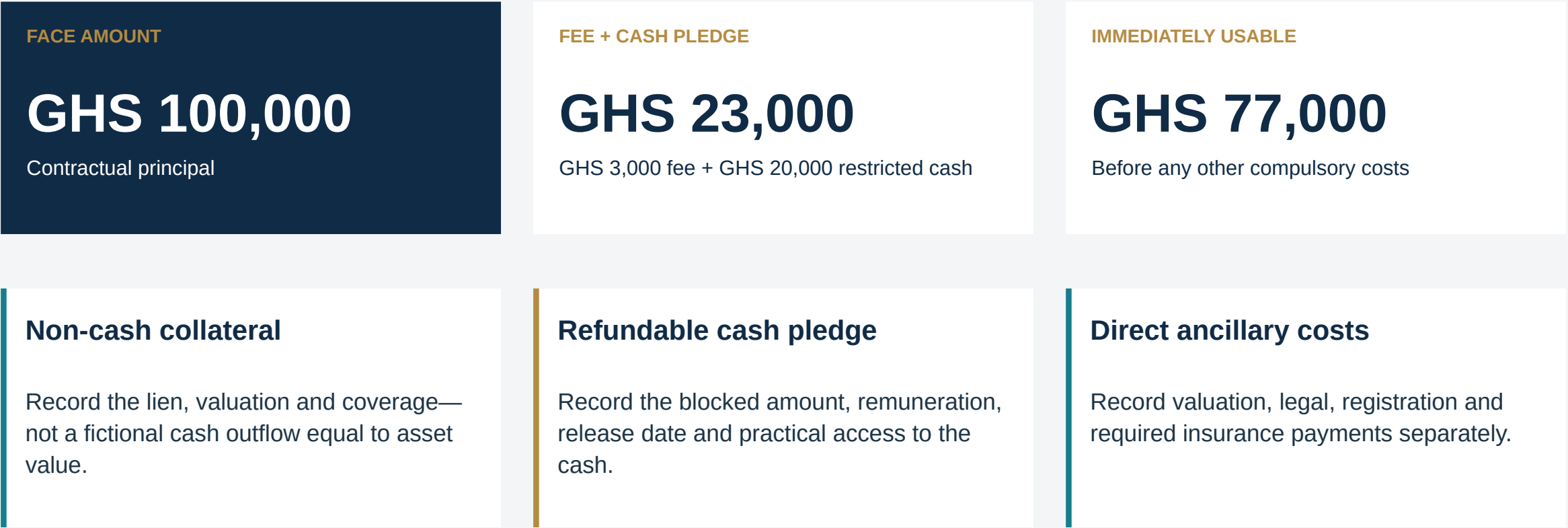
Illustrative contract	Coupon	Upfront fee	Monthly payment	Effective annual cost
A: original terms	24%	3%	GHS 9,455.96	34.48%
B: coupon cut; fee unchanged	21%	3%	GHS 9,311.38	30.54%
C: coupon cut; fee increased	21%	5%	GHS 9,311.38	35.90%

Compare net disbursement and all required repayments—not the coupon alone.

Required fees, insurance and repayment timing must be held constant—or measured—when assessing relief to borrowers.

Collateral can constrain usable finance without being a fee

Separate pledged asset value, restricted cash, transaction costs and opportunity cost.



Illustrations only. A collateral-coverage ratio is not a cash fee and must not be added directly to the loan's interest rate.

A loan-price study also needs a collateral-conditions panel

No representative collateral-repricing estimate can be recovered from the aggregate rate series.

Table 16. Collateral and credit-access measurement

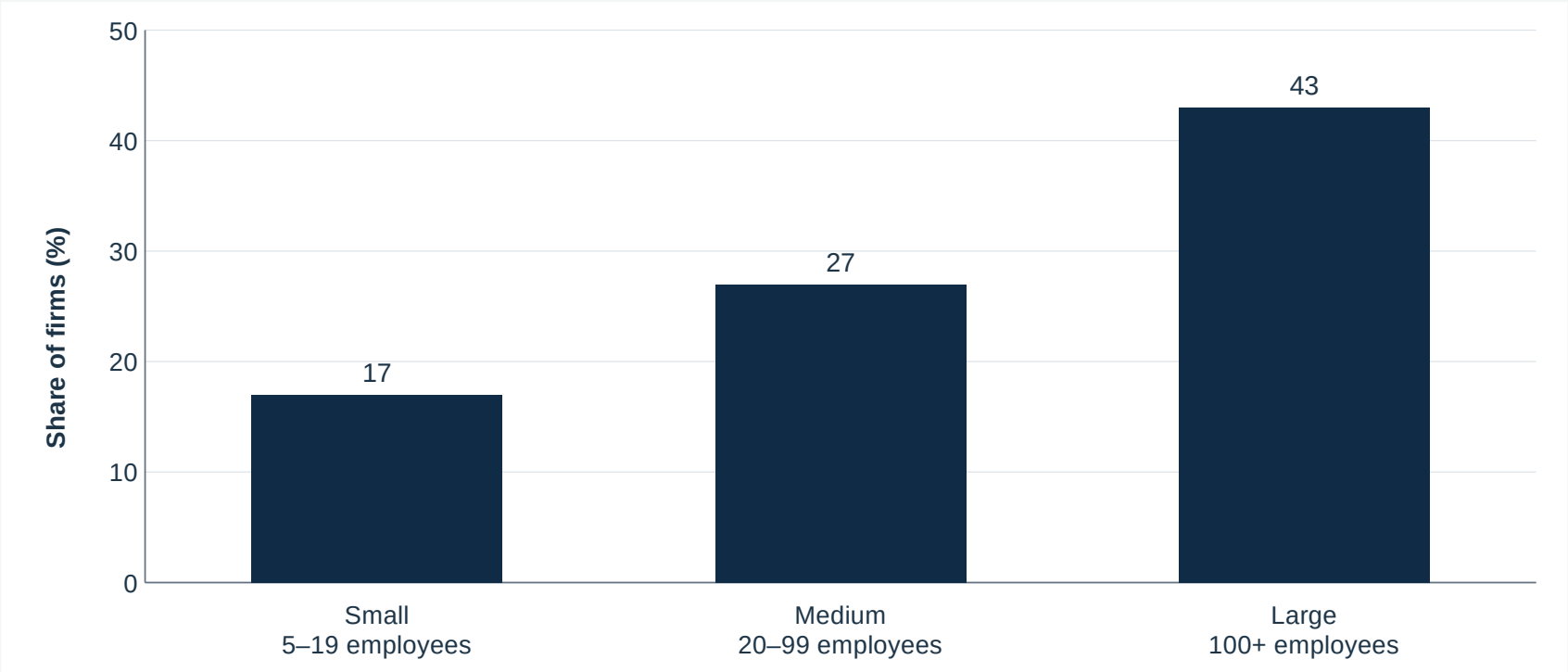
Dimension	Measure	Interpretation safeguard
Coverage	Required collateral value / approved exposure	Do not compare stale valuations across dates
Liquidity restriction	Cash pledge / disbursed amount; release delay	Separate refundable cash from nonrefundable charges
Eligibility and haircut	Accepted asset type; valuation discount	Do not infer eligibility from ownership alone
Transaction burden	Actual valuation, documentation and registration payments	Separate mandatory and optional services
Access outcome	Decline / withdrawal reason; approved-to-requested amount	Include applicants who never become borrowers

Collateral availability, legal enforceability and borrower repayment capacity are separate attributes.

Bank-loan access differs substantially by firm size

World Bank Ghana 2023 survey; rounded published estimates of firms with a bank loan.

Figure 11. Firms with a bank loan, by size



Population matters

Formal, non-agricultural private firms.

Interviews: February 2023–February 2024.

Businesses with fewer than five employees are excluded.

Rounded survey estimates; no design-based confidence intervals reproduced. These are not approval rates or 2026 observations.

Rate declines and credit conditions are separate outcomes

BoG's February 2026 credit-conditions survey adds a bank-reported access signal—not a borrower-level effect.

CORPORATE CREDIT

Banks reported net tightening relative to the December 2025 survey round, while average lending rates had declined.

SME QUALIFICATION

The report identifies SMEs as an exception to the tightening across corporate subcategories. The corporate headline must not be applied to SMEs.

RESEARCH IMPLICATION

Bank-reported conditions are not application approval rates. Link applications, pricing, security and disbursement to test who obtains usable finance.

Directional survey evidence complements, but does not replace, matched loan records. This comparison does not establish that monetary easing caused changes in access.

Contract terms determine when repricing can occur

Match the rate formula and reset calendar before evaluating the borrower’s experience.

Table 17. Contract types and eligible repricing dates

Facility type	Relevant transmission date	Main comparison risk
New floating-rate business loan	Offer / origination and benchmark effective date	Changing applicant and product mix
Existing floating-rate loan	Contractual reset date; lookback and floor / cap	Mistaking delayed reset for permanent non-response
Fixed-rate term loan	Renewal, refinancing or negotiated repricing	Assuming an automatic reset obligation
Overdraft / revolving facility	Review date; utilised balance and fee cycle	Ignoring undrawn-limit and renewal charges
Foreign-currency loan	Currency-specific rate and hedge terms	Mixing cedi policy rates with FX borrowing costs

Sources: BoG pricing release [S08]; Di Maggio et al. [S16]; IDER contract-classification framework.

A comparable loan quotation needs more than the headline rate

A practical request sheet for businesses, SME associations and financial advisers.

Table 18. Comparable loan-quotation fields

Quotation field	Ask for a written answer
Rate formula	Benchmark name, effective date, spread, reset frequency, floor and cap
Repayment basis	Reducing balance or flat; amortisation schedule and grace period
Net cash received	Face amount less all withheld fees and cash restrictions
Required charges	Amount, base, payment date, insurer / service provider and recurring fees
Security and access	Collateral, guarantees, valuation, conditions precedent and release rules
Exit and stress terms	Refinancing cost, early repayment terms, arrears charges and FX exposure

Separate benchmark repricing from other pricing changes

The unit of analysis is the same loan, borrower and contractual reset—not a bank’s aggregate average.

Table 19. Same-loan pricing reconciliation

Pricing bridge	Record before and after	Audit question
Benchmark	Reference rate and applicable date	Was the correct benchmark vintage used?
Contractual spread	Spread in percentage points and approved change reason	Did borrower / product terms change?
Fees	Required charges and dates	Did a coupon reduction shift cost into charges?
Collateral	Coverage, cash pledge and release conditions	Did usable liquidity or eligibility change?
Cash-flow cost	Net disbursement and dated repayment schedule	Did the borrower’s all-in cost actually fall?

Separate operational transmission from borrower outcomes

A proposed research architecture; not a claim that current reporting systems contain these fields.

Operational rate transmission

Daily interbank distribution; dates of MPR decisions; liquidity-operation and corridor records.

Reference and contract pricing

GRR inputs and vintage; new versus existing loans; scheduled and actual reset dates.

Borrower outcomes

All-in costs; application and approval paths; fees, collateral and risk-standardised comparisons.

Link applications, contracts and cash flows

A blank collection template is supplied; no loan-level observations are invented.

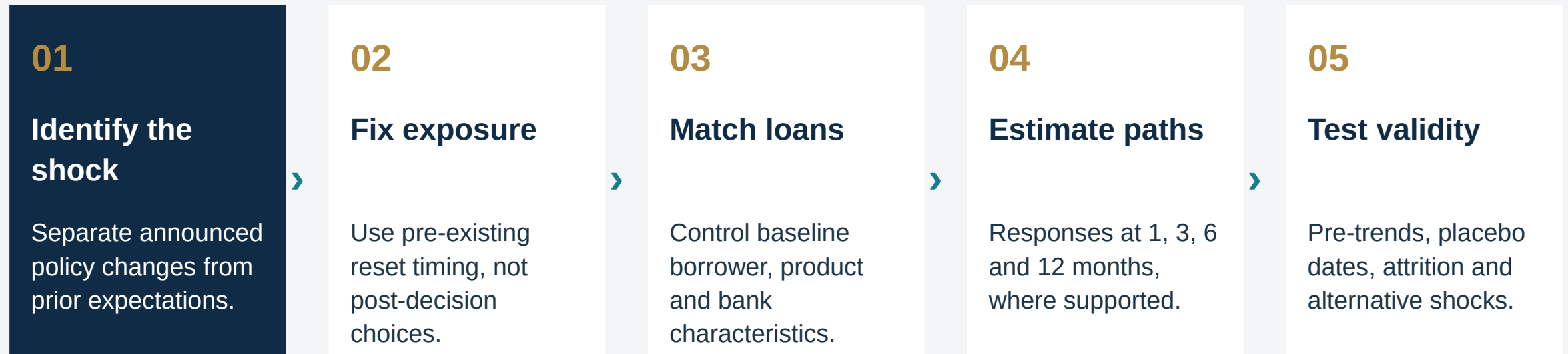
Table 20. Minimum administrative-data specification

Data block	Minimum fields	Why needed
Identity and eligibility	Pseudonymous loan / borrower / bank; application outcome	Match records and observe non-borrowers
Contract and price	Currency, amount, tenor, benchmark, spread, reset, floor / cap	Define exposure and comparable prices
Cash flow and charges	Net disbursement; instalments; fee types, amounts and dates	Reconstruct all-in financing cost
Security and borrower risk	Collateral, cash pledge, valuation, grade, PD / LGD horizon	Separate price from risk and access
Governance	Access authorisation, consent basis, versions, linkage controls	Protect confidentiality and reproducibility

Source: IDER analytical framework / hypothetical calculations; definitions and assumptions in author's notes.

Predetermined reset exposure can improve identification

The design is proposed—not a Ghana estimate already produced by this report.



Exposure fixed in advance is necessary, not sufficient: borrower sorting and differential pre-trends still require investigation.

Specify the differential effect before estimating it

Proposed loan-level local projections; identification remains conditional on an exogenous surprise and valid exposure.

$$r(l,t+h) - r(l,t-1) = \alpha(l,h) + \tau(b,t,h) + \delta(h) E(l,t-1) + \beta(h) [S(t) \times E(l,t-1)] + \Gamma(h) X(l,t-1) + \varepsilon(l,t,h)$$

Table 21. Variables and estimand in the proposed model

Element	Required interpretation
S(t) and E(l,t-1)	Surprise in percentage points; reset exposure fixed before the announcement.
Fixed effects and controls	Loan effects; bank × date effects where support permits; predetermined controls.
β(h): differential response	Coupon-point response to a 1 pp surprise per unit of exposure—not a national total effect.
Separate access sample	Applications and eligible firms, including non-borrowers; not completed loans alone.

No coefficient is estimated here. Time effects absorb S(t)’s main effect; they do not establish exogeneity.

Test timing, selection and common shocks

The checks below are conditions for a future causal claim—not a substitute for identification.

Table 22. Identification and inference checks

Threat	Diagnostic / robustness requirement
Anticipation and timing	Use timestamps, leads and placebo dates; a null pre-trend test does not establish exogeneity.
Endogenous policy / exposure	Validate the surprise, predetermined reset schedule, common support and identifying assumptions.
Composition and attrition	Fixed-basket / same-loan checks; retain prepayments, defaults, refusals and withdrawals.
Serial and common dependence	Account for overlapping horizons and bank/event dependence; do not treat loan rows as independent shocks.
Few events / influential clusters	Report effective events and leverage; assess finite-sample behaviour; do not force significance.
Multiple horizons / outcomes	Pre-specify the main estimand and horizon; distinguish pointwise from simultaneous uncertainty.

Sources: Inoue et al. [S17]; MacKinnon et al. [S18]; IDER design-specific inference protocol.

A useful dashboard makes each metric auditable

Proposed indicators; targets below govern data quality, not the level of banks' interest rates.

Table 23. Proposed monitoring indicators and data-quality controls

Indicator	Definition	Proposed reporting control
Repricing speed	Days from eligible reset to applied coupon change	Report non-repricing and censoring; median only when identifiable
Pass-through extent	Same-loan coupon change / dated benchmark change	Exclude zero denominators; show bp changes and overlapping events
All-in cost relief	Cash-flow cost under a stated, common convention	Validate complete mandatory cash flows before inclusion
Price-field completeness	Complete required records / eligible intake records	≥98% intake target; report exclusions and sensitivity
Benchmark-date match	Correct vintage linked to the contract reset	100% of analytical records; unmatched rows excluded and counted
Credit access	Approvals, requested / approved amounts and disbursement	Use all eligible applications; include declines and withdrawals

Source: IDER analytical framework / hypothetical calculations; definitions and assumptions in author's notes.

A proposed 90-day programme for repeatable measurement

Indicative timetable, conditional on approved access, historical data availability and participating-institution agreement.

Table 24. Indicative research sequence and dependencies

Milestone	Deliverable	Proposed lead / acceptance condition
Days 0–15	Protocol, data dictionary, confidentiality and access rules	IDER + participating institutions; signed approvals
Days 16–30	Historical data intake; cash-flow and source reconciliation	Data stewards; exceptions log and coverage baseline
Days 31–60	Matched loan panel; validation and inference feasibility review	Research team + bank data leads; agreed quality gates
Days 61–90	Results, technical review and publication-ready briefing	Independent reviewers; publish only supported estimates

A retrospective panel is required for 6- or 12-month response horizons within this timetable.

The same evidence supports different institutional decisions

Separate a diagnostic question from a decision about monetary-policy settings or an individual loan.

Table 25. Audience-specific analytical uses

Audience	Research use	Decision boundary
Bank of Ghana	Locate operational, benchmark and contract-stage gaps	No policy-rate recommendation follows mechanically from the ratio
Banks	Reconcile coupon, spread, reset date and charges	No profit or conduct finding from aggregate residuals
Businesses / SME associations	Compare identical loan cash flows and document access conditions	Historical indicative rates are not binding quotations
Investors	Assess repricing exposure, funding structure and risk sensitivity	No investment-return forecast or bank league table
IDER / research partners	Maintain dated evidence, replication and validated communication	Do not publish unidentified coefficients as causal results

What is measured—and what remains unidentified

Observed changes, causal effects and missing measurements have different evidential status.

Measured

All seven MPR-change episodes in the matched panel; basis-point changes; observed ratios and threshold crossings.

Not causally identified

Same-borrower policy effects; a structural half-life; risk-standardised bank or SME transmission coefficients.

Not yet observed in this dataset

Representative actual fees; collateral repricing; rejected applications; a matched lending series after February 2026. BoG source revalidation remains open.

Calculation definitions used throughout the report

All rate-difference arithmetic can be reproduced from the supplied CSV files.

Table 26. Definitions for replicated calculations

Quantity	Definition	Interpretation
Basis-point change	$100 \times (\text{end rate} - \text{start rate})$, rates in percentage points	$28\% \rightarrow 25\% = -300 \text{ bp}$
Observed event response	$100 \times \Delta \text{ rate} / \text{initial } \Delta \text{ MPR}$	Signed, window-specific descriptive ratio
50% threshold crossing	First h with $\text{response}(h) \geq 50\%$	Not a structural adjustment half-life
Aggregate differential	$\text{ALR} - \text{same-month GRR}$	Not a pure margin or risk premium
Effective annual cost	$(1 + \text{monthly cash-flow IRR})^{12} - 1$	Convention explicit; not merely coupon + fees

Source: IDER analytical framework / hypothetical calculations; definitions and assumptions in author's notes.

An average rate can change when portfolio weights change

A fixed-basket calculation would separate within-loan repricing from composition changes.

Δ average rate = within-group repricing + weight shifts + their interaction

Exact base-period identity:

$$\Delta R = \sum w_0 \Delta r + \sum r_0 \Delta w + \sum \Delta w \Delta r$$

The needed group rates and portfolio weights are not present in the published ALR tables used here. A fixed-basket estimate is therefore proposed, not supplied.

Separate arithmetic checks from source verification

Reproduction logs, file hashes, chart/workbook reconciliation and source-status records accompany this edition.

Table 27. Verification layers and remaining limitations

Validation item	Result / remaining qualification
Frozen matched panel	30 consecutive months; six variables; gaps remain missing.
All event calculations	Seven nonzero MPR changes; paths, endpoints and thresholds replayed independently.
Historical SME pricing	22 numerical identities and summary statistics agree; two APR anomalies remain flagged.
Cash-flow and chart checks	Five loan illustrations; all 11 chart datasets and 257 embedded numeric values agree.
Primary-source corroboration	GAB dates and WB access shares rechecked; separate BoG report corroborates selected rounded endpoints.
Open verification item	Original BoG rate/APR tables await full revalidation; arithmetic is conditional on retained inputs.

Passing arithmetic checks is not certification of source submissions, causal identification or unobserved loan-level data.

Lending-speed thresholds for every policy-change window

First observed monthly crossing; the reference is the initial signed MPR change, not a causal half-life.

Table 28. All-event monthly lending thresholds

MPR change month	First ≥50%	First ≥90%	Window closes	Lending response at close
Jan 2024	h = 0	h = +1	Aug 2024; h = +7	296.0%
Sep 2024	Not reached	Not reached	Feb 2025; h = +5	33.5%
Mar 2025 (increase)	Not reached	Not reached	Jun 2025; h = +3	−312.0%
Jul 2025	h = +1	h = +1	Aug 2025; h = +1	95.0%
Sep 2025	h = +1	Not reached	Oct 2025; h = +1	55.1%
Nov 2025	h = +1	Not reached	Dec 2025; h = +1	50.6%
Jan 2026	h = +1	Not reached	Feb 2026; h = +1	51.2%

h = 0 means the decision month, not immediate transmission. First crossing may reverse; “not reached” is censored, not zero eventual response.

Rounding bounds are not statistical confidence intervals

Sensitivity assumes lending-rate endpoints rounded to 0.01 percentage point and exact announced policy steps.

Table 29. Conditional rounding sensitivity

Comparison	Observed ratio	Rounding-only interval
Sep 2024 cut → Feb 2025	33.50%	33.00% to 34.00%
Jul 2025 cut → Aug 2025	95.00%	94.67% to 95.33%
Jun 2025 → Feb 2026	62.64%	62.56% to 62.72%

Published aggregate arithmetic

A rounding check cannot quantify reporting error, borrower composition or causal uncertainty.

Survey and causal uncertainty

Survey intervals need design information; causal intervals need a valid estimated model.

Each rounded endpoint can differ by ± 0.005 pp; the change can differ by ± 0.01 pp (± 1 bp). Bounds shown to two decimals; these are not 95% intervals.

Statistical conventions and abbreviations

Units, denominators, missing observations and uncertainty are explicit throughout the report.

Table 30. Abbreviations and statistical conventions

Term	Meaning / reporting convention
MPR / GRR / ALR	Monetary Policy Rate / Ghana Reference Rate / aggregate average lending rate.
bp / pp	100 basis points = 1 percentage point. A 28% to 25% move is –300 bp, not –3%.
h = 0 / h = +1	Decision calendar month / following calendar month; neither denotes an exact number of days.
APR / IRR	Published annualized percentage rate / cash-flow internal rate of return; annualisation conventions differ.
PD / LGD / EAD	Probability of default / loss given default / exposure at default; define a common risk horizon.
NL / missing	No loan of the stated tenor in the source month / unavailable observation. Neither is zero.
Rounding bounds	Deterministic sensitivity, not confidence intervals. No causal or survey intervals are newly estimated.
BoG / GAB / SME	Bank of Ghana / Ghana Association of Banks / small and medium enterprise.

Source tables do not establish a constant loan basket. Source dates, statistical units and survey populations remain distinct.

References and source links 1 / 4

Stable source IDs; linked titles and locators. Verification scope is documented in the source register.

S01	Bank of Ghana 2023 Summary of Economic and Financial Data, March 2023 Interest Rates, printed p. 3 / PDF p. 5
S02	Bank of Ghana 2024 Summary of Economic and Financial Data, March 2024 Interest Rates, printed p. 3 / PDF p. 5
S03	Bank of Ghana 2025 Summary of Economic and Financial Data, March 2025 Interest Rates, printed p. 3 / PDF p. 5
S04	Bank of Ghana 2026 Summary of Economic and Financial Data, March 2026 Interest Rates, printed p. 3 / PDF p. 5
S05	Ghana Association of Banks 2026 Ghana Reference Rate 2026: September release PDF p. 1

References and source links 2 / 4

Stable source IDs; linked titles and locators. Verification scope is documented in the source register.

S06	Bank of Ghana Accessed 2026 Our Monetary Policy Framework Framework and operational transmission discussion
S07	Bank of Ghana Accessed 18 September 2026 Official homepage: archived prior-report snapshot (not used for current-rate inference) Archival only; the dated policy decision shown in this edition is sourced to S19.
S08	Bank of Ghana 2024 Annualized Percentage Rates for Banks’ Loans to Households, SMEs and Corporates: September 2024 Introduction; Table 4, PDF p. 5
S09	World Bank Enterprise Surveys 2024 Ghana 2023 Country Profile pp. 3 and 7; Figure 14
S10	Kamasa, K.; Afful, S. L.; Bentum-Ennin, I. 2025; online 2023 Impact of monetary policy rate on commercial banks’ lending rate: empirical evidence from Ghana Journal of Economic and Administrative Sciences 41(3), 879–897; publisher abstract

References and source links 3 / 4

Stable source IDs; linked titles and locators. Verification scope is documented in the source register.

S11	Beyer, R.; Chen, R.; Li, C.; Misch, F.; Ozturk, E.; Ratnovski, L. 2024 Monetary Policy Pass-Through to Interest Rates: Stylized Facts from 30 European Countries IMF Working Paper 24/9; abstract and introduction
S12	Ghana Statistical Service Accessed 2026 StatsBank: Interest Rates metadata Observation notes / variable definitions
S13	Sackey, L.; Nortah-Ocansey, D. A.; Mensah, D. / Ghana Association of Banks 2025 Inflation Dynamics and Cost of Credit: Ghana’s Macro-Financial Story Post COVID Policy Brief PB/003/25, December 2025; methods and limitations
S14	Bank of Ghana Accessed 2026 Interest Rates: economic-data table 2022 monthly rows
S15	Bank of Ghana Accessed 18 September 2026 Summary of Economic and Financial Data: publication index 2026 publication links

References and source links 4 / 4

Stable source IDs; linked titles and locators. Verification scope is documented in the source register.

S16

Di Maggio, M.; Kermani, A.; Keys, B. J.; Piskorski, T.; Ramcharan, R.; Seru, A.; Yao, V. | 2017

[Interest Rate Pass-Through: Mortgage Rates, Household Consumption, and Voluntary Deleveraging](#)

American Economic Review 107(11), 3550–3588; publisher abstract

S17

Inoue, A.; Jordà, Ò.; Kuersteiner, G. M. | 2024 revision

[Inference for Local Projections](#)

Author manuscript, version 2; Sections 2–5 and 7.2

S18

MacKinnon, J. G.; Nielsen, M. Ø.; Webb, M. D. | 2022

[Cluster-Robust Inference: A Guide to Empirical Practice](#)

Author manuscript; Sections 4, 6 and 7

S19

Bank of Ghana | 2026

[Monetary Policy Report, March 2026](#)

Printed pp. 2, 25 and 35 / PDF pp. 4, 27 and 37

S20

World Bank, DIME Analytics and LSMS Team | n.d.

[replit: Reproducibility best-practice toolkit](#)

Overview and dependency, root-path and reproducibility-check documentation

Trace policy signals through to usable business finance

The defensible finding is heterogeneous observed repricing, with important borrower-level components still unmeasured.

Measure each stage

MPR → interbank → GRR → contractual coupon. Keep observation dates and reset dates aligned.

Measure the real transaction

Add actual fees and repayment timing; distinguish pledged security from charges and restricted cash.

Measure who receives finance

Use comparable borrower risk and product terms; include applications, approvals and disbursements.



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ACCRA OFFICE

Suite 402, 4th Floor, Atlantic Tower
Airport City, Accra, Ghana

TELEPHONE +233 302 955 289

WHATSAPP +233 24 317 9345

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