

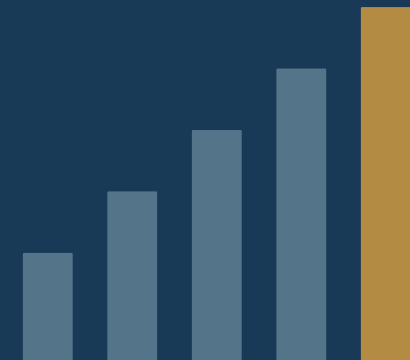
Ghana's Post-Restructuring Repayment Calendar

Liquidity and Refinancing Exposure

Principal. Interest. Currency. Maturity. Financing capacity.

Commissioning institution: Institute of Development and Economic Research (IDER)

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INFORMATION CUT-OFF
26 SEPTEMBER 2026

Contracts and settlements: 2023–2026
Calendar: 2027–2038; scenarios: 13 weeks

About this publication

Independent research • transparent evidence • reproducible calculations

TITLE AND SERIES

Ghana's Post-Restructuring Repayment Calendar:
Liquidity and Refinancing Exposure

IDER's Ghana Macroeconomic Policy and Business Intelligence Briefings

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RESPONSIBILITY AND INTERPRETATION

The author and IDER are responsible for this independent research. Source citation does not imply endorsement. Published-cohort reconstructions and conditional financing scenarios are not a complete live Treasury calendar or causal policy evaluation.

DATA, CODE AND ENQUIRIES

The accompanying package includes source-labelled inputs, executable calendar and scenario code, exhibit data and verification records. Original source binaries are not bundled. Research and corrections: info@iderafrica.com.

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Page numbers match the printed folios and the PDF count; entries link to this report.

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NAVIGATION Running headers return to Contents; source IDs link to References; model IDs link to the technical catalogue.

Read the obligation, the settlement status and the funding source together

A repayment calendar needs more than the final-maturity year or the size of the debt stock.

01 WHAT IS DUE?

Read principal, coupons and payment denomination at the instrument and issue-lot level. Distinguish the international Eurobond programme, domestic restructuring categories and historical bill cohorts.

[2027 windows | p. 18](#)

02 WHAT IS ALREADY PAID?

Match announced or verified settlement to the original obligation. A January due date can have a December cash payment. A passed maturity with no status remains unknown—not automatically arrears.

[Eurobonds | p. 21](#)

03 WHAT WILL FUND IT?

Compare usable cash, revenue and realised financing with each currency window. Test growth, collection, FX and access assumptions. A source projection is not a committed cash balance.

[Domestic notes | p. 36](#)

[Funding stress | p. 57](#)

Map the cash dates before assessing refinancing exposure

Research question: which principal and interest payments arise, in what currency, and what resources can meet them?

RESEARCH QUESTION

What must be paid—and what can fund it?

Principal, coupon, currency, date and settlement status are separate fields.

01 CONTRACT

Final note issues, taps and published amortisation; domestic term months and observed coupon payments.

02 CALENDAR

Reconcile issue lots and maturity dates; keep domestic USD coupon dates unconfirmed where final terms are missing.

03 FINANCING

Run 4,374 annual financing cases; separate revenue bases and native-currency cash. Scenarios are not probabilities.

2027 INTERNATIONAL NOTE SERVICE

USD 1.170 bn

Includes July 2026 taps; reconstructed regular programme, not all external debt.

CAPTURED GENERAL-DDEP PRINCIPAL

GHS 29.381 bn

February 2027 convention; principal only, before coupon proxy and other categories.

VALIDATION FINDING The domestic-dollar August/September timetable differs across sources. Reference principal dates do not certify coupon dates or current balances.

Three repayment windows require three distinct funding tests

The figures below are reconstructed programme or captured-cohort estimates, not the complete Treasury calendar.

01 JANUARY USD PUBLISHED-PROGRAMME RECONSTRUCTION USD 589.73 m Unadjusted 3 January 2027 Including 2026 taps Confirm bank value date and later changes. Principal is USD 420.72 m; regular interest is USD 169.01 m.	02 FEBRUARY GHS CAPTURED GENERAL-DDEP COHORT GHS 37.592 bn Principal + regular coupon proxy Date conflict retained The February case includes GHS 29.381 bn principal. One source register shows August instead; exact instruction is not certified.	03 FINANCING 2028 CONDITIONAL ANNUAL STRESS GHS 85.11 bn Additional funding call External access: 75% Original joint stress plus 75% external financing realisation. The source baseline residual is –GHS 12.2 bn; no actual cash shortfall is inferred.
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DECISION RULE Match instrument + native currency + principal + coupon + date + paid status + usable funding. No single stock ratio replaces that record.

A 90-day route from published schedules to an operational cash calendar

Proposed after access approval; outputs and acceptance tests have named owners.

DAYS 0–30

Debt office + data owners

MATCH

Reconcile issue lots and paid status. Resolve the general DDEP date conflict and domestic USD August/September timetable with final agent records.

Every known material obligation has a unique source-linked record.

DAYS 31–60

Treasury + BoG + statistics

MAP & STRESS

Build the 13-week currency cash ladder and 2027–2030 service schedule. Test revenue, FX, collection and cash-refinancing access.

No duplicate early-paid claim; unknown dates and cash restrictions visible.

DAYS 61–90

IDER + reviewer + decision owners

REPRODUCE & RELEASE

Replay calculations, confirm exceptions with debt owners and approve a dated release with specific contingency decisions.

Results reproduce; all material gaps travel with the publication.

Targets are proposed controls for captured data, not achieved national coverage or agreed institutional mandates.

Abbreviations and reading terms

Definitions support the calendar; source-specific instrument and payment conventions remain controlling.

APDR / ISIN	Annual Public Debt Report / International Securities Identification Number.	Principal	Nominal amount amortised; distinct from coupon and issue proceeds.
BoG / MoF	Bank of Ghana / Ministry of Finance, Ghana.	Coupon	Cash interest; regular accrual and agent adjustments may differ.
DDEP	Domestic Debt Exchange Programme; holder category matters.	Tap	Additional issue fungible with an existing note series.
DS / GFN	Debt service / gross financing needs.	Cohort	Fixed set of securities captured at one date.
FCA / FEA	Foreign Currency Account / Foreign Exchange Account issue-series labels.	Value date	Bank settlement date; not always the printed contractual date.
FX / GHS	Foreign exchange / Ghana cedi; state quotation direction.	Cash rollover	Settled financing proceeds relative to a specified cash requirement.
GDP	Gross domestic product; not cash available to Treasury.	CSD / USD	Central Securities Depository / US dollar. Reference snapshots retain their own dates.
IDER / IMF	Institute of Development and Economic Research / International Monetary Fund.	pp / %	Percentage points / percent; not interchangeable.
OCC	Official Creditor Committee; bilateral schedules remain separate.	m / bn	Million / billion; one billion equals 1,000 million.
PDI / PIK	Post-default interest / payment-in-kind interest.	Residual	Unreconciled or rounded difference; not an identified funding source.

How to interpret the evidence

Published terms, historical cohorts, reported settlements and financing scenarios are different evidence classes.

PUBLISHED CONTRACT RECONSTRUCTION

International notes use official issued face, amortisation and regular coupons, including 2026 taps. They are not independent paying-agent confirmations.

CAPTURED DOMESTIC COHORT

General DDEP balances are end-2025; domestic USD faces are dated 2023. The undated CSD reference differs in date and quantity; coupon dates remain unconfirmed.

REPORTED SETTLEMENT

Official payment announcements remain separate from future schedules. Early payments are linked once; missing status is unknown, not default.

SOURCE PROJECTION

IMF annual financing and service figures are baseline projections. They cannot replace instalment or currency-specific payment records.

CONDITIONAL FINANCING

Growth, revenue elasticity, collection, FX and access settings are imposed. The finite grid is not a probability model or confidence interval.

SYNTHETIC TREASURY CASH

The 13-week ledger is a mechanism demonstration. Its balances and bridge requirements are not government cash estimates.

CURRENCY, UNITS AND PRECISION

Do not add GHS and USD amounts. Calculate before rounding; quarter and month labels retain their precision. A negative source residual is not usable cash.

CAUSAL AND COVERAGE LIMITS

No complete national operational ledger or causal refinancing effect is claimed. E-models are executed methods; P01 is prospective only.

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The unit of analysis is an obligation at a payment date

The report is organised around principal, interest, currency and financing—not a decomposition of the debt ratio.

Table 1. The unit of analysis is an obligation at a payment date

Question	Required observation	Treatment in this publication
What must be paid?	Principal instalment, cash coupon and any fees, by instrument.	Reconstruct published international note terms; retain separate domestic cohort proxies.
When must it be paid?	Unadjusted contract date, adjusted value date and agent instruction.	Show precise published dates or maturity months; do not invent a bank value date.
Has it already been paid?	Matched settlement ID, amount, currency and value date.	Separate January/July 2026 reported payments from later reconstructed service.
Which resources can meet it?	Tax cash, usable balances, auctions and committed external funding.	Use source projections and explicit access, revenue and timing scenarios.

Sources: IDER calculations [\[S11\]](#).

Note: A passed due date is not sufficient evidence of payment, arrears or default.

The evidence covers defined debt blocks—not every government payment

Observation dates and coverage differ; a source-based calendar is not a live central-debt ledger.

Table 2. The evidence covers defined debt blocks—not every government payment

Evidence block	Obtained record	Unresolved coverage
International notes	Five original series; final issued face; July 2026 taps; amortisation and coupons.	Undisclosed later buybacks, fees and agent business-day instructions.
General-category DDEP	Twelve end-2025 balances plus published bullet/cash-coupon terms.	Other holder categories, exact accrual conventions and a conflicting 2027 date.
Domestic USD exchange	Four September 2023 issued series; 2027/2028 terms.	A current outstanding-balance confirmation and subsequent transactions.
Treasury bills	90 unique end-2025 securities and their printed maturity dates.	New 2026 issuance, redemption price and settled/unpaid flags.
IMF financing projections	2025–2031 source service, financing and revenue tables.	Not contractual instalments or committed available cash.

Sources: [\[S01\]](#); [\[S02\]](#); [\[S03\]](#); [\[S05\]](#); [\[S08\]](#); [\[S12\]](#); [\[S13\]](#); [\[S14\]](#); see source register.

Note: Different blocks may overlap the aggregate financing tables. They are not summed into an all-government total.

An operational calendar requires three reconciled registers

Each register answers a different question; the underlying obligation ID links them.

CONTRACT REGISTER	SETTLEMENT REGISTER	FUNDING REGISTER
Retain nominal principal, amortisation rule, coupon step, currency, date, day-count basis, options and amendments. Do not replace an instalment profile with a final-maturity label.	Record confirmed principal and interest paid, bank value date and unmatched differences. Carry unknown status explicitly. The December 2025 early payment must not appear as unpaid in January 2026.	Identify usable cash, forecast revenue, auction proceeds, committed disbursements and restrictions. An issuance announcement or projection is not settled cash.

Sources: MoF APDR 2025 [\[S01\]](#); Ghana exchange terms (2024) [\[S02\]](#); MoF Eurobond payment (Jul 2026) [\[S04\]](#); IMF CR 26/212 [\[S08\]](#).

Note: An integrated instrument–payment–funding crosswalk has not been obtained for the entire sovereign perimeter.

Payment windows must preserve unresolved domestic-dollar timing

International and general-DDEP service is reconstructed; domestic-dollar principal uses the September reference month.

Table 3. Payment windows must preserve unresolved domestic-dollar timing

Window / debt block	Currency	Principal	Interest	Total
2027-01 International notes	USD	420.72	169.01	589.73
2027-02 General DDEP	GHS	29,380.92	8,210.71	37,591.63
2027-07 International notes	USD	420.72	160.02	580.74
2027-08 General DDEP	GHS	0.00	6,984.05	6,984.05
2027-09 reference Domestic USD issue cohort	USD	386.32	Not allocated	Not certified

Sources: [\[S01\]](#); [\[S02\]](#); [\[S03\]](#); [\[S05\]](#); [\[S12\]](#); [\[S13\]](#); [\[S14\]](#); [\[S15\]](#); see source register.

Note: Amounts are millions of the named currency. Domestic USD uses 2023 issued face, not current quantity; coupon timing is unallocated. General February 2027 remains a date-convention case.

Separate the currency window from the funding decision

Amounts below refer to different captured blocks, not a pooled national requirement.

JANUARY 2027 USD	FEBRUARY 2027 GHS	SEPTEMBER REFERENCE USD
The five-series Eurobond programme, including July 2026 taps, gives USD 589.73 m on the unadjusted 3 January date. Confirm the bank-value date and any subsequent balance change before execution.	The general-category cohort gives GHS 29.381 bn of principal under the February convention and GHS 8.211 bn of regular coupon proxy. Other DDEP categories and claims remain outside this amount.	The depository shows 4 September 2027 for the two domestic USD exchange ISINs, versus August in the preliminary memorandum. Original 2023 principal is USD 386.321 m; current balances, coupon dates and agent instructions remain unconfirmed.

Sources: [\[S01\]](#); [\[S02\]](#); [\[S03\]](#); [\[S05\]](#); [\[S12\]](#); [\[S13\]](#); [\[S14\]](#); [\[S15\]](#); see source register.

Note: 3 January 2027 falls on a Sunday. The report does not infer the legal adjustment or paying-bank cut-off.

The 2026 cash record contains payments already made

Reported settlements and announcements are not rolled forward into a current outstanding claim.

Table 4. The 2026 cash record contains payments already made

Record	Amount and currency	Status / interpretation
January 2026 Eurobond service	USD 709.0 m: 525.2 m principal; 183.8 m interest.	Reported paid 30 December 2025; do not deduct again as unpaid in January.
July 2026 Eurobond service	USD 700.0 m: 525.2 m principal; 174.8 m interest.	Reported paid 2 July 2026 against 3 July schedule.
February 2026 cedi DDEP coupon	Approximately GHS 10 bn.	Official report describes a fully cash coupon; rounded amount.
August 2026 cedi DDEP coupon	GHS 10,816,840,318.26.	Official release describes fully cash payment; precise allocation across series absent.

Sources: MoF APDR 2025 [\[S01\]](#); MoF Eurobond payment (Jul 2026) [\[S04\]](#); MoF DDEP payment (Feb 2026) [\[S06\]](#); MoF DDEP payment (Aug 2026) [\[S07\]](#).

Note: Announcements support reported payment status for their stated scope; they do not certify future cash buffers.

Five series have different amortisation and coupon profiles

Original October 2024 issues and July 2026 taps; USD million.

Table 5. Five series have different amortisation and coupon profiles

Series / final maturity	Original face	July 2026 tap	Regular coupon
Short Disco 2029	2,876.013	—	5% until July 2028; 6% thereafter
Long Disco 2035	4,135.754	116.124	5% until July 2028; 6% thereafter
Par 2037	1,132.521	38.865	1.5%
Down-payment 2026	522.562	—	Zero coupon
Post-default-interest note 2030	734.972	—	Zero coupon

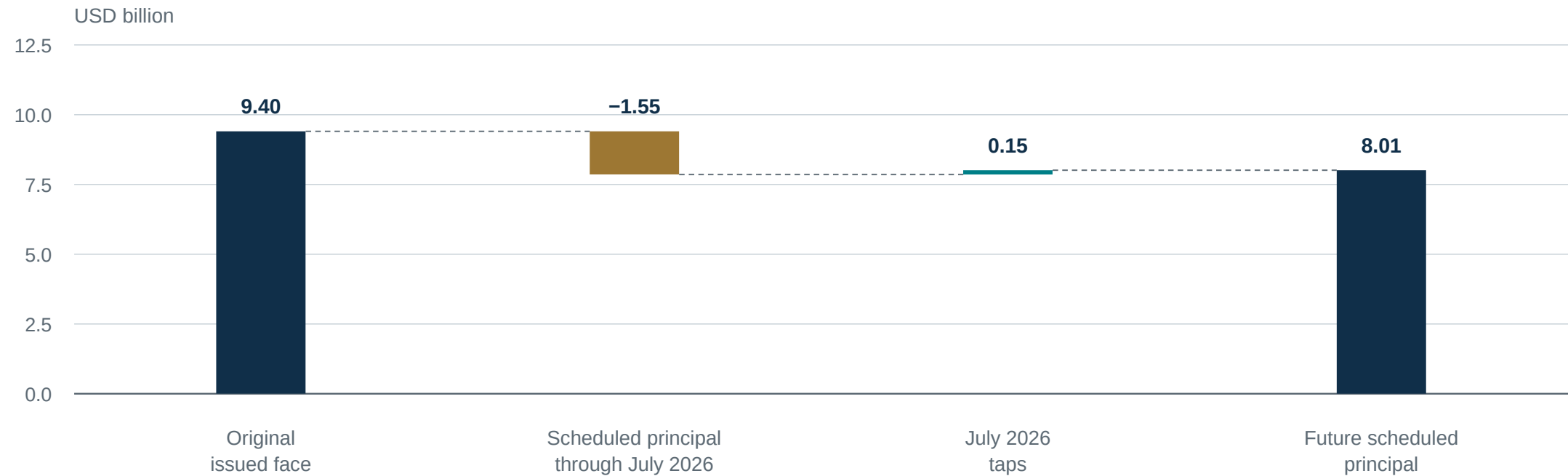
Sources: Ghana exchange terms (2024) [\[S02\]](#); Ghana final issue (2024) [\[S03\]](#); MoF Saderea exchange (Jul 2026) [\[S05\]](#).

Note: Series names identify final maturity, not the first principal payment. All five are USD-denominated.

The future programme reflects amortisation and the 2026 taps

USD billion; published-schedule bridge through the September 2026 cut-off.

Figure 1. The future programme reflects amortisation and the 2026 taps



Sources: Ghana exchange terms (2024) [\[S02\]](#); Ghana final issue (2024) [\[S03\]](#); MoF Eurobond payment (Jul 2026) [\[S04\]](#); MoF Saderea exchange (Jul 2026) [\[S05\]](#).

Note: Earlier scheduled amortisation is used to reconstruct balances; the model is not independent confirmation of every historical payment.

The Saderea exchange changes future coupons and final principal

The July additions must be included in the new calendar; the old cancelled claim must not be retained.

Table 6. The Saderea exchange changes future coupons and final principal

Transaction item	USD amount	Calendar treatment
Old Saderea principal cancelled	117,773,027.98	Remove the old obligation from a consistent post-exchange register.
Tap of Long Disco 2035	116,124,195.00	Add to the 2035 series; published amortisation begins in January 2030.
Tap of Par 2037	38,865,091.00	Add to the 2037 series; principal is concentrated in 2036–2037.
New face less old stated principal	37,216,258.02	Not cash proceeds or a like-for-like haircut; accrued-claim treatment differs.

Sources: MoF Saderea exchange (Jul 2026) [\[S05\]](#).

Note: Settled 13 July 2026, with source value date 10 July. First future regular coupon includes the fungible taps; issue-date cash/accrued consideration is not modelled.

Apply each instalment fraction to original series face

The rules determine principal before coupons are added.

Table 7. Apply each instalment fraction to original series face

Series	Published regular principal path	Calculation rule
Short Disco	Eight January/July instalments, January 2026–July 2029.	12.5% of original issue-lot face at each date.
Long Disco	Twelve January/July instalments, January 2030–July 2035.	First ten: 7.8%; final two: 11.0% each.
Par	January 2036, July 2036 and January 2037.	33.3%, 33.3% and 33.4% of face.
Down-payment	Initial amortisation, January/July 2025 and January/July 2026.	Five equal 20% instalments. No regular future principal after July 2026.
PDI	Initial amortisation plus January/July through January 2030.	First eleven: 8.33%; last: 8.37%. Fractions sum to 100%.

Sources: Ghana exchange terms (2024) [\[S02\]](#); Ghana final issue (2024) [\[S03\]](#).

Note: Initial amortisation is kept as a source-labelled event, not an invented bank date. Dollar principal is not divided by GDP.

Coupon step-up and principal reduction work in opposite directions

Regular interest is calculated on principal outstanding immediately before the scheduled payment.

BEFORE JULY 2028	AFTER JULY 2028	ACCRUAL AND EXECUTION
Short and Long Disco notes use 5% annual cash coupons for regular payments through 3 July 2028. The Par series uses 1.5%; Down-payment and PDI notes pay no regular coupon.	Disco coupons increase to 6% for subsequent regular periods. The step-up raises interest on remaining principal even as scheduled amortisation reduces that principal.	The model uses annual rate divided by two for regular half-years. It excludes special 2024/2025 stub and consideration payments. Agent calculations and business-day rules control actual cash instructions.

Sources: Ghana exchange terms (2024) [\[S02\]](#).

Note: Do not treat zero coupon as zero debt service: the PDI and Down-payment notes still amortise principal.

The January 2027 payment is about USD 589.73 million

Unadjusted contract date: 3 January 2027; USD million, including the July 2026 taps.

Table 8. The January 2027 payment is about USD 589.73 million

Series	Principal	Interest	Total
Long Disco 2035	0.000	106.297	106.297
Par 2037	0.000	8.785	8.785
PDI 2030	61.223	0.000	61.223
Short Disco 2029	359.502	53.925	413.427
Total	420.725	169.008	589.732

Sources: Ghana exchange terms (2024) [\[S02\]](#); Ghana final issue (2024) [\[S03\]](#); MoF Saderea exchange (Jul 2026) [\[S05\]](#).

Note: The next-date reconstruction is not a notice from the paying agent. It assumes no subsequent unreported redemption, cancellation or new issue.

The regular reconstruction agrees with rounded 2026 payment disclosures

Reconstructed versus source reported USD million; full precision remains in the CSV.

Table 9. The regular reconstruction agrees with rounded 2026 payment disclosures

Scheduled date	Principal: model / source	Interest: model / source	Reported cash date
2026-01-03	525.237 / 525.2	183.788 / 183.8	2025-12-30
2026-07-03	525.237 / 525.2	174.801 / 174.8	2026-07-02

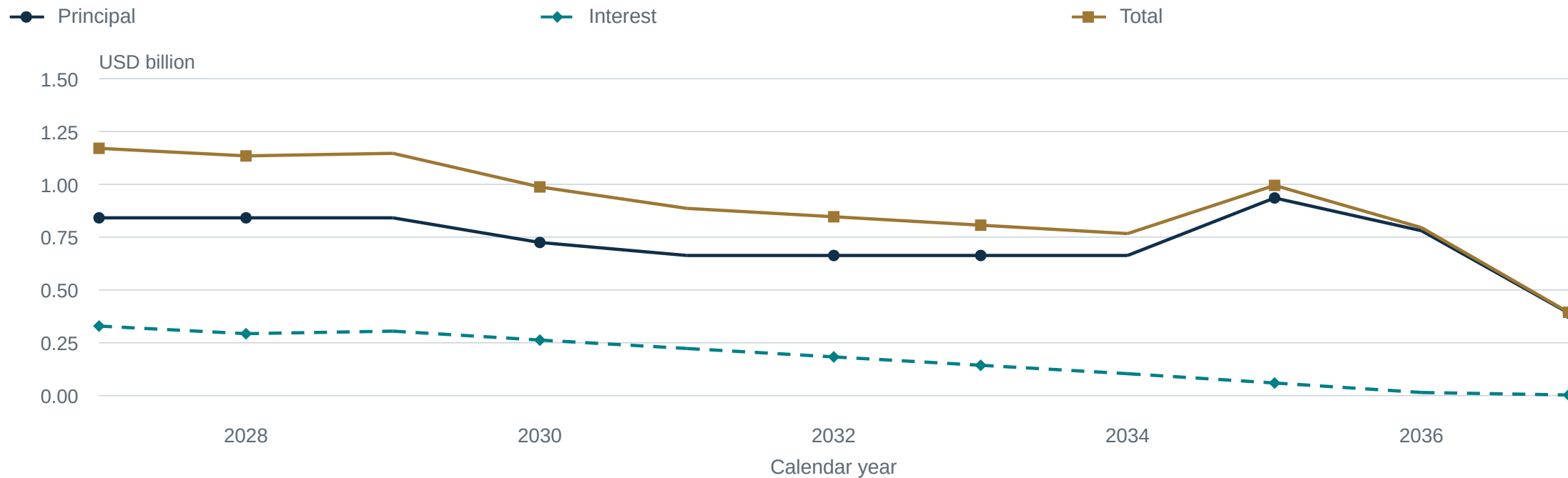
Sources: MoF APDR 2025 [\[S01\]](#); Ghana exchange terms (2024) [\[S02\]](#); Ghana final issue (2024) [\[S03\]](#); MoF Eurobond payment (Jul 2026) [\[S04\]](#).

Note: Agreement at source precision validates the documented arithmetic and scope, not every undisclosed transaction or future payment.

Amortising notes create several peaks rather than one final bullet

Published-programme reconstruction, January 2027–January 2037; includes July 2026 taps.

Figure 2. Amortising notes create several peaks rather than one final bullet



Sources: Ghana exchange terms (2024) [\[S02\]](#); Ghana final issue (2024) [\[S03\]](#); MoF Saderea exchange (Jul 2026) [\[S05\]](#).

Note: Annual totals are built from scheduled half-years, not a smoothed interpolation. These notes are only a subset of external public obligations.

Eurobond annual amounts: 2027–2031

Regular published programme; USD million. Each annual total retains its principal and coupon components.

Table 10. Eurobond annual amounts: 2027–2031

Year	Principal	Interest	Total service
2027	841.449	329.028	1,170.477
2028	841.449	293.077	1,134.527
2029	841.449	305.039	1,146.488
2030	724.810	262.734	987.544
2031	663.293	222.936	886.229

Sources: Ghana exchange terms (2024) [\[S02\]](#); Ghana final issue (2024) [\[S03\]](#); MoF Saderea exchange (Jul 2026) [\[S05\]](#).

Note: No new market issuance, loan creditor service or future funding facility is included.

Eurobond annual amounts: 2032–2037

Regular published programme; USD million. Each annual total retains its principal and coupon components.

Table 11. Eurobond annual amounts: 2032–2037

Year	Principal	Interest	Total service
2032	663.293	183.139	846.432
2033	663.293	143.341	806.634
2034	663.293	103.544	766.837
2035	935.413	59.664	995.078
2036	780.143	14.645	794.788
2037	391.243	2.934	394.177

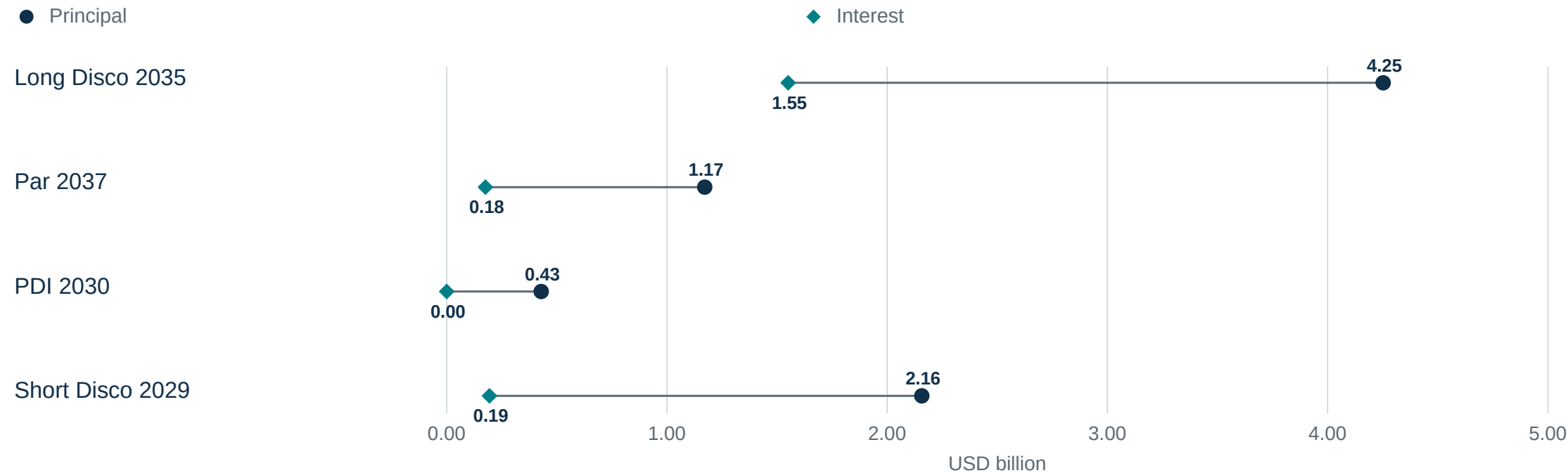
Sources: Ghana exchange terms (2024) [\[S02\]](#); Ghana final issue (2024) [\[S03\]](#); MoF Saderea exchange (Jul 2026) [\[S05\]](#).

Note: No new market issuance, loan creditor service or future funding facility is included.

Principal and coupon obligations should not be conflated

Remaining regular scheduled amounts after 26 September 2026; USD billion.

Figure 3. Principal and coupon obligations should not be conflated



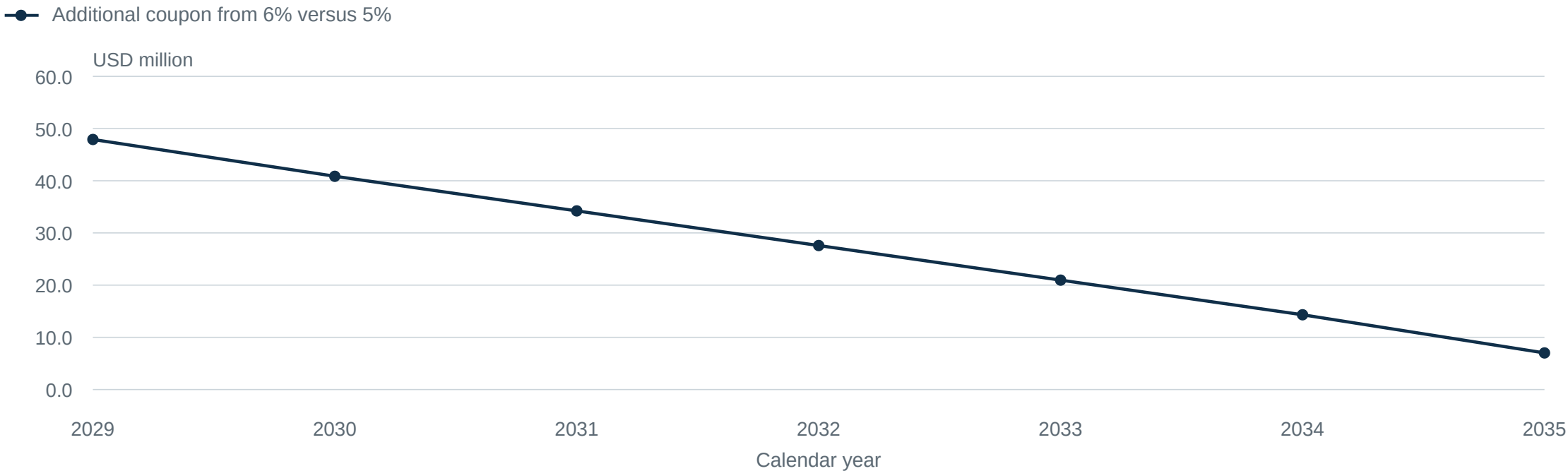
Sources: Ghana exchange terms (2024) [\[S02\]](#); Ghana final issue (2024) [\[S03\]](#); MoF Saderea exchange (Jul 2026) [\[S05\]](#).

Note: The zero-coupon PDI note has principal but no interest. Lifetime interest is undiscounted and is not part of nominal principal stock.

The 2028 coupon step adds costs to remaining Disco principal

Additional annual interest relative to keeping the same scheduled principal at 5%; no behavioural response.

Figure 4. The 2028 coupon step adds costs to remaining Disco principal



Sources: Ghana exchange terms (2024) [\[S02\]](#); Ghana final issue (2024) [\[S03\]](#); MoF Saderea exchange (Jul 2026) [\[S05\]](#).

Note: This is a contract arithmetic comparison, not a renegotiation scenario, causal interest-rate effect or projected refinancing yield.

January and July service amounts are not identical

USD million; unadjusted scheduled dates, not business-day-adjusted settlement instructions.

Table 12. January and July service amounts are not identical

Scheduled date	Principal	Interest	Total
2027-01-03	420.725	169.008	589.732
2027-07-03	420.725	160.020	580.745
2028-01-03	420.725	151.033	571.757
2028-07-03	420.725	142.045	562.770
2029-01-03	420.725	157.912	578.637
2029-07-03	420.725	147.127	567.852
2030-01-03	393.164	136.342	529.505
2030-07-03	331.646	126.392	458.039

Sources: Ghana exchange terms (2024) [\[S02\]](#); Ghana final issue (2024) [\[S03\]](#); MoF Saderea exchange (Jul 2026) [\[S05\]](#).

Note: Coupons are calculated before each scheduled principal redemption; a lower outstanding balance reduces subsequent interest.

A fixed dollar schedule creates a variable cedi funding requirement

The USD contract amounts are fixed; only an explicitly assumed GHS/USD conversion rate changes.

Figure 5. A fixed dollar schedule creates a variable cedi funding requirement

	GHS 10/USD	GHS 12/USD	GHS 14/USD	GHS 16/USD
2027	11.70	14.05	16.39	18.73
2028	11.35	13.61	15.88	18.15
2029	11.46	13.76	16.05	18.34
2030	9.88	11.85	13.83	15.80

GHS billion of reconstructed Eurobond service

Sources: Ghana exchange terms (2024) [\[S02\]](#); Ghana final issue (2024) [\[S03\]](#); MoF Saderea exchange (Jul 2026) [\[S05\]](#).

Note: Rates are scenario values, not current quotations or forecasts. Government FX receipts and financing must be assessed on the other side.

Do not add the note programme to an aggregate that already includes it

A reconstructed subset improves timing information without increasing the total debt perimeter.

INTERNATIONAL NOTES	ALL-CREDITOR SERVICE	WHAT CAN BE RELEASED
The five-series programme includes the new 2035 and 2037 taps. PDI and down-payment notes are separate from coupon-bearing notes. The cancelled Saderea principal is not an additional surviving claim.	Multilateral, bilateral and commercial loans can have different currencies, grace periods and amortisation. Annual IMF external-service projections may already include the note programme.	Publish the note calendar as a named subset. Add further creditors only after matching instrument IDs, disbursements, restructuring documents and actual settlement status.

Sources: Ghana exchange terms (2024) [\[S02\]](#); MoF Saderea exchange (Jul 2026) [\[S05\]](#); IMF CR 26/212 [\[S08\]](#); MoF OCC statement (2025) [\[S09\]](#).

Note: A sum of independently sourced tables is not a reconciled national service total.

Published category terms distinguish February and August principal windows

The reopening memorandum specifies bullet principal and semiannual cash terms for different holder categories.

Table 13. Published category terms distinguish February and August principal windows

Category	Published maturity month	Post-PIK annual cash rate	Captured balances
General category	February 2027–2038	8.35% to 10.00% across the twelve series.	End-2025 twelve-row table used here.
Category A	August 2027 and August 2028	10.00%	Not aggregated into the general-category cohort.
Category B	August 2027 and August 2028	15.00%	Not aggregated into the general-category cohort.
Domestic USD exchange	September in CSD; August in preliminary memorandum	2.75% and 3.25%; USD. Coupon dates unconfirmed.	Separate 2023 issue cohort and undated CSD reference quantities.

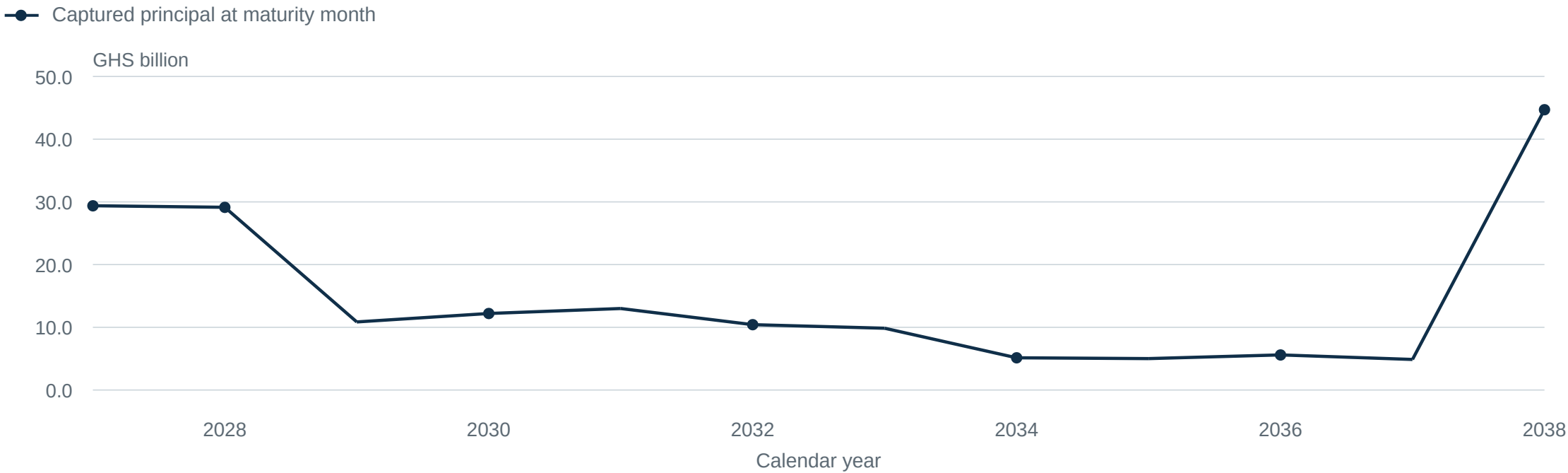
Sources: [\[S01\]](#); [\[S12\]](#); [\[S13\]](#); [\[S14\]](#); [\[S15\]](#); see source register.

Note: The general-category PIK period ends before 18 February 2025 under the published terms. Exact pricing supplements and current balances remain necessary.

The 2027, 2028 and 2038 cohorts dominate the captured principal

End-2025 balances mapped to the published February bullet convention; GHS billion.

Figure 6. The 2027, 2028 and 2038 cohorts dominate the captured principal



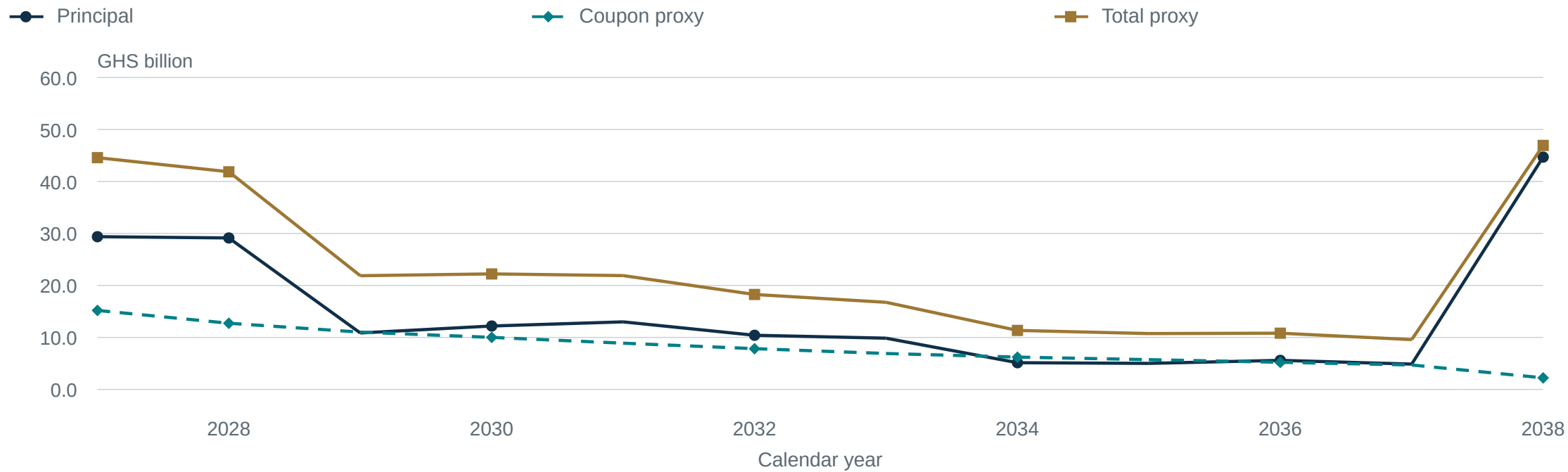
Sources: MoF APDR 2025 [\[S01\]](#); MoF DDEP terms (2023) [\[S12\]](#).

Note: This is the twelve-series general-category cohort, not the entire domestic exchange. Later balance changes are not imputed.

Regular coupons decline as the captured principal matures

February bullet convention and annual cash rate divided by two for each active regular half-year.

Figure 7. Regular coupons decline as the captured principal matures



Sources: MoF APDR 2025 [\[S01\]](#); MoF DDEP terms (2023) [\[S12\]](#).

Note: Coupon values are estimates under a regular-period convention, not paying-agent cash instructions or all-DDEP payment totals.

The captured February window contains both redemption and coupon

GHS billion; the first 2027 maturity uses the explicitly declared February convention.

Table 14. The captured February window contains both redemption and coupon

Payment month	Principal	Regular coupon proxy	Total proxy
2027-02	29.381	8.211	37.592
2027-08	0.000	6.984	6.984
2028-02	29.133	6.984	36.117
2028-08	0.000	5.746	5.746

Sources: MoF APDR 2025 [\[S01\]](#); MoF DDEP terms (2023) [\[S12\]](#).

Note: A/B categories, pension-related instruments, residual legacy claims and other debt are not inserted into this captured general-category table.

A single date conflict changes the first-half funding concentration

Table 8.10 and the general-category memorandum indicate February; Appendix 3 prints August for the same-sized 8.35% item.

Table 15. A single date conflict changes the first-half funding concentration

Payment month	February case: total proxy	August alternative: total proxy	What changes
2027-02	37.592 GHS bn	8.211 GHS bn	GHS 29.381 bn principal changes month; alternative adds one assumed half-year coupon.
2027-08	6.984 GHS bn	37.592 GHS bn	GHS 29.381 bn principal changes month; alternative adds one assumed half-year coupon.

Sources: MoF APDR 2025 [\[S01\]](#); MoF DDEP terms (2023) [\[S12\]](#).

Note: The alternative is sensitivity analysis, not proof of amendment. Instrument GHGGOG069915 and the controlling pricing supplement need confirmation.

The published cedi coupon payments cover more than this one cohort

Do not calibrate missing series by forcing the reconstructed general-category coupon to equal the total announcement.

FEBRUARY 2026	AUGUST 2026	RECONCILIATION REQUIRED
MoF reports approximately GHS 10 bn of DDEP interest and describes the payment as fully cash. The rounded aggregate does not disclose each series amount or the exact bank value date.	MoF reports GHS 10.816840 bn paid in full and in cash. The twelve general-category rows generate a GHS 8.210707 bn regular half-year proxy before maturities, which has narrower coverage.	Differences can reflect holder categories, other instruments, balances and accrual conventions. No missing principal or coupon is invented to close the gap; request instrument-by-payment allocations.

Sources: MoF APDR 2025 [\[S01\]](#); MoF DDEP payment (Feb 2026) [\[S06\]](#); MoF DDEP payment (Aug 2026) [\[S07\]](#); MoF DDEP terms (2023) [\[S12\]](#).

Note: The source announcement’s assurance about future readiness is not treated as verified future financing capacity.

The domestic-dollar reference maturities require a timetable cross-check

Original September 2023 issued face; CSD reference dates are not current-balance or coupon-date confirmation.

Table 16. The domestic-dollar reference maturities require a timetable cross-check

ISIN / account series	CSD maturity	Issued USD million	Rate
GHGGOG071689 FCA 2027	2027-09-04	139.967244	2.75%
GHGGOG071697 FCA 2028	2028-09-04	139.967244	3.25%
GHGGOG071705 FEA 2027	2027-09-04	246.353778	2.75%
GHGGOG071713 FEA 2028	2028-09-04	246.353778	3.25%

Sources: MoF domestic USD terms (2023) [\[S13\]](#); MoF domestic USD issue (2023) [\[S14\]](#); CSD dollar reference table [\[S15\]](#).

Note: Original face is USD 772.642044 m. The preliminary memorandum August windows are not carried forward as authenticated dates; the full source crosswalk is in the validation chapter.

Equal annual totals do not authenticate the monthly coupon calendar

USD million. Both timing proxies retain the original issue face and regular half-year rate; neither is a paying-agent schedule.

Table 17. Equal annual totals do not authenticate the monthly coupon calendar

Year	Assumed cycle	Principal	Coupon proxy	Total proxy
2027	Feb / Aug	386.321	23.179	409.500
2027	Mar / Sep	386.321	23.179	409.500
2028	Feb / Aug	386.321	12.555	398.876
2028	Mar / Sep	386.321	12.555	398.876

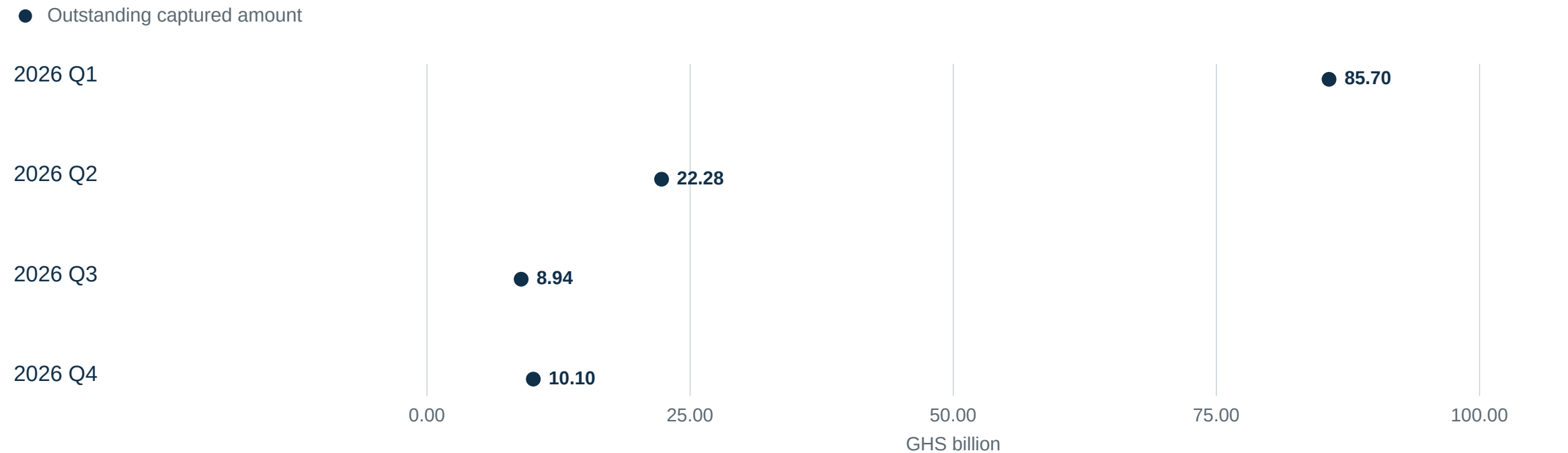
Sources: MoF domestic USD terms (2023) [\[S13\]](#); MoF domestic USD issue (2023) [\[S14\]](#); CSD dollar reference table [\[S15\]](#); IDER calculations [\[S11\]](#).

Note: CSD supports September reference maturities, but coupon dates are not shown. The September-aligned cycle is a timing sensitivity; the headline map leaves coupon allocation unresolved.

The end-2025 bill cohort was concentrated in early 2026

Ninety unique securities; historical captured amount, not a current unpaid balance.

Figure 8. The end-2025 bill cohort was concentrated in early 2026



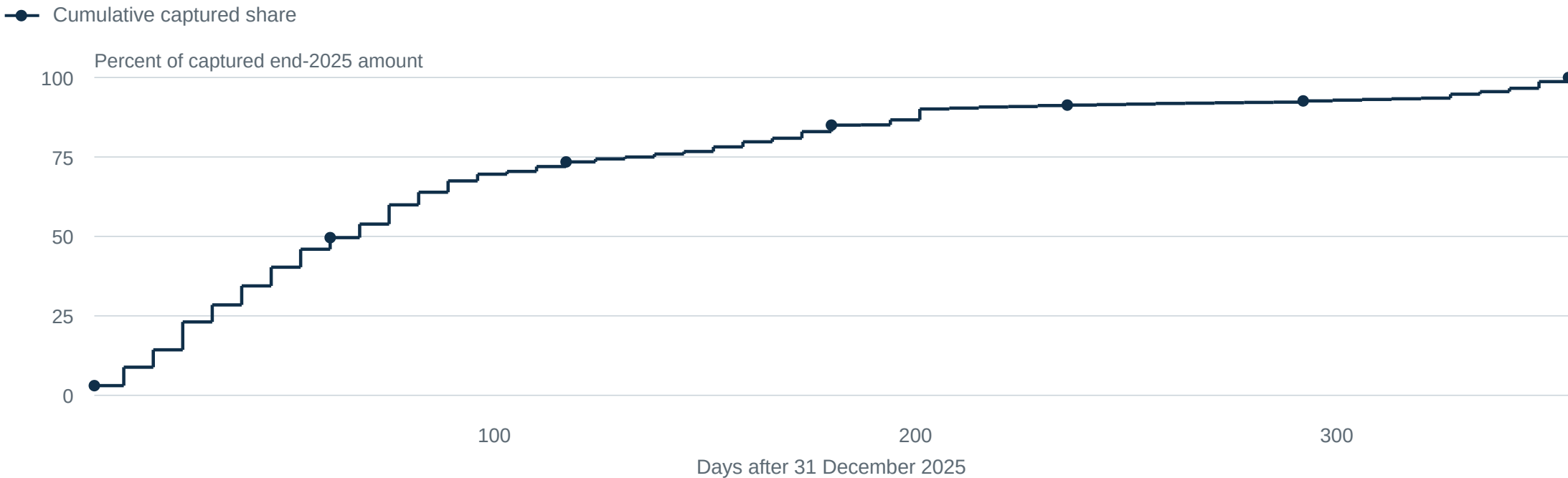
Sources: MoF APDR 2025 [\[S01\]](#).

Note: By 30 June, 85.01% of this cohort had stated maturity dates. New issues and redemptions are absent from the snapshot.

Cumulative maturity shows the speed at which the bill cohort turns over

Amount-weighted remaining time at 31 December 2025 is 96.1 days.

Figure 9. Cumulative maturity shows the speed at which the bill cohort turns over



Sources: MoF APDR 2025 [\[S01\]](#).

Note: This is a historical maturity distribution; it does not establish that due instruments were repaid, rolled over or in arrears.

Five historical dates accounted for 32.48% of the captured bill cohort

Amounts at the end-2025 snapshot; later payment status is not inferred.

Table 18. Five historical dates accounted for 32.48% of the captured bill cohort

Printed maturity date	Securities	Captured GHS billion	Share
2026-01-26	3	11.138	8.77%
2026-03-16	3	7.693	6.06%
2026-02-09	3	7.594	5.98%
2026-02-16	3	7.477	5.89%
2026-01-12	3	7.359	5.79%

Sources: MoF APDR 2025 [\[S01\]](#).

Note: These are not an unpaid September 2026 debt list. The denomination and redemption-price convention require instrument-level funding records.

Future dates in an old cohort are not a current outstanding register

Only end-2025 records whose printed maturity falls after 26 September 2026 are selected.

Table 19. Future dates in an old cohort are not a current outstanding register

Maturity month	Captured securities	Historical GHS billion	Status
2026-09	1	0.166	Original snapshot only; later transactions and settlement status unknown.
2026-10	4	1.047	Original snapshot only; later transactions and settlement status unknown.
2026-11	5	3.390	Original snapshot only; later transactions and settlement status unknown.
2026-12	3	5.661	Original snapshot only; later transactions and settlement status unknown.

Sources: MoF APDR 2025 [\[S01\]](#).

Note: The 13 retained records sum to GHS 10.265 bn. Do not add current auction amounts without a complete instrument roll-forward.

Accepted face, cash proceeds and redemption are different amounts

A refinancing ratio must specify whether its numerator measures face value, cash received or accepted bids.

AUCTION PARTICIPATION	CASH REFINANCING	ROLL-FORWARD
Bids and accepted offers reveal different dimensions of demand. Oversubscription does not certify that every accepted amount settled, and it does not match a maturing security one-to-one.	The funding test uses settled cash proceeds relative to principal and interest due. For a discount instrument, issuing face equal to the old redemption amount can raise less cash than is required.	Opening stock plus new issuance, capitalised interest and other adjustments, less redemption and cancellation, must reconcile to closing stock. Every issue and payment requires a unique instrument ID.

Sources: MoF APDR 2025 [\[S01\]](#); MoF issuance announcement (2026) [\[S10\]](#).

Note: The Q3 2026 medium-term bond announcement is not evidence of a final accepted amount or completed proceeds.

A fixed cash requirement can require more than equal-face refinancing

Hypothetical simple-yield discount instrument; cash raised is 100 units.

Table 20. A fixed cash requirement can require more than equal-face refinancing

Tenor	Assumed yield	Cash raised	New redemption face
91 days	10%	100	102.493
91 days	20%	100	104.986
182 days	10%	100	104.986
182 days	20%	100	109.973
364 days	10%	100	109.973
364 days	20%	100	119.945

Sources: IDER calculations [\[S11\]](#).

Note: This is an explicit pricing illustration, not a market quote or an assertion that every Ghana bill uses this precise convention.

Revenue, service and refinancing belong in one cash identity

Do not equate the debt stock with the amount required to be raised during a year.

NEEDS SIDE	SOURCES SIDE	RESIDUAL
Principal and cash interest due, the primary cash deficit and other financing uses generate the gross requirement. PIK increases a future claim rather than today’s cash payment; avoid adding it twice.	Usable revenue, refinancing proceeds, committed external disbursements and permitted cash drawdowns fund payments. A projected source is not necessarily committed, drawable or in the required currency.	The reported financing tables retain scope and rounding differences. This report keeps the source baseline residual and measures scenario deterioration relative to it; it is not treated as a free cash reserve.

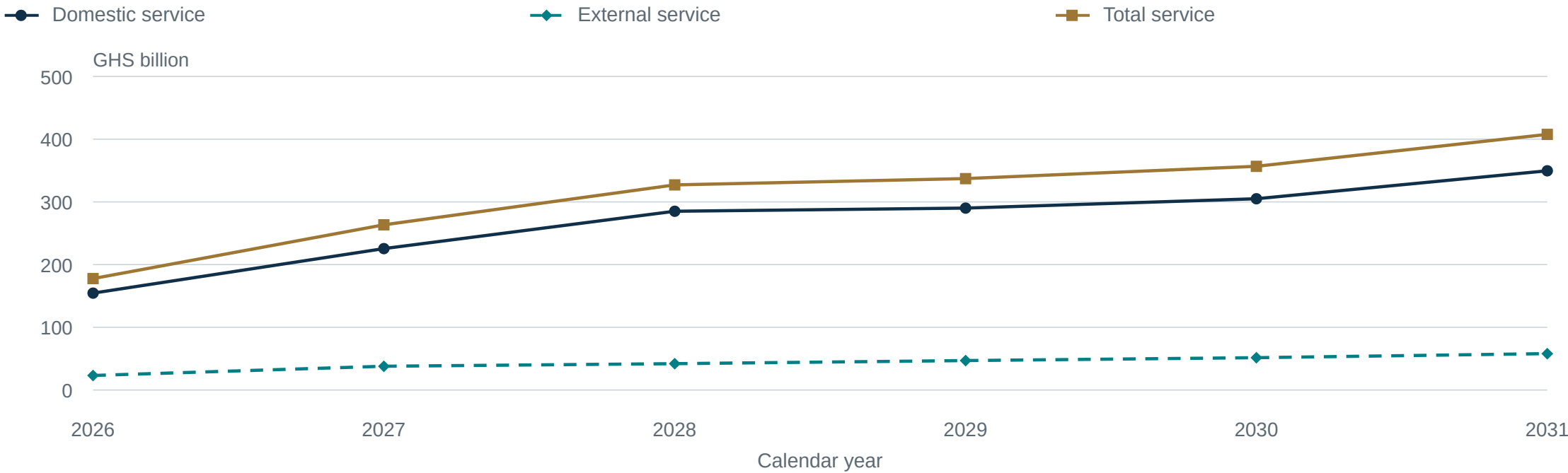
Sources: MoF APDR 2025 [\[S01\]](#); IMF CR 26/212 [\[S08\]](#).

Note: Commitment-basis interest is not subtracted from cash-service totals to fabricate an annual principal series.

Domestic service dominates the source’s annual cash-service path

IMF Table 3c current projection; source amounts in GHS billion.

Figure 10. Domestic service dominates the source’s annual cash-service path



Sources: IMF CR 26/212 [\[S08\]](#).

Note: These aggregate projections are not instalment dates. The international and domestic note calendars are subsets, not additional claims to add to this table.

Gross needs and planned sources are distinct annual records

Current July 2026 projection columns, GHS billion; not the earlier-review columns.

Table 21. Gross needs and planned sources are distinct annual records

Year	Gross needs	Reported sources	Needs less sources	Debt service
2026	189.3	203.3	-14.0	177.7
2027	259.4	271.6	-12.2	263.4
2028	323.3	335.5	-12.2	327.1
2029	323.3	335.5	-12.2	337.1
2030	341.2	353.5	-12.3	356.7
2031	390.4	402.6	-12.2	407.6

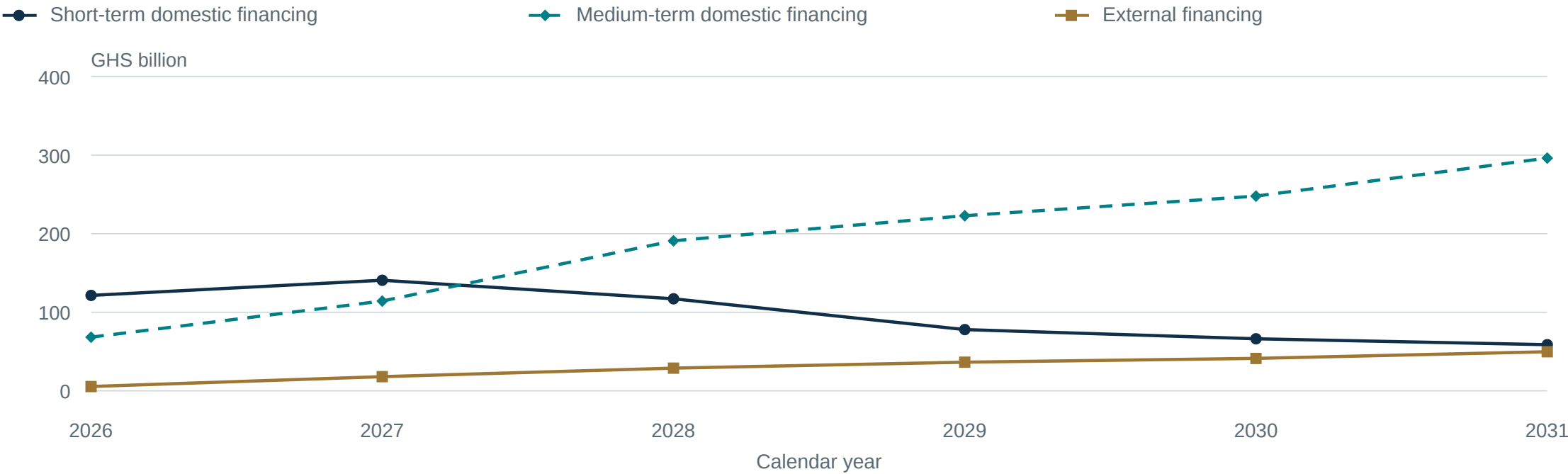
Sources: IMF CR 26/212 [\[S08\]](#).

Note: Negative needs-minus-sources is a source-table accounting residual, not verified unencumbered Treasury cash or an observed fiscal surplus.

The plan shifts toward medium-term domestic financing

IMF Table 3c source projection; GHS billion. Realisation is a central stress variable.

Figure 11. The plan shifts toward medium-term domestic financing



Sources: IMF CR 26/212 [\[S08\]](#).

Note: The medium-term component reaches GHS 191.0 bn in 2028. Plans and a bond-issuance announcement do not establish future auction access.

Retain source component differences before applying stress

GHS billion; the source total remains the starting point of the financing model.

Table 22. Retain source component differences before applying stress

Year	Source total	Sum of displayed financing components	Source less sum
2026	203.3	203.3	0.0
2027	271.6	271.7	-0.1
2028	335.5	335.5	0.0
2029	335.5	335.5	0.0
2030	353.5	353.5	0.0
2031	402.6	402.6	0.0

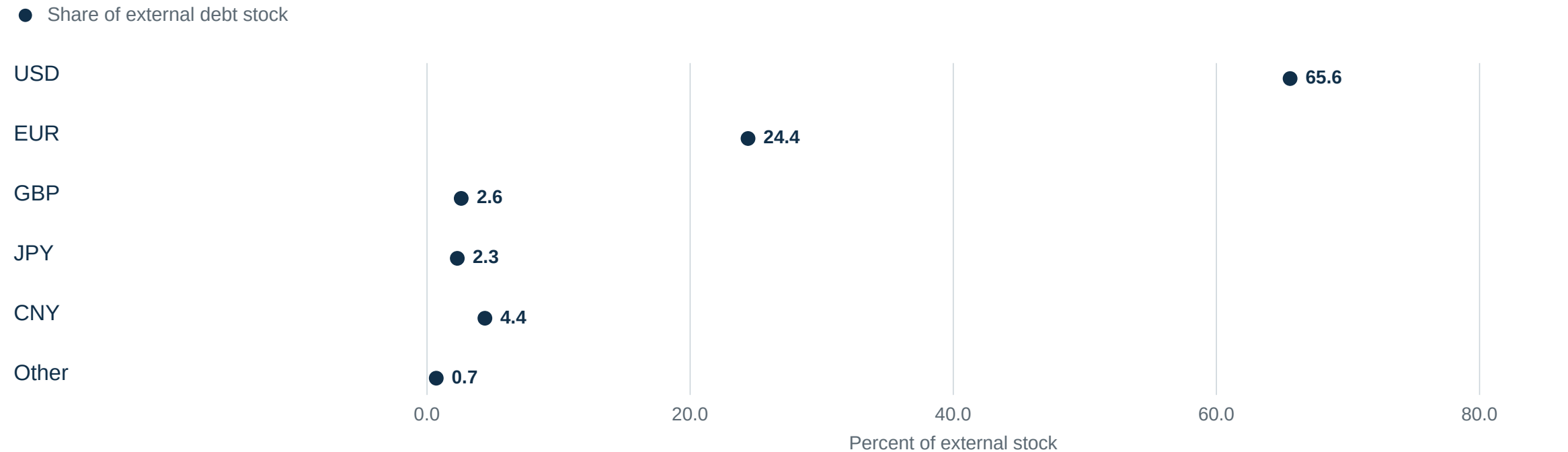
Sources: IMF CR 26/212 [\[S08\]](#).

Note: Components include financial strengthening and signed Ghana Petroleum and Sinking Funds flows. A residual is not silently filled with a new financing source.

The external-debt stock currency mix is not the service currency mix

End-2025 published stock shares; use only for stock context.

Figure 12. The external-debt stock currency mix is not the service currency mix



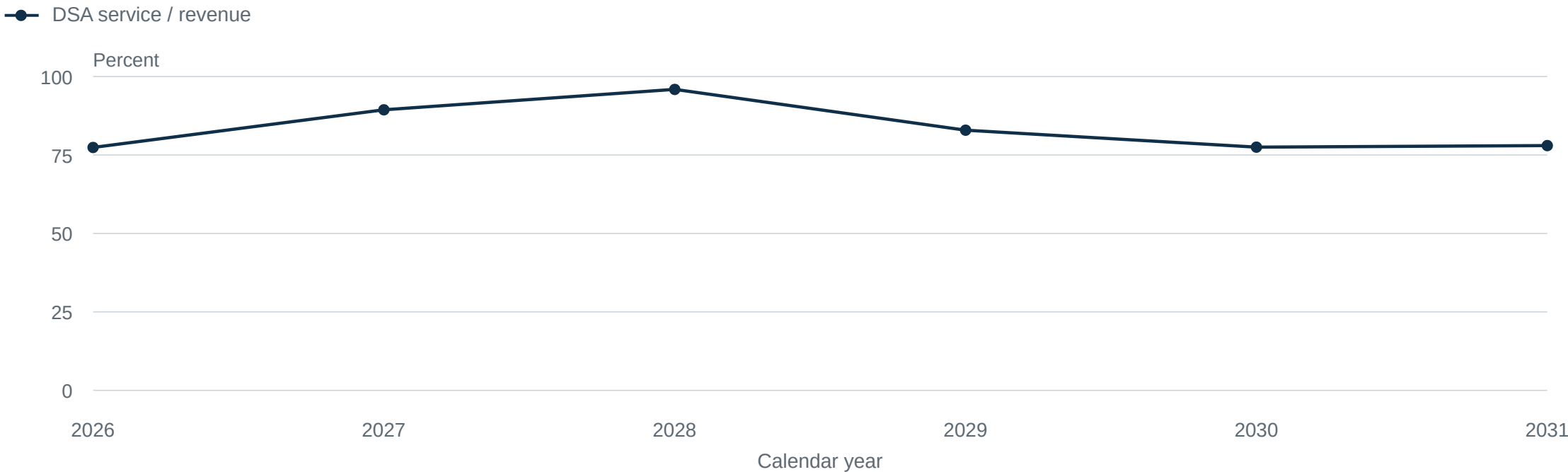
Sources: MoF APDR 2025 [\[S01\]](#).

Note: The dated loan-service currency composition was not obtained. Do not apply these stock shares as weights to annual debt service.

Projected service-to-revenue pressure peaks in 2028

IMF DSA Table 2 ratios; kept separate from Table 3c service and Table 3b revenue arithmetic.

Figure 13. Projected service-to-revenue pressure peaks in 2028



Sources: IMF CR 26/212 [\[S08\]](#).

Note: 95.9% in 2028 is a baseline projection, not a current default probability or a rule that every payment must be financed by taxes alone.

Revenue, growth and refinancing assumptions are explicit

Selected source baselines for 2027–2029, GHS billion except real GDP growth.

Table 23. Revenue, growth and refinancing assumptions are explicit

Year	Revenue + grants	Real growth	Short financing	Medium financing	External financing
2027	304.076	4.9%	140.8	114.3	18.1
2028	351.036	5.0%	117.2	191.0	28.9
2029	404.523	5.0%	78.0	222.9	36.5

Sources: IMF CR 26/212 [\[S08\]](#).

Note: Revenue plus grants is a sensitivity proxy. Its response to real growth is imposed, not a fitted tax-buoyancy or grant-response coefficient.

The 1,458-case grid varies six explicit financing channels

Three projection years and the listed finite assumptions; no probabilities are attached.

Table 24. The 1,458-case grid varies six explicit financing channels

Parameter	Settings	Interpretation
Real growth gap	0, -1 and -2 percentage points	One-year level effect versus source baseline; GDP deflator held fixed.
Revenue elasticity	0.8, 1.0 and 1.2	Imposed mapping from real-output level to total revenue proxy.
Collection shortfall	0%, 5% and 10%	Separate multiplicative collection shock after the growth factor.
GHS/FX movement	-10%, 0% and +20%	Broad external-service and external-financing category proxies both respond.
Short financing realised	80%, 90% and 100%	Fraction of source projected cash financing available.
Medium financing realised	80% and 100%	No new support, asset drawdown or expenditure response inserted.

Sources: IDER calculations [\[S11\]](#).

Note: External financing realisation is 100% in the grid. The reported baseline residual and all unchanged source components remain in the model.

Lower growth changes cash only through a stated revenue assumption

A larger or smaller GDP denominator is not itself a Treasury cash receipt.

ONE-YEAR OUTPUT EFFECT	REVENUE RESPONSE	POLICY BOUNDARY
For a baseline growth rate g and a shock δg , compare $(1+g+\delta g)/(1+g)$. The model does not compound a multi-year recession path or infer a permanent tax-base change.	Raise the output ratio to the imposed elasticity and multiply by one minus the collection shortfall. Apply this to the source revenue-plus-grants base; no fitted causal tax parameter is claimed.	Primary spending, the deflator, creditor behaviour and new support stay fixed. The resulting gap identifies sensitivity under those restrictions, not the full fiscal response to a downturn.

Sources: IMF CR 26/212 [\[S08\]](#); IDER calculations [\[S11\]](#).

Note: The elasticity and collection assumptions must be replaced by approved forecasting inputs for operational budget use.

Financing access dominates several isolated 2028 shocks

GHS billion; incremental call is measured relative to the unchanged source baseline.

Table 25. Financing access dominates several isolated 2028 shocks

Case	Revenue loss	Incremental financing call	Needs less assumed sources
Source baseline	0.00	0.00	-12.20
Growth -2 pp	6.69	6.69	-5.51
Collection -5%	17.55	17.55	5.35
FX +20%	0.00	2.62	-9.58
Short access 90%	0.00	11.72	-0.48
Medium access 80%	0.00	38.20	26.00
Joint stress	23.90	76.44	64.24

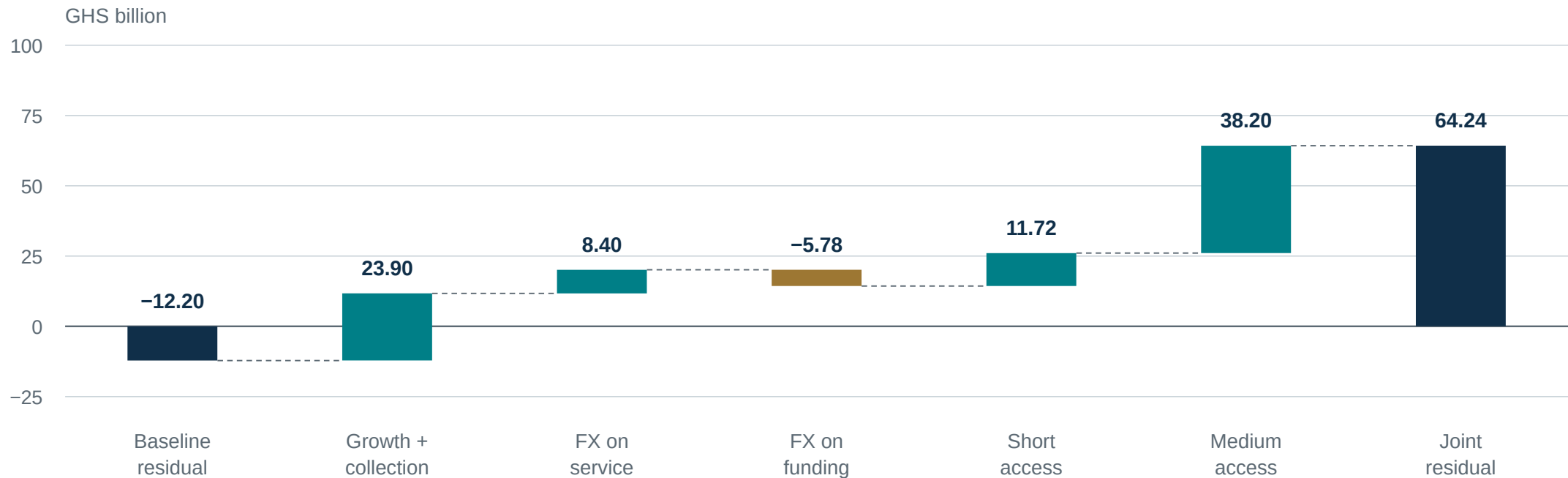
Sources: IDER calculations [\[S11\]](#).

Note: Joint case: growth -2 pp, elasticity 1, collections -5%, FX +20%, short access 90% and medium access 80%. Negative baseline residual is not available cash.

The joint 2028 case requires GHS 76.44 bn more than the baseline

Requirements less assumed financing; compare with the source baseline residual, not a measured Treasury cash buffer.

Figure 14. The joint 2028 case requires GHS 76.44 bn more than the baseline



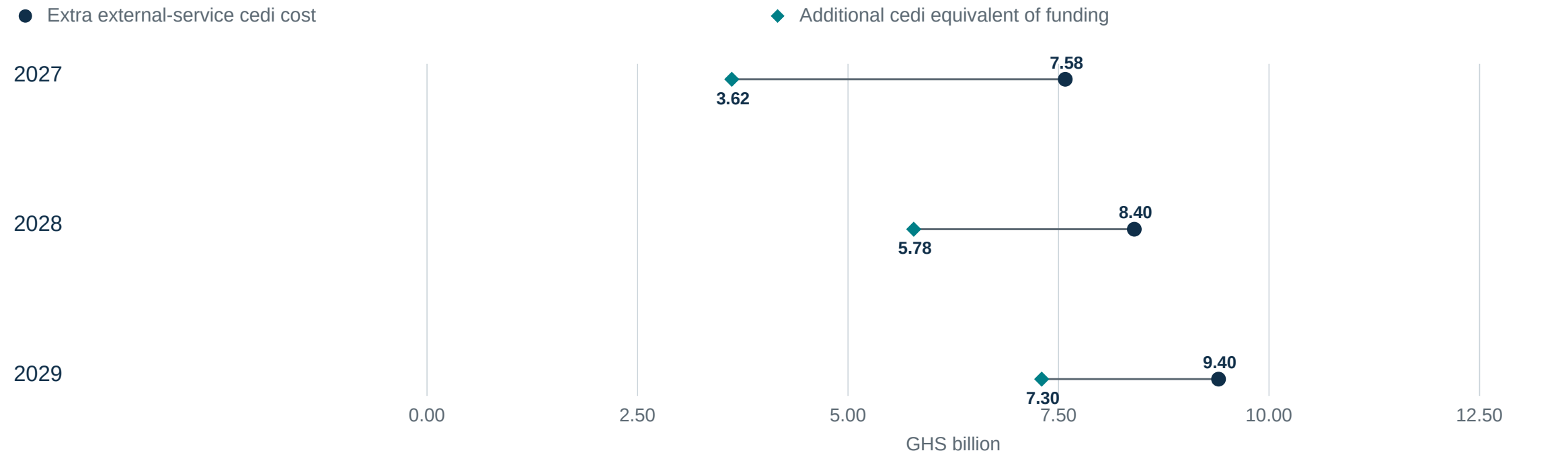
Sources: IMF CR 26/212 [\[S08\]](#); IDER calculations [\[S11\]](#).

Note: Joint scenario result is GHS 64.24 bn after the initial -GHS 12.20 bn source residual. It is not an observed or forecast national shortfall.

Depreciation raises both external payments and assumed external funding

Isolated +20% GHS/FX scenario; source external-category proxies, not a fully denomination-matched ledger.

Figure 15. Depreciation raises both external payments and assumed external funding



Sources: IMF CR 26/212 [\[S08\]](#); IDER calculations [\[S11\]](#).

Note: Subtract the funding translation only when the source is realised and usable in that currency. The grid assumes full external realisation.

The required medium-term issuance can exceed the planned amount

Keep joint stress assumptions except medium-term realisation; solve the fraction needed to close the model gap.

Table 26. The required medium-term issuance can exceed the planned amount

Year	Required fraction of planned medium financing	Gap even at 100% medium financing
2027	123.23%	26.55 GHS bn
2028	113.64%	26.04 GHS bn
2029	111.33%	25.25 GHS bn

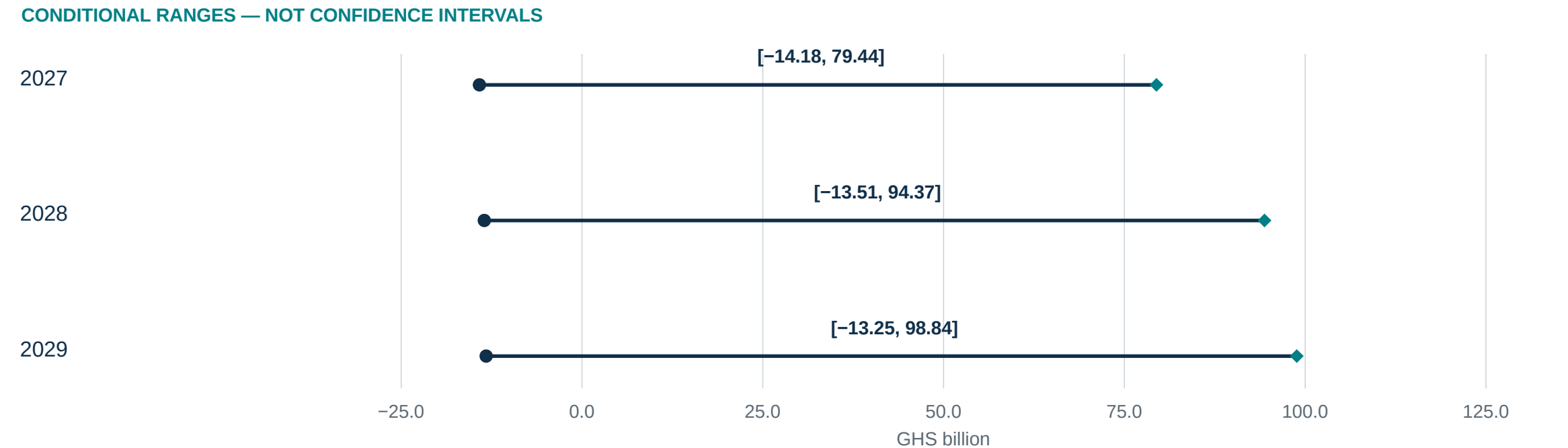
Sources: IDER calculations [\[S11\]](#).

Note: Values above 100% exceed the source plan under the imposed constraints. They do not establish demand, market capacity or a recommended borrowing target.

The tested assumptions produce a range—not a probability distribution

Lowest and highest needs-minus-financing results across the specified 486 combinations per year.

Figure 16. The tested assumptions produce a range—not a probability distribution



Sources: IMF CR 26/212 [\[S08\]](#); IDER calculations [\[S11\]](#).

Note: Endpoints cover only the finite grid. They are not confidence intervals, value-at-risk or an estimated chance of default.

Refinancing access and FX jointly change the 2028 financing test

Growth -2 pp, collection shortfall 5%, elasticity 1; no other policy response.

Figure 17. Refinancing access and FX jointly change the 2028 financing test

	FX -10%	FX unchanged	FX +20%
Short 80% / medium 80%	72.03	73.34	75.96
Short 90% / medium 80%	60.31	61.62	64.24
Short 100% / medium 80%	48.59	49.90	52.52
Short 80% / medium 100%	33.83	35.14	37.76
Short 90% / medium 100%	22.11	23.42	26.04
Short 100% / medium 100%	10.39	11.70	14.32

Requirements less assumed sources, GHS billion

Sources: IMF CR 26/212 [\[S08\]](#); IDER calculations [\[S11\]](#).

Note: Access labels are cash-realisation fractions of source planned issuance, not debt-stock rollover ratios or auction bid coverage.

A 13-week ledger isolates refinancing timing

All figures are explicitly hypothetical; GHS million unless USD is specified.

Table 27. A 13-week ledger isolates refinancing timing

Input	Assumption	Treatment
Opening usable cash	GHS 15 m plus USD 2 m; initial rate GHS 10/USD.	Opening GHS equivalent35 m; FX cash converted once.
Weekly operating cash	Revenue 30 m; primary spending28 m.	No additional policy or seasonality inferred.
Weekly domestic debt	Principal40 m; interest2 m.	Debt paid before same-week refinancing.
Local refinancing	40 m × cash-realisation fraction.	Either same week or one week later.
External service	USD 10 m principal + USD 2 m interest in weeks 4 and 10.	Actual payment order explicitly imposed.
External financing	USD 12 m in weeks 3 and 9.	Separate from domestic auction proceeds.

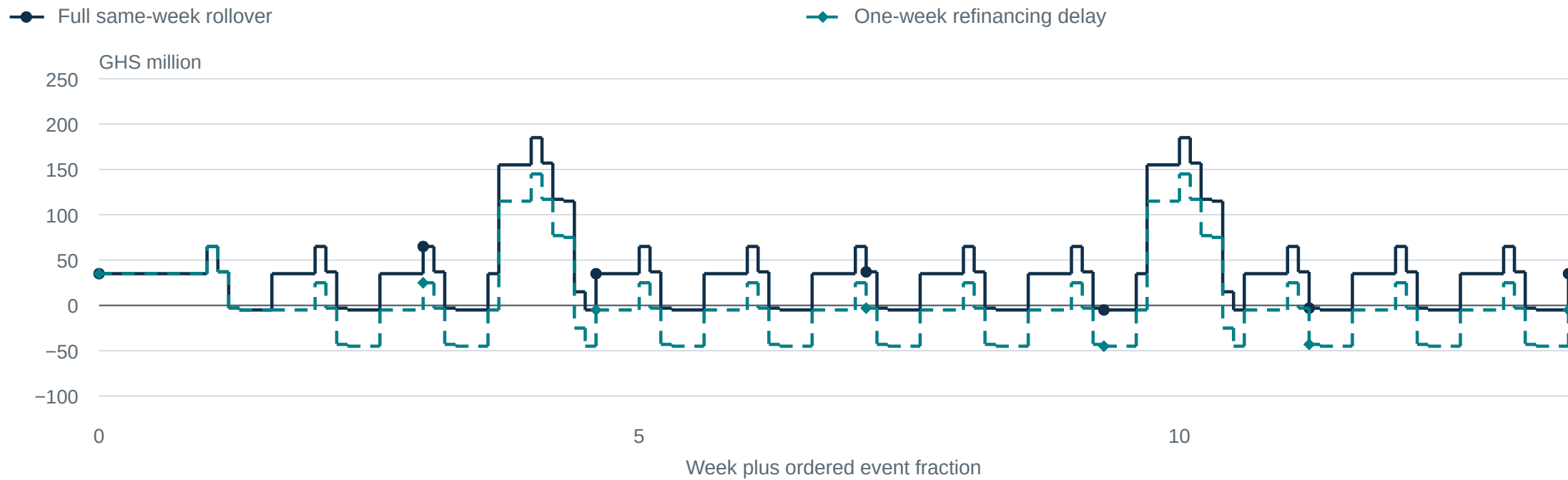
Sources: IDER calculations [\[S11\]](#).

Note: This ledger is not scaled to Ghana’s accounts and is not an estimate of Treasury cash holdings or payment failure.

Same-week refinancing can still arrive after a payment gap

Synthetic ordered cash: debt settlement precedes auction proceeds within each week.

Figure 18. Same-week refinancing can still arrive after a payment gap



Sources: IDER calculations [\[S11\]](#).

Note: The baseline requires a GHS 5 m bridge; a one-week delay raises it to GHS 45 m. Fractional positions show event order, not actual weekdays.

The minimum cash balance differs from closing cash

The same synthetic ledger is run under six declared variations.

Table 28. The minimum cash balance differs from closing cash

Scenario	Minimum cash	Week 13 closing	Required bridge	Net flow after week 13
Full same-week rollover	-5.0	35.0	5.0	0.0
One-week refinancing delay	-45.0	-5.0	45.0	40.0
80% cash rollover	-101.0	-69.0	101.0	0.0
Revenue -10%	-44.0	-4.0	44.0	0.0
FX +20%	-1.0	39.0	1.0	0.0
Joint liquidity stress	-146.0	-112.0	146.0	34.0

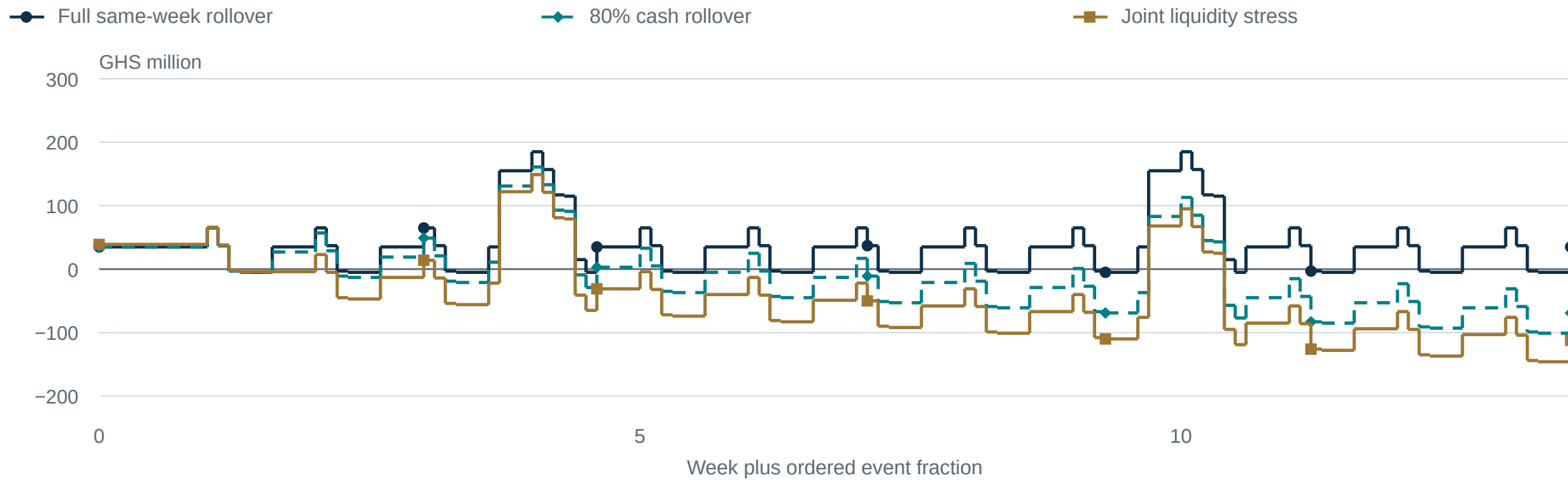
Sources: IDER calculations [\[S11\]](#).

Note: GHS million. Joint: local cash rollover 85%, one-week delay, revenue-10%, FX+20%. Post-horizon proceeds remain scheduled rather than cancelled.

Lower cash realisation can create a cumulative funding gap

Synthetic ledger; no additional support or borrowing facility is inserted.

Figure 19. Lower cash realisation can create a cumulative funding gap



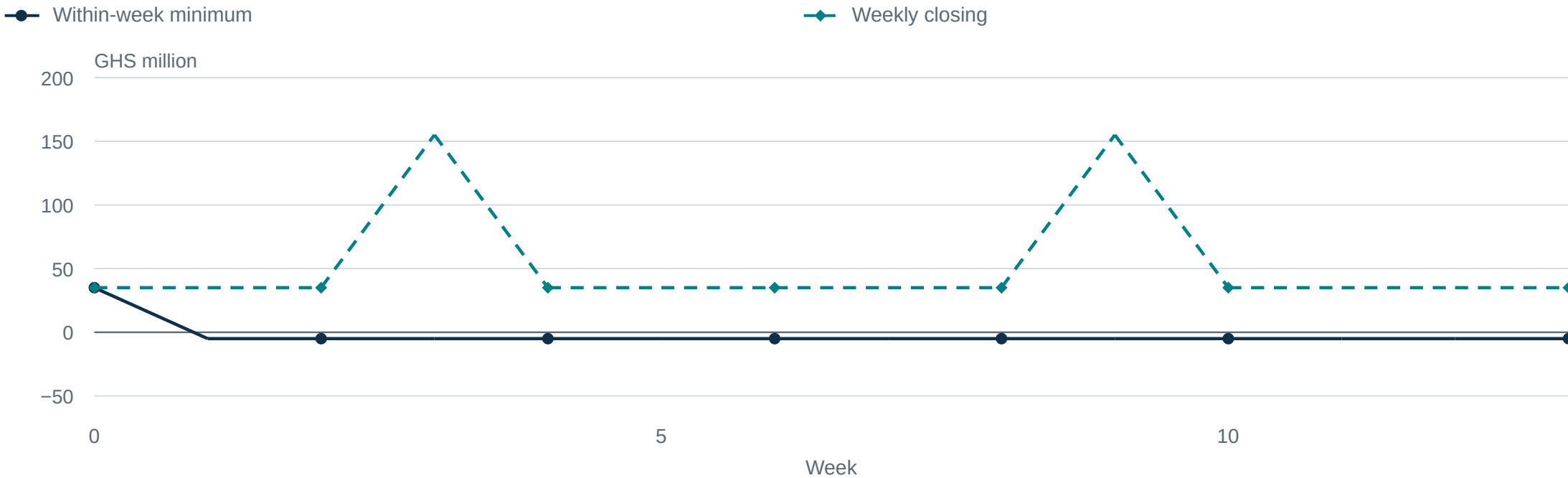
Sources: IDER calculations [\[S11\]](#).

Note: The joint minimum is -GHS 146 m. This is a mechanism illustration, not a scaled estimate of a Ghana government shortfall.

Weekly closing cash can conceal within-week deficits

Same-week full refinancing, same synthetic inputs; minimum and closing balances use identical weeks.

Figure 20. Weekly closing cash can conceal within-week deficits



Sources: IDER calculations [\[S11\]](#).

Note: Funding should be assessed before each known payment. End-week netting does not fund an earlier obligation.

An aggregate cedi balance is not automatically usable foreign currency

The integrated synthetic test assumes immediate conversion; an operational system must relax that assumption.

NATIVE-CURRENCY LADDER	RESTRICTED CASH	FACILITY CONDITIONS
Retain USD, GHS, EUR and each other settlement currency separately. Match usable bank balances and collectible receipts to payments before aggregating to a cedi equivalent.	Record ownership, earmarking, correspondent restrictions and legal transferability. A sinking-fund policy target or sovereign reserve statistic is not proof of an available Treasury balance.	A bridge requires approval, currency access, collateral, capacity and timing. Add drawdown delays, spreads and repayment dates in an authorised Treasury model rather than assuming free finance.

Sources: MoF APDR 2025 [\[S01\]](#); IMF CR 26/212 [\[S08\]](#); IDER calculations [\[S11\]](#).

Note: No complete current currency-by-date cash ledger or legally available cash inventory was obtained.

Release an obligation only after matching the required fields

A traceable record is more useful than a visually precise but unauthenticated maturity chart.

Table 29. Release an obligation only after matching the required fields

Field	Required verification	Consequence of a gap
Instrument and issue lot	Unique ISIN/loan ID; taps and cancelled claims reconciled.	Do not duplicate old and replacement debt.
Native amount and currency	Principal versus coupon; cash versus PIK.	Do not substitute a cedi stock equivalent for FX cash due.
Contract and value date	Maturity month/date, business-day rule, agent instruction.	Show date precision and unresolved conflicts.
Payment status	Matched bank settlement amount and date.	Keep unknown separate from paid, unpaid and arrears.
Coverage and vintage	Snapshot date, amendments, creditor and legal perimeter.	Never add a subset to an aggregate containing it.
Funding and restrictions	Revenue, usable balances, commitments and drawdown terms.	Forecast or announced issuance is not realised cash.

Sources: IDER calculations [\[S11\]](#).

Note: The proposed operational schema is included as a blank CSV template; no fictional counterparties are added.

More instrument rows do not resolve endogenous financing choices

The executed results are accounting, source verification and conditional cash tests.

Table 30. More instrument rows do not resolve endogenous financing choices

Threat	Specific safeguard	What remains unestimated
Borrowing reacts to expected pressure	Keep planned issuance, market access and cash scenarios separate.	Causal effect of maturity extension on yields or rollover.
Outstanding-only selection	Retain the dated cohort and exclude claims of current status.	Failed issuance, redeemed instruments and survivor selection.
Missing currency/settlement data	Use exact USD programme separately; flag broad external proxies.	Complete national currency-by-date service and cash coverage.
Simultaneous growth/FX/revenue	Impose explicit conditional shocks without fitting identity regressions.	Behavioural policy response, spillovers and a causal fiscal multiplier.
Conflicting source dates	Show both 2027 DDEP cases and require contractual confirmation.	A verified exact payment date for the disputed record.

Sources: IDER calculations [\[S11\]](#).

Note: No instrument weighting, standard error or regression is used to claim that missingness or unobserved confounding has been eliminated.

A causal refinancing study needs outcomes beyond the accounting identity

P01 is proposed, not fitted. The report does not equate a contract schedule with an observed market response.

DEFINE THE EFFECT	IDENTIFY THE SHOCK	INFERENCE AND COVERAGE
Specify whether the outcome is realised cash raised, auction yield, bid rejection, payment delay or enterprise credit. Define the policy intervention and comparison before estimation.	Pre-intervention exposure alone is not exogenous. Examine anticipation, credibility news, common rate shocks, instrument eligibility, market spillovers and simultaneous Treasury decisions.	Include failed and cancelled offers, off-auction changes, nonparticipants and actual settlement. Use assignment-appropriate dependence and sensitivity; report associations when causal restrictions fail.

Sources: IDER calculations [\[S11\]](#).

Note: No credible exogenous intervention, matched outcome panel or random assignment was established for a new causal coefficient.

A repayment-calendar hearing should test cash dates and funding evidence

Questions for Parliament and fiscal oversight; proposed evidence requirements, not legal conclusions.

Table 31. A repayment-calendar hearing should test cash dates and funding evidence

Question	Evidence to request	Warning against a misleading shortcut
What is due in the next four currency windows?	Principal and coupon by issue, exact value date and agent confirmation.	Do not replace the calendar with a lower debt/GDP ratio.
Which claims are already settled?	Bank settlement IDs and early-payment crosswalk.	Do not count January 2026 again after the December payment.
What must be refinanced?	Maturities, accepted issuance and realised proceeds.	Do not equate planned medium-term issuance with market access.
Which balances can be used?	Treasury and sinking-fund cash, currency and restrictions.	Do not call the IMF table residual a free cash buffer.
What happens if revenue or issuance underperforms?	Joint annual and every-date tests, with feasible contingency funding.	Do not describe a deterministic scenario as a probability of default.

Sources: MoF APDR 2025 [\[S01\]](#); IMF CR 26/212 [\[S08\]](#); IDER calculations [\[S11\]](#).

Note: Institutional mandates, confidential records and legally binding payment instructions require authorised access.

Translate sovereign cash timing into the user’s actual exposure

No security-specific valuation target, credit rating or portfolio allocation is produced.

Table 32. Translate sovereign cash timing into the user’s actual exposure

Audience	Decision-relevant application	Evidence still required
Treasury and BoG	Coordinate currency funding, bank-value dates and auction cash.	Actual cash balances, agent notices and dealing access.
Banks and bondholders	Map coupon/redemption receipts and reinvestment or rollover exposure.	Instrument terms, holdings, cash ladder and counterparties.
Pensions, insurers and funds	Compare security receipts with benefit, claim and withdrawal dates.	Liability cash flows, liquidity buffers and execution prices.
Businesses and MSMEs	Stress delayed government receivables and financing availability.	Actual contracts, invoice status and bank facilities.
DFIs, private equity and diaspora investors	Separate project FX needs from aggregate sovereign ratios.	Project milestones, guarantees, funding currency and legal access.

Sources: IDER calculations [\[S11\]](#).

Note: The source calendar is context, not a guarantee that an individual creditor, bank or enterprise can access cash on demand.

The first 90 days should produce a reconciled operational calendar

Proposed sequence starts after authority, confidentiality and data-access approval.

Table 33. The first 90 days should produce a reconciled operational calendar

Period / owner	Deliverable	Acceptance criterion
Days 0–30 debt office + data steward	Contract, issue-lot and payment-status register; resolve the 2027 date conflict.	Every known material obligation has an ID, currency, status and source; unresolved universe stated.
Days 31–60 Treasury + BoG + statistics	13-week currency cash ladder plus 2027–2030 principal/coupon schedule.	No duplicate early-paid or cancelled claim; exact-date uncertainty and all funding conditions visible.
Days 61–90 IDER + reviewer + owners	Reproducible baseline, joint scenarios and approved contingency triggers.	Independent replay; every material exception disclosed; scenario actions linked to an authorised decision owner.

Sources: IDER calculations [\[S11\]](#).

Note: Targets apply to captured records. They are proposed controls, not achieved Ghana-wide coverage or commitments already agreed by public institutions.

Monitor completion, concentration and cash availability—not only ratios

Suggested frequency and ownership for an approved pilot.

Table 34. Monitor completion, concentration and cash availability—not only ratios

Indicator	Definition	Frequency / owner
Next payment-window requirement	Confirmed principal plus coupon by native currency and value date.	Weekly debt office / Treasury
Cash coverage at each event	Usable same-currency resources relative to due payments.	Daily or event-date Treasury
Cash refinancing realisation	Settled proceeds divided by the comparable planned cash funding.	Each auction market operations
Medium-term access dependency	Source planned medium financing and stress required amount.	Monthly / scenario debt strategy
Calendar exception register	Conflicting dates, unmatched taps, missing paid flags and duplicate IDs.	Every release data steward
Scenario bridge and response	Largest uncovered cash event and approved funding alternative.	Weekly / stress risk and management

Sources: IDER calculations [\[S11\]](#).

Note: Thresholds and contingent actions require the relevant authority; a breach is not an automatically estimated default event.

The unresolved items that change the interpretation remain visible

These exceptions are conditions of using the publication, not footnotes to discard in a public extract.

Table 35. The unresolved items that change the interpretation remain visible

Issue	Evidence retained	Release limitation
General2027 exact date	February term/table versus Appendix 3 August date.	Month convention disclosed; exact cash instruction not certified.
Domestic USD source conflict	2023 August memorandum versus CSD September reference dates; quantities also differ.	Coupon dates and current quantities not certified; both source versions retained.
Other public obligations	OCC MoU and aggregate source projections, not complete loan schedules.	No all-creditor monthly national total claimed.
Source cash scope	IMF financing total and component residuals; commitment interest separate.	No manufactured principal breakdown or cash reserve.
Source access	Primary web text and PDF images inspected; binaries unavailable in runtime.	URLs, locators and transcriptions supplied; originals not falsely bundled.

Sources: [\[S01\]](#); [\[S08\]](#); [\[S09\]](#); [\[S12\]](#); [\[S14\]](#); [\[S15\]](#); see source register.

Note: More exact arithmetic cannot eliminate missing contracts, agent notices, coverage gaps or endogenous responses.

Validation changes the calendar where the source evidence changes

Additional records are distinguished from new assumptions; the incoming calculations remain available for comparison.

Table 36. Validation changes the calendar where the source evidence changes

Validation layer	Evidence or calculation added	Consequence for interpretation
Domestic dollar records	Four CSD exchange ISINs matched to the dated 2023 issue amounts.	September reference maturities differ from preliminary August terms; coupon dates remain unconfirmed.
International issue lots	Five original lots and two taps; full principal closure and future regular coupons.	A tap adds future service; cancelled old principal is not added as a second debt.
IMF financing and revenue	Non-oil revenue, oil and grants; exceptional financing and private-market components.	The fund-flow label and pre-/post-exceptional residual must be explicit.
Expanded sensitivity	4,374 external-access cases; six-channel attribution; segregated currency cash tests.	These are conditional responses, not new market observations, probabilities or causal effects.
Source precision and status	Issue date, maturity date, source vintage, unknown quantities and unavailable agent notices.	More records improve traceability, not representativeness or payment-status identification.

Sources: [\[S02\]](#); [\[S03\]](#); [\[S05\]](#); [\[S08\]](#); [\[S15\]](#); [\[S11\]](#); see source register.

Note: CSD has no explicit as-of date on the retrieved page. Its quantities are retained as a separate reference snapshot, not certified current holdings.

The depository reference shows September—not the preliminary August window

Same four ISINs; native USD. The 2023 issued principal and undated CSD quantity are different records.

Table 37. The depository reference shows September—not the preliminary August window

ISIN	2023 issued face	CSD quantity	CSD maturity	Quantity difference
GHGGOG071689	139,967,244	139,997,275	2027-09-04	30,031
GHGGOG071697	139,967,244	139,997,275	2028-09-04	30,031
GHGGOG071705	246,353,778	246,415,447	2027-09-04	61,669
GHGGOG071713	246,353,778	246,415,447	2028-09-04	61,669

Sources: MoF domestic USD terms (2023) [\[S13\]](#); MoF domestic USD issue (2023) [\[S14\]](#); CSD dollar reference table [\[S15\]](#).

Note: Total CSD quantity exceeds the original issue cohort by USD 183,400. No transaction is inferred to explain the difference; current balances and final pricing supplements are still required.

Moving the assumed coupon cycle changes the monthly cash proxy

Both illustrations hold the original issue face fixed; March/September coupon timing is an assumption, not a recovered contract.

Table 38. Moving the assumed coupon cycle changes the monthly cash proxy

Month	February/August proxy	March/September proxy	Evidence status
2027-02	11.590	0.000	Alternative proxy only; no agent instruction.
2027-03	0.000	11.590	Alternative proxy only; no agent instruction.
2027-08	397.911	0.000	Alternative proxy only; no agent instruction.
2027-09	0.000	397.911	Alternative proxy only; no agent instruction.

Sources: MoF domestic USD terms (2023) [\[S13\]](#); MoF domestic USD issue (2023) [\[S14\]](#); CSD dollar reference table [\[S15\]](#); IDER calculations [\[S11\]](#).

Note: USD million. The headline map now assigns principal to the September reference month and leaves coupon timing unallocated. These complete-service alternatives are not added to that map.

Every original issue and tap conserves its own principal

All amortisation fractions sum to one; historical scheduled principal is not assumed to equal verified cash paid.

Table 39. Every original issue and tap conserves its own principal

Series / lot	Issued USD m	Past scheduled USD m	Future USD m	Closure USD
Short Disco 2029	2,876.013	719.003	2,157.009	0.00
Long Disco 2035	4,135.754	0.000	4,135.754	0.00
Long Disco 2035 tap	116.124	0.000	116.124	0.00
Par 2037	1,132.521	0.000	1,132.521	0.00
Par 2037 tap	38.865	0.000	38.865	0.00
Down-payment 2026	522.562	522.562	0.000	0.00
PDI 2030	734.972	306.116	428.856	0.00

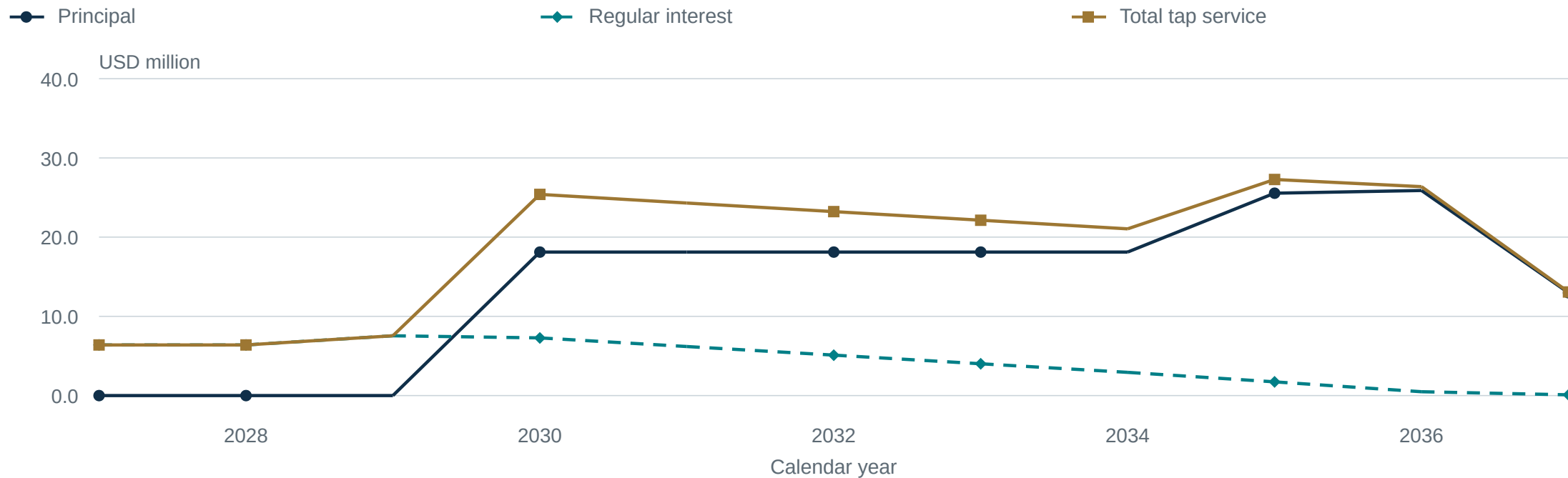
Sources: Ghana exchange terms (2024) [\[S02\]](#); Ghana final issue (2024) [\[S03\]](#); MoF Saderea exchange (Jul 2026) [\[S05\]](#); IDER calculations [\[S11\]](#).

Note: Past includes the initial amortisation whose exact agent date is not reconstructed. The historical committee-fee deduction affects net consideration, not future nominal principal.

The July 2026 taps add USD 6.389 million of regular coupon in 2027

Future service attributable only to the two additional issues; no old Saderea claim is retained as a second liability.

Figure 21. The July 2026 taps add USD 6.389 million of regular coupon in 2027



Sources: Ghana exchange terms (2024) [\[S02\]](#); MoF Saderea exchange (Jul 2026) [\[S05\]](#); IDER calculations [\[S11\]](#).

Note: The taps add USD 154.989 million of face. Their future payments are reconstructed from fungible-series terms; this is not additional cash borrowed on the exchange date.

Tap principal and remaining coupons answer different funding questions

USD million; scheduled cash after 26 September 2026 to the last maturity, undiscounted.

Table 40. Tap principal and remaining coupons answer different funding questions

Tap series	Principal	2027 coupon	All future coupons	All future service
Long Disco 2035	116.124195	5.806210	42.338881	158.463076
Par 2037	38.865091	0.582976	5.830055	44.695146

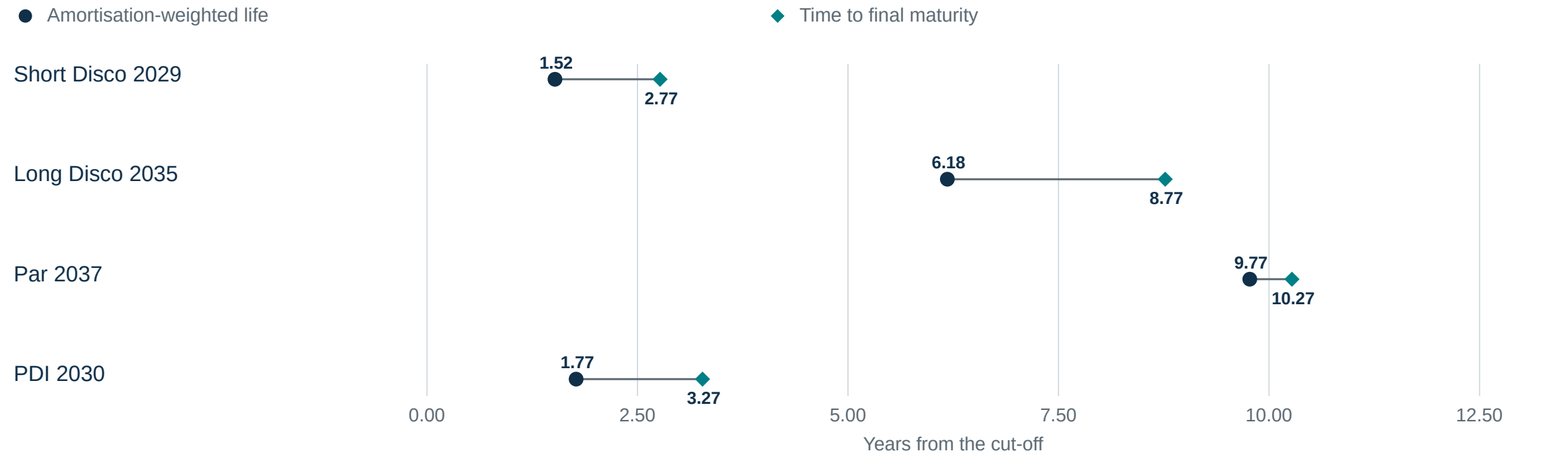
Sources: Ghana exchange terms (2024) [\[S02\]](#); MoF Saderea exchange (Jul 2026) [\[S05\]](#); IDER calculations [\[S11\]](#).

Note: Total future regular tap coupons are USD 48.169 million. This is not a present value, haircut or amount net of the old claim and accrued interest.

Amortising principal returns sooner than a final-maturity label suggests

Remaining principal-weighted time from 26 September 2026; years use 365.25 days.

Figure 22. Amortising principal returns sooner than a final-maturity label suggests



Sources: Ghana exchange terms (2024) [\[S02\]](#); Ghana final issue (2024) [\[S03\]](#); MoF Saderea exchange (Jul 2026) [\[S05\]](#); IDER calculations [\[S11\]](#).

Note: Programme averages are 5.214 years for amortisation-weighted life and 7.077 years for final-date weighting. These are not market duration or observed refinancing tenors.

Unadjusted dates identify windows—not bank settlement instructions

The next eight international-note dates are retained exactly as the published amortisation convention.

Table 41. Unadjusted dates identify windows—not bank settlement instructions

Contract date	Weekday	Principal USD m	Coupon USD m	Service USD m
2027-01-03	Sunday	420.725	169.008	589.732
2027-07-03	Saturday	420.725	160.020	580.745
2028-01-03	Monday	420.725	151.033	571.757
2028-07-03	Monday	420.725	142.045	562.770
2029-01-03	Wednesday	420.725	157.912	578.637
2029-07-03	Tuesday	420.725	147.127	567.852
2030-01-03	Thursday	393.164	136.342	529.505
2030-07-03	Wednesday	331.646	126.392	458.039

Sources: Ghana exchange terms (2024) [\[S02\]](#); Ghana final issue (2024) [\[S03\]](#); MoF Saderea exchange (Jul 2026) [\[S05\]](#); IDER calculations [\[S11\]](#).

Note: Six of the 21 remaining programme dates fall on weekends. No calendar-day adjustment is made without the business-day rule, holiday calendars and agent notice.

Ghana Petroleum and Sinking Funds is not the IMF financing line

The signed fund flow in Table 3c is separate from the exceptional-financing block.

Table 42. Ghana Petroleum and Sinking Funds is not the IMF financing line

Source item	Correct interpretation	Control in the revised analysis
Ghana Petroleum and Sinking Funds, net	Signed domestic fund-flow item within reported sources.	Name the fund explicitly. Its negative sign is retained; it is not incoming IMF finance.
Exceptional financing: IMF	Separate line below the pre-exceptional financing gap.	Add only once when constructing the post-exceptional residual.
Reported financing sources	Contains projected external and domestic components.	No assumed bank availability or unencumbered cash balance.
Private external financing	Includes projected Eurobond and other commercial issuance.	Test failure to realise this projected market funding separately from official flows.
Commitment revenue versus cash service	Table 3b revenue is a sensitivity base; Table 3c has its own cash perimeter.	Do not manufacture cash principal by subtracting commitment interest from service.

Sources: IMF CR 26/212 [\[S08\]](#); IDER calculations [\[S11\]](#).

Note: The original numerical fund values are unchanged. This revision corrects their ambiguous description and adds an explicit exceptional-financing crosswalk.

Exceptional financing changes the 2026 residual—but not the 2027–2029 grid

GHS billion; calculated values retain the displayed inputs rather than forcing agreement with rounded source residuals.

Table 43. Exceptional financing changes the 2026 residual—but not the 2027–2029 grid

Year	Calculated pre-gap	Exceptional	Calculated post-gap	Source post-gap
2025	14.8	14.4	0.4	0.4
2026	−14.0	4.6	−18.6	−18.5
2027	−12.2	0.0	−12.2	−12.2
2028	−12.2	0.0	−12.2	−12.2
2029	−12.2	0.0	−12.2	−12.2
2030	−12.3	0.0	−12.3	−12.2
2031	−12.2	0.0	−12.2	−12.2

Sources: IMF CR 26/212 [\[S08\]](#); IDER calculations [\[S11\]](#).

Note: The 2026 calculated post-gap is −18.6 versus −18.5 published; 2030 is −12.3 versus −12.2. Differences remain as source rounding. Negative residuals do not establish Treasury cash reserves.

Non-oil revenue, oil receipts and grants have different exposure mechanisms

Source Table 3b, GHS billion. These components reconcile to total revenue and grants at displayed precision.

Table 44. Non-oil revenue, oil receipts and grants have different exposure mechanisms

Year	Non-oil, excluding grants	Oil revenue	Grants	Total
2027	285.042	15.162	3.872	304.076
2028	330.014	16.621	4.401	351.036
2029	380.337	19.203	4.983	404.523
2030	432.115	20.312	5.661	458.088
2031	490.953	23.077	6.432	520.462

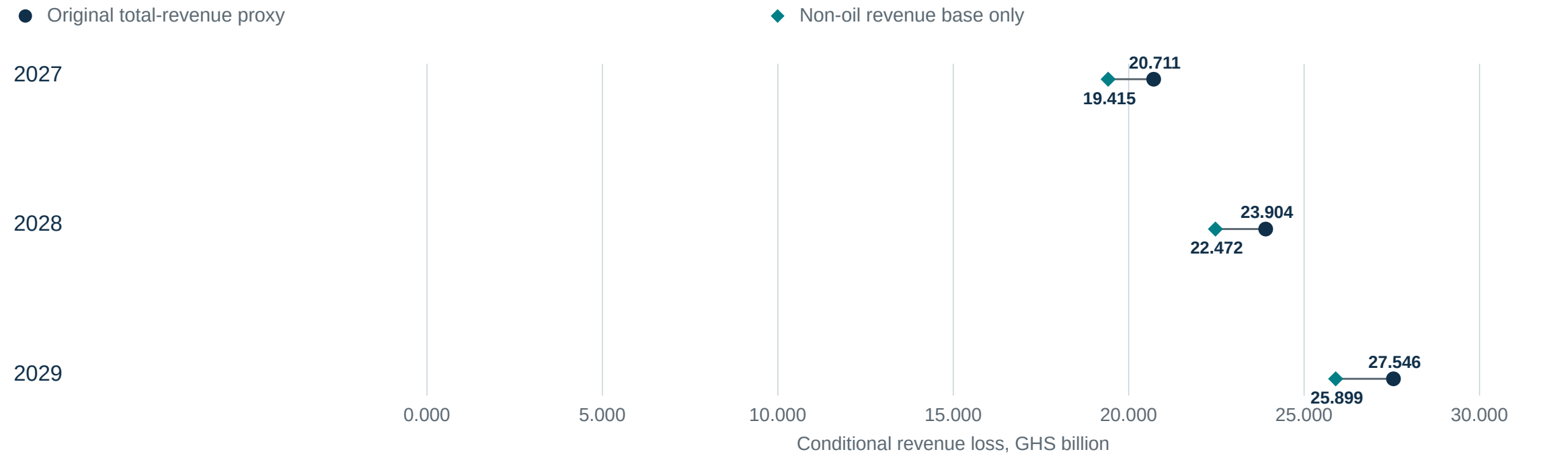
Sources: IMF CR 26/212 [\[S08\]](#); IDER calculations [\[S11\]](#).

Note: The sensitivity below changes only the non-oil base and holds oil and grants fixed. This is an explicit alternative—not an estimated tax elasticity or a claim that oil receipts cannot change.

Applying the same shock to every revenue component overstates this narrower test

Growth -2 percentage points, elasticity 1 and collections -5%; alternative keeps source oil revenue and grants unchanged.

Figure 23. Applying the same shock to every revenue component overstates this narrower test



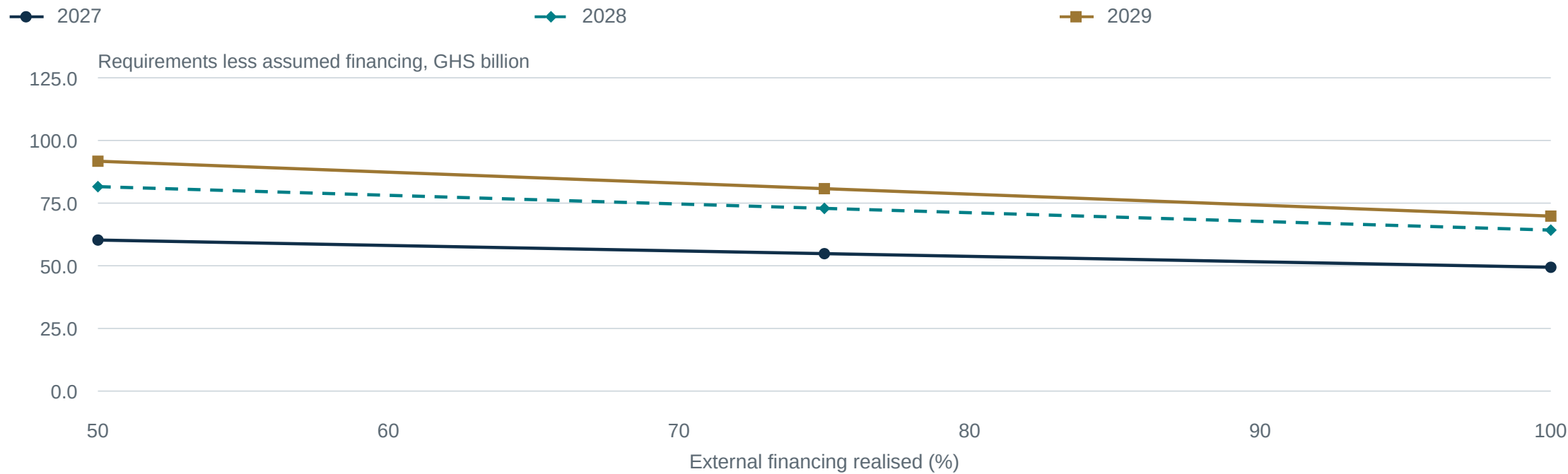
Sources: IMF CR 26/212 [\[S08\]](#); IDER calculations [\[S11\]](#).

Note: The 2028 revenue loss falls from 23.904 to 22.472 billion under the narrower base. The difference is a specification effect, not a corrected fiscal outturn.

External financing underperformance removes part of the apparent FX offset

Same original joint stress; only the fraction of projected external financing realised is varied.

Figure 24. External financing underperformance removes part of the apparent FX offset



Sources: IMF CR 26/212 [\[S08\]](#); IDER calculations [\[S11\]](#).

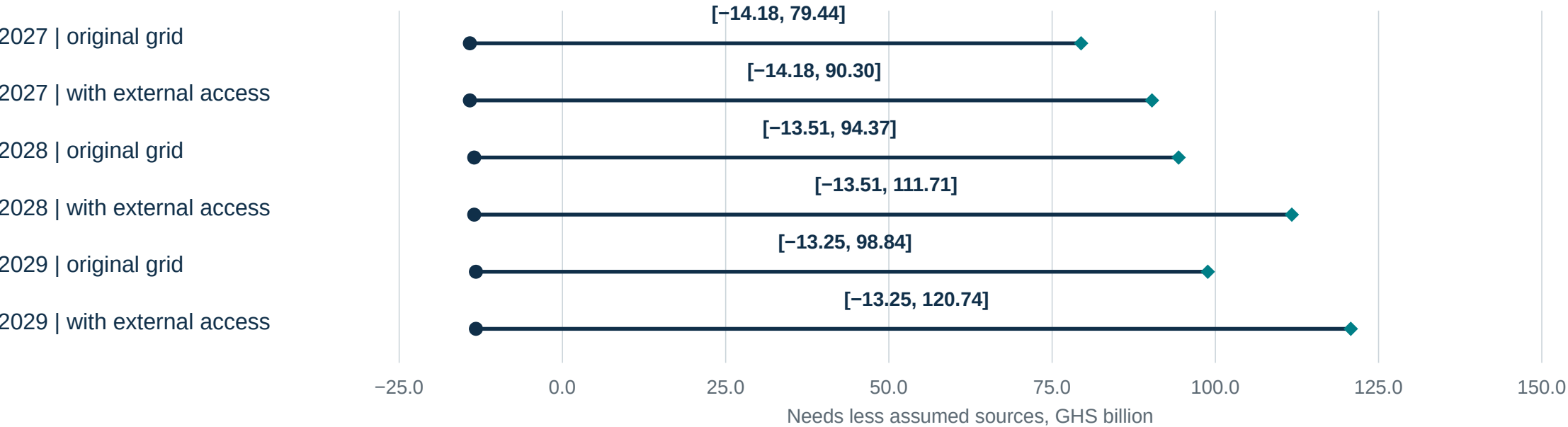
Note: At 75% external access, the 2028 gap is 72.914 billion versus 64.244 billion with full access. The 8.670 billion deterioration includes both lost funds and their FX translation.

The wider grid makes the fixed external-funding assumption visible

4,374 cases include all 1,458 original combinations at full external realisation, plus 75% and 50% cases.

Figure 25. The wider grid makes the fixed external-funding assumption visible

CONDITIONAL RANGES — NOT CONFIDENCE INTERVALS



Sources: IMF CR 26/212 [\[S08\]](#); IDER calculations [\[S11\]](#).

Note: No relative likelihood is assigned. Endpoints describe only the enumerated settings; more scenario rows do not create a larger empirical sample.

Projected market re-entry is a funding condition—not a committed receipt

Source financing plan and conditional lost cash at +20% GHS/FX; GHS billion.

Table 45. Projected market re-entry is a funding condition—not a committed receipt

Year	Planned Eurobond	Private external total	No Eurobond: extra call	No private: extra call
2027	0.0	0.0	0.00	0.00
2028	7.8	12.4	9.36	14.88
2029	8.3	14.9	9.96	17.88
2030	17.6	26.4	21.12	31.68
2031	18.7	30.2	22.44	36.24

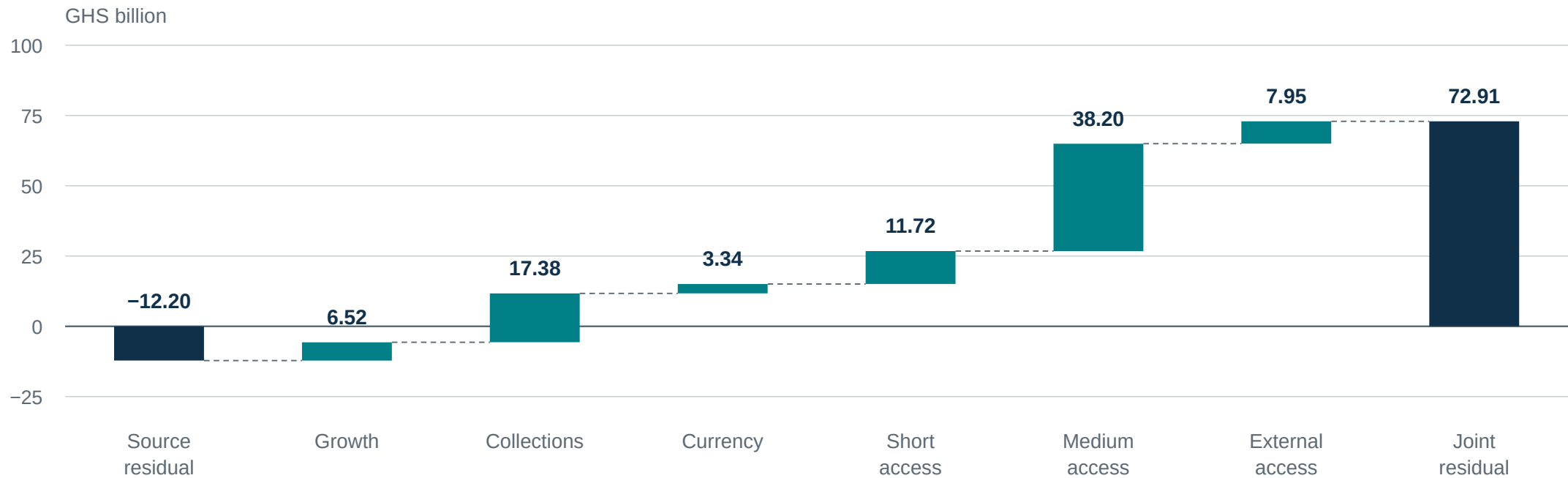
Sources: IMF CR 26/212 [\[S08\]](#); IDER calculations [\[S11\]](#).

Note: The alternatives are not additive: Eurobond issuance is within private external financing. In 2028, source private components differ by 0.1 billion from the printed private total; the total is retained.

The joint funding deterioration can be allocated without choosing an update order

2028: original joint shocks plus external realisation 75%; average marginal contributions over all 720 orders.

Figure 26. The joint funding deterioration can be allocated without choosing an update order



Sources: IMF CR 26/212 [\[S08\]](#); IDER calculations [\[S11\]](#).

Note: The six contributions sum to 85.114 billion. Growth–collection and currency–external-access interactions are shared symmetrically; no causal policy shares are claimed.

Lower external access raises the required medium-term issuance above plan

Other joint stress settings fixed; the required fraction is solved from the financing identity, not a demand model.

Table 46. Lower external access raises the required medium-term issuance above plan

Year	External realised	Medium required	Gap at 100% medium	Interpretation
2027	100%	123.23%	26.55 bn	Above the projected issuance amount.
2027	75%	127.98%	31.98 bn	Above the projected issuance amount.
2028	100%	113.64%	26.04 bn	Above the projected issuance amount.
2028	75%	118.17%	34.71 bn	Above the projected issuance amount.
2029	100%	111.33%	25.25 bn	Above the projected issuance amount.
2029	75%	116.24%	36.20 bn	Above the projected issuance amount.

Sources: IMF CR 26/212 [\[S08\]](#); IDER calculations [\[S11\]](#).

Note: Infeasible within-plan fractions signal a conditional need for other resources, spending adjustment or larger issuance—not evidence that the market can absorb the required amount.

No-conversion accounts reveal a different bridging requirement

The original synthetic amounts are retained, but GHS and USD balances can no longer offset one another automatically.

Table 47. No-conversion accounts reveal a different bridging requirement

External delay	Currency	Minimum	Week 13 closing	Required bridge
0 week(s)	GHS	-25.0	15.0	25.0
0 week(s)	USD	2.0	2.0	0.0
1 week(s)	GHS	-25.0	15.0	25.0
1 week(s)	USD	-10.0	2.0	10.0
3 week(s)	GHS	-25.0	15.0	25.0
3 week(s)	USD	-10.0	2.0	10.0

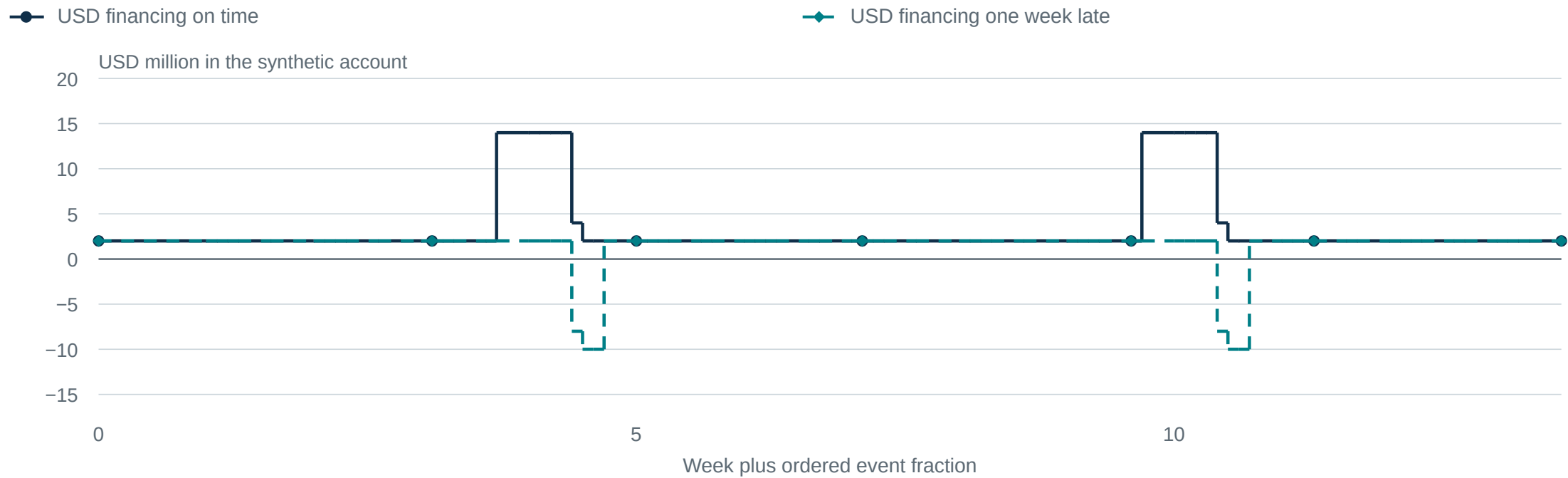
Sources: IDER calculations [\[S11\]](#).

Note: All values are native-currency millions. A one-week USD financing delay produces a USD 10 million interim need despite USD 2 million closing cash. Do not add this to a GHS amount without conversion.

Same-week dollar receipt does not cure an earlier dollar payment deficit

The late financing arrives after debt service in the imposed within-week sequence; no currency pooling or emergency facility.

Figure 27. Same-week dollar receipt does not cure an earlier dollar payment deficit



Sources: IDER calculations [\[S11\]](#).

Note: The one-week delay changes the minimum from +2 to -10 million while leaving closing dollars unchanged. Event fractions encode sequence, not actual weekdays.

The strengthened results have specific operational release conditions

Validation improves defined measurements; no independent sovereign treatment effect is inferred from additional rows.

Table 48. The strengthened results have specific operational release conditions

Finding or risk	Record needed next	Release condition
Domestic USD date/quantity conflict	Current CSD statement plus final pricing supplement and paying-agent coupon calendar.	Label September as a reference maturity; do not publish a certified coupon value date.
Seven international issue lots	Post-cut-off trades, buybacks, fees and matched settlement notices.	Principal/coupon reconstruction stays separate from paid-status certification.
Revenue and external funding sensitivity	Approved cash-revenue forecast and legally drawable financing commitments.	Imposed elasticities and realization fractions remain scenarios until independently estimated.
Sample selection / dependence	Failed or cancelled issues, alternative issuers, nonparticipants and pre-intervention outcomes.	Seven lots are not seven independent policy experiments; no artificial standard error or sampling weight.
Currency-specific bridging need	Restricted balances, conversion rights, intraday cut-offs and facility terms.	Synthetic deficits demonstrate sequencing; they are not a national Treasury shortfall.

Sources: [\[S02\]](#); [\[S03\]](#); [\[S05\]](#); [\[S08\]](#); [\[S15\]](#); [\[S11\]](#); see source register.

Note: The principal calendar and financing tests are independently reproducible. P01 remains prospective because contract identities and source projections do not identify a causal refinancing response.

Assumptions accompany every calendar and financing result

The model register distinguishes reconstructed contracts, historical cohorts and hypothetical cash tests.

Table 49. Assumptions accompany every calendar and financing result

Principle	Maintained rule	Interpretation
A1 Identity and currency	Unique instrument, issue lot, native currency and obligation ID.	No duplicate replacement note or conversion into extra principal.
A2 Date and status	Contractual date, month precision and paid status are separate.	A passed maturity date does not identify arrears.
A3 Accrual basis	Regular half-year coupons or explicitly labelled domestic proxies.	No invented initial stub or agent value-date adjustment.
A4 Scenario discipline	Published baseline plus named revenue, FX and access settings.	Finite cash sensitivity is not a forecast or probability.
A5 Coverage	Named captured subsets and retained source gaps.	No causal or all-government conclusion from incomplete schedules.

Sources: IDER calculations [\[S11\]](#).

Note: E01–E34 are accounting, contract or scenario methods. P01 is a prospective specification, not a fitted estimate.

Issue lots and principal fractions

Variables, assumptions and executable outputs accompany the calendar and financing methods.

E01 Opening principal by issue lot

EXECUTED CONTRACT ACCOUNTING

$$F_s = F_{\text{original},s} + F_{\text{tap},s} \tag{E01a}$$

$$B_{s,t-} = F_s - \sum_{u < t} A_{s,u} \tag{E01b}$$

F is issued face; B is principal before payment t; A is scheduled amortisation. Series and issue lots retain separate IDs.

ASSUMPTIONS / INTERPRETATION

July 2026 taps enter only after issue. Old Saderea claims are cancelled, not retained as a second liability. Later undisclosed changes are excluded.

E02 Amortisation schedule

EXECUTED PUBLISHED-TERM RECONSTRUCTION

$$A_{s,t} = F_s a_{s,t} \tag{E02a}$$

$$\sum_t a_{s,t} = 1 \tag{E02b}$$

a is the published original-face amortisation fraction. The five international series have different dates and fractions.

ASSUMPTIONS / INTERPRETATION

Principal is based on original lot face, not a fixed fraction of the declining balance. Unadjusted scheduled dates are not bank value dates.

Sources: IDER calculations [\[S11\]](#).

Note: Accounting reconstruction and conditional sensitivities are not causal policy estimates. Currency and coverage follow the relevant source.

Coupons and July 2026 taps

Variables, assumptions and executable outputs accompany the calendar and financing methods.

E03 Regular coupons and rate step

EXECUTED REGULAR-PERIOD RECONSTRUCTION

$$I_{s,t} = B_{s,t-} \cdot r_{s,t} / 2 \tag{E03a}$$

$$DS_{s,t} = A_{s,t} + I_{s,t} \tag{E03b}$$

I is regular semiannual interest; r is the annual cash rate. Disco rates move from 5% to 6% after 3 July 2028.

ASSUMPTIONS / INTERPRETATION

Special 2024/2025 consideration and stub coupons are not reconstructed. Interest uses principal before the same-date redemption.

E04 July 2026 tap reconciliation

EXECUTED ISSUE-LOT ACCOUNTING

$$\text{Tap} = 116124195 + 38865091 \tag{E04a}$$

$$\text{OldCancelled} = 117773027.98 \tag{E04b}$$

Amounts are USD. The taps enlarge the 2035 and 2037 series; the source separately identifies the old principal cancelled.

ASSUMPTIONS / INTERPRETATION

Difference between new face and old outstanding principal is not cash borrowing or a comparable haircut. Accrued-claim treatment remains separate.

Sources: IDER calculations [\[S11\]](#).

Note: Accounting reconstruction and conditional sensitivities are not causal policy estimates. Currency and coverage follow the relevant source.

Settlement status and domestic principal

Variables, assumptions and executable outputs accompany the calendar and financing methods.

E05 Scheduled versus settled obligations

ACCOUNTING CONTROL; STATUS PARTIAL

$$\text{OutstandingDue}_i = \text{Scheduled}_i - \text{PaidMatched}_i \tag{E05a}$$

$$\text{Count}(\text{TransferID}_i) = 1 \tag{E05b}$$

An obligation ID links due date, principal, interest and confirmed payment. The January 2026 Eurobond payment is in the December 2025 cash record.

ASSUMPTIONS / INTERPRETATION

Apply only to matched amounts and scope. Missing payment status is unknown, not paid or in default. Do not duplicate an early payment.

E06 General-category DDEP principal month

EXECUTED CAPTURED-COHORT RECONSTRUCTION

$$A_{y,\text{Feb}} = \text{Face}_y \tag{E06a}$$

$$\sum_y A_{y,\text{Feb}} = \text{CapturedFace} \tag{E06b}$$

Face is the end-2025 amount in the 12-row general-category table. Published terms specify one bullet payment in February of the maturity year.

ASSUMPTIONS / INTERPRETATION

No subsequent balance changes; A/B and other categories are outside this subset. One 2027 source date conflicts; February is a stated convention.

Sources: IDER calculations [\[S11\]](#).

Note: Accounting reconstruction and conditional sensitivities are not causal policy estimates. Currency and coverage follow the relevant source.

Domestic coupon and dollar cohorts

Variables, assumptions and executable outputs accompany the calendar and financing methods.

E07 Domestic regular coupon proxy

EXECUTED CONDITIONAL CASH ESTIMATE

$$I_{s,h} = \text{Face}_s r_s / 2 \tag{E07a}$$

$$\text{Service}_h = \sum_s (A_{s,h} + I_{s,h}) \tag{E07b}$$

h identifies February or August; matured principal is removed after its final coupon. All values retain GHS or USD denomination.

ASSUMPTIONS / INTERPRETATION

Regular half-year accrual proxy; pricing supplements, exact accrual days and operational payment dates are not authenticated. Not total DDEP service.

E08 Domestic USD issue-cohort amounts

EXECUTED ISSUANCE-COHORT ESTIMATE

$$\text{Face}_{2027} = \text{Face}_{2028} = 386321022 \tag{E08a}$$

$$I_{\text{year}} = \sum_{h \in \text{year}} \sum_{\text{active}(h)} \text{Face}_s r_s / 2 \tag{E08b}$$

USD faces combine FCA and FEA series in the September 2023 final issue. Rates are 2.75% and 3.25%. The preliminary August timetable conflicts with CSD September reference maturities.

ASSUMPTIONS / INTERPRETATION

Issue face is fixed, not current. Coupon dates remain unverified. February/August and March/September cycles are alternative proxies; interest sums active half-year coupons.

Sources: IDER calculations [\[S11\]](#).

Note: Accounting reconstruction and conditional sensitivities are not causal policy estimates. Currency and coverage follow the relevant source.

Maturity concentration and remaining time

Variables, assumptions and executable outputs accompany the calendar and financing methods.

E09 Maturity concentration

EXECUTED HISTORICAL COHORT DESCRIPTION

$$M(t) = \sum_{i: \text{date}_i \leq t} \text{Face}_i \tag{E09a}$$

$$\text{Share}(t) = 100M(t)/\sum_i \text{Face}_i \tag{E09b}$$

Captured amounts are whole-cedi Treasury-bill records at 31 December 2025. Dates are the printed maturity dates.

ASSUMPTIONS / INTERPRETATION

No later issuance, rollover or payment status inferred. Percentages use the unrounded 90-row sum; a historical due date is not arrears.

E10 Amount-weighted time to maturity

EXECUTED SNAPSHOT STATISTIC

$$\text{Days}_i = \text{Maturity}_i - \text{Snapshot} \tag{E10a}$$

$$\text{WAM} = \sum_i \text{Face}_i \text{Days}_i / \sum_i \text{Face}_i \tag{E10b}$$

WAM is a weighted number of calendar days at the stated snapshot. It is not Macaulay duration, a coupon-weighted maturity or investment return.

ASSUMPTIONS / INTERPRETATION

Use the same captured stock in numerator and denominator. Results are not rolled forward to September without transaction records.

Sources: IDER calculations [\[S11\]](#).

Note: Accounting reconstruction and conditional sensitivities are not causal policy estimates. Currency and coverage follow the relevant source.

Auction cash and aggregate financing

Variables, assumptions and executable outputs accompany the calendar and financing methods.

E11 Discount issuance and cash proceeds

EXECUTED HYPOTHETICAL BUDGET

$$\text{NewFace} = \text{CashRaised}(1 + y \text{ n}/365) \tag{E11a}$$

$$\text{Interest} = \text{NewFace} - \text{CashRaised} \tag{E11b}$$

y is an assumed annual simple yield; n is tenor in days. Cash raised is normalised to 100.

ASSUMPTIONS / INTERPRETATION

Illustrative yield convention, not a Ghana auction pricing prescription or market quote. Face rollover does not necessarily deliver equal cash.

E12 Annual financing source record

REPRODUCED SOURCE PROJECTIONS

$$\text{DS} = \text{DomesticService} + \text{ExternalService} + \rho \tag{E12a}$$

$$\text{BaselineGap} = \text{GFN} - \text{SourcesReported} \tag{E12b}$$

GFN and service use IMF Table 3c current-projection columns, GHS billion. ρ preserves source rounding and components.

ASSUMPTIONS / INTERPRETATION

A negative baseline gap is a projection-table residual, not a verified Treasury cash reserve. Commitment interest is not subtracted to invent cash principal.

Sources: IDER calculations [\[S11\]](#).

Note: Accounting reconstruction and conditional sensitivities are not causal policy estimates. Currency and coverage follow the relevant source.

Source residuals and revenue response

Variables, assumptions and executable outputs accompany the calendar and financing methods.

E13 Funding-component reconciliation

EXECUTED SOURCE DIAGNOSTIC

$$F_{sum} = Short + Medium + Strengthening + External + FundNet \tag{E13a}$$

$$\rho_F = SourcesReported - F_{sum} \tag{E13b}$$

The source separately reports financing components and totals. FundNet is Ghana Petroleum and Sinking Funds, net; it is signed and separate from exceptional IMF finance. Ratios and cash tables retain their own perimeters.

ASSUMPTIONS / INTERPRETATION

Do not force exact closure by creating a financing flow; residuals are preserved in every stress calculation.

E14 Growth and collection revenue factor

EXECUTED CONDITIONAL SENSITIVITY

$$q_R = [(1 + g_0 + \delta g)/(1 + g_0)]^\eta (1 - c) \tag{E14a}$$

$$RevenueLoss = R_0(1 - q_R) \tag{E14b}$$

Growth rates are fractions; δg is the gap from baseline; η is an imposed revenue elasticity; c is an independent collection shortfall.

ASSUMPTIONS / INTERPRETATION

One-year real-output level sensitivity with deflator fixed. Revenue plus grants is a proxy; no tax buoyancy, grant response or causal growth effect is fitted.

Sources: IDER calculations [\[S11\]](#).

Note: Accounting reconstruction and conditional sensitivities are not causal policy estimates. Currency and coverage follow the relevant source.

Requirements and funding realisation

Variables, assumptions and executable outputs accompany the calendar and financing methods.

E15 Stressed gross financing requirement

EXECUTED CONDITIONAL ACCOUNTING

$$N^* = GFN_0 + \text{RevenueLoss} + \varepsilon DS_{\text{ext},0} \tag{E15a}$$

$$\text{AdditionalNeed} = N^* - GFN_0 \tag{E15b}$$

ε is the imposed GHS/FX change. External-category debt service is the broad source-table translation proxy.

ASSUMPTIONS / INTERPRETATION

Primary spending and other needs fixed. External statistical classification is not verified currency denomination; exact USD service is modelled separately.

E16 Realised financing proxy

EXECUTED CONDITIONAL ACCOUNTING

$$F_{\text{pre}} = F_0 - (1 - \rho_s)S - (1 - \rho_m)M \tag{E16a}$$

$$F^* = F_{\text{pre}} - (1 - \rho_e)E + \varepsilon \rho_e E \tag{E16b}$$

S, M and E are source planned short, medium and external financing; ρ terms are assumed realisation fractions. F_0 is the reported total; F_{pre} is the intermediate financing subtotal.

ASSUMPTIONS / INTERPRETATION

No new rescue funding or asset drawdown. Source rounding residual remains in F_0 . Actual access is not inferred from an announcement.

Sources: IDER calculations [\[S11\]](#).

Note: Accounting reconstruction and conditional sensitivities are not causal policy estimates. Currency and coverage follow the relevant source.

Incremental need and currency translation

Variables, assumptions and executable outputs accompany the calendar and financing methods.

E17 Incremental funding call

EXECUTED COMPARATIVE ACCOUNTING

$$\text{Gap}^* = N^* - F^* \tag{E17a}$$

$$\text{ExtraCall} = \text{Gap}^* - (\text{GFN}_0 - F_0) \tag{E17b}$$

Positive Gap* means the scenario requirements exceed the assumed financing proxy. ExtraCall isolates the change from the source baseline.

ASSUMPTIONS / INTERPRETATION

Neither measure is an observed national cash shortfall. Source planned resources are not committed bank balances.

E18 Two-sided currency translation

EXECUTED CONDITIONAL ACCOUNTING

$$\text{NetFXCall} = \varepsilon(\text{DS}_{\text{ext}} - \rho_e E) \tag{E18a}$$

$$\text{Cost}^{\text{GHS}}_{\text{USD}} = \text{Service}^{\text{USD}} e \tag{E18b}$$

The first identity applies broad external-category proxies; the second uses reconstructed contractual USD Eurobond cash under an assumed GHS/USD rate.

ASSUMPTIONS / INTERPRETATION

Do not shock service while leaving the same-currency incoming financing unchanged. No transfer, settlement or currency-access guarantee is assumed.

Sources: IDER calculations [\[S11\]](#).

Note: Accounting reconstruction and conditional sensitivities are not causal policy estimates. Currency and coverage follow the relevant source.

Reverse financing and finite stress ranges

Variables, assumptions and executable outputs accompany the calendar and financing methods.

E19 Required medium-term financing

EXECUTED REVERSE FUNDING TEST

$$\rho_m^* = \text{Gap}^*(\rho_m = 0)/M_0 \tag{E19a}$$

$$\text{Excess} = \max(0, \rho_m^* - 1) \tag{E19b}$$

M_0 is positive source planned medium-term issuance. Other joint-stress assumptions are kept fixed.

ASSUMPTIONS / INTERPRETATION

A requirement above 100% exceeds the planned amount. It is not estimated auction demand, an optimal issuance target or an instruction to borrow.

E20 Finite stress grid

EXECUTED CONDITIONAL ENVELOPE

$$\text{Low}_y = \min_{\theta \in \Theta} \text{Gap}_y(\theta) \tag{E20a}$$

$$\text{High}_y = \max_{\theta \in \Theta} \text{Gap}_y(\theta) \tag{E20b}$$

Θ includes 1,458 combinations across three years, growth, revenue elasticity, collections, FX and short/medium financing access.

ASSUMPTIONS / INTERPRETATION

Finite imposed settings, not a probability distribution or confidence set. Endpoints cover only the tested combinations.

Sources: IDER calculations [\[S11\]](#).

Note: Accounting reconstruction and conditional sensitivities are not causal policy estimates. Currency and coverage follow the relevant source.

Ordered cash and bridge funding

Variables, assumptions and executable outputs accompany the calendar and financing methods.

E21 Ordered Treasury cash ledger

EXECUTED SYNTHETIC LIQUIDITY TEST

$$C_k = C_0 + \sum_{j \leq k} (In_j - Out_j) \tag{E21a}$$

$$C_0 = C^{GHS}_0 + e_0 C^{USD}_0 \tag{E21b}$$

k indexes ordered events over 13 weeks. Native USD flows are converted once; GHS flows retain their amounts.

ASSUMPTIONS / INTERPRETATION

Entire ledger is hypothetical. Revenue arrives before primary spending; debt payments precede the same-week local auction. No hidden facility inserted.

E22 Minimum bridging finance

EXECUTED SYNTHETIC CASH TEST

$$Cmin = \min_k C_k \tag{E22a}$$

$$Bridge = \max(0, -Cmin) \tag{E22b}$$

Minimum includes every ordered event, not only weekly closing balances. Units are GHS million in the synthetic example.

ASSUMPTIONS / INTERPRETATION

Negative cash is unmet model funding, not approved overdraft or a Ghana default. Facility interest and collateral are excluded.

Sources: IDER calculations [\[S11\]](#).

Note: Accounting reconstruction and conditional sensitivities are not causal policy estimates. Currency and coverage follow the relevant source.

Delayed proceeds and currency access

Variables, assumptions and executable outputs accompany the calendar and financing methods.

E23 Refinancing delay and horizon

EXECUTED CONDITIONAL TIMING

$$\text{Auction}_{w+\ell} = \rho \text{ FaceDue}_w \tag{E23a}$$

$$\text{Pending} = \sum_{t>13} \text{ScheduledFlow}_t \tag{E23b}$$

ℓ is a whole-week auction delay and ρ a cash-rollover fraction. Pending receipts are retained after the 13-week reporting horizon.

ASSUMPTIONS / INTERPRETATION

Delayed financing is not cancelled financing. Closing cash and maximum bridge answer different questions; exact Government dealing practice is not inferred.

E24 Currency-by-date control

MEASUREMENT DEFINITION

$$\text{Gap}_{c,t} = \text{Payments}_{c,t} - \text{UsableResources}_{c,t} \tag{E24a}$$

$$\text{Total}^{\text{GHS}}_t = \sum_c e_{c,t} \text{Gap}_{c,t} \tag{E24b}$$

c is an enforceable payment currency. Conversion creates a reporting equivalent, not a right to deploy another account's funds.

ASSUMPTIONS / INTERPRETATION

No complete native-currency Treasury ledger obtained. Keep the GHS general-DDEP and USD note calendars separate until a funding rate and access are specified.

Sources: IDER calculations [\[S11\]](#).

Note: Accounting reconstruction and conditional sensitivities are not causal policy estimates. Currency and coverage follow the relevant source.

Rounding, coverage and release conditions

Variables, assumptions and executable outputs accompany the calendar and financing methods.

E25 Rounded source reconciliation

EXECUTED NUMERICAL DIAGNOSTIC

$$\text{Residual} = \text{Reconstructed} - \text{SourceDisplay} \tag{E25a}$$

$$\text{Compatible} = |\text{Residual}| \leq \text{HalfUnit} \tag{E25b}$$

HalfUnit uses the stated display precision, such as USD 0.05 million for a one-decimal million figure.

ASSUMPTIONS / INTERPRETATION

Rounding compatibility does not authenticate undisclosed transactions. Calendar rates, principal fractions and sources remain inspectable.

E26 Coverage and release status

IMPLEMENTED EVIDENCE CONTROL

$$\text{CapturedTotal} = \sum_{\text{unique IDs}} \text{CapturedAmount} \tag{E26a}$$

$$\text{UnknownStatus} \neq \text{Paid} \neq \text{Arrears} \tag{E26b}$$

Separate covered published issues, historical cohorts, reported payments, projections and synthetic scenarios. Duplicate identifiers are checked.

ASSUMPTIONS / INTERPRETATION

No sampling frame for all debt service. Coverage gaps are not zero; a larger row count is not more independent sovereign observations.

Sources: IDER calculations [\[S11\]](#).

Note: Accounting reconstruction and conditional sensitivities are not causal policy estimates. Currency and coverage follow the relevant source.

Incremental issues and source-date conflicts

Variables, assumptions and executable outputs accompany the calendar and financing methods.

E27 Tap-only principal and coupon service

EXECUTED ISSUE-LOT ACCOUNTING

$$\Delta DS_t = DS_t(\text{with taps}) - DS_t(\text{original}) \tag{E27a}$$

$$\sum_t A_{\text{tap},t} = F_{\text{tap}} \tag{E27b}$$

Taps are USD 116,124,195 and USD 38,865,091, issued July 2026. Regular coupons follow the fungible long and par series.

ASSUMPTIONS / INTERPRETATION

No later transaction, old cancelled principal or special historical fee is added. This is marginal scheduled cash, not the net economic cost of the restructuring.

E28 Domestic USD source-date crosswalk

EXECUTED REFERENCE COMPARISON

$$\Delta F_i = F_{\text{CSD},i} - F_{\text{issue},i} \tag{E28a}$$

$$I_{s,h} = F_{\text{issue},s} r_s / 2 \tag{E28b}$$

Match the four ISINs. CSD shows 4 September 2027/2028; the preliminary memorandum says August. CSD quantities have no stated as-of date.

ASSUMPTIONS / INTERPRETATION

Do not infer missing trades or actual coupon dates. February/August and March/September are labelled cycle alternatives; reference principal and coupon status remain separate.

Sources: IDER calculations [\[S11\]](#).

Note: Accounting reconstruction and conditional sensitivities are not causal policy estimates. Currency and coverage follow the relevant source.

Amortisation life and exceptional finance

Variables, assumptions and executable outputs accompany the calendar and financing methods.

E29 Principal-weighted remaining life

EXECUTED AMORTISATION STATISTIC

$$WAL = \sum_t A_t(t - t_0) / \sum_t A_t \tag{E29a}$$

$$FinalLife = \sum_s B_s(T_s - t_0) / \sum_s B_s \tag{E29b}$$

A is future amortisation after 26 September 2026; B is remaining principal and T is final maturity. Calendar days are divided by 365.25 for years.

ASSUMPTIONS / INTERPRETATION

Weight by principal, not coupon or market price. No past amortisation, business-day shift, market duration or current buyback is inferred.

E30 Exceptional financing crosswalk

EXECUTED SOURCE RECONCILIATION

$$Gap_{pre} = GFN - Sources \tag{E30a}$$

$$Gap_{post} = Gap_{pre} - Exceptional \tag{E30b}$$

Exceptional financing is a separate Table 3c source block. Ghana Petroleum and Sinking Funds is included, signed, within Sources. All units are GHS bn.

ASSUMPTIONS / INTERPRETATION

Preserve differences from the published rounded gap. A negative result is not usable Treasury cash. Exceptional sources are zero for the 2027–2029 scenario years.

Sources: IDER calculations [\[S11\]](#).

Note: Accounting reconstruction and conditional sensitivities are not causal policy estimates. Currency and coverage follow the relevant source.

Revenue bases and external access

Variables, assumptions and executable outputs accompany the calendar and financing methods.

E31 Non-oil revenue sensitivity

EXECUTED ALTERNATIVE REVENUE BASE

$$R^* = R_N q_R + R_O + G \tag{E31a}$$

$$Loss_N = R_N(1 - q_R) \tag{E31b}$$

R_N is source non-oil revenue excluding grants; R_O oil revenue; G grants.
q_R uses the original growth and collection scenario factor.

ASSUMPTIONS / INTERPRETATION

Oil and grants remain fixed only in this alternative. The elasticity is imposed, not estimated; source residuals and commitment/cash coverage remain explicit.

E32 External financing realisation

EXECUTED ACCESS SENSITIVITY

$$ExtraCall_E = (1 + \epsilon)(1 - \rho_e)E_0 \tag{E32a}$$

$$Gap^* = GFN^* - F^* \tag{E32b}$$

E_0 is planned external financing; ρ_e is 1, 0.75 or 0.50. The 4,374 combinations contain the original 1,458 cases at ρ_e=1.

ASSUMPTIONS / INTERPRETATION

External-category flows are currency proxies; no market-access probability is estimated. A projected Eurobond is a subset of private external funding, never an additive loss.

Sources: IDER calculations [\[S11\]](#).

Note: Accounting reconstruction and conditional sensitivities are not causal policy estimates. Currency and coverage follow the relevant source.

Interaction attribution and native cash

Variables, assumptions and executable outputs accompany the calendar and financing methods.

E33 Six-channel Shapley attribution

EXECUTED SCENARIO ACCOUNTING

$$\varphi_j = \text{mean}_{720 \text{ orders}} [\text{Gap}(\text{after } j) - \text{Gap}(\text{before } j)] \tag{E33a}$$

$$\sum_j \varphi_j = \text{Gap}_{\text{joint}} - \text{Gap}_{\text{baseline}} \tag{E33b}$$

The six changes are growth, collection, FX, short access, medium access and external access. Elasticity is fixed at 1 for the joint attribution.

ASSUMPTIONS / INTERPRETATION

Average every order of the same endpoints. Interactions are allocated by convention; no fiscal-policy treatment effect or estimated behavioural parameter is implied.

E34 Segregated currency cash

EXECUTED SYNTHETIC DATE TEST

$$C_{c,k} = C_{c,0} + \sum_{j \leq k} \text{Flow}_{c,j} \tag{E34a}$$

$$\text{Bridge}_c = \max(0, -\min_k C_{c,k}) \tag{E34b}$$

Currencies c=GHS,USD stay separate. The original hypothetical ledger is retained; external financing is shifted 0, 1, 2 or 3 weeks.

ASSUMPTIONS / INTERPRETATION

No cross-currency conversion, pooling or emergency loan. Within-week debt precedes financing. Native bridge amounts must not be added without an explicit rate and access rule.

Sources: IDER calculations [\[S11\]](#).

Note: Accounting reconstruction and conditional sensitivities are not causal policy estimates. Currency and coverage follow the relevant source.

Prospective causal refinancing research

Variables, assumptions and executable outputs accompany the calendar and financing methods.

P01 Prospective refinancing-policy evaluation

PROSPECTIVE ONLY — NOT ESTIMATED

$$Y_{i,t} = \alpha_i + \lambda_t + \beta(\text{Exposure}_{i,0} \times \text{Shock}_t) + u_{i,t} \tag{P01a}$$

$$Y = \text{yield, cash raised or payment delay} \tag{P01b}$$

Exposure must precede a defensible intervention; outcomes are market or payment results rather than components of an accounting identity.

ASSUMPTIONS / INTERPRETATION

Requires justified assignment, anticipation/spillover checks, failed offers, valid comparison and appropriate clustering. No causal estimate is presented here.

NO NEW CAUSAL COEFFICIENT

A calendar records contractual payments; a cash model evaluates funding under assumptions. Neither identifies what a refinancing policy would have caused in the absence of that policy.

The report supplies a testable research design without filling missing markets, instruments or outcomes with fabricated observations.

Sources: IDER calculations [\[S11\]](#).

Note: Accounting reconstruction and conditional sensitivities are not causal policy estimates. Currency and coverage follow the relevant source.

Five substitutions connect the calendar to its financing implications

Full precision remains in the supplied data and code; display values are rounded.

Table 50. Five substitutions connect the calendar to its financing implications

Calculation	Substitution / result	Interpretation
2027 Eurobond cash	USD 841.449 m principal +329.028 m interest =1,170.477 m.	Published programme includes the July 2026 taps.
February 2027 general DDEP	GHS 29.381 bn principal +8.211 bn coupon proxy =37.592 bn.	Captured cohort under February convention; exact date conflict remains.
Domestic USD issue cohort	$2 \times (139,967,244 + 246,353,778) = \text{USD } 772,642,044.$	Two equal maturity-year faces, each split into FCA/FEA series.
2028 joint extra funding	$-12.20 \text{ baseline residual} + 76.44 \text{ extra call} = 64.24 \text{ GHS bn.}$	Conditional requirements less assumed financing, not an observed gap.
Synthetic delayed refinancing	$\max(0, -[-45]) = \text{GHS } 45 \text{ m bridge.}$	One-week delay; GHS 40 m proceeds remain scheduled after week 13.

Sources: [\[S01\]](#); [\[S02\]](#); [\[S03\]](#); [\[S05\]](#); [\[S12\]](#); [\[S13\]](#); [\[S14\]](#); [\[S11\]](#); see source register.

Note: No amount in the hypothetical Treasury ledger is an estimate of government bank balances.

Trace the report from contract terms to payment dates and cash tests

The evidence package separates source records, published-term reconstruction and conditional financing scenarios.

Table 51. Trace the report from contract terms to payment dates and cash tests

Layer	Input / implementation	Output
Eurobond programme	eurobond_issue_lots.csv; eurobond_terms.json; analyse.py	By series, date and year: principal, coupon, tap and settlement reconciliation.
Domestic calendar	ddep_bond_table.csv; domestic_usd_issue_cohort.csv; add_domestic.py	Month-level captured cohorts, coupon proxies and source-date sensitivity.
Historical bills	tbill_security_register.csv; analyse.py	Unique-date, quarter, month and remaining-time measures.
Annual and event stress	IMF financing CSV; assumptions.json; analyse.py	1,458 annual cases, reverse funding and six synthetic event paths.
Validation extension	inputs/validation; validate_extend.py; verify_validation.py	Source-date/quantity crosswalk; 4,374 scenarios; lot life, financing and currency cash diagnostics.
Publication and verification	build_report.py; refine_final_design.py; finalise.py; verify_final_design.py	Editable vector exhibits, linked PDF, independent checks and identity manifest.

Sources: IDER calculations [\[S11\]](#).

Note: Primary source binaries are not bundled. URLs, inspected page locators and structured transcriptions support verification against the originals.

References and source links — 1 of 5

Titles link to primary publications; dates, scope and precise locators remain in the source register.

S01 Ministry of Finance, Ghana | 2026 publication; end-2025 records

Annual Public Debt Report for the 2025 Financial Year

PDF pp. 20, 22, 29, 31, 39–41, 44, 47–49, 55, 65, 89–92; Tables 6.1, 8.3, 8.5, 8.10; Appendix 3.

S02 Republic of Ghana | 5 September 2024

Eurobond exchange launch: Table D, new-note amortisation and coupon terms

Table D; Special Consideration Payments; expected timetable.

S03 Republic of Ghana | 8 October 2024

Final principal amounts of new notes

Final issue table: five note series; Reg S ISINs and nominal amounts.

References and source links — 2 of 5

Titles link to primary publications; dates, scope and precise locators remain in the source register.

S04 Ministry of Finance, Ghana | 6 July 2026

Government of Ghana settles US\$700 million Eurobond obligation

Opening three paragraphs: paid 2 July; principal 525.2 m; interest 174.8 m.

S05 Ministry of Finance, Ghana | 13 July 2026

Completion of the exchange of Saderea Notes

The Transaction: cancelled USD 117,773,027.98; taps USD 116,124,195 (2035), USD 38,865,091 (2037).

S06 Ministry of Finance, Ghana | 18 February 2026

Government pays GH¢10 billion DDEP interest

First three paragraphs: sixth coupon, second fully cash; cedi-denominated.

References and source links — 3 of 5

Titles link to primary publications; dates, scope and precise locators remain in the source register.

S07 Ministry of Finance, Ghana | 19 August 2026

Government pays GH¢10.8 billion DDEP coupon in full and in cash

Release text dated 19 August (URL has 18 August); GHS 10,816,840,318.26; third fully cash coupon.

S08 IMF / Ghanaian authorities | July 2026

Ghana: 2026 Article IV and Sixth ECF Review; Country Report 26/212

PDF pp. 51–54: Tables 2, 3a, 3b, 3c; p. 168 DSA Table 2; p. 29 strategy; validation: Table 3b, PDF p. 53 revenue components; Table 3c, PDF p. 54 exceptional financing and projected private funding.

S09 Ministry of Finance, Ghana | 29 January 2025

Signed OCC memorandum of understanding

Opening statement; bilateral implementation agreements paragraph.

References and source links — 4 of 5

Titles link to primary publications; dates, scope and precise locators remain in the source register.

S10 Ministry of Finance, Ghana | 30 August 2026

Medium-term Treasury bond issuance in Q3 2026

Four-year bond; bookbuild 1–3 September, planned settlement 7 September 2026.

S11 Institute of Development and Economic Research | 26 September 2026

Repayment Calendar: Contract Reconstruction and Financing Sensitivity Protocol

Companion code/analyse.py, add_domestic.py, validate_extend.py, refine_final_design.py and verify_final_design.py; source/status audit, frozen outputs and final publication checks.

S12 Ministry of Finance, Ghana | 2023

DDEP reopening exchange memorandum

PDF pp. 20-22 (printed pp. 18-20): general-category and A/B cash coupon, bullet principal and maturity month; PDF p. 45 terms.

References and source links — 5 of 5

Titles link to primary publications; dates, scope and precise locators remain in the source register.

S13 Ministry of Finance, Ghana | 2023

Domestic US-dollar debt exchange memorandum

PDF p. 16 (printed15): 2.75% August 2027 and 3.25% August 2028, semiannual cash, bullet principal.

S14 Ministry of Finance, Ghana | 2023

Domestic US-dollar debt exchange settlement announcement

7 September 2023 announcement, PDF pp. 1 and 3; settled 4 September, Appendix A four ISINs/issued principals.

S15 Central Securities Depository, Ghana | Undated public table; accessed 26 September 2026

Government of Ghana active securities: dollar stock position

Dollar stock table: six visible GOG rows, especially ISINs GHGGOG071689/1697/1705/1713.

A repayment calendar is a cash-funding system—not a stock-ratio chart

The publication connects known contract windows with explicit uncertainty about funding and coverage.

PRINCIPAL AND COUPONS	FUNDING CAPACITY	RELEASE STANDARD
The five-series Eurobond programme and July 2026 taps generate a traceable regular-payment schedule. Domestic GHS and USD contracts add different month and currency windows, with cohort limits stated.	Source projections rely increasingly on medium-term financing. Revenue, FX and access shocks change the annual call; within-week sequencing can create a bridge even when financing arrives during the same week.	Publish contract date, currency, principal, interest and paid status together. Keep exact dates, source months, projections and scenarios separate. Resolve the remaining agent and instrument-level gaps before operational use.

Sources: [\[S02\]](#); [\[S03\]](#); [\[S05\]](#); [\[S08\]](#); [\[S12\]](#); [\[S13\]](#); [\[S14\]](#); see source register.

Note: This is an independent IDER calendar-based assessment, not an authenticated complete live Treasury ledger, credit rating or causal policy verdict.

Institute of Development and Economic Research

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