

Debt Service and Human Development

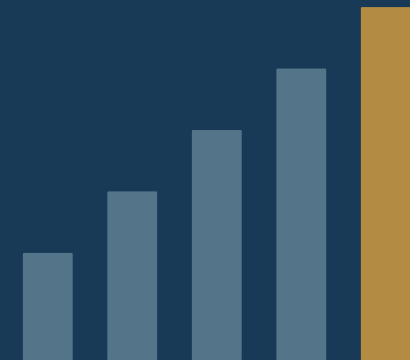
Spending in Ghana

Health. Education. Social protection. Execution. Real resources.

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

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INFORMATION CUT-OFF
26 SEPTEMBER 2026

Fiscal evidence: 2019–2031, by status
Execution: 2020–2024; budget plans: 2026

About this publication

Independent research • transparent evidence • reproducible calculations

TITLE AND SERIES

Debt Service and Human Development Spending in Ghana

IDER's Ghana Macroeconomic Policy and Business Intelligence Briefings

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Sector evidence: 2019–2025, status-specific.
Original 2026 allocations; IMF projections: 2026–2031.
Further validation preserves the source-data vintage.

RESPONSIBILITY AND INTERPRETATION

The author and IDER are responsible for this independent publication. Citation does not imply endorsement. Accounting comparisons, source projections and conditional scenarios are distinct. No original Ghana-wide causal effect or complete functional spending total is claimed.

DATA, CODE AND ENQUIRIES

The package provides source transcriptions, assumptions, calculation and publication code, exhibit data and verification records. Original source binaries are not bundled. Research and corrections: info@iderafrica.com.

Contents

Printed folios and PDF pages match; entries link to the relevant section.

READING AND DECISION USE	DEBT AND SECTOR EVIDENCE	APPLICATION AND TECHNICAL REFERENCE
About this publication2	1 Measurement and coverage19	7 Real-resource protection70
Reading guide4	2 Debt and fiscal financing24	8 Debt and financing stress76
Infographic abstract5	3 Sector financing and real resources31	9 Provider liquidity and business use83
Two-page decision brief6	4 Allocation and execution41	10 Identification and linked data87
Abbreviations and reading terms8	5 Social protection and payment quality53	11 Decision use and implementation90
How to interpret the evidence9	6 Original 2026 sector budgets62	12 Source limits and reproducibility95
Figure, table and model indexes10		13 Models and worked calculations98
Technical terminology15		14 Empirical validation and robustness114
		15 Further validation and comparability137
		16 Non-technical conclusions151
		17 SMART recommendations154
		References and evidence synthesis158

NAVIGATION Running headers return to Contents. Source IDs link to References; equation IDs return to the model index.

Read the debt obligation, sector allocation and delivered resources together

A budget allocation, a cash payment and a service outcome are three different records.

01 WHAT IS THE FINANCING PRESSURE?

Separate cash interest, principal repayment, refinancing and currency needs. A declining debt stock or ratio does not identify the cash available for sector services.

[Debt evidence | p. 24](#)

02 WHAT WAS ALLOCATED AND EXECUTED?

Map ministry and fund overlap; distinguish budget, release and actual spending. Compare the same-period execution denominator and retain source revisions.

[Execution | p. 41](#)

03 WHAT REACHED PEOPLE?

Adjust for prices and population, then verify provider payments and beneficiary receipts. Public-service quality and causal effects require their own evidence.

[Social protection | p. 53](#)

[Models and equations | p. 98](#)

Protecting human development requires more than a higher nominal budget

Research question: how do debt-service pressures compare with sector financing, execution and real resources per resident?

RESEARCH QUESTION

Can debt payments and sector funding be understood on one basis?

Not without matching scope, execution, prices and payment dates.

01 MEASURE

Separate debt service, revenue, sector financing and source-specific allocations.

02 RECONCILE

Check 15 health execution pairs, programme releases, overlapping funds and price vintages.

03 VALIDATE

Recompute real resources, all-year exclusion tests and 11 LEAP payment windows; retain source conflicts.

CAPTURED HEALTH ACTUALS

+7.71% / -13.99%

2024 nominal growth versus CPI- and population-adjusted change; limited to the three-category execution series.

2024 GOODS AND SERVICES

-31.25%

Real per-resident decline in captured health operating inputs. Common-price sensitivity; not a clinical-outcome estimate.

Sources: IMF [\[S01\]](#); UNICEF sector briefs [\[S03–S05\]](#); IDER calculations [\[S08\]](#). Accounting and conditional evidence, not identified policy effects.

Debt pressure and sector execution require separate tests

The evidence combines dated fiscal records, programme financing and explicit conditional stress.

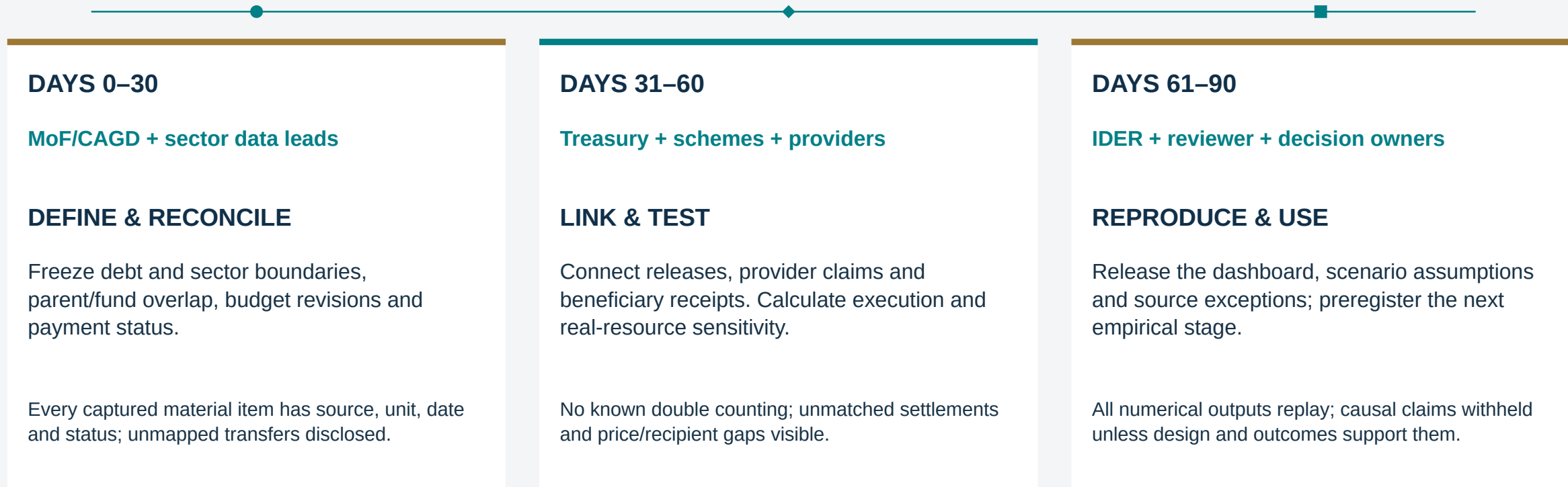
01 DEBT PRESSURE SOURCE PROJECTION 177.7 /267.731 GHS bn: 2026 service / revenue Not a tax-allocation share The 66.37% ratio compares source flows. Gross service can be refinanced; it is not all primary expenditure displaced.	02 ACTUAL RESOURCES CAPTURED HEALTH SERIES -13.99% 2024 real per-capita sensitivity Nominal growth is not enough Three-category actual spending rose 7.71% in nominal terms; prices 22.9% and population 1.9% reverse the resource comparison.	03 OPERATING INPUTS CAPTURED HEALTH CATEGORY -31.25% 2024 real per-resident change Payroll conceals input pressure Goods/services actual spending fell 13.91% nominally. After common CPI and population adjustment, the decrease is 31.25%.
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DECISION RULE Publish obligations, matched sector budgets and actuals, real-resource indicators, and the payment record together.

Sources: IMF CR 26/212 [\[S01\]](#); UNICEF health brief [\[S04\]](#); IDER calculations [\[S08\]](#). Different perimeters remain explicit.

A 90-day route to a debt-and-human-development spending account

Proposed after authorised data access; ownership, deliverables and acceptance criteria are explicit.



Proposed controls after authorised access—not achieved national coverage, agreed mandates or an instruction to delay legally due payments.

Source: IDER methodology and implementation framework [\[S08\]](#).

Abbreviations and reading terms

Source-specific definitions and reporting boundaries remain controlling.

BoG / MoF	Bank of Ghana / Ministry of Finance, Ghana.	LEAP / GSFP	Livelihood Empowerment Against Poverty / Ghana School Feeding Programme.
CAGD	Controller and Accountant-General's Department.	ECF / PCI	Extended Credit Facility / Policy Coordination Instrument.
DS / GFN	Debt service / gross financing needs; different financing measures.	TMU	Technical Memorandum of Understanding; source programme definitions.
GDP / GHS	Gross domestic product / Ghana cedi.	Execution	Actual expenditure divided by its matching budget.
CPI	Consumer price index; annual-average values used here.	Per capita	Per resident unless another population is explicitly identified.
GoG / IGF	Government of Ghana / internally generated funds.	Implicit deflator	Price factor reconstructed from source nominal and real amounts.
MDA	Ministry, department or agency; a budget entity, not a functional sector.	Shapley	Average accounting contribution across all factor update orders.
NHIF / NHIS / NHIA	National Health Insurance Fund / Scheme / Authority.	pp / %	Percentage points / percent; not interchangeable.
GETFund	Ghana Education Trust Fund.	m / bn	Million / billion; one billion equals 1,000 million.
SSNIT	Social Security and National Insurance Trust.	P01–P02	Prospective causal research designs; neither estimated.

How to interpret the evidence

Distinguish allocation, execution, debt service, funding and service delivery before comparing them.

SOURCE-REPORTED / DATED

Historical observations, source estimates and forward projections keep their original dates. A 2026 allocation is not a verified 2026 outturn.

ALLOCATION / EXECUTION

Ministry and broad sector amounts have different scope. Fifteen health budget/actual pairs are a defined three-category series, not all health expenditure.

ACCOUNTING / RECONCILIATION

Ratios, factor decompositions and source differences are reproducible calculations. Their precision does not identify debt-service causality.

PRICES / POPULATION

Original source-deflated values and later re-deflation are shown separately. Per-resident spending is not per-patient, per-pupil or per-beneficiary spending.

PROGRAMME FLOORS / PAYMENTS

A spending floor has a specified perimeter and cumulative period. Ministry receipt, provider reimbursement and household cash-out are distinct stages.

CONDITIONAL SCENARIOS

The 48 real-protection, 243 financing and 9 provider cases impose inputs. Ranges are not confidence intervals or forecast probabilities.

CONSOLIDATION / MISSINGNESS

NHIS-containing totals overlap. Missing payment or recipient status is not zero; no complete national human-development total is invented.

CAUSAL / PROSPECTIVE

P01–P02 are unestimated designs. No national crowding-out coefficient, jobs estimate or service-outcome effect is claimed.

List of figures — 1 of 2

Navigation labels; full captions, units, sources and qualifications accompany the figures.

01	Debt service and interest by source status	25	10	Health compensation allocations and outturns	42
02	Debt service and interest relative to revenue	26	11	Health goods and services allocations and outturns	43
03	Debt service and interest relative to GDP	27	12	Health capital allocations and outturns	44
04	Domestic and external debt-service components	28	13	Health 2024 execution by category	45
05	Education nominal and source-real financing	31	14	Pooled health execution comparison	47
06	Health nominal and source-real financing	33	15	Captured health execution change bridge	49
07	Nominal versus source-real 2025 financing growth	35	16	Education narrative averages; capital withheld	51
08	Alternative real per-capita financing changes	37	17	School feeding annual execution	55
09	Debt measures relative to sector financing	39			

List of figures — 2 of 2

Navigation labels; full captions, units, sources and qualifications accompany the figures.

18	LEAP reported release-delay history	56	26	Selected-MDA conditional reduction ranges	81
19	NHIA current-year and total release ratios	59	27	Provider cash paths under delayed reimbursement	84
20	GoG versus all-source ministry allocations	63	28	Nominal and real execution changes by category	117
21	Budget growth and executed real-resource index	71	29	Full leave-one-year-out execution sensitivity	121
22	Minimum execution for real per-capita protection	72	30	Net versus absolute category budget deviations	123
23	Four-factor real-resource accounting bridge	73	31	School-feeding denominator comparison	125
24	Finite real-resource scenario ranges	74	32	Signed decomposition of the aggregate execution improvement	139
25	Joint financing-pressure decomposition	79	33	LEAP matched-season payment-delay intervals	143

List of tables — 1 of 2

Navigation labels; complete definitions and source notes accompany the tables.

01	Research questions and evidence boundaries	19
02	Evidence dates and statuses	20
03	Sector perimeter and overlap matrix	22
04	Fiscal debt and denominator inputs	24
05	Debt-service and fiscal-source closure	29
06	Education historical financing inputs	32
07	Health historical financing inputs	34
08	Implicit source-price versus CPI sensitivity	36
09	Sector financing relative to common GDP and revenue	38
10	Health allocation and execution source pairs	41
11	Health pooled versus average execution	46
12	Capital execution numerator and denominator	48
13	Social-protection scope and source amounts	53
14	Social-financing growth and precision check	54
15	NHIA release and recipient-record crosswalk	58

16	Programme-floor targets and performance	60
17	2026 ministry funding-source budgets	62
18	2026 GoG economic-component allocation	64
19	2026 ministry GDP revenue and resident ratios	65
20	Named 2026 programme and fund allocations	66
21	Education narrative versus appendix reconciliation	68
22	Debt provisions and service-perimeter comparison	69
23	Real-resource protection factors	70
24	Financing stress inputs and budget perimeter	76
25	Conditional financing scenario assumptions	77
26	Isolated and combined financing pressures	78
27	Selected-budget incidence sensitivity	80
28	Provider cash-model assumptions	83
29	Provider financing and horizon results	85
30	Endogeneity and coverage safeguards	87

List of tables — 2 of 2

Navigation labels; complete definitions and source notes accompany the tables.

31	Required linked-data architecture	89
32	Parliamentary debt-and-services checklist	90
33	Institution-specific decision applications	91
34	90-day work programme and acceptance criteria	93
35	Debt and human-development monitoring indicators	94
36	Source exceptions and interpretation limits (1/2)	95
37	Source exceptions and interpretation limits (2/2)	96
38	Source-to-output reproducibility map	97
39	Shared model assumptions and boundaries	98
40	Worked source and scenario calculations	113
41	Observed sample and identification-rank audit	115
42	Category-specific real health execution	116
43	Health spending composition and additive contributions	118
44	Real-resource protection benchmark and gap	119
45	Every leave-one-year-out pooled execution result	122

46	School-feeding funding needs versus fiscal execution	124
47	LEAP 2024 payment-window delay intervals	126
48	LEAP 2025 payment-window delay intervals	127
49	Cycle-window and reported annual delay comparison	128
50	Source conflicts and a verified transcription correction	129
51	Identification strategy and specific endogeneity restrictions	131
52	Causal inference and robustness release rules	132
53	Evidence-specific business and implementation decisions	133
54	Execution-rate change: within-category and budget-mix contributions	138
55	Non-compensation expenditure and budget execution	140
56	Real-resource results under displayed-input rounding	141
57	LEAP matched-season mean and median delay bounds	142
58	LEAP delay-threshold exceedance bounds	144
59	Conditional omitted-scope execution tipping points	145
60	Estimand-specific causal identification and selection conditions	146

Model and equation index

Executed accounting and conditional models are separated from prospective causal research.

E01–E14 | MEASUREMENT / EXECUTION

E01	Debt-service burden	99
E02	Interest burden and scope	99
E03	Service and fiscal closure	100
E04	Financing levels and indices	100
E05	Implicit source-price diagnostic	101
E06	Alternative re-deflation	101
E07	Common-denominator comparison	102
E08	Ministry funding reconciliation	102
E09	Per-resident budget scale	103
E10	Nested programme consolidation	103
E11	Category execution	104
E12	Pooled versus average execution	104
E13	Execution-ratio attribution	105
E14	Executed health real resources	105

E15–E28 | CASH / RESOURCE TESTS

E15	Insurance-release crosswalk	106
E16	Programme-floor performance	106
E17	Rounded social-budget growth	107
E18	Executed real-resource index	107
E19	Minimum execution for protection	108
E20	Four-factor resource bridge	108
E21	Incremental financing pressure	109
E22	Selected-budget absorption	109
E23	Provider event-date liquidity	110
E24	Minimum bridge and later receipts	110
E25	Coverage and causal release	111
E26	Budget-plus-fund overlap	111
E27	Category resource protection	134
E28	Additive real-change contribution	134

E29–E38 | VALIDATION / COMPARABILITY

E29	Influence and budget-error audit	135
E30	School-feeding need coverage	135
E31	Interval-dated payment delay	136
E32	Identification-rank audit	136
E33	Execution composition bridge	148
E34	Non-compensation resources	148
E35	Displayed-input rounding	149
E36	Comparable LEAP cohorts	149
E37	Payment-delay tail bounds	150
E38	Missing-scope tipping test	150

P01–P02 | PROSPECTIVE ONLY

P01	Causal sector-execution response	112
P02	Linked programme delivery effect	112

E01–E38 are definitions, accounting calculations, diagnostics or conditional models. P01–P02 remain unestimated.

Debt and fiscal measurement

Definitions of key technical terminology — meaning, measurement and interpretation.

Debt service

Principal and interest falling due or paid during a stated period, depending on the source. A recurring bill rollover can create large gross service without an equivalent primary-expenditure cost.

Interest expenditure

The cost of borrowing under the source recording basis. Commitment interest is not automatically cash interest; it cannot be subtracted from unmatched cash service to manufacture principal.

Principal amortisation

Repayment of a borrowing liability. It is a financing transaction, not health, education or other primary expenditure; refinancing can fund it without an equal reduction in services.

Gross financing need

Funding required for debt service and the primary cash position, plus specified other uses. The source definition may include public entities beyond budgetary central government.

Revenue and grants

The denominator used here follows the cited fiscal source. It is not all available cash after commitments, earmarks, timing restrictions and financing flows.

Reporting perimeter

The institutions, programmes, instruments and transactions included. Ministry budgets, insurance funds and social-protection aggregates can overlap and must not be added without consolidation.

Sources: IMF CR 26/212 [\[S01\]](#); IMF GFSM 2014 [\[S07\]](#); IDER calculations [\[S08\]](#).

Note: Reading definitions do not establish legal status, operational payment instructions or causal effects.

Budget delivery and public services

Definitions of key technical terminology — meaning, measurement and interpretation.

Budget allocation

An approved or source-projected financing amount. It is not evidence of a release, supplier bank credit, household receipt or completed public service.

Execution rate

Actual or provisional expenditure divided by the matching budget or programme. Annual and half-year denominators must not be confused, and the source accounting basis is retained.

Cash release

A transfer to a ministry, fund or implementing body. Receipt by that body may precede procurement, provider reimbursement and final beneficiary payment.

Unpaid payable and arrear

An unpaid recognised obligation is not necessarily overdue. Arrears require the relevant due date and outstanding valid amount; a payment order does not prove settlement.

Pooled execution

The ratio of summed actual expenditure to summed budgets. It is budget-weighted and differs from a simple average of yearly execution percentages.

Service bundle

The staff, medicines or learning materials, facilities and maintenance required jointly for a service. A high payroll execution rate cannot replace unavailable complementary inputs.

Sources: IMF CR 26/212 [\[S01\]](#); IMF GFSM 2014 [\[S07\]](#); IDER calculations [\[S08\]](#).

Note: Reading definitions do not establish legal status, operational payment instructions or causal effects.

Real resources and population

Definitions of key technical terminology — meaning, measurement and interpretation.

Nominal expenditure

Spending measured at current prices. Growth can reflect prices, wages, population, classification or coverage rather than more services.

Real expenditure

Nominal spending divided by a stated price index. A common CPI adjustment is a purchasing-power sensitivity, not a measure of medical supplies or education-output volumes.

Real per-capita spending

Real spending divided by population on a matched basis. It differs from spending per pupil, patient, enrolled member or benefit recipient.

Implicit source deflator

The price factor reconstructed from the ratio of a source nominal and real series. It is a diagnostic of that publication, not an independently authenticated CPI series.

Re-deflation sensitivity

Recalculation of the same nominal observations with a different stated price factor. It preserves the original source series and does not turn a projection into actual expenditure.

Execution protection threshold

The execution ratio required to prevent a fall in real spending per resident, given budget growth, prices and population. The baseline execution level must also be specified.

Sources: IMF CR 26/212 [\[S01\]](#); IMF GFSM 2014 [\[S07\]](#); IDER calculations [\[S08\]](#).

Note: Reading definitions do not establish legal status, operational payment instructions or causal effects.

Programme protection and identification

Definitions of key technical terminology — meaning, measurement and interpretation.

Social spending floor

A minimum for specified programmes and a cumulative reporting period. It is not total social protection, the total human-development budget or a measure of payment timeliness.

Earmarked fund

A financing arrangement linked to a specified use. Fund receipts, fund disbursements and final spending are distinct; uncapping an allocation does not itself verify delivery.

Fiscal crowding out

A reduction in another use caused by fiscal or financing pressure. Relative budget sizes or a negative correlation do not identify this causal mechanism.

Endogeneity

Debt service, revenue and sector budgets can react to the same growth, price, political and financing shocks. A raw regression can confuse these responses with a causal debt effect.

Selection and survivorship

Available reports, functioning facilities and paid claims may omit non-reporters, unpaid providers and failed projects. A defined eligible roster is required before weighting or extrapolation.

Conditional scenario

A calculation under declared input settings. It is neither a forecast probability nor a confidence interval, and it does not establish a legal or operational funding decision.

Sources: IMF CR 26/212 [\[S01\]](#); IMF GFSM 2014 [\[S07\]](#); IDER calculations [\[S08\]](#).

Note: Reading definitions do not establish legal status, operational payment instructions or causal effects.

Five records are needed to connect debt service to human development

The inquiry is not resolved by one debt-to-GDP ratio or one sector-budget total.

Table 1. Five records are needed to connect debt service to human development

Record	Measured here	What is not inferred
Debt obligations	Source annual service, interest and financing projections.	An authenticated daily Treasury payment ledger.
Sector allocation	Ministry, fund and programme financing, with scope explicit.	A consolidated national functional expenditure total.
Execution	Fifteen health budget/actual pairs; reported education and programme execution.	Current expenditure for unobserved institutions.
Real resources	Source-deflated series, alternative price and population sensitivities.	Physical service quantity, quality or beneficiary incidence.
Causal transmission	A defined set of mechanisms and prospective release conditions.	A newly identified national debt-crowding-out coefficient.

Sources: IMF CR 26/212 [\[S01\]](#); MoF 2026 Budget [\[S02\]](#); UNICEF education brief [\[S03\]](#); UNICEF health brief [\[S04\]](#).

Note: Each analytical block retains its source date and status; no forecasts are used as realised observations.

The newest publication date is not the date of every observation

Source windows control the interpretation of each figure.

Table 2. The newest publication date is not the date of every observation

Evidence block	Observation window	Status / purpose
IMF fiscal and debt tables	2024–2031; July 2026 vintage	2024 actual; 2025 preliminary; 2026 onward projected.
UNICEF broad financing	2019–2025	2024 source base/estimate; 2025 budget projection.
MoH execution detail	2020–2024	Fifteen matched budget/actual pairs in three categories.
Social-programme records	2019–2025 and programme floors to 2027	Reported releases, execution, cycle timing and defined floors.
MoF 2026 Budget	November 2025 publication for 2026	Original allocations, not a verified September 2026 execution update.
Population	GSS 2026 level; IMF 2024–2026 growth	Absolute and growth-based normalisations remain separate.

Sources: [\[S01\]](#); [\[S02\]](#); [\[S03\]](#); [\[S04\]](#); [\[S05\]](#); [\[S06\]](#); see source register.

Note: The 2026 mid-year review was located but its 39 MB official PDF could not be retrieved; media summaries were not used as numerical substitutes.

Gross debt service is not an equal-sized cut to sector budgets

Interest, principal refinancing and human-development spending belong in different accounts.

INTEREST

Compare interest with revenue and primary-spending capacity on a stated basis. Commitment interest can differ from the cash coupon paid during the year.

PRINCIPAL

Principal redemption extinguishes a liability. Repeated Treasury-bill turnover can inflate annual gross payments relative to the year-end stock; refinancing may replace the maturing debt.

DISPLACEMENT

A sector cut depends on revenue, refinancing, cash buffers and policy allocation. No one-for-one reduction in health or education is imposed as an empirical fact.

Sources: IMF CR 26/212 [\[S01\]](#); IMF GFSM 2014 [\[S07\]](#).

Note: The accounting opportunity cost of a payment is not an identified causal effect on service delivery.

Do not add the three broad sector totals into one human-development bill

A financing total is not necessarily a consolidated functional-spending total.

Table 3. Do not add the three broad sector totals into one human-development bill

Record	Included channels	Overlap or exclusion
Broad education	Ministry of Education and GETFund	Final-use transfers and financing must be reconciled.
Broad health	Ministry of Health and NHIS	Insurance reimbursements may finance provider activity inside health accounts.
Broad social protection	SSNIT, NHIS, LEAP, school feeding and lifeline support	NHIS overlaps health; SSNIT is not wholly central-budget spending.
Three selected MDA budgets	Education; Health; Gender, Children and Social Protection	Distinct parent appropriations, not all spending on the three functions.
Social spending floor	Specified programme disbursements/releases	Does not include all sector spending or all donor-supported expenditure.

Sources: [\[S01\]](#); [\[S02\]](#); [\[S03\]](#); [\[S04\]](#); [\[S05\]](#); see source register.

Note: No combined national health + education + social-protection outturn is fabricated.

Allocation, release and final receipt must be followed separately

The relevant record changes at each stage of the funding chain.

BUDGET TO FUND

The budget authorises spending. A fund allocation or ministry release needs its own bank value date, amount and funding conditions before being called cash available.

FUND TO PROVIDER

A reimbursement, grant or procurement payment can pass through multiple bodies. Match identifiers and avoid counting both the transfer and final spending as separate output.

PROVIDER TO PEOPLE

Medicines purchased, classes delivered, meals served and benefits cashed out are outcome records. Neither the budget nor a fiscal transfer independently measures their quantity or quality.

Sources: IMF CR 26/212 [\[S01\]](#); UNICEF social-protection brief [\[S05\]](#); IMF GFSM 2014 [\[S07\]](#).

Note: Due dates, disputed amounts, retention and payment reversals belong in the transaction ledger.

Debt service and interest have different magnitudes and accounting bases

GHS billion; current July 2026 IMF columns.

Table 4. Debt service and interest have different magnitudes and accounting bases

Year / status	Cash-service aggregate	Commitment interest	Revenue + grants	Nominal GDP
2024 Actual	122.5	47.150	186.593	1,182.799
2025 Preliminary	167.8	49.891	224.884	1,434.115
2026 Projection	177.7	58.736	267.731	1,595.869
2027 Projection	263.4	60.866	304.076	1,810.994
2028 Projection	327.1	69.550	351.036	2,058.816
2029 Projection	337.1	86.649	404.523	2,330.623
2030 Projection	356.7	99.421	458.088	2,647.906
2031 Projection	407.6	115.546	520.462	3,008.450

Sources: IMF CR 26/212 [\[S01\]](#).

Note: Service includes specified public entities; interest uses budgetary central-government commitment accounting. Do not subtract to infer principal.

Gross service rises more sharply than commitment interest

Solid observations; dashed/open markers from 2026 denote source projections.

Figure 1. Gross service rises more sharply than commitment interest



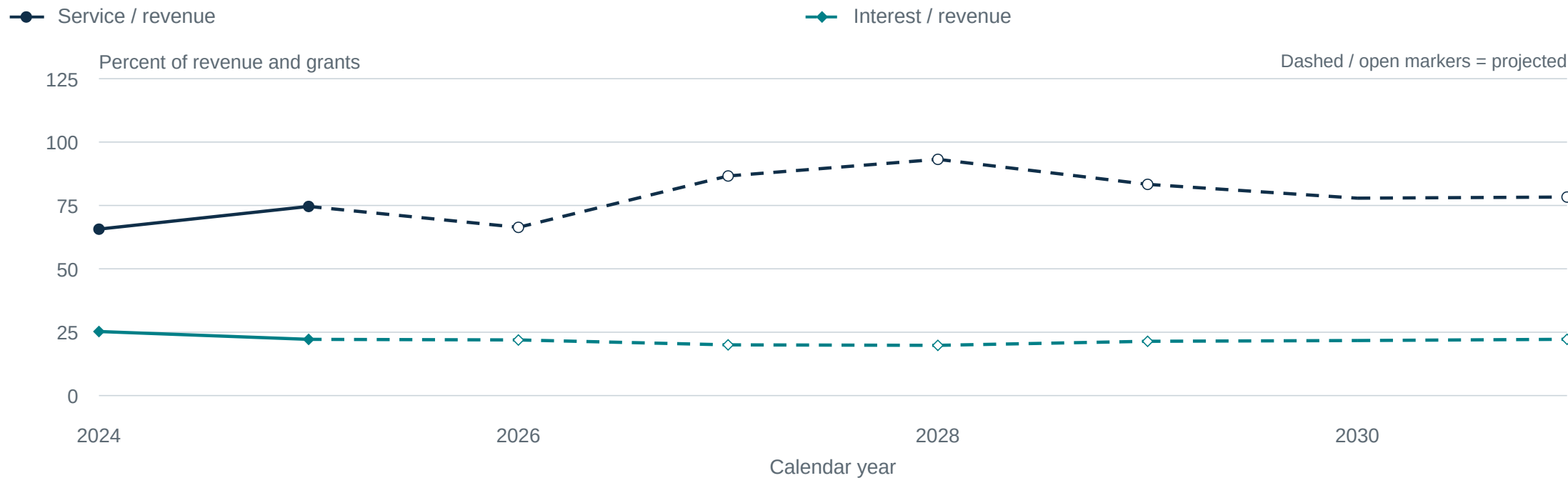
Sources: IMF CR 26/212 [\[S01\]](#).

Note: Distinct source perimeters and bases remain explicit; the difference is not a reconstructed principal schedule.

The source service-to-revenue comparator approaches unity in 2028

Table 3c service divided by Table 3b revenue and grants; this is not the separate DSA ratio.

Figure 2. The source service-to-revenue comparator approaches unity in 2028



Sources: IMF CR 26/212 [\[S01\]](#).

Note: Matching dates do not erase the broader service perimeter. Refinancing can fund principal; the ratio is not a revenue-allocation rule.

GDP scaling and financing burden answer different questions

The same source nominal GDP is used for both ratio paths.

Figure 3. GDP scaling and financing burden answer different questions



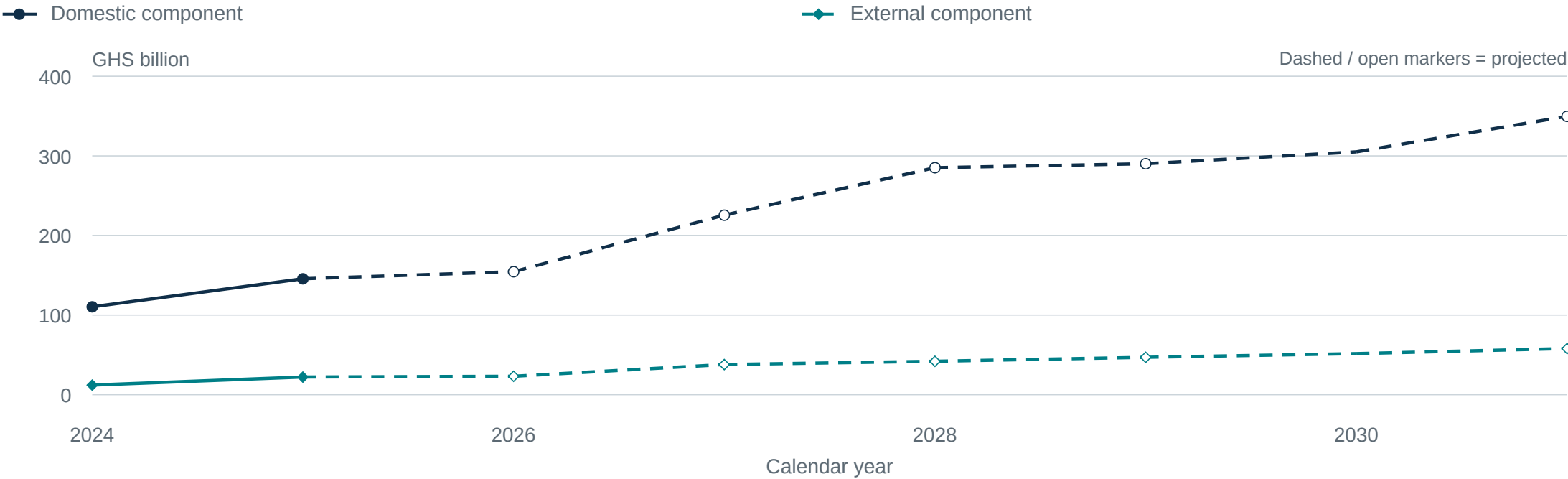
Sources: IMF CR 26/212 [\[S01\]](#).

Note: GDP is not Treasury cash. A falling debt-stock ratio need not imply falling annual service.

The domestic component dominates the projected service aggregate

Domestic/external is the source classification, not a verified currency breakdown.

Figure 4. The domestic component dominates the projected service aggregate



Sources: IMF CR 26/212 [\[S01\]](#).

Note: Local-currency debt held by nonresidents is domestic in this table; do not apply debt-stock currency weights to payments.

Rounded aggregates are checked rather than forced into agreement

GHS billion except the primary cash-bridge residual in GHS million.

Table 5. Rounded aggregates are checked rather than forced into agreement

Year	Service – components	Primary cash-bridge residual	Interpretation
2024	0.000	0	Source precision retained; no balancing transaction added.
2025	0.000	–1	Source precision retained; no balancing transaction added.
2026	0.000	0	Source precision retained; no balancing transaction added.
2027	0.000	0	Source precision retained; no balancing transaction added.
2028	0.000	0	Source precision retained; no balancing transaction added.

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

Note: A successful arithmetic check is not an audit of the original debt and payment systems.

Two published debt-service ratios need not be identical

The 2028 IMF DSA ratio is 95.9%; the Table 3c/3b comparator calculated here is 93.18%.

SOURCE DSA

Use the DSA debt-service-to-revenue statistic within its own debt-sustainability framework. It is a projected risk indicator, not a current default probability.

REPORT COMPARATOR

The separately labelled cross-table ratio retains the cash-service and revenue inputs shown here. Its source coverage is not silently replaced with the DSA definition.

DECISION USE

Ask which entities, grants, exceptional flows and repayments each source includes. Do not choose the larger ratio for a headline or treat the difference as missing money.

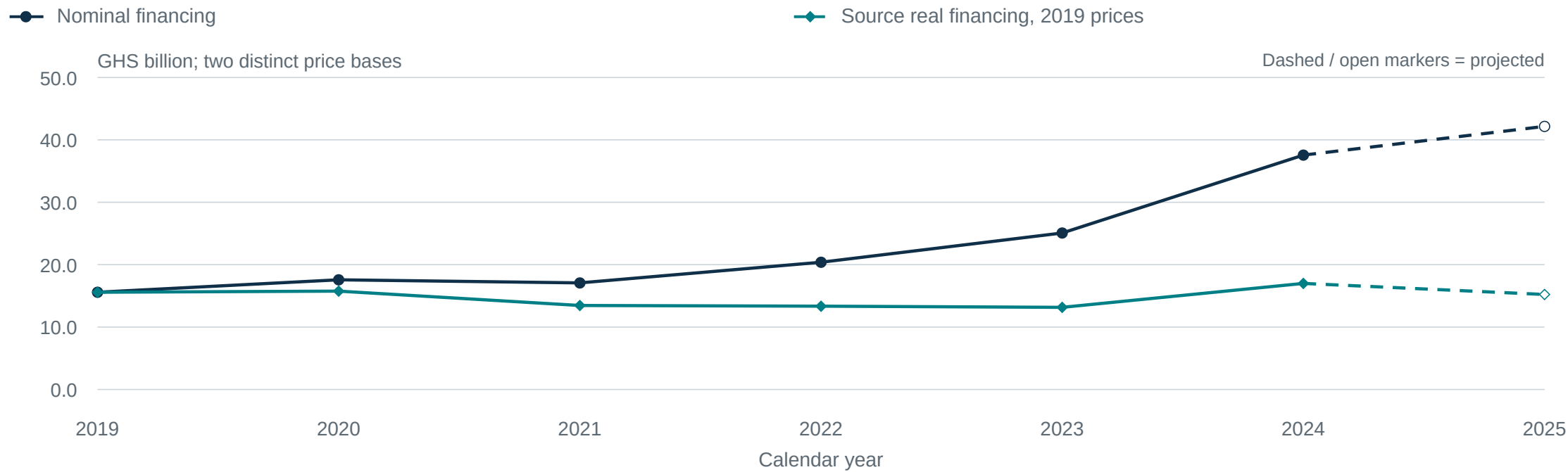
Sources: IMF CR 26/212 [\[S01\]](#); IDER calculations [\[S08\]](#).

Note: No reconciled instrument-level bridge between the two published concepts was obtained.

Education: nominal growth is not the same as real resource growth

Source broad financing series; 2024 source estimate/base and 2025 budget projection.

Figure 5. Education: nominal growth is not the same as real resource growth



Sources: UNICEF education brief [\[S03\]](#).

Note: Real series is preserved as published. The broader funding perimeter is not equated to a consolidated executed budget.

Education source values remain visible with their status

GHS million; source real amounts use 2019 prices.

Table 6. Education source values remain visible with their status

Year	Nominal	Source real	Record status
2019	15,582.16	15,582.16	Source historical
2020	17,571.96	15,759.61	Source historical
2021	17,074.44	13,459.28	Source historical
2022	20,387.62	13,342.68	Source historical
2023	25,072.16	13,161.24	Source historical
2024	37,557.21	16,994.21	Source estimate
2025	42,158.06	15,219.52	Budget projection

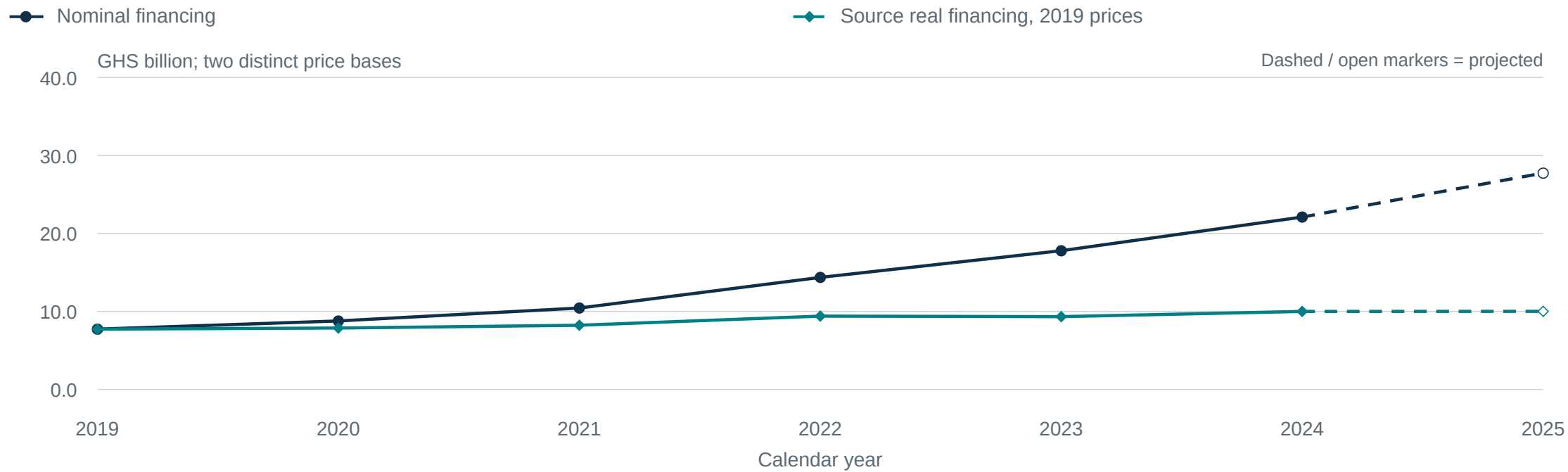
Sources: UNICEF education brief [\[S03\]](#).

Note: No 2025 actual outturn is inferred from this allocation series.

Health: nominal growth is not the same as real resource growth

Source broad financing series; 2024 source estimate/base and 2025 budget projection.

Figure 6. Health: nominal growth is not the same as real resource growth



Sources: UNICEF health brief [\[S04\]](#).

Note: Real series is preserved as published. The broader funding perimeter is not equated to a consolidated executed budget.

Health source values remain visible with their status

GHS million; source real amounts use 2019 prices.

Table 7. Health source values remain visible with their status

Year	Nominal	Source real	Record status
2019	7,730.19	7,730.19	Source historical
2020	8,778.71	7,873.28	Source historical
2021	10,437.51	8,227.58	Source historical
2022	14,363.70	9,400.33	Source historical
2023	17,785.19	9,336.06	Source historical
2024	22,105.27	10,002.38	Source estimate
2025	27,738.42	10,013.87	Budget projection

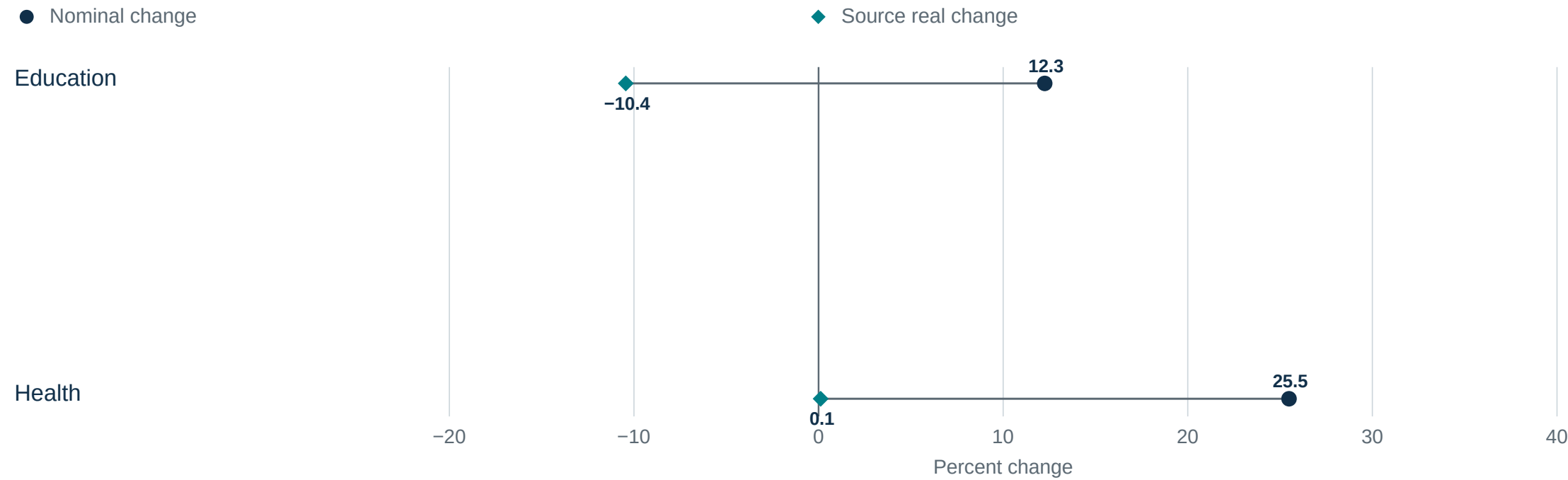
Sources: UNICEF health brief [\[S04\]](#).

Note: No 2025 actual outturn is inferred from this allocation series.

The 2025 budget-growth message depends on the stated price basis

2025 allocation relative to the 2024 source base; percentages, not executed per-beneficiary growth.

Figure 7. The 2025 budget-growth message depends on the stated price basis



Sources: UNICEF education brief [\[S03\]](#); UNICEF health brief [\[S04\]](#); IDER calculations [\[S08\]](#).

Note: Education and health series have different financing perimeters; the same raw amount is never recast as a current outturn.

Both source series imply about 25.34% price growth in 2025

The factor is reconstructed from nominal divided by real financing—not assumed to be a verified CPI observation.

Table 8. Both source series imply about 25.34% price growth in 2025

Sector	Implicit source price growth	IMF annual-average CPI	Treatment
Education	25.339%	14.2%	Preserve source series; show alternative re-deflation separately.
Health	25.339%	14.2%	Preserve source series; show alternative re-deflation separately.

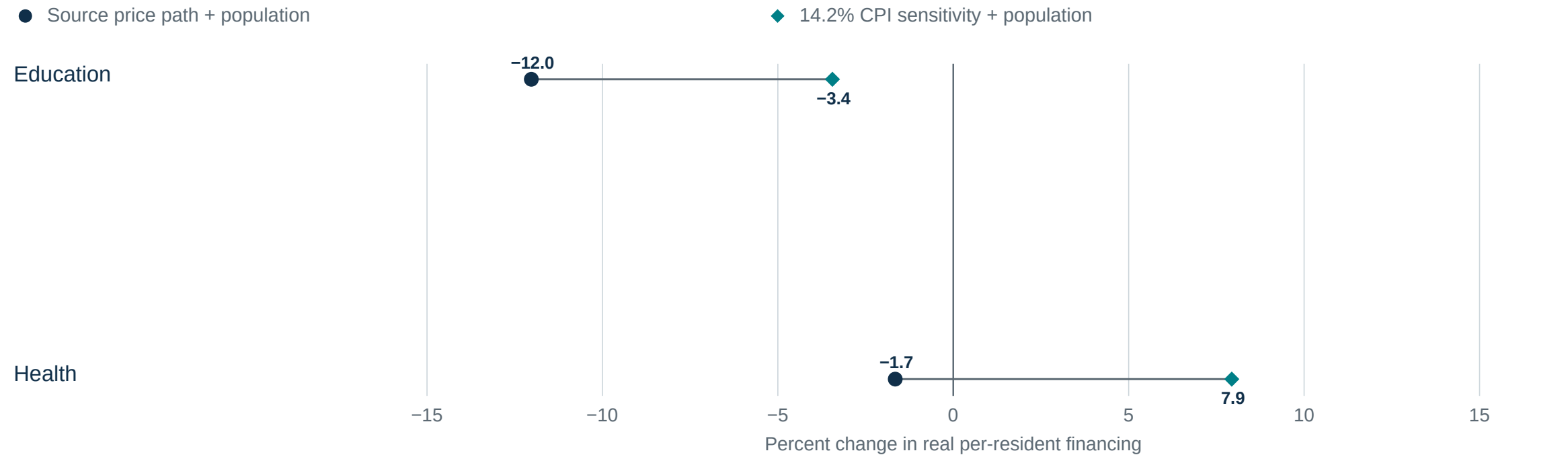
Sources: IMF CR 26/212 [\[S01\]](#); UNICEF education brief [\[S03\]](#); UNICEF health brief [\[S04\]](#); IDER calculations [\[S08\]](#).

Note: No claim is made that either source nominal budget becomes actual expenditure after a different deflator is applied.

Price choice changes the real per-resident financing comparison

2025 allocation versus 2024 source base; population growth is held at the stated 1.8%.

Figure 8. Price choice changes the real per-resident financing comparison



Sources: IMF CR 26/212 [\[S01\]](#); UNICEF education brief [\[S03\]](#); UNICEF health brief [\[S04\]](#); IDER calculations [\[S08\]](#).

Note: The alternatives are not competing estimates of actual sector output. Population is not the number of beneficiaries.

Sector financing can be scaled to GDP and revenue without hiding its status

Common July 2026 IMF nominal denominators; sector numerators retain older publication status.

Table 9. Sector financing can be scaled to GDP and revenue without hiding its status

Sector / year	Financing GHS bn	% common GDP	% common revenue	Sector status
Education 2024	37.557	3.18	20.13	Source estimate
Education 2025	42.158	2.94	18.75	Budget projection
Health 2024	22.105	1.87	11.85	Source estimate
Health 2025	27.738	1.93	12.33	Budget projection

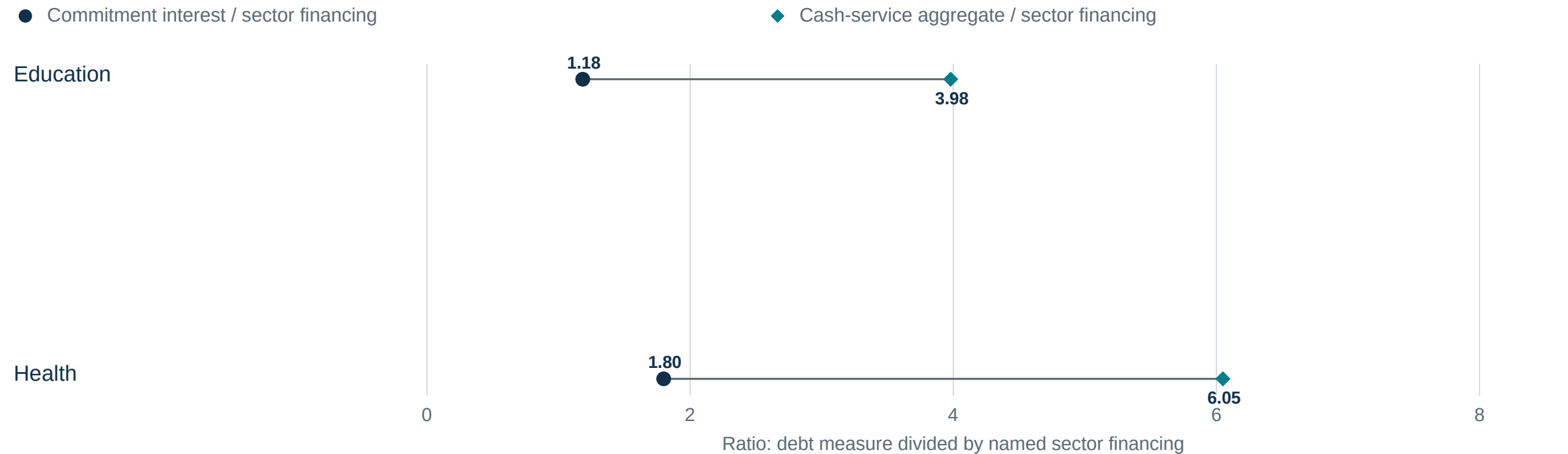
Sources: IMF CR 26/212 [\[S01\]](#); UNICEF education brief [\[S03\]](#); UNICEF health brief [\[S04\]](#); IDER calculations [\[S08\]](#).

Note: These are cross-vintage scale comparisons, not substituted official sector-share series or consolidated cash outturns.

Interest and gross service are different scale comparators

2025 source-sector budget projections versus IMF preliminary debt records; no causal displacement.

Figure 9. Interest and gross service are different scale comparators



Sources: IMF CR 26/212 [\[S01\]](#); UNICEF education brief [\[S03\]](#); UNICEF health brief [\[S04\]](#); IDER calculations [\[S08\]](#).

Note: Gross principal refinancing is not primary spending. These ratios must not be described as resources directly taken from health or education.

A larger nominal allocation can still buy less per resident

The report retains the historical source and an alternative price normalisation rather than selecting one silently.

EDUCATION

The 2025 nominal increase is 12.25% from displayed values. Under the 14.2% CPI and 1.8% population sensitivity, the per-resident financing comparison is -3.45%.

HEALTH

The nominal increase is 25.48%. Its source-real per-resident comparison is -1.66%; the lower CPI sensitivity instead gives +7.94%. These are different price assumptions.

MEASUREMENT PRIORITY

Release the annual budget, actual expenditure, price index vintage and recipient denominator together. Do not label a projected nominal increase a verified improvement in service volume.

Sources: IMF CR 26/212 [\[S01\]](#); UNICEF education brief [\[S03\]](#); UNICEF health brief [\[S04\]](#); IDER calculations [\[S08\]](#).

Note: All source records are preserved; the report does not authenticate the older briefs' implied CPI pathway.

Health execution is reconstructed from fifteen budget–actual pairs

GHS million; the three categories are those displayed in the source figure.

Table 10. Health execution is reconstructed from fifteen budget–actual pairs

Year	Compensation: budget / actual	Goods: budget / actual	Capital: budget / actual
2020	4,487.94 / 3,163.90	1,442.45 / 1,071.48	57.40 / 30.02
2021	5,510.93 / 5,607.65	2,009.72 / 2,352.17	45.50 / 596.46
2022	6,573.02 / 5,618.18	2,578.24 / 1,486.74	242.12 / 24.61
2023	8,764.67 / 9,673.99	3,095.08 / 3,414.90	3,425.16 / 773.43
2024	11,278.24 / 11,340.56	3,576.99 / 2,940.03	872.01 / 651.03

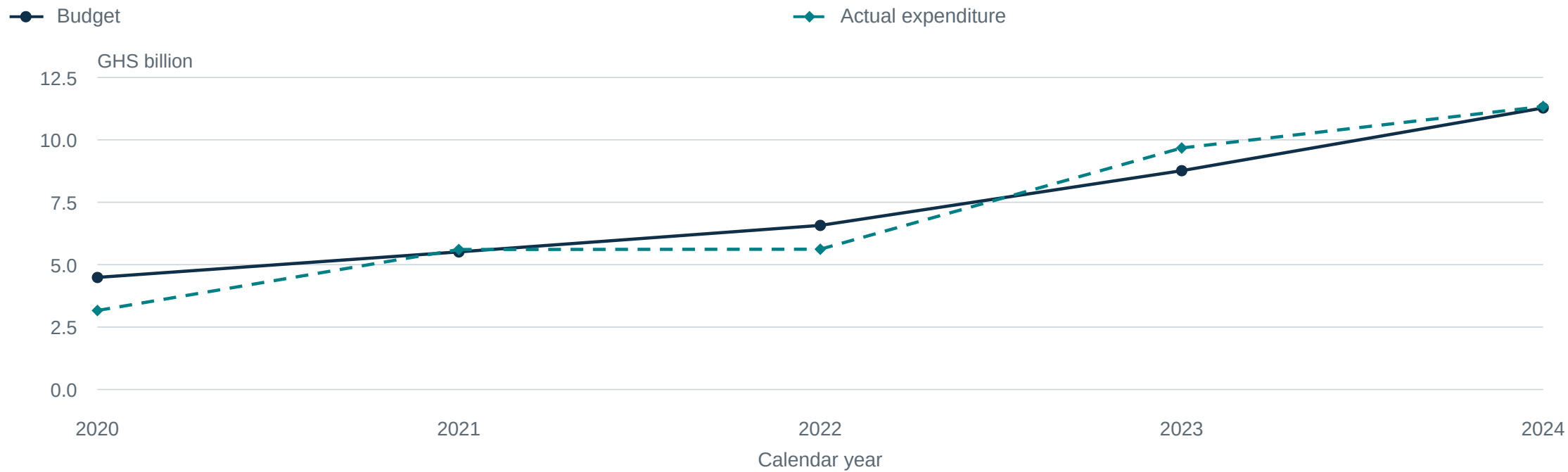
Sources: UNICEF health brief [\[S04\]](#).

Note: The source Figure 9 was image-checked. Its captured three-category scope is not the entire health system.

Compensation budget and execution follow different paths

MoH source figure; GHS billion; all observations retain the original classification.

Figure 10. Compensation budget and execution follow different paths



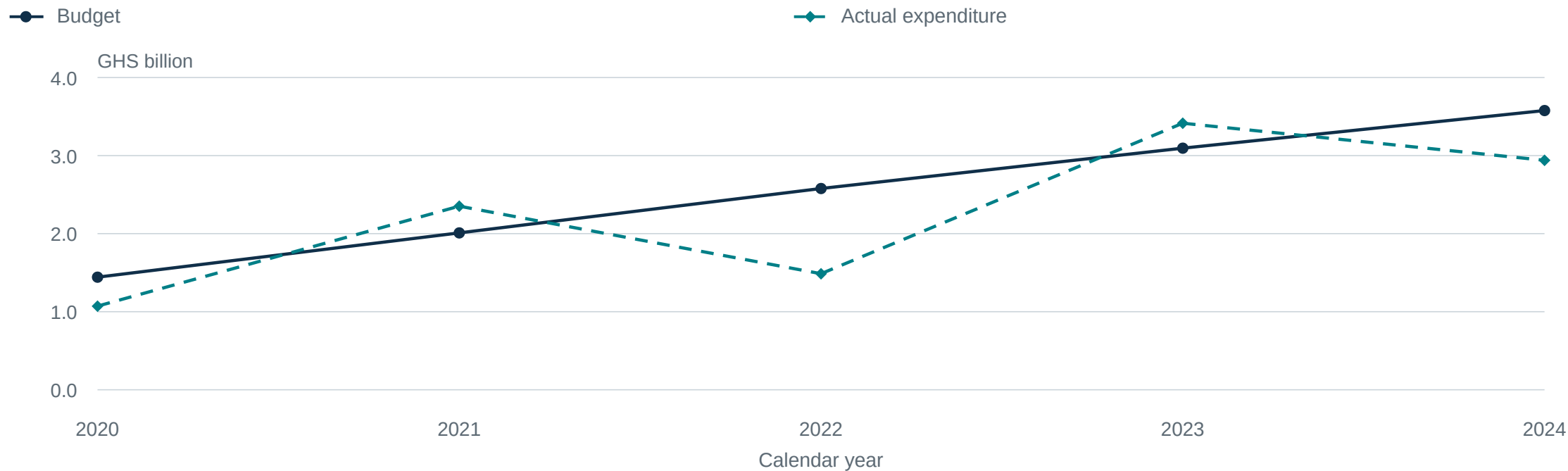
Sources: UNICEF health brief [\[S04\]](#).

Note: Budget revisions, balances and physical output require separate records. An execution gap is not assigned to debt service.

Goods and services budget and execution follow different paths

MoH source figure; GHS billion; all observations retain the original classification.

Figure 11. Goods and services budget and execution follow different paths



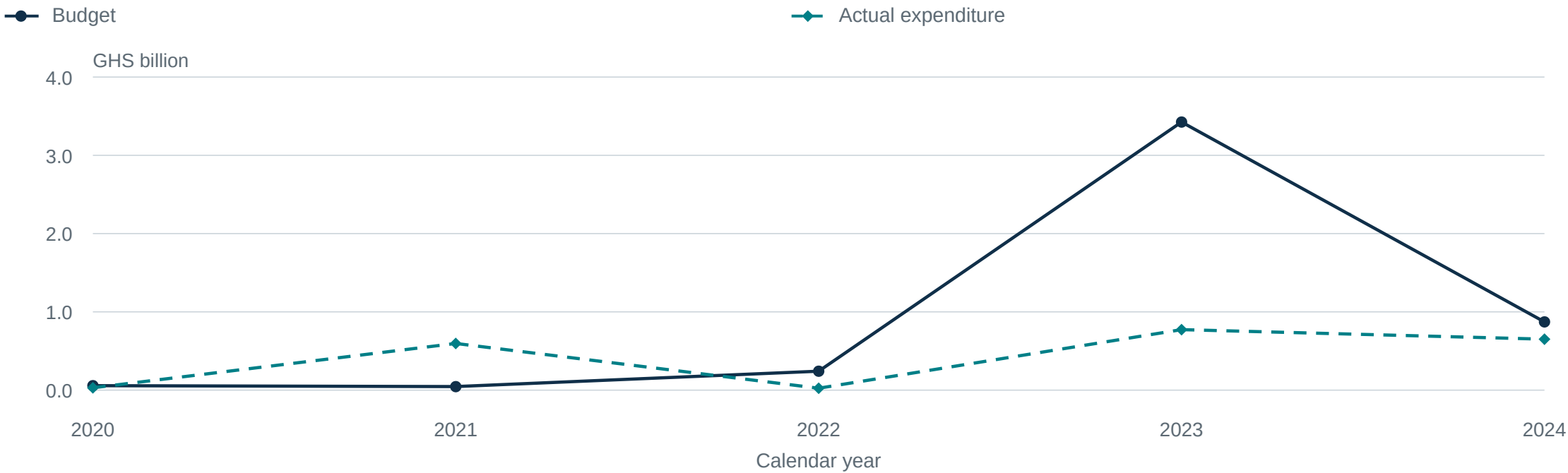
Sources: UNICEF health brief [\[S04\]](#).

Note: Budget revisions, balances and physical output require separate records. An execution gap is not assigned to debt service.

Capital budget and execution follow different paths

MoH source figure; GHS billion; all observations retain the original classification.

Figure 12. Capital budget and execution follow different paths



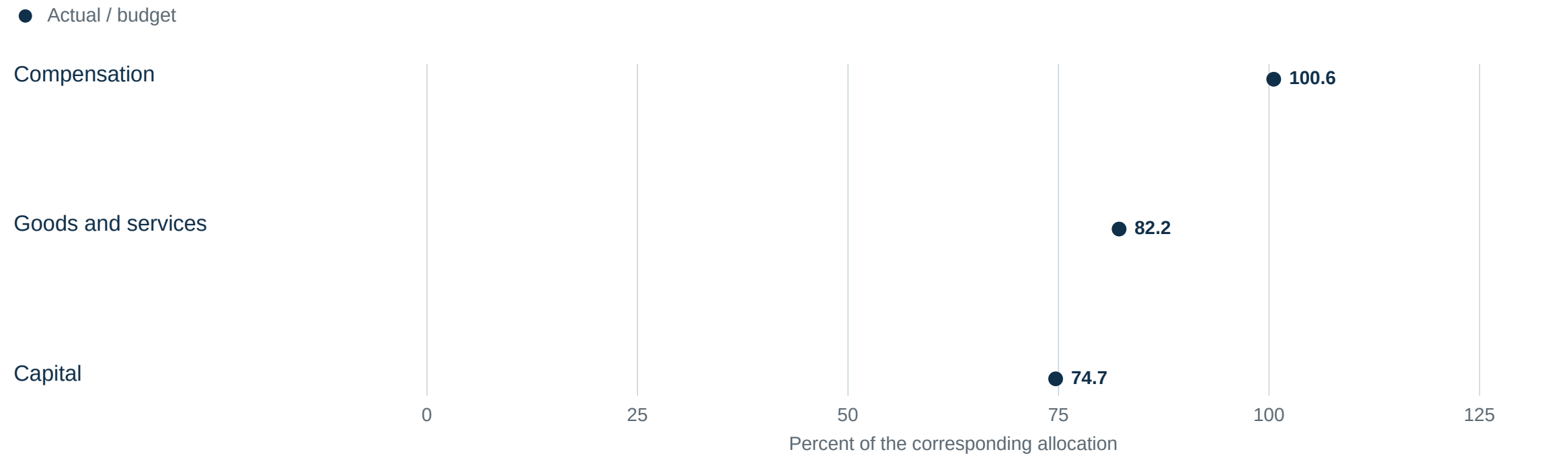
Sources: UNICEF health brief [\[S04\]](#).

Note: Budget revisions, balances and physical output require separate records. An execution gap is not assigned to debt service.

Health payroll execution exceeded operating-input and capital execution

2024 matched source allocation and outturn; three economic categories.

Figure 13. Health payroll execution exceeded operating-input and capital execution



Sources: UNICEF health brief [\[S04\]](#); IDER calculations [\[S08\]](#).

Note: A payroll overshoot cannot substitute for medicines, maintenance or completed facilities; no production elasticity is estimated.

Averaging annual capital percentages gives a misleading pooled impression

Five-year source record, 2020–2024. Money-weighted and unweighted statistics answer different questions.

Table 11. Averaging annual capital percentages gives a misleading pooled impression

Category	Pooled execution	Mean annual rate	Pooled excluding 2021
Compensation	96.69%	93.73%	95.80%
Goods and services	88.69%	88.30%	83.36%
Capital	44.71%	294.12%	32.18%

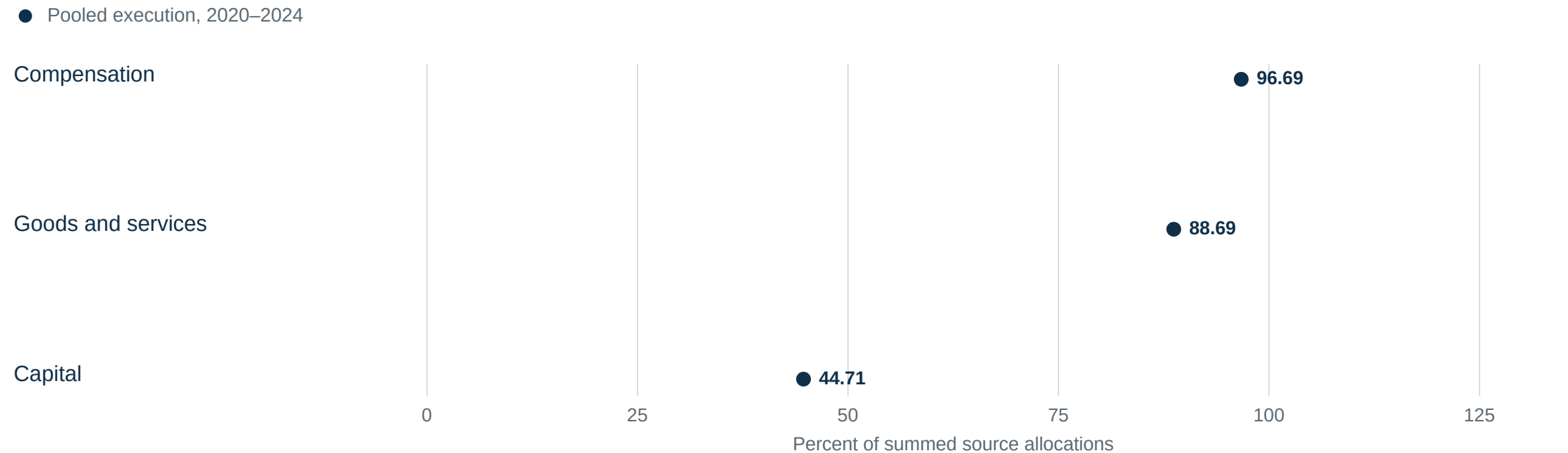
Sources: UNICEF health brief [\[S04\]](#); IDER calculations [\[S08\]](#).

Note: The 2021 capital budget is GHS 45.50 m against actual GHS 596.46 m. The exclusion is a sensitivity, not deletion of the observation.

Five-year health capital execution was 44.71% on a pooled-money basis

Sum of actual expenditure divided by sum of allocations, not the mean of annual percentages.

Figure 14. Five-year health capital execution was 44.71% on a pooled-money basis



Sources: UNICEF health brief [\[S04\]](#); IDER calculations [\[S08\]](#).

Note: Capital totals: GHS 2.076 bn actual against GHS 4.642 bn budget. Neither amount is an estimate of the effect of debt restructuring.

A higher execution rate can coexist with less actual capital spending

Health capital, 2023–2024; source budget and actual remain separate.

Table 12. A higher execution rate can coexist with less actual capital spending

Metric	2023	2024	Interpretation
Budget, GHS m	3,425.16	872.01	A sharply smaller denominator.
Actual, GHS m	773.43	651.03	Actual capital spending also declined.
Execution rate	22.58%	74.66%	Higher ratio is not higher investment.

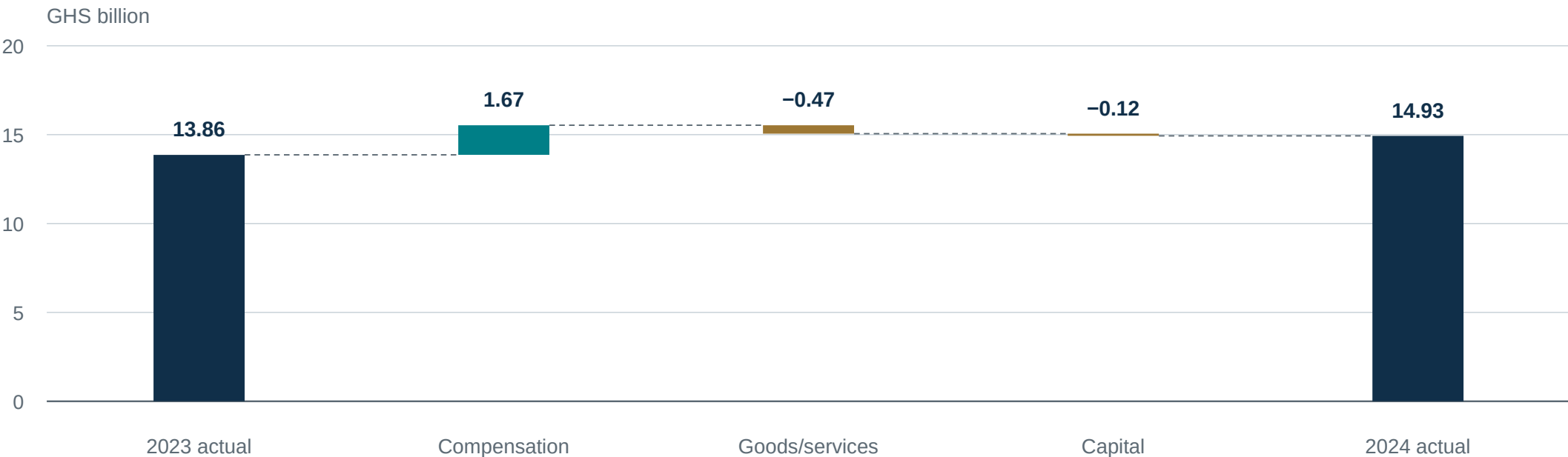
Sources: UNICEF health brief [\[S04\]](#); IDER calculations [\[S08\]](#).

Note: The symmetric attribution in the evidence package separates the actual-expenditure and allocation-denominator contributions.

The captured 2024 nominal health increase came from compensation

Change in source actual amounts, GHS billion; captured categories only.

Figure 15. The captured 2024 nominal health increase came from compensation



Sources: UNICEF health brief [\[S04\]](#); IDER calculations [\[S08\]](#).

Note: This is an exact nominal accounting bridge, not an identified cause of the change.

Nominal health execution rose 7.71%; the common-price per-capita test fell 13.99%

2023–2024 comparison of the same three source categories.

NOMINAL RECORD

Captured actual expenditure increases from GHS 13.862 bn to GHS 14.932 bn. The source values remain unchanged and are not presented as all-health expenditure.

REAL RESOURCES

Dividing that factor by 1.229 for annual-average inflation and 1.019 for population yields a 13.99% decrease in real per-resident resources in this captured series.

INTERPRETATION

This sensitivity does not estimate medical inflation, patients served, staff effort or mortality. It shows why the nominal increase alone is not a sufficient resource-protection test.

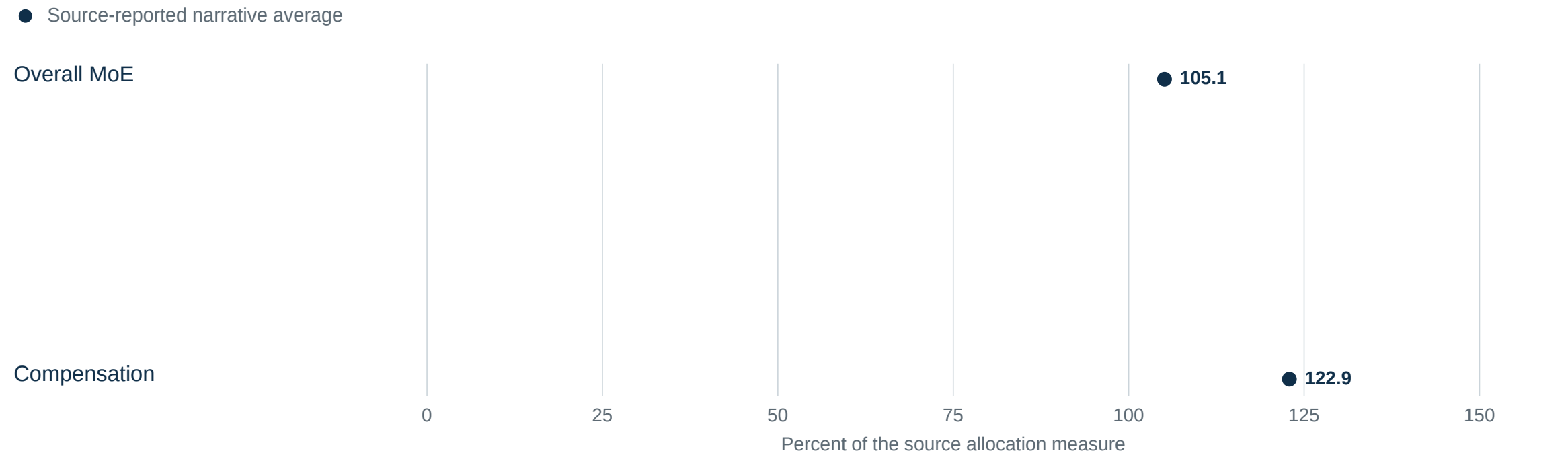
Sources: IMF CR 26/212 [\[S01\]](#); UNICEF health brief [\[S04\]](#); IDER calculations [\[S08\]](#).

Note: UN-vintage population growth is used only for this change calculation; it is not used to construct GSS absolute population levels.

Education’s capital average is withheld pending source reconciliation

Source narrative averages for 2019–2024; no annual series is reconstructed here.

Figure 16. Education’s capital average is withheld pending source reconciliation



Sources: UNICEF education brief [\[S03\]](#).

Note: Capital: source text states 69.7%, but Figure 9’s annual deviations do not reconcile. The point is withheld; the two plotted narrative averages are not independently rebuilt.

A payroll-heavy outturn does not establish that schools received all required inputs

Budget credibility has a composition dimension as well as a total-expenditure dimension.

STAFFING

Payroll reflects headcount, pay scales, arrears and contributions. It does not establish equitable teacher deployment, attendance or classroom instruction.

OPERATING INPUTS

Learning materials, capitation, utilities and maintenance can fail even when total expenditure exceeds allocation. Track releases and final school receipts separately.

CAPITAL

An unspent classroom or equipment line may reflect procurement, certification or implementation constraints. Attribute the reason only after matching projects and cash dates.

Sources: UNICEF education brief [\[S03\]](#); IMF GFSM 2014 [\[S07\]](#).

Note: The analysis does not infer learning losses or the cause of underexecution from budget percentages.

The broad social-protection total is not the social ministry’s budget

2024 and 2025 broad source financing is rounded; its institutions extend beyond central-budget assistance.

Table 13. The broad social-protection total is not the social ministry’s budget

Measure	Source amount	Interpretation
2024 broad social-protection financing	GHS 17.3 bn	Includes SSNIT, NHIS and selected assistance programmes.
2025 broad financing allocation	GHS 21.9 bn	A projected amount, not complete executed spending.
2025 NHIS share	45.4% (source)	Overlaps the broad health financing measure.
2025 SSNIT share	41.9% (source)	Contributory social insurance; not wholly central-budget cash.
2026 social ministry allocation	GHS 3.262 bn	Separate original MDA budget; not a like-for-like update.

Sources: MoF 2026 Budget [\[S02\]](#); UNICEF social-protection brief [\[S05\]](#).

Note: No total is formed by adding overlapping health and social-protection financing.

The displayed social-budget amounts do not reproduce every headline growth statement

Both rounded source amounts and the reported percentage remain in the input register.

Table 14. The displayed social-budget amounts do not reproduce every headline growth statement

Diagnostic	Value	Interpretation
21.9 / 17.3 – 1	26.59%	Growth calculated from displayed GHS bn totals.
Nearest-0.1 bn rounding interval	25.94% to 27.25%	Conditional display precision only.
Source stated nominal growth	27.7%	Not reproduced by the displayed totals under this rounding assumption.
CPI/population re-deflation	8.89%	Conditional real per-resident comparison; not execution.

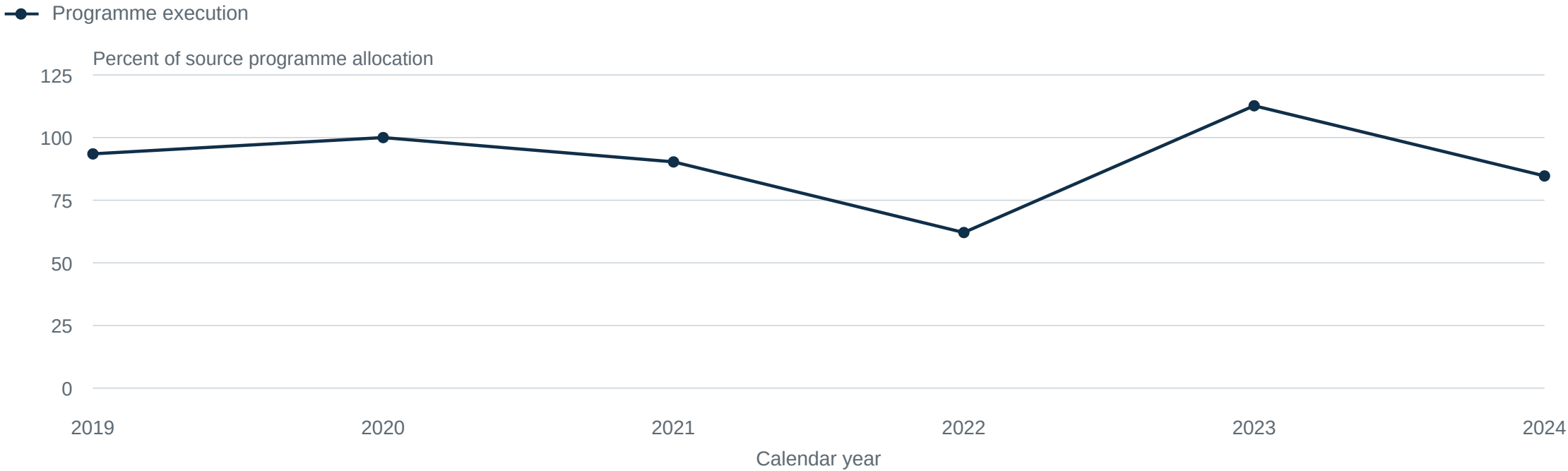
Sources: IMF CR 26/212 [\[S01\]](#); UNICEF social-protection brief [\[S05\]](#); IDER calculations [\[S08\]](#).

Note: The discrepancy is not repaired by inventing hidden precision or a balancing programme amount.

School feeding execution varies materially across programme years

Source rates; 2024 is an estimate, not a completed evaluation of meals delivered.

Figure 17. School feeding execution varies materially across programme years



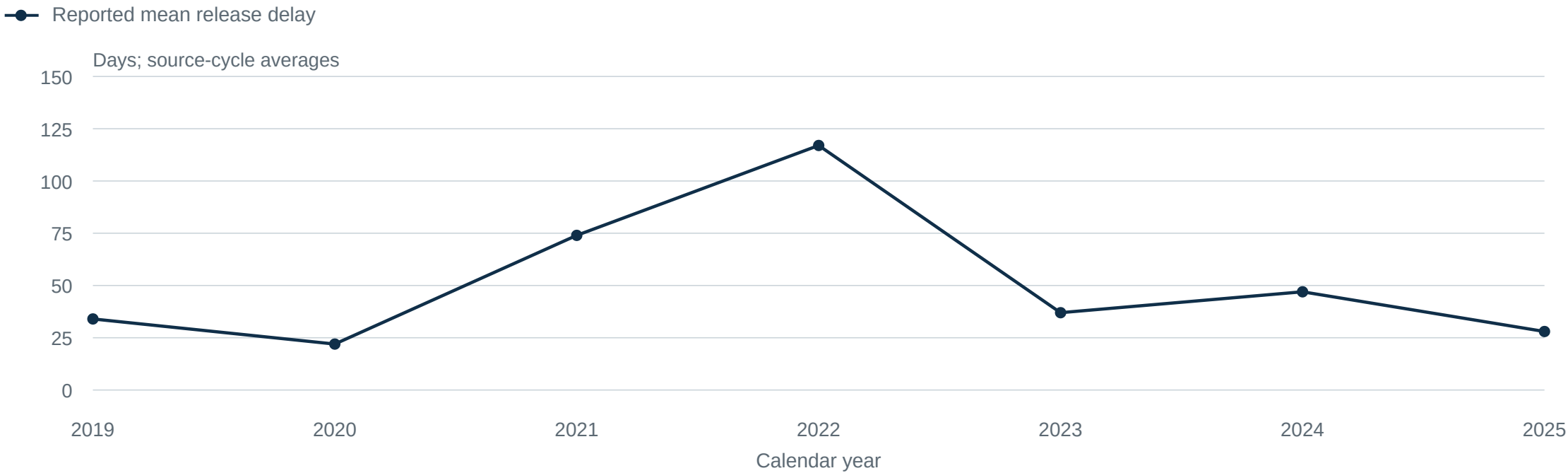
Sources: UNICEF social-protection brief [\[S05\]](#).

Note: The 2023 overshoot does not identify per-child nutritional benefit, payment timeliness or the underlying cause.

A protected transfer line can still reach households late

Source mean delays; the 2025 point covers the stated partial-year payment-cycle window.

Figure 18. A protected transfer line can still reach households late



Sources: UNICEF social-protection brief [\[S05\]](#).

Note: 2025: five scheduled cycles through September, including an October payment. This is not a comparable full-year outcome panel.

Beneficiary receipt must be tested after a programme release

The spending floor and the payment clock do not measure the same outcome.

RELEASE

An appropriation and a ministry receipt establish different stages. The IMF monitoring definition uses specified releases/disbursements, not a universal household cash-out measure.

REGULARITY

A delayed bimonthly benefit can require borrowing or postponement of essential purchases. A higher annual nominal benefit does not erase that timing cost.

ELIGIBILITY

Updated registers can change beneficiaries and denominators. Keep deceased, exited, missing and non-cash-out cases distinct; a payroll count is not the number receiving usable cash.

Sources: IMF CR 26/212 [\[S01\]](#); UNICEF social-protection brief [\[S05\]](#).

Note: No probability of nonreceipt or household welfare effect is estimated from the reported cycle averages.

MoF and NHIA H1 2025 records differ by GHS 1.408 billion

Source comparison; GHS billion. The institutional records are not silently forced to agree.

Table 15. MoF and NHIA H1 2025 records differ by GHS 1.408 billion

Record	Amount	Interpretation
MoF reported release	4.600	Rounded amount reported by the source brief.
NHIA recorded receipt	3.192	Recipient-side total described in the same brief.
Within NHIA: current year	2.943024	92.2% of recorded receipts.
Within NHIA: previous-year arrears	0.248976	7.8% of recorded receipts.
Unreconciled MoF minus NHIA	1.408	Timing, scope and reconciliation required; not alleged missing cash.

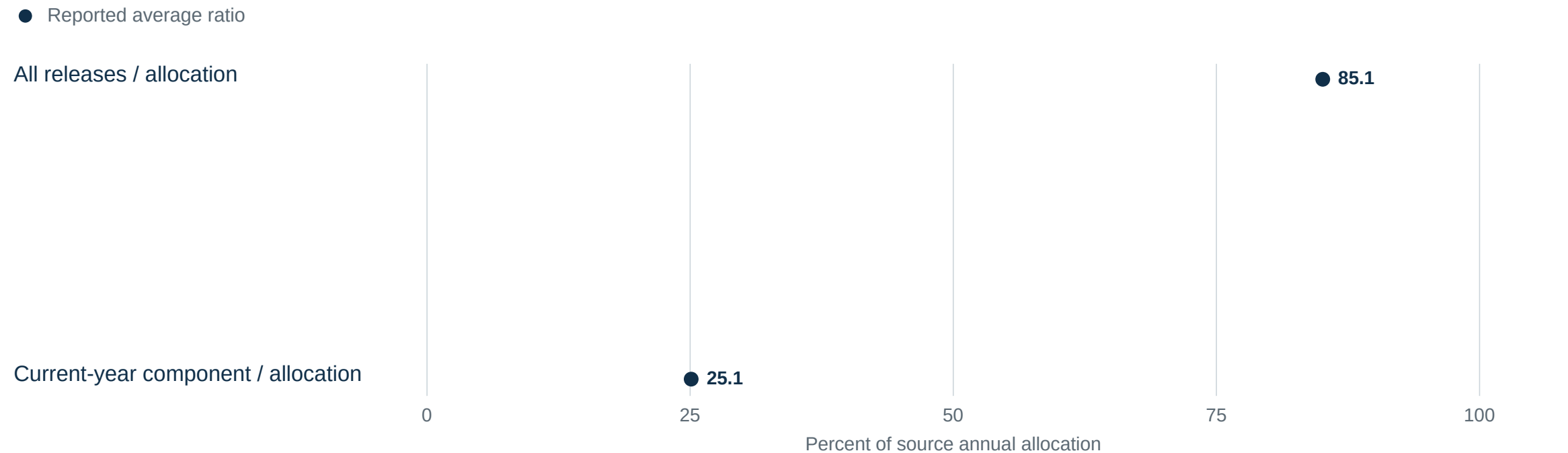
Sources: UNICEF social-protection brief [\[S05\]](#); IDER calculations [\[S08\]](#).

Note: A release to NHIA is not the same as a matched provider reimbursement or an expenditure outturn.

An apparently strong total release ratio can contain old arrears

Source average ratios for 2019–2024; percentages are not pooled-money estimates.

Figure 19. An apparently strong total release ratio can contain old arrears



Sources: UNICEF social-protection brief [\[S05\]](#).

Note: Do not subtract two averages to estimate an exact cumulative arrears-payment amount. Provider-level settlement remains separate.

The end-2025 social-spending floor was met within its defined perimeter

GHS million; programme monitoring is distinct from total human-development expenditure.

Table 16. The end-2025 social-spending floor was met within its defined perimeter

Record	Amount	Difference or qualification
ECF end-December 2025 floor	7,155	Cumulative from January under the applicable programme definition.
Reported social spending	7,321	Reported monitoring outturn.
Headroom above floor	166	2.32% above the specified floor.
PCI end-December 2026 floor	8,495	Different later programme coverage; not a same-scope growth rate.
PCI end-December 2027 floor	9,034	Projected programme target, not an outturn.

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

Note: Quarter and year-to-date floors must not be added; floor compliance does not establish universal timely payments.

The new programme floor broadens coverage but remains narrower than human development

The July 2026 TMU specifies covered programmes and the measured payment stage.

HEALTH

NHIF disbursements for medical claims, essential medicines and vaccines enter the stated monitoring definition. They are not all Ministry of Health spending.

OTHER PROGRAMMES

The definition includes school feeding, LEAP, capitation, CLASS, No Fees Stress and MahamaCares through specified ministry releases.

EXCLUSIONS

Donor-supported expenditure is excluded by the TMU. Inclusion of additional programmes means a rising floor cannot be read as same-scope real growth without a bridge.

Sources: IMF CR 26/212 [\[S01\]](#).

Note: Actual benefit receipt and service outcomes still require independent records after the monitoring release.

Three ministry parent allocations have different funding mixes

GHS billion; Appendix 4A all-source parent rows, not a current execution update.

Table 17. Three ministry parent allocations have different funding mixes

Ministry	GoG	IGF	Foreign loans + grants	All sources
Education	33.762	3.686	1.786	39.234
Health	16.283	6.010	0.512	22.805
Gender, Children and Social Protection	3.183	0.001	0.078	3.262

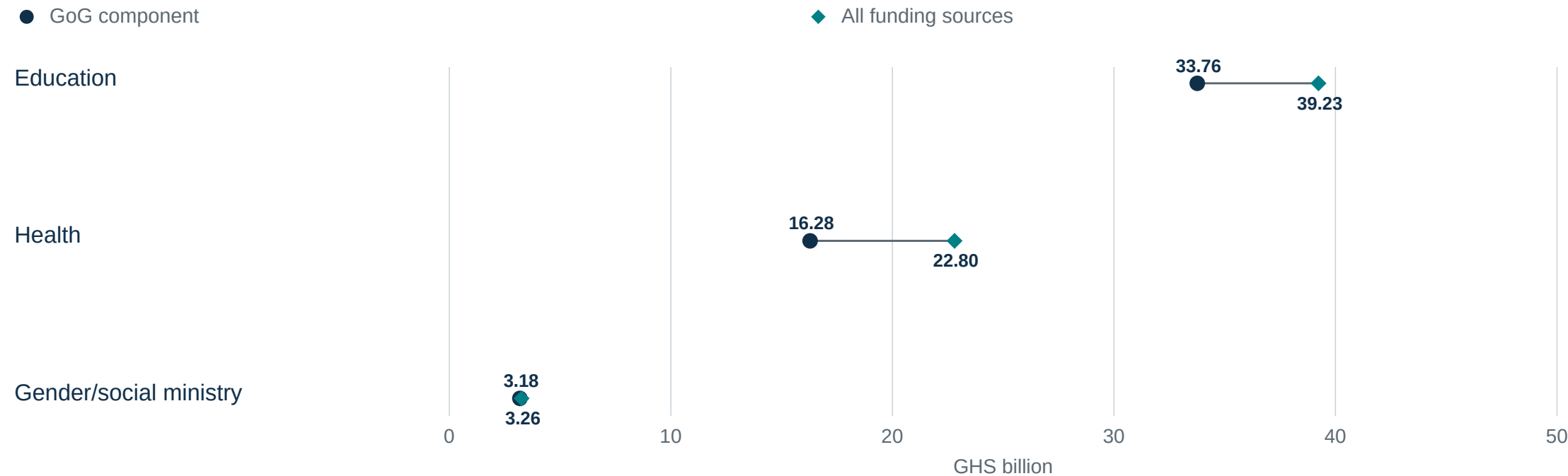
Sources: MoF 2026 Budget [\[S02\]](#); IDER calculations [\[S08\]](#).

Note: The selected parent rows sum to GHS 65.300 bn; this is not a consolidated functional human-development total.

Own-source and external funding change the meaning of an allocation

GoG and all-source original 2026 budgets, GHS billion.

Figure 20. Own-source and external funding change the meaning of an allocation



Sources: MoF 2026 Budget [\[S02\]](#); IDER calculations [\[S08\]](#).

Note: IGF is not an unconditional Treasury transfer; execution depends on actual collections and release conditions.

Compensation dominates the GoG component of education and health

GHS billion; columns are the GoG funding section only, not all-source economic spending.

Table 18. Compensation dominates the GoG component of education and health

Ministry	Compensation	Goods/services	Capital	Compensation / GoG
Education	32.353	1.389	0.020	95.83%
Health	15.015	0.178	1.090	92.21%
Gender, Children and Social Protection	0.120	3.051	0.012	3.78%

Sources: MoF 2026 Budget [\[S02\]](#); IDER calculations [\[S08\]](#).

Note: IGF and external funding economic-use splits are not inferred. The GHS 20 m education GoG capital cell is not all education investment.

Sector-budget ratios retain the allocation label

Original 2026 MDA numerator; July IMF denominator; GSS population for the per-resident column.

Table 19. Sector-budget ratios retain the allocation label

Ministry	% GDP	% revenue + grants	GHS per resident
Education	2.458	14.65	1,141.22
Health	1.429	8.52	663.34
Gender, Children and Social Protection	0.204	1.22	94.87

Sources: IMF CR 26/212 [\[S01\]](#); MoF 2026 Budget [\[S02\]](#); GSS population [\[S06\]](#); IDER calculations [\[S08\]](#).

Note: Cross-vintage scale comparison, not executed spending or expenditure per beneficiary. GSS projected population is 34,378,768.

Programme allocations must remain linked to their parent budgets

Original 2026 plans; GHS million.

Table 20. Programme allocations must remain linked to their parent budgets

Programme / fund	Amount	Overlap rule
LEAP	1,057.399	Subset of MoGCSP; not additive to ministry total
School Feeding	1,984.503	Subset of MoGCSP; includes GHS 1.6 m capex
Capitation grant	157.007	Subset of MoE
No Fees Stress	537.437	Subset of MoE
National Health Fund	11,416.872	Separate fund financing; consolidation with MoH/NHIS needed
MahamaCares	2,259.349	Of which National Health Fund; never add to parent
GETFund	9,872.326	Separate fund financing; consolidation with MoE needed

Sources: MoF 2026 Budget [\[S02\]](#).

Note: These amounts are not added into a new national social-spending total or equated to bank-settled receipts.

MahamaCares is an of-which item in the National Health Fund row

The all-source fund allocation is GHS 11.417 bn; the named of-which amount is GHS 2.259 bn.

PARENT FUND

The parent row already contains the stated of-which provision. Adding the two would exaggerate that funding envelope.

PROVIDER FINANCING

NHIS claims reimbursements and Ministry/provider revenues can overlap in financing accounts. A national functional total requires elimination of intra-sector transactions.

PUBLIC MESSAGE

Report the parent allocation and the earmarked component alongside actual fund receipts and payments. A headline uncapped allocation is not evidence of provider cash availability.

Sources: MoF 2026 Budget [\[S02\]](#); UNICEF social-protection brief [\[S05\]](#).

Note: No fiscal saving or additional liability is inferred from moving an amount between overlapping source presentations.

The education narrative and appendix are not identical amounts

GHS billion; the underlying source values are preserved.

Table 21. The education narrative and appendix are not identical amounts

Source presentation	Amount	Interpretation
Narrative paragraph 1145	33.300	Rounded headline stated for the Ministry of Education.
Appendix GoG component	33.761713145	Sum of compensation, goods/services and capital in the GoG columns.
Appendix all-source total	39.233795022	Includes IGF, foreign loans and grants.
GoG less narrative	0.461713145	The remaining difference is not explained by all-source funding alone.

Sources: MoF 2026 Budget [\[S02\]](#); IDER calculations [\[S08\]](#).

Note: The appendix parent values govern this report's calculation; no hidden transfer or revision is invented to reconcile the narrative.

The budget amortisation provision is not total annual debt-service turnover

GHS billion; original budget provisions versus the later IMF projection.

Table 22. The budget amortisation provision is not total annual debt-service turnover

Item	Amount	Measurement boundary
Budget interest	57.711	Original MoF appropriation; not a verified current cash outturn.
Budget amortisation	24.823	Selected financing provision; not all recurring bill rollover.
Sum of those two budget provisions	82.534	Restricted sum, not relabelled national debt service.
IMF 2026 service projection	177.700	Broader cash-service/financing perimeter and later publication vintage.

Sources: IMF CR 26/212 [\[S01\]](#); MoF 2026 Budget [\[S02\]](#); IDER calculations [\[S08\]](#).

Note: No difference is described as an undisclosed obligation, overspending or a sector cut without a matched scope bridge.

A nominal increase can be cancelled by prices, population and execution

An accounting identity links allocated money to executed real resources per resident.

Table 23. A nominal increase can be cancelled by prices, population and execution

Factor	What changes	Required observation
Allocation	The authorised nominal envelope for the same activity.	Original and revised budget, with parent/subset relationships.
Execution	The fraction actually spent relative to the baseline execution fraction.	Matched actual and budget on the same recording basis.
Prices	The purchasing-power denominator.	Annual-average or appropriate category price index; not year-end CPI by default.
Population	The resident or programme-recipient denominator.	A matched population series; pupils, patients and beneficiaries are separate.

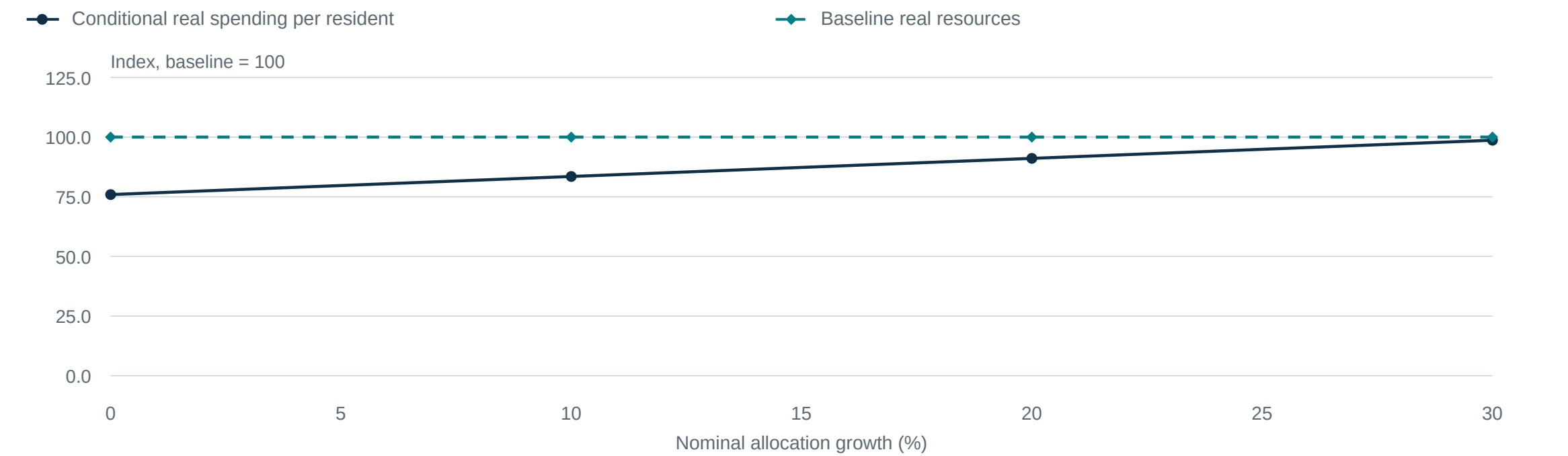
Sources: IMF CR 26/212 [\[S01\]](#); UNICEF education brief [\[S03\]](#); UNICEF health brief [\[S04\]](#); IDER calculations [\[S08\]](#).

Note: The 48-case grid changes assumptions; it is not an estimated distribution of Ghana fiscal outcomes.

Budget growth must exceed combined implementation and price pressure

Execution is 85% of its baseline rate; inflation 10%; population growth 1.8%.

Figure 21. Budget growth must exceed combined implementation and price pressure



Sources: IDER calculations [\[S08\]](#).

Note: The reference execution rate is relative. For an 80% baseline execution rate, the 0.85 factor implies 68% current execution.

The minimum execution ratio rises with inflation

Required current execution divided by baseline execution; population growth 1.8%.

Figure 22. The minimum execution ratio rises with inflation

	Prices +5.9%	Prices +10.0%	Prices +15.0%	Prices +20.0%
Allocation +0%	107.8	112.0	117.1	122.2
Allocation +10%	98.0	101.8	106.4	111.1
Allocation +20%	89.8	93.3	97.6	101.8
Allocation +30%	82.9	86.1	90.1	94.0

Percent of baseline execution rate; not automatically an absolute execution rate

Sources: IDER calculations [\[S08\]](#).

Note: A value above 100% requires execution to improve from its baseline; feasibility depends on that baseline and legal budget authority.

A 20% nominal increase can still leave real resources 12.26% lower

Synthetic endpoint: allocation +20%, execution ratio 0.85, prices +14.2%, population +1.8%.

Figure 23. A 20% nominal increase can still leave real resources 12.26% lower



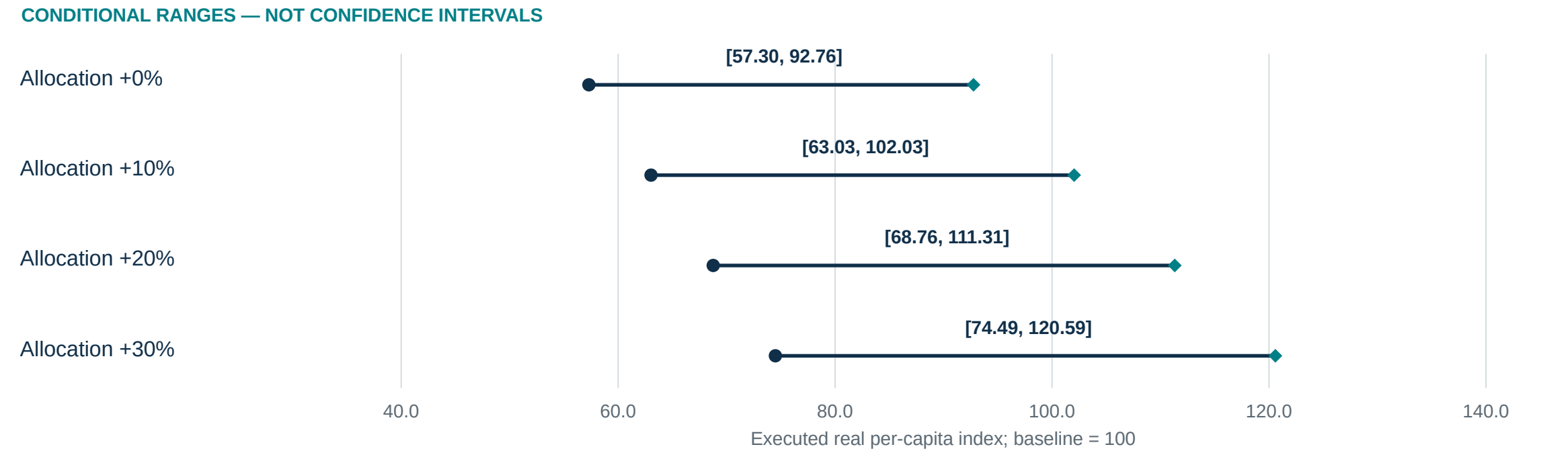
Sources: IDER calculations [\[S08\]](#).

Note: The Shapley decomposition allocates interactions by convention. It does not identify which policy caused any factor to change.

The 48 specified cases describe protection risk—not forecast uncertainty

All listed execution, price and allocation settings; population growth held at 1.8%.

Figure 24. The 48 specified cases describe protection risk—not forecast uncertainty



Sources: IDER calculations [\[S08\]](#).

Note: The endpoints cover the finite design only. No probabilities, percentiles, confidence levels or national budget optimum are assigned.

Protecting the budget line is weaker than protecting delivered real resources

The required control is a connected allocation–execution–prices–recipient record.

TEST EXECUTION

Agree a matched denominator and monitor actual spending or recipient cash. Avoid declaring a programme protected because only its original appropriation increased.

TEST INPUT PRICES

Medicines, construction, learning materials and food can face different price movements. A common CPI scenario is transparent but cannot establish sector-specific quantities.

TEST SERVICE CONTINUITY

Check the actual service bundle and beneficiary coverage. A ratio per resident can fall while a targeted programme grows; it cannot substitute for spending per eligible person.

Sources: UNICEF education brief [\[S03\]](#); UNICEF health brief [\[S04\]](#); UNICEF social-protection brief [\[S05\]](#); IDER calculations [\[S08\]](#).

Note: The analysis does not impose an across-the-board protection rule or decide legal spending priorities.

Debt-service pressure reaches sector budgets through financing decisions

Source 2026 IMF projections plus original MoF GoG ministry allocations; GHS billion.

Table 24. Debt-service pressure reaches sector budgets through financing decisions

Input	Amount	Use in the scenario
Revenue and grants	267.731	Specified collection shortfall; no tax-behaviour coefficient fitted.
Planned short-term financing	121.500	Test cash realisation at 100%, 90% and 80%.
Planned medium-term financing	68.300	Test independently of short-term access.
External service / financing	23.200 / 5.500	Both respond to the same illustrative currency translation.
Selected three-MDA GoG envelope	53.227627	Defined parent-budget comparator; not all human-development spending.

Sources: IMF CR 26/212 [\[S01\]](#); MoF 2026 Budget [\[S02\]](#); IDER calculations [\[S08\]](#).

Note: No negative source residual is used as a cash reserve. Source plans are not committed, drawable financing.

The 243 cases vary financing pressure and assumed sector incidence separately

Five independent settings, each with three values; no shock probabilities.

Table 25. The 243 cases vary financing pressure and assumed sector incidence separately

Parameter	Values	Maintained restriction
Revenue shortfall	0%, 5%, 10%	Applied to the stated source revenue/grants base.
GHS/FX change	0%, +10%, +20%	External service and fully realised external financing translated together.
Short-term financing realisation	100%, 90%, 80%	Fraction of projected financing, not maturity-stock rollover.
Medium-term financing realisation	100%, 90%, 80%	No extra support or cash drawdown is inserted.
Pressure absorbed by selected MDAs	0%, 10%, 25%	Imposed incidence; no causal one-for-one debt-service crowding out.

Sources: IDER calculations [\[S08\]](#).

Note: The external statistical classification is only a currency proxy. Exact denomination and cash timing require a funding ledger.

Lost financing access is not the same as additional debt service

GHS billion of incremental pressure relative to the source financing plan.

Table 26. Lost financing access is not the same as additional debt service

Case	Revenue loss	Domestic funding loss	Net FX cost	Total pressure
Source-plan baseline	0.000	0.000	0.000	0.000
Revenue –5%	13.387	0.000	0.000	13.387
FX +20%	0.000	0.000	3.540	3.540
Short-term access 90%	0.000	12.150	0.000	12.150
Medium-term access 80%	0.000	13.660	0.000	13.660
Joint specified case	13.387	25.810	3.540	42.737

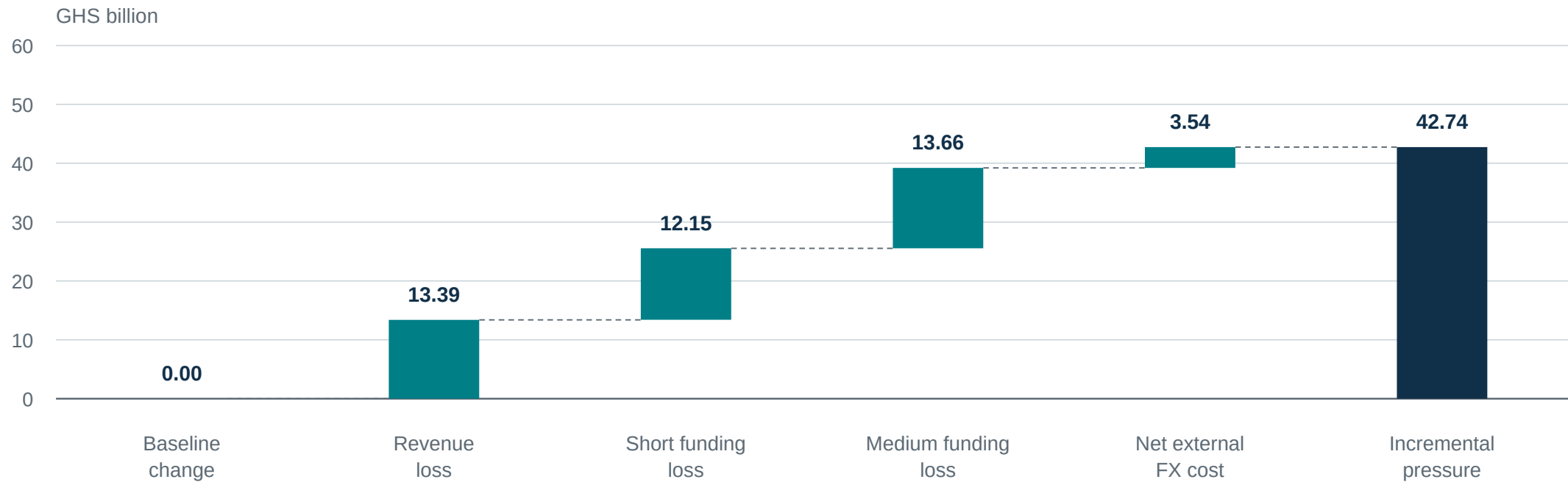
Sources: IMF CR 26/212 [\[S01\]](#); IDER calculations [\[S08\]](#).

Note: Joint case: revenue –5%, FX +20%, short-term cash access 90%, medium-term access 80%. Other responses are held fixed.

The joint case creates GHS 42.74 billion of incremental pressure

A source-based conditional calculation, not an observed financing gap or a forecast.

Figure 25. The joint case creates GHS 42.74 billion of incremental pressure



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

Note: External FX effect nets the translated inflow only under full realisation and usability. No programme-specific cut is identified.

A financing shock does not mechanically determine sector cuts

Same joint pressure, alternative shares imposed on the selected GoG ministry envelope.

Table 27. A financing shock does not mechanically determine sector cuts

Assumed share absorbed	Assumed reduction GHS bn	Remaining envelope GHS bn	Envelope reduction
0%	0.000	53.228	0.00%
10%	4.274	48.954	8.03%
25%	10.684	42.543	20.07%

Sources: MoF 2026 Budget [\[S02\]](#); IDER calculations [\[S08\]](#).

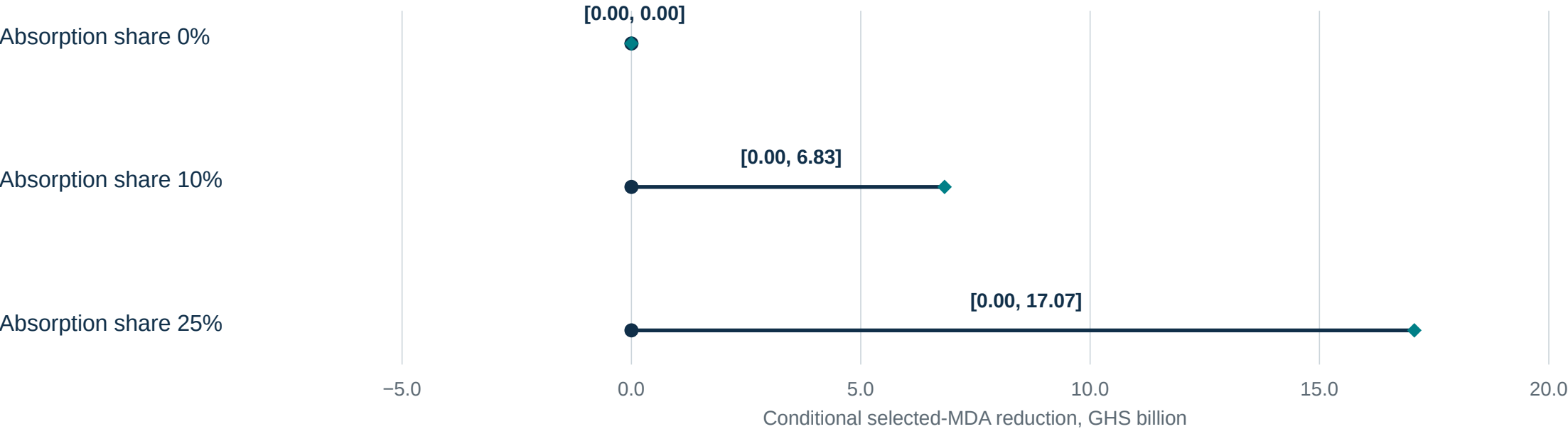
Note: Zero absorption does not establish that adjustment elsewhere is feasible. Proportional incidence is not a recommended allocation or national causal effect.

Exposure depends on both financing conditions and the imposed response

All 243 cases; same selected parent-budget envelope.

Figure 26. Exposure depends on both financing conditions and the imposed response

CONDITIONAL RANGES — NOT CONFIDENCE INTERVALS



Sources: IDER calculations [\[S08\]](#).

Note: These are neither confidence intervals nor probabilities of cuts. The selected envelope excludes other human-development channels.

The stress identifies a financing decision—not a preassigned sacrifice

Several responses can alter the pressure and each needs its own evidence.

REVENUE AND FINANCING

Actual tax receipts, settled auctions and committed external disbursements determine available cash. Announced issuance and a nominal revenue target are not interchangeable with proceeds.

EXPENDITURE AND ARREARS

Reprioritisation, cash buffers or delayed payment have different effects. Deferring provider payments can improve immediate Treasury cash while transferring financing pressure to services.

SERVICE PROTECTION

Test minimum operational inputs, contract rights and beneficiary incidence before choosing a response. A smaller financing gap does not itself prove that quality and access have been protected.

Sources: IMF CR 26/212 [\[S01\]](#); MoF 2026 Budget [\[S02\]](#); IDER calculations [\[S08\]](#).

Note: No optimisation, legal prioritisation or feasible extra borrowing amount is claimed.

A sector release can arrive too late for medicines, meals or operating inputs

One entirely hypothetical provider; all amounts GHS thousand.

Table 28. A sector release can arrive too late for medicines, meals or operating inputs

Cash item	Assumption	Treatment
Opening cash	100 at day 0	Counted once; no unobserved overdraft.
Three reimbursements	300 each on days 20, 50 and 80	Receipt delay: 0, 15 or 30 days.
Three operating purchases	250 each on days 15, 45 and 75	Cost pressure: 0%, 10% or 20%.
Same-day sequence	Payments before receipts	Tests within-day funding need, not only daily net cash.
Reporting horizon	Day 90	Later receipts retained in the same fixed cohort.

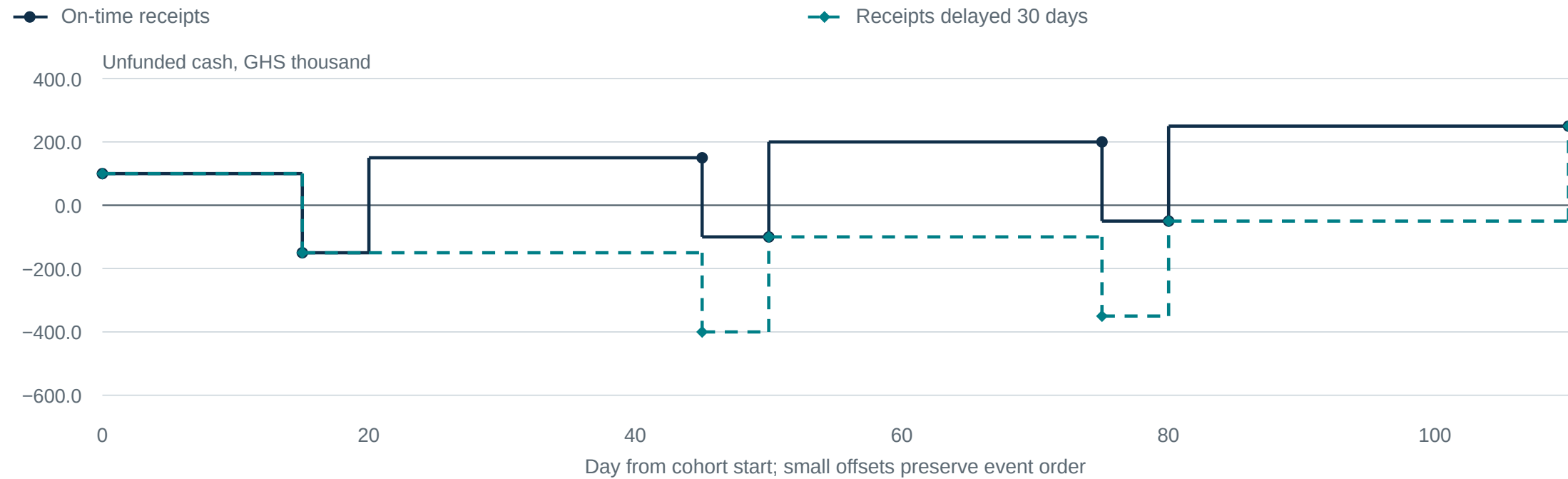
Sources: IDER calculations [\[S08\]](#).

Note: The example is not calibrated to a hospital, school, caterer or beneficiary. It does not estimate service interruptions or credit approval.

Equal eventual receipts can require different interim financing

Same fixed provider costs; delayed receipts remain scheduled after the reporting date.

Figure 27. Equal eventual receipts can require different interim financing



Sources: IDER calculations [\[S08\]](#).

Note: Negative model cash is an unfunded requirement, not a reported default or permission to postpone essential services.

Report the peak gap, reporting-date cash and eventual cash together

Nine hypothetical cases; GHS thousand.

Table 29. Report the peak gap, reporting-date cash and eventual cash together

Delay / cost pressure	Required bridge	Day-90 cash	Eventual cash
0 days / +0%	150	250	250
0 days / +10%	175	175	175
0 days / +20%	200	100	100
15 days / +0%	150	-50	250
15 days / +10%	175	-125	175
15 days / +20%	200	-200	100
30 days / +0%	400	-50	250
30 days / +10%	450	-125	175
30 days / +20%	500	-200	100

Sources: IDER calculations [\[S08\]](#).

Note: No borrowing interest, fees or real service response is imposed. A later positive balance does not fund an earlier payment.

Follow the particular government-linked cash claim

The supplier, lender and service provider can face different payment dates.

SUPPLIER WORKING CAPITAL

School caterers, pharmaceutical distributors and contractors need to match accepted invoices and reimbursement dates with inputs, wages and borrowing. Do not use a sector allocation as collateral cash.

BANK PERFORMANCE

A valid public receivable can remain unpaid when the borrower's instalment falls due. Loan classification follows its own terms and evidence; no NPL effect is identified by a public spending ratio.

HOUSEHOLD AND SERVICE USE

Transport costs, copayments, attendance and benefit cash-out can change access even when funding rises. They require actual user and facility records, not a count of budget cedis.

Sources: UNICEF education brief [\[S03\]](#); UNICEF health brief [\[S04\]](#); UNICEF social-protection brief [\[S05\]](#); IDER calculations [\[S08\]](#).

Note: These are explicit transmission channels; no jobs, health-outcome or default coefficient is estimated.

Debt service and sector spending respond to common causes

Accounting and ratio evidence do not identify the causal effect of repayment pressure.

Table 30. Debt service and sector spending respond to common causes

Threat	Specific risk	Required safeguard
Reverse causation	Weak activity can lower revenue, raise financing costs and affect spending simultaneously.	A justified policy or financing shock and a credible counterfactual.
Predetermined maturity	Maturities reflect earlier policy choices and can be anticipated.	Test exclusion, anticipation, refinancing and correlated creditor conditions.
Fiscal substitution	A cut or arrears payment in one category changes another funding need.	Observe the full fiscal and financing package; no single-line causal attribution.
Selection	Available sectors, reported facilities and paid providers can omit stressed nonreporters.	Eligible starting roster, exits, unmatched claims and nonresponse retained.
Measurement	Budget, release and expenditure can occur at different dates.	Source-specific cash/commitment basis; prices and recipients linked.

Sources: IMF CR 26/212 [\[S01\]](#); IMF GFSM 2014 [\[S07\]](#); IDER calculations [\[S08\]](#).

Note: No regression is fitted to projection years or mechanically linked accounting components. More rows alone do not solve identification.

A national crowding-out coefficient requires evidence not contained in these tables

P01 and P02 remain prospective; no fitted point estimate or standard error is presented.

P01 | SECTOR EXECUTION

A defensible intervention could support a panel or local-projection design for real cash execution, provider payment and service availability. The assignment mechanism—not fixed effects alone—must justify causality.

P02 | DELIVERY SUPPORT

An ethically allocated rollout of extra administrative support could identify the effect of the offer on payment and service records. It must never delay legally due payments or assume the offer affects outcomes only through cash.

INFERENCE AND RELEASE

Prespecify outcomes, horizons, spillovers, failure states and clustering. Include unpaid providers and programme exits. Report association rather than causal language when assignment or coverage fails.

Sources: IDER calculations [\[S08\]](#).

Note: No authorised linked payment–provider–outcome dataset was supplied; templates in the package contain headers only.

An operational dataset should connect obligations to services

Minimum fields for an authorised next-stage study, not fabricated observations.

Table 31. An operational dataset should connect obligations to services

Layer	Required fields	Unit and control
Public accounts	Entity, fund, economic/function category, original/revised budget, release and payment date.	Common institution/category/date identifiers; parent transfers eliminated.
Debt and financing	Principal, interest, currency, due and value dates, paid status, settled financing.	Instrument–payment link; do not duplicate refinanced principal.
Provider or school	Accepted claim, cash received, input availability, staff, attendance or service indicator.	Eligible roster including closures, arrears and missing facilities.
Household protection	Eligibility, scheduled/actual benefit, cash-out and relevant prices.	Consent and secure linkage; distinguish household from individual counts.
Design and inference	Intervention, comparison, baseline exposure, anticipation and dependence unit.	Pre-analysis plan; appropriate uncertainty and attrition sensitivity.

Sources: IDER calculations [\[S08\]](#).

Note: A national service-effect estimate is not released until outcomes, coverage and identification are demonstrated.

A debt-and-social-spending hearing needs five separate reconciliations

Each question requests evidence beyond a headline expenditure share.

Table 32. A debt-and-social-spending hearing needs five separate reconciliations

Question	Evidence to request	Misleading shortcut
What must be funded?	Principal, cash interest, refinancing and currency-dated cash.	Calling all principal a primary-spending cost.
What was protected?	Original/revised sector budget and matched outturn; final-use consolidation.	Adding NHIS twice across health and social protection.
What reached users?	Fund receipt, provider settlement and beneficiary cash-out.	Calling a ministry release final service delivery.
What happened to real resources?	Category prices, population and actual programme recipients.	Calling nominal growth real per-pupil or per-patient growth.
What caused the change?	Credible comparison and linked service/financing data.	Treating relative budget sizes as a causal debt effect.

Sources: IMF CR 26/212 [\[S01\]](#); MoF 2026 Budget [\[S02\]](#); IDER calculations [\[S08\]](#).

Note: The checklist is proposed scrutiny guidance, not a finding of legal noncompliance.

Translate the fiscal comparison into the decision-maker’s own cash exposure

No security allocation, current loan quotation or investment-return estimate is supplied.

Table 33. Translate the fiscal comparison into the decision-maker’s own cash exposure

Audience	Use of the report	Next evidence
MoF, Treasury and BoG	Coordinate repayment, revenue, sector releases and FX requirements.	Actual cash balances, due dates, available financing and protected service inputs.
Health, education and social ministries	Separate staffing, inputs, grants and capital execution.	Programme/facility outcomes, releases, recipient counts and category prices.
Banks, funds, insurers and pensions	Assess government-linked supplier and sovereign cash timing.	Holdings, borrower invoices, asset/liability dates and risk limits.
Manufacturers, contractors and MSMEs	Stress reimbursement delays and government-customer concentration.	Accepted claims, procurement milestones, inventories and usable credit.
Development agencies, DFIs and researchers	Review additionality, consolidation, equity and identification.	Donor overlap, programme eligibility, comparable outcomes and evaluation design.

Sources: IDER calculations [\[S08\]](#).

Note: No blanket inference is made about a particular bondholder, supplier, pension fund or household.

Protect verified service bundles and payment quality—not nominal labels alone

The evidence supports three specific disclosure and management priorities.

RECONCILE BEFORE RANKING

Publish debt principal and interest separately, map sector and fund overlap, and report allocations and actuals on the same basis. Preserve unresolved source differences.

TRACK REAL EXECUTION

Monitor staff, essential operating inputs and completed capital together. Report matched execution, annual prices and resident/beneficiary denominators; do not reward denominator-driven execution ratios.

MAKE DELIVERY VISIBLE

Publish release and final-payment stages, arrears age and programme timeliness. Combine the aggregate debt-service calendar with a rolling cash forecast for protected services.

Sources: IMF CR 26/212 [\[S01\]](#); UNICEF education brief [\[S03\]](#); UNICEF health brief [\[S04\]](#); UNICEF social-protection brief [\[S05\]](#).

Note: Priority choices require legal mandates, programme-specific costs and authorised fiscal decisions; this is not an optimised spending allocation.

A 90-day pilot can produce a traceable debt-and-services account

The clock begins after access, confidentiality and institutional approval.

Table 34. A 90-day pilot can produce a traceable debt-and-services account

Window / proposed owner	Deliverable	Measurable acceptance test
Days 0–30 MoF/CAGD + sector data leads	Freeze source vintages, parent/fund map, original/revised budget and debt-payment perimeter.	Every captured material record has a source, unit, date and status; all unmapped transfers disclosed.
Days 31–60 Treasury + sectors + programme owners	Link releases, provider claims and recipient cash; calculate matched execution and price sensitivities.	No known duplicate transfer; every unmatched payment or due date flagged; all denominators documented.
Days 61–90 IDER + independent reviewer	Reproduce evidence, approve conditional stress dashboard and register the prospective evaluation.	All reported calculations replay; unresolved differences published; each proposed response has an authorised owner.

Sources: IDER calculations [\[S08\]](#).

Note: These are proposed controls, not achieved national coverage, agreed mandates or a promise of payment.

Monitor amounts, timing and service resources with separate denominators

Proposed indicators for the authorised pilot.

Table 35. Monitor amounts, timing and service resources with separate denominators

Indicator	Definition	Frequency / owner
Debt-service cash requirement	Principal plus cash interest due, less matched paid amounts, by currency/date.	Weekly / debt office and Treasury
Sector execution	Actual expenditure divided by matching original and revised budgets.	Monthly / sector finance
Essential-input execution	Medicines, meals, teaching inputs and maintenance; same-scope budgets/outturns.	Monthly / programme owners
Real per-capita resource change	Matched actual growth adjusted by stated prices and population.	Quarterly/annual / statistics
Payment quality	Release, provider bank credit, benefit cash-out and delay retained separately.	Payment cycle / fund and scheme leads
Evidence quality	Unmapped transfers, due dates, disputed amounts and non-reporters.	Each release / research quality lead

Sources: IDER calculations [\[S08\]](#).

Note: Indicators do not themselves estimate health, education or poverty impacts.

Material source exceptions — 1 of 2

The source record and the analytical treatment remain visible together.

Table 36. Material source exceptions — 1 of 2

Issue	Observed limitation	Treatment
Latest execution release	The 2026 Mid-Year Fiscal Policy Review was located, but its official PDF was not retrieved in the original review and is not incorporated in this edition.	Original 2026 allocations retained as allocations; no 2026 sector execution is inferred from media.
Source table images	Official IMF Tables 2/3b/3c, social floors and TMU; MoF social appendix; UNICEF financing, health execution and payment figures now image-checked.	Source-image gaps narrowed. Education capital and LEAP cycle 98 source conflicts are detailed in Chapter 14; no source-system audit is claimed.
Overlapping sector totals	Broad health and broad social protection both include NHIS; SSNIT extends beyond central-budget noncontributory support.	No all-sector total obtained by adding these aggregates.
Source price vintage	Broad 2025 nominal/real series imply about 25.34% inflation, distinct from later IMF 14.2% annual CPI.	Publish original real series and later re-deflation sensitivity separately; neither is claimed a category-specific price index.
Education narrative	2026 narrative33.3 bn differs from appendix GoG 33.761713145 bn and all-source 39.233795022 bn.	Appendix rows govern calculations; difference remains unresolved.

Sources: [\[S01\]](#); [\[S02\]](#); [\[S03\]](#); [\[S04\]](#); [\[S05\]](#); [\[S08\]](#); see source register.

Note: These conditions apply to the decision brief and all extracted charts; they are not removed by reproducibility.

Material source exceptions — 2 of 2

The source record and the analytical treatment remain visible together.

Table 37. Material source exceptions — 2 of 2

Issue	Observed limitation	Treatment
Social growth rounding	Rounded 17.3 → 21.9 bn gives 26.59%; source text 27.7% is outside the nearest-0.1 bn endpoint interval.	Preserve both displays; do not silently repair source amounts.
NHIA receipt comparison	MoF 4.6 bn versus NHIA 3.192 bn in H1 2025.	1.408 bn difference is not called missing funds or current arrears.
Observation versus forecast	Sector 2019–25 records have mixed budget/estimate status; fiscal 2026–31 are projections.	No fitted causal regression or realised-outcome interpretation for forecast rows.
Source binaries	Web sources and page locators inspected; original PDF/HTML bytes were not available in the runtime.	URLs, structured transcriptions and access log supplied; original source binaries not bundled.
Unobserved outcomes	No linked national debt–provider–household outcome panel or credible exogenous assignment obtained.	P01–P02 remain prospective. No national crowding-out, jobs or service-outcome coefficient reported.

Sources: [\[S01\]](#); [\[S02\]](#); [\[S03\]](#); [\[S04\]](#); [\[S05\]](#); [\[S08\]](#); see source register.

Note: These conditions apply to the decision brief and all extracted charts; they are not removed by reproducibility.

Trace every numerical result to a source or a declared assumption

The package keeps historical observations, allocations, projections and scenarios separate.

Table 38. Trace every numerical result to a source or a declared assumption

Layer	Inputs / code	Output
Debt and fiscal scale	imf_fiscal_debt.csv; analyse.py	Service, interest, revenue and GDP ratios with component residuals.
Sector trends and execution	sector_history.csv; health_execution.csv; macro_inputs.csv	Nominal/real sensitivity;15 matched execution pairs; pooled weighting.
Programme and budget data	mda_budget2026.csv; programme_budget2026.csv; social inputs	Parent/subset controls, population ratios, floors, delay and release differences.
Conditional stress	assumptions.json; analyse.py	48 real-protection cases;243 financing cases;9 provider paths;24-order decomposition.
Publication and verification	build_report.py; models.py; finalise.py; verify.py	Editable figures/tables/equations; source links; exact extracts; independent checks.

Sources: IDER calculations [\[S08\]](#).

Note: Reproduction is not an independent audit of government accounts or a second causal empirical study.

Definitions, accounting and conditional models have distinct assumptions

The model catalogue does not present accounting identities as fitted causal relationships.

Table 39. Definitions, accounting and conditional models have distinct assumptions

Principle	Maintained condition	Interpretation limit
A1 Matched measurement	State institution, category, period, budget/outturn basis and currency.	Cross-vintage scale ratios are labelled, not treated as same-basis execution.
A2 Consolidation	Eliminate parent/child and fund/provider duplicate transactions.	No invented all-human-development total from overlapping sources.
A3 Prices and people	Use stated annual prices and a consistent population or recipient denominator.	CPI and per-resident comparisons do not measure individual service outcomes.
A4 Scenario discipline	All allocation, execution, price, revenue and access settings declared.	Ranges are not probabilities, causal effects or recommended cuts.
A5 Identification	A justified assignment mechanism and observed outcomes for causal language.	P01–P02 are not estimated; coverage gaps remain explicit.

Sources: IDER calculations [\[S08\]](#).

Note: E01–E26 include definitions and executed source/conditional calculations. No original fitted econometric coefficient is reported.

Debt-service and fiscal denominators

Variables, assumptions and reproducible outputs accompany each method.

E01 Debt-service burden

EXECUTED SOURCE RATIO

$$b_{R,t} = 100 \text{ DS}_t / R_t \tag{E01a}$$

$$b_{Y,t} = 100 \text{ DS}_t / Y_t \tag{E01b}$$

DS is source Table 3c cash-service aggregate; R is Table 3b revenue plus grants; Y is nominal GDP. Convert billions and millions before division.

ASSUMPTIONS / INTERPRETATION

Ratios use matched dates but documented source perimeters. Principal refinancing is not primary expenditure or an estimate of displacement.

Sources: IDER calculations [\[S08\]](#).

Note: Accounting and conditional calculations are not fitted causal effects. Source scope and status follow the corresponding analytical pages.

E02 Interest burden and scope

EXECUTED SOURCE RATIO

$$i_{R,t} = 100 \text{ I}_t / R_t \tag{E02a}$$

$$\text{DS}_t \neq \text{I}_t + \text{A}_t \text{ (unmatched bases)} \tag{E02b}$$

I is Table 3b commitment interest. A is a hypothetical cash-principal amount that is not obtained by subtracting unmatched interest from cash service.

ASSUMPTIONS / INTERPRETATION

No invented principal series. MoF budget amortisation, IMF cash service and commitment interest retain distinct measurement rules.

Sector growth and source price measures

Variables, assumptions and reproducible outputs accompany each method.

E03 Service and fiscal closure

EXECUTED RECONCILIATION

$$\rho_{DS} = DS - DS_{dom} - DS_{ext} \tag{E03a}$$

$$\rho_B = B_{cash} - B_{commit} - \Delta P \tag{E03b}$$

ΔP is the source signed net-payables adjustment; B is surplus-positive primary balance. Residuals retain the source display units.

ASSUMPTIONS / INTERPRETATION

A source rounding residual is not usable cash; net payables reduction is not gross arrears clearance.

Sources: IDER calculations [\[S08\]](#).

Note: Accounting and conditional calculations are not fitted causal effects. Source scope and status follow the corresponding analytical pages.

E04 Financing levels and indices

EXECUTED DATED DESCRIPTION

$$Index_t = 100 H_t/H_{2019} \tag{E04a}$$

$$g_{H,t} = 100(H_t/H_{t-1} - 1) \tag{E04b}$$

H is a named education or health financing series. Nominal and source-deflated records are analysed separately with original dates and status.

ASSUMPTIONS / INTERPRETATION

2024 source bases and 2025 budget projections are not two completed outturns. Broad social and health totals overlap.

Purchasing power and population

Variables, assumptions and reproducible outputs accompany each method.

E05 Implicit source-price diagnostic

EXECUTED SOURCE DIAGNOSTIC

$$P_{imp_t} = H^{nom}_t / H^{real}_t \tag{E05a}$$

$$\pi_{imp_t} = P_{imp_t} / P_{imp_{t-1}} - 1 \tag{E05b}$$

The source real series is expressed in 2019 prices. The quotient reconstructs its implicit factor; it does not authenticate the CPI vintage.

ASSUMPTIONS / INTERPRETATION

Use full transcribed precision. Source rounding and price assumptions can matter; do not silently overwrite the published real series.

Sources: IDER calculations [\[S08\]](#).

Note: Accounting and conditional calculations are not fitted causal effects. Source scope and status follow the corresponding analytical pages.

E06 Alternative re-deflation

EXECUTED PRICE SENSITIVITY

$$g^{real} = (H_1 / H_0) / (1 + \pi) - 1 \tag{E06a}$$

$$g^{pc} = (H_1 / H_0) / [(1 + \pi)(1 + n)] - 1 \tag{E06b}$$

π is a stated annual-average price change and n population growth. The 2025 sensitivity uses 14.2% CPI and 1.8% population growth.

ASSUMPTIONS / INTERPRETATION

Not category-specific procurement volumes or benefit per recipient. Re-deflation does not transform a budget into execution.

Scale comparisons and ministry accounts

Variables, assumptions and reproducible outputs accompany each method.

E07 Common-denominator comparison

EXECUTED SCALE COMPARISON

$$s_{H,Y} = 100 \frac{H}{Y_{\text{common}}} \tag{E07a}$$

$$r_{DS,H} = DS/H \tag{E07b}$$

H is a clearly named source financing amount or MDA allocation; the GDP/revenue and debt-service bases are disclosed separately.

ASSUMPTIONS / INTERPRETATION

Different publication vintages and budget/outturn bases are not reconciled automatically. The ratio is not causal crowding out.

Sources: IDER calculations [\[S08\]](#).

Note: Accounting and conditional calculations are not fitted causal effects. Source scope and status follow the corresponding analytical pages.

E08 Ministry funding reconciliation

EXECUTED BUDGET IDENTITY

$$\text{GoG} = \text{Compensation} + \text{Goods} + \text{Capital} \tag{E08a}$$

$$\text{Total} = \text{GoG} + \text{IGF} + \text{Loans} + \text{Grants} + \rho \tag{E08b}$$

Amounts are the parent MDA rows in Appendix 4A of the 2026 Budget. Loans and grants refer to external funding columns.

ASSUMPTIONS / INTERPRETATION

Of-which programmes are not added again. IGF and fund reimbursements require consolidation before a national functional total is claimed.

Population and consolidation

Variables, assumptions and reproducible outputs accompany each method.

E09 Per-resident budget scale

EXECUTED POPULATION NORMALISATION

$$\text{BudgetPC} = \text{Allocation} / N_{2026} \tag{E09a}$$

$$N_{2026} = 34378768 \tag{E09b}$$

N is the GSS 2026 projected population. Allocation is an explicitly named 2026 ministry or programme budget, in GHS.

ASSUMPTIONS / INTERPRETATION

A resident is not a pupil, patient or beneficiary. No absolute population path is manufactured from the separate IMF growth-rate series.

Sources: IDER calculations [\[S08\]](#).

Note: Accounting and conditional calculations are not fitted causal effects. Source scope and status follow the corresponding analytical pages.

E10 Nested programme consolidation

ACCOUNTING RELEASE RULE

$$\text{NetTotal} = \Sigma \text{Entities} - \text{IntraTransfers} \tag{E10a}$$

$$\text{Parent} \neq \text{Parent} + \text{OfWhich} \tag{E10b}$$

A consolidated expenditure measure eliminates duplicated intra-government flows and identifies final spending. OfWhich is already inside its parent.

ASSUMPTIONS / INTERPRETATION

No complete health–education–social-protection consolidation ledger was obtained. Broad NHIS-containing totals must not be summed.

Execution and weighting

Variables, assumptions and reproducible outputs accompany each method.

E11 Category execution

EXECUTED MATCHED-PAIR COMPARISON

$$\text{Exec}_{j,t} = 100 \text{ Actual}_{j,t} / \text{Budget}_{j,t} \tag{E11a}$$

$$\text{Variance}_{j,t} = \text{Actual}_{j,t} - \text{Budget}_{j,t} \tag{E11b}$$

Fifteen budget/actual pairs cover the three displayed MoH categories over 2020–2024. Both amounts are in GHS million.

ASSUMPTIONS / INTERPRETATION

A ratio above 100% is not automatically better service. Small or revised bases and economic classification require scrutiny.

Sources: IDER calculations [\[S08\]](#).

Note: Accounting and conditional calculations are not fitted causal effects. Source scope and status follow the corresponding analytical pages.

E12 Pooled versus average execution

EXECUTED WEIGHTING CHECK

$$\text{Exec}_{\text{pool}} = 100 \Sigma \text{ Actual} / \Sigma \text{ Budget} \tag{E12a}$$

$$\text{Exec}_{\text{mean}} = \text{mean}(100 \text{ Actual} / \text{Budget}) \tag{E12b}$$

Pooled execution weights by allocated money. The arithmetic mean gives every annual rate equal weight; the source capital base is very small in 2021.

ASSUMPTIONS / INTERPRETATION

Neither statistic is a random-sample estimate or proof that debt caused underexecution. Sensitivity excluding 2021 is shown, not substituted.

Ratio changes and delivered health resources

Variables, assumptions and reproducible outputs accompany each method.

E13 Execution-ratio attribution

EXECUTED SYMMETRIC IDENTITY

$$\Delta e = 100[\text{mean}(1/B)\Delta A + \text{mean}(A)\Delta(1/B)] \tag{E13a}$$

$$\text{mean}(X) = (X_0 + X_1)/2 \tag{E13b}$$

A is actual expenditure and B its matched budget. The two terms split numerator and denominator changes by endpoint averaging.

ASSUMPTIONS / INTERPRETATION

Positive denominators required. A higher execution rate can accompany less actual expenditure when the allocation falls.

Sources: IDER calculations [\[S08\]](#).

Note: Accounting and conditional calculations are not fitted causal effects. Source scope and status follow the corresponding analytical pages.

E14 Executed health real resources

EXECUTED CAPTURED-COHORT SENSITIVITY

$$g^{\text{real,pc}} = (A_{2024}/A_{2023})/(1.229 \times 1.019) - 1 \tag{E14a}$$

$$A_t = \sum_{\text{three categories}} \text{Actual}_{j,t} \tag{E14b}$$

A sums only the three categories in the source health execution figure. CPI 22.9% and population growth 1.9% are IMF 2024 values.

ASSUMPTIONS / INTERPRETATION

The total is not all health-system spending. Common CPI does not identify medical inflation, patient numbers or health outcomes.

Fund receipts and spending floors

Variables, assumptions and reproducible outputs accompany each method.

E15 Insurance-release crosswalk

EXECUTED SOURCE COMPARISON

$\text{CurrentYear} = \text{Receipt} \times 0.922$ (E15a)

$\text{Gap} = \text{MoFRelease} - \text{NHIAReceipt}$ (E15b)

H1 2025 source amounts are GHS 4.6 bn and GHS 3.192 bn. Within NHIA receipts, 7.8% relates to previous-year arrears.

ASSUMPTIONS / INTERPRETATION

The GHS 1.408 bn difference is unresolved timing/perimeter, not alleged missing funds. Current-year allocation ratios are not final provider payment.

Sources: IDER calculations [\[S08\]](#).

Note: Accounting and conditional calculations are not fitted causal effects. Source scope and status follow the corresponding analytical pages.

E16 Programme-floor performance

EXECUTED PROGRAMME COMPARISON

$\text{Headroom} = \text{ReportedSpend} - \text{Floor}$ (E16a)

$\text{OverFloor} = 100(\text{ReportedSpend}/\text{Floor} - 1)$ (E16b)

End-2025 ECF values are GHS 7,321 m and GHS 7,155 m. Later PCI floors use their specified programme coverage and cumulative dates.

ASSUMPTIONS / INTERPRETATION

Do not chain expanded PCI coverage as a same-scope growth series or add cumulative floors. Floor compliance is not universal payment timeliness.

Precision and real-resource scenarios

Variables, assumptions and reproducible outputs accompany each method.

E17 Rounded social-budget growth

EXECUTED PRECISION ENVELOPE

$$g_L = 100[(H_1-h)/(H_0+h) - 1] \tag{E17a}$$

$$g_U = 100[(H_1+h)/(H_0-h) - 1] \tag{E17b}$$

The two displayed broad SP amounts are 17.3 and 21.9 GHS bn; h=0.05 bn assumes nearest-0.1 bn rounding.

ASSUMPTIONS / INTERPRETATION

A rounding interval is not a confidence interval. The source stated growth remains visible when not reproduced by displayed endpoints.

Sources: IDER calculations [\[S08\]](#).

Note: Accounting and conditional calculations are not fitted causal effects. Source scope and status follow the corresponding analytical pages.

E18 Executed real-resource index

EXECUTED CONDITIONAL MODEL

$$Q_1/Q_0 = a e/[(1+\pi)(1+n)] \tag{E18a}$$

$$a = \text{Allocation}_1/\text{Allocation}_0 \tag{E18b}$$

e is current execution divided by baseline execution; π and n are price and population growth. Index baseline is 100.

ASSUMPTIONS / INTERPRETATION

All factors are imposed in the 48-case grid. Same source and category are required for observed application.

Protection thresholds and factor attribution

Variables, assumptions and reproducible outputs accompany each method.

E19 Minimum execution for protection

EXECUTED REVERSE THRESHOLD

$$e^* = (1+\pi)(1+n)/a \tag{E19a}$$

$$\text{Protected} \Leftrightarrow e \geq e^* \tag{E19b}$$

The threshold preserves real spending per resident at the baseline level. It can exceed one if budget growth is too small.

ASSUMPTIONS / INTERPRETATION

This is a relative execution ratio, not always an absolute budget-execution percentage. Baseline execution is explicitly needed.

Sources: IDER calculations [\[S08\]](#).

Note: Accounting and conditional calculations are not fitted causal effects. Source scope and status follow the corresponding analytical pages.

E20 Four-factor real-resource bridge

EXECUTED ORDER-INDEPENDENT ACCOUNTING

$$\varphi_j = \text{mean}_{24 \text{ orders}}[Q(\text{after } j) - Q(\text{before } j)] \tag{E20a}$$

$$\sum_j \varphi_j = Q_{\text{final}} - Q_{\text{initial}} \tag{E20b}$$

The synthetic endpoint has allocation×1.20, execution×0.85, price×1.142 and population×1.018. Every update order is averaged.

ASSUMPTIONS / INTERPRETATION

Shapley allocation assigns interactions by convention. It does not identify policy treatment effects or behavioural parameters.

Financing pressure and budget incidence

Variables, assumptions and reproducible outputs accompany each method.

E21 Incremental financing pressure

EXECUTED CONDITIONAL CASH ACCOUNTING

$$F = qR + (1-r_s)S + (1-r_m)M + \varepsilon(DS_{\text{ext}} - E) \tag{E21a}$$

q, ε, r_s, r_m are imposed (E21b)

R is revenue/grants; S, M planned short/medium financing; E external financing, assumed fully realised. Amounts use 2026 IMF bases in GHS bn.

ASSUMPTIONS / INTERPRETATION

External categories are translation proxies, not a matched currency ledger. No source residual is treated as cash or additional national loss.

Sources: IDER calculations [\[S08\]](#).

Note: Accounting and conditional calculations are not fitted causal effects. Source scope and status follow the corresponding analytical pages.

E22 Selected-budget absorption

EXECUTED CONDITIONAL INCIDENCE

$$\text{Reduction}_{\text{MDA}} = \alpha F \tag{E22a}$$

$$\text{Remaining}_{\text{MDA}} = \text{Envelope} - \alpha F \tag{E22b}$$

Envelope is the GoG portion of three distinct ministry parent rows: GHS 53.227626518 bn. α is 0, 0.10 or 0.25 by assumption.

ASSUMPTIONS / INTERPRETATION

No automatic one-for-one displacement. This is not a recommended cut, an all-human-development total or evidence that financing elsewhere is feasible.

Provider cash and interim funding

Variables, assumptions and reproducible outputs accompany each method.

E23 Provider event-date liquidity

EXECUTED SYNTHETIC LEDGER

$$C_k = C_0 + \sum_{j \leq k} (\text{Receipt}_j - \text{Payment}_j) \tag{E23a}$$

$$\text{ReceiptDate}^* = \text{ReceiptDate} + \text{Delay} \tag{E23b}$$

Opening GHS 100 k; three GHS 300 k receipts and three GHS 250 k payments; 90-day horizon. Cost shocks and receipt delays are stated.

ASSUMPTIONS / INTERPRETATION

Payments precede receipts on the same day. No actual provider, new borrowing, taxes or service response is represented.

Sources: IDER calculations [\[S08\]](#).

Note: Accounting and conditional calculations are not fitted causal effects. Source scope and status follow the corresponding analytical pages.

E24 Minimum bridge and later receipts

EXECUTED SYNTHETIC CASH TEST

$$\text{Bridge} = \max(0, -\min_{k \leq 90} C_k) \tag{E24a}$$

$$C_{\text{eventual}} = C_{90} + \text{NetFlows}_{\text{after90}} \tag{E24b}$$

The bridge is the largest unfunded event before additional finance. Later receipts remain scheduled rather than cancelled.

ASSUMPTIONS / INTERPRETATION

No loan approval, default probability or service interruption is inferred. Unused same-currency cash and credit restrictions need actual records.

Evidence status and overlapping boundaries

Variables, assumptions and reproducible outputs accompany each method.

E25 Coverage and causal release

IMPLEMENTED MEASUREMENT CONTROL

Observed ≠ Budget ≠ Projection ≠ Scenario (E25a)

Unknown payment status ≠ Zero spending (E25b)

Source registers retain institutional scope, status, observation period, price basis, population denominator and verification level.

ASSUMPTIONS / INTERPRETATION

No aggregate causal regression is fitted to forecasts or heterogeneous sector series.
More transcribed rows do not create independent policy shocks.

Sources: IDER calculations [\[S08\]](#).

Note: Accounting and conditional calculations are not fitted causal effects. Source scope and status follow the corresponding analytical pages.

E26 Budget-plus-fund overlap

EXECUTED SCOPE DIAGNOSTIC

Health_{broad} includes NHIS (E26a)

SocialProtection_{broad} includes NHIS + SSNIT (E26b)

The UNICEF broad series have explicitly overlapping institutional coverage.
SSNIT contributions/benefits are not all central-budget expenditure.

ASSUMPTIONS / INTERPRETATION

A combined total is not estimated without transaction-level consolidation. Definitions are retained rather than repaired using arbitrary weights.

Prospective causal research

Variables, assumptions and reproducible outputs accompany each method.

P01 Causal sector-execution response

PROSPECTIVE ONLY — NOT ESTIMATED

$$Y_{i,t+h} = \alpha_{i,h} + \lambda_{t,h} + \beta_h Z_{i,t} + \gamma_h X_{i,t-1} + u_{i,t+h} \tag{P01a}$$

Z requires justified exogenous assignment (P01b)

Y is real sector cash execution, provider payment or service availability; Z is a defensible policy/financing intervention, not debt service by itself.

ASSUMPTIONS / INTERPRETATION

Predetermined maturities need exclusion and anticipation evidence. Macro shocks, creditor choice and fiscal substitution can violate identification.

Sources: IDER calculations [\[S08\]](#).

Note: Accounting and conditional calculations are not fitted causal effects. Source scope and status follow the corresponding analytical pages.

P02 Linked programme delivery effect

PROSPECTIVE ONLY — NOT ESTIMATED

$$ITT = E[Y \mid \text{Assigned}=1] - E[Y \mid \text{Assigned}=0] \tag{P02a}$$

Y = payment time or prespecified service outcome (P02b)

A prospective fair rollout of additional administrative support may be evaluated among eligible units. Assignment and outcomes must be observed.

ASSUMPTIONS / INTERPRETATION

Never delay legally due payments. Administrative assistance may affect outcomes beyond payment, so its ITT is not automatically a cash-only effect.

Five calculations connect the methods to decision-relevant values

Full precision is retained in the data and executable code.

Table 40. Five calculations connect the methods to decision-relevant values

Calculation	Substitution	Interpretation
Sector price factor E05	$(42,158.06 / 37,557.21) / (15,219.52 / 16,994.21) - 1 = 25.339\%$	Implicit source-deflator growth; not the later IMF CPI.
Health actual per resident E14	$(14,931.62 / 13,862.32) / 1.229 / 1.019 - 1 = -13.991\%$	Captured three-category actuals; common-price sensitivity.
Social-floor E16	$7,321 - 7,155 = 166$ GHS million	Headroom above one defined cumulative floor.
Protection E18	$100 \times 1.20 \times 0.85 / 1.142 / 1.018 = 87.738$	Illustrative real per-capita index, baseline 100.
Budget incidence E22	$0.10 \times 42.7366 = 4.2737$ GHS billion	Assumed 10% absorption of joint financing pressure, not a measured sector cut.

Sources: IMF CR 26/212 [\[S01\]](#); UNICEF education brief [\[S03\]](#); UNICEF health brief [\[S04\]](#); IDER calculations [\[S08\]](#).

Note: Ratios, thresholds and exact identities do not establish a causal crowding-out effect or available cash.

The validation changes the interpretation—not the historical source values

Review date: 27 September 2026. Evidence cut-off remains 26 September 2026.

HEALTH RESOURCES

The captured 2024 real per-resident change was –6.39% for compensation, –31.25% for goods and services and –32.79% for capital. The common CPI adjustment does not measure clinical outputs.

INFLUENTIAL YEARS

Capital’s pooled execution is 44.71%, but the five leave-one-year-out results span 32.18%–106.99%. This instability is caused by observed budget weights; it is not an uncertainty interval from a sampled population.

SOURCE CONFLICT

The education source’s capital-execution narrative and annual graphic do not reconcile. Its 69.7% figure is withheld from the quantitative chart; no replacement average is invented.

Sources: IMF CR 26/212 [\[S01\]](#); UNICEF education brief [\[S03\]](#); UNICEF health brief [\[S04\]](#); IDER calculations [\[S08\]](#).

Note: Use the revised report for scoped accounting and sensitivity analysis. A national causal crowding-out coefficient remains unidentified.

The causal estimation sample has one matched historical year

Administrative categories are not independent observations of Ghana’s debt-service shock.

Table 41. The causal estimation sample has one matched historical year

Evidence layer	Available records	Implication for estimation
Health budget–actual pairs	15 category-year pairs; 3 economic categories; 2020–2024.	Descriptive execution analysis is feasible; three categories do not create three national policy shocks.
Debt and fiscal source	2024 actual; 2025 preliminary; 2026–2031 projections.	The 2025 preliminary value cannot pair with unobserved 2025 health execution. Forecast rows are not outcomes.
Matched historical sample	2024 only: 3 category rows share debt service of GHS 122.5 bn.	Intercept-plus-debt design has rank 1 for 2 columns. A separate debt coefficient cannot be estimated.
Services and beneficiary outcomes	No linked provider, school or household outcome panel.	No health, learning, employment or poverty treatment effect can be inferred from the cash aggregates.

Sources: IMF CR 26/212 [\[S01\]](#); UNICEF health brief [\[S04\]](#); IDER calculations [\[S08\]](#).

Note: The rank diagnostic is executed on the observed matched rows; it is not a failure caused by a choice of standard-error estimator.

All three captured health categories lost real resources per resident

2023–2024; common annual-average CPI of 22.9% and population growth of 1.9%.

Table 42. All three captured health categories lost real resources per resident

Category	2023 actual, GHS m	2024 actual, GHS m	Nominal change	Real per-resident change
Compensation	9,673.99	11,340.56	17.23%	–6.39%
Goods and services	3,414.90	2,940.03	–13.91%	–31.25%
Capital	773.43	651.03	–15.83%	–32.79%
Captured total	13,862.32	14,931.62	7.71%	–13.99%

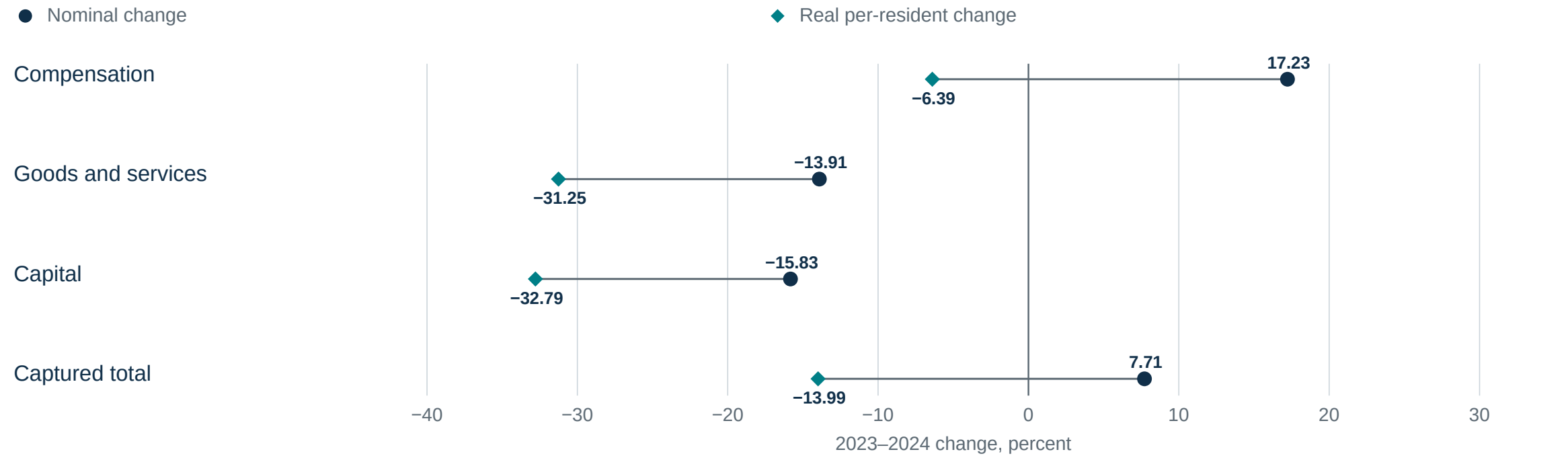
Sources: IMF CR 26/212 [\[S01\]](#); UNICEF health brief [\[S04\]](#); IDER calculations [\[S08\]](#).

Note: All comparisons use the same source category. Per resident is not per patient; common CPI is not a health-specific input deflator.

The aggregate decline conceals larger losses in operating inputs and capital

Compensation increased nominally, but not enough to match prices and population.

Figure 28. The aggregate decline conceals larger losses in operating inputs and capital



Sources: IMF CR 26/212 [\[S01\]](#); UNICEF health brief [\[S04\]](#); IDER calculations [\[S08\]](#).

Note: Point comparisons are deterministic transformations of reported amounts, not estimated treatment effects or confidence intervals.

Goods and services account for 7.70 points of the 13.99% decline

Exact additive decomposition in the common-price, population-adjusted total.

Table 43. Goods and services account for 7.70 points of the 13.99% decline

Category	2023 spending share	2024 spending share	Contribution to nominal change	Contribution to real change
Compensation	69.79%	75.95%	12.02 pp	−4.46 pp
Goods and services	24.63%	19.69%	−3.43 pp	−7.70 pp
Capital	5.58%	4.36%	−0.88 pp	−1.83 pp
Captured total	100.00%	100.00%	7.71 pp	−13.99 pp

Sources: IMF CR 26/212 [\[S01\]](#); UNICEF health brief [\[S04\]](#); IDER calculations [\[S08\]](#).

Note: Contributions use the 2023 captured total as denominator. They are accounting contributions, not causal explanations.

GHS 2.429 bn is the counterfactual resource-protection gap—not arrears

Amount required in 2024 to preserve the 2023 common-price resource level per resident.

Table 44. GHS 2.429 bn is the counterfactual resource-protection gap—not arrears

Category	Required 2024, GHS m	Reported 2024, GHS m	Arithmetic gap, GHS m
Compensation	12,115.23	11,340.56	774.67
Goods and services	4,276.65	2,940.03	1,336.62
Capital	968.61	651.03	317.58
Captured total	17,360.49	14,931.62	2,428.87

Sources: IMF CR 26/212 [\[S01\]](#); UNICEF health brief [\[S04\]](#); IDER calculations [\[S08\]](#).

Note: This benchmark holds the captured 2023 service-financing mix fixed. It is not an unpaid invoice, a legal entitlement or an optimised budget.

The negative real-resource result survives a much lower inflation assumption

The break-even inflation rate for the captured total is 5.71%, holding population growth at 1.9%.

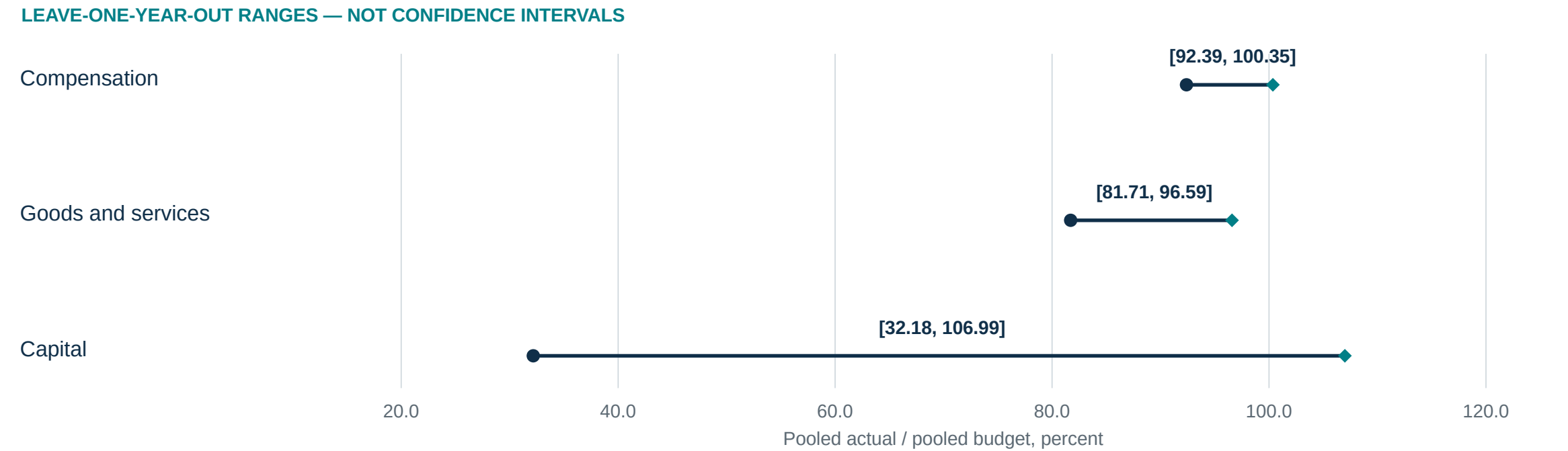
TOTAL RESOURCES	OPERATING INPUTS	CAPITAL AND PAYROLL
Captured actual spending grew 7.71%. After population growth, inflation would need to be no more than 5.71% to avoid a decline in real resources per resident. The applied annual CPI is 22.9%.	Goods and services fell 13.91% even before adjusting for prices or people. Their per-resident real value declines for every non-negative inflation rate at the stated population growth.	Capital’s nominal fall is 15.83%. Payroll rises 17.23%, but its break-even price increase is only 15.04%. Therefore the category conclusions do not depend solely on the 22.9% headline CPI.

Sources: IMF CR 26/212 [\[S01\]](#); UNICEF health brief [\[S04\]](#); IDER calculations [\[S08\]](#).
Note: Break-even calculations vary the price assumption only. They do not establish procurement prices, staffing effort or health outcomes.

Capital’s pooled execution is highly sensitive to the year omitted

Every year is omitted once; the full-sample record remains the principal descriptive result.

Figure 29. Capital's pooled execution is highly sensitive to the year omitted



Sources: UNICEF health brief [\[S04\]](#); IDER calculations [\[S08\]](#).

Note: Ranges show five leave-one-year-out calculations. They are not confidence intervals, forecasts or alternative randomly selected samples.

Omitting 2023 changes capital’s pooled ratio to 106.99%

The 2023 capital allocation accounts for 73.78% of the five-year captured capital budget.

Table 45. Omitting 2023 changes capital's pooled ratio to 106.99%

Omitted year	Compensation	Goods and services	Capital
2020	100.35%	90.53%	44.62%
2021	95.80%	83.36%	32.18%
2022	99.15%	96.59%	46.61%
2023	92.39%	81.71%	106.99%
2024	94.98%	91.23%	37.78%
None: full sample	96.69%	88.69%	44.71%

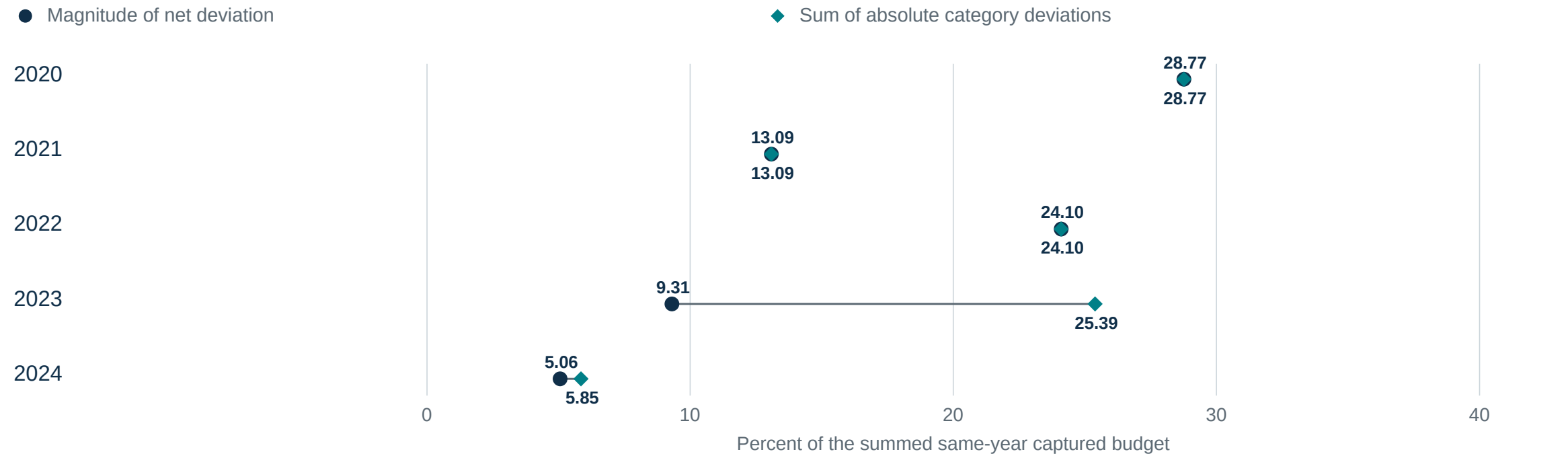
Sources: UNICEF health brief [\[S04\]](#); IDER calculations [\[S08\]](#).

Note: Amounts and classifications for 2021 and 2023 are retained. Revised budgets, supplementary appropriations and reclassifications require source-led reconciliation.

Net execution can hide offsetting category overruns and shortfalls

In 2023 the net shortfall was 9.31% of budget, while absolute category deviations totalled 25.39%.

Figure 30. Net execution can hide offsetting category overruns and shortfalls



Sources: UNICEF health brief [\[S04\]](#); IDER calculations [\[S08\]](#).

Note: Absolute deviations are not additional losses. The difference reflects cancellation when positive and negative category deviations are netted.

School-feeding need coverage and budget execution answer different questions

Source Figure 10 provides separately defined funding gaps and annual execution percentages.

Table 46. School-feeding need coverage and budget execution answer different questions

Year	Released, GHS m	Need inferred, GHS m	Coverage of stated need	Budget execution
2019	338	558	60.57%	93.5%
2020	470	586	80.20%	100.0%
2021	441	689	64.01%	90.3%
2022	547	738	74.12%	62.1%
2023	1,174	867	135.41%	112.7%
2024 est.	1,181	1,208	97.76%	84.7%

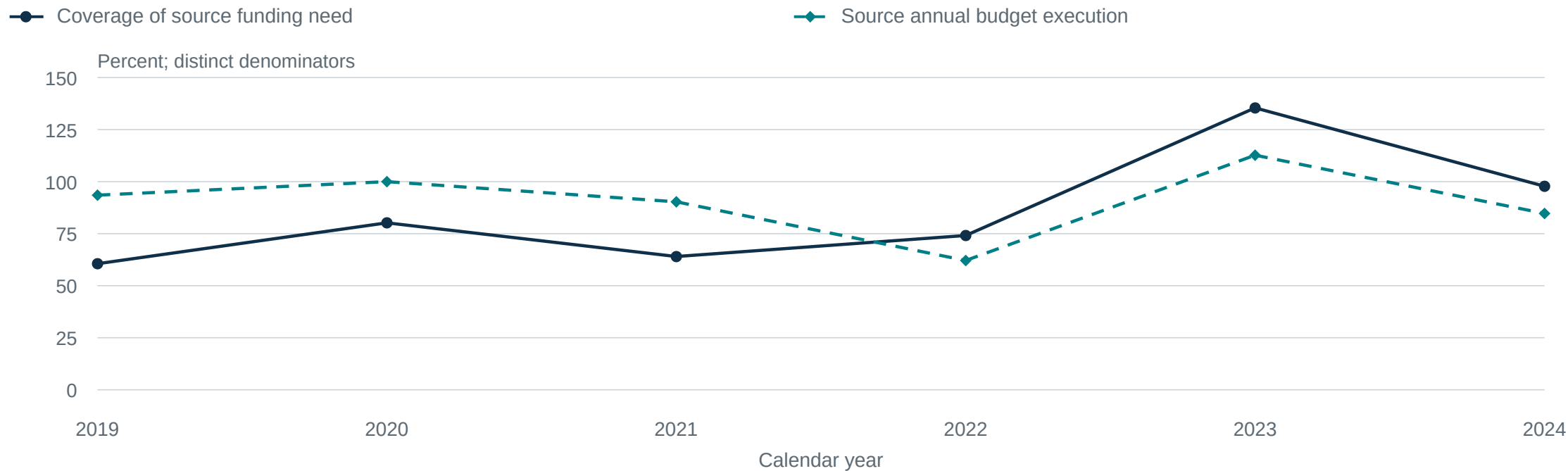
Sources: UNICEF social-protection brief [\[S05\]](#); IDER calculations [\[S08\]](#).

Note: Need is inferred as release plus the source funding gap; a negative gap implies overfunding relative to that source need, not a reconciled programme surplus.

The 2024 need-coverage estimate is 97.76%; budget execution is 84.7%

Do not replace a matching budget denominator with a modelled programme need.

Figure 31. The 2024 need-coverage estimate is 97.76%; budget execution is 84.7%



Sources: UNICEF social-protection brief [\[S05\]](#); IDER calculations [\[S08\]](#).

Note: 2024 is a source estimate. GHS million chart labels are rounded; need coverage is not proof of caterer payment, meals served or beneficiary receipt.

LEAP 2024: payment windows imply bounded—not exact—delays

Calendar-day bounds use the earliest and latest source payment dates; all listed cycles are retained.

Table 47. LEAP 2024: payment windows imply bounded—not exact—delays

Cycle	Scheduled window	Reported payment window	Delay bounds, days
88	2024-01-15 to 2024-01-19	2024-02-01 to 2024-02-07	13–23
89	2024-03-18 to 2024-03-22	2024-07-01 to 2024-07-05	101–109
90	2024-05-20 to 2024-05-24	2024-08-02 to 2024-08-16	70–88
91	2024-07-22 to 2024-07-26	2024-09-30 to 2024-10-04	66–74
92	2024-09-16 to 2024-09-20	2024-09-30 to 2024-10-04	10–18
93	2024-11-18 to 2024-11-22	2024-11-28 to 2024-12-04	6–16

Sources: UNICEF social-protection brief [\[S05\]](#); IDER calculations [\[S08\]](#).

Note: Cycle 90 corrects the earlier transcription: the source prints 2–16 August, giving a 70–88-day delay window. These are programme windows, not household cash-out dates.

LEAP 2025: payment windows imply bounded—not exact—delays

Calendar-day bounds use the earliest and latest source payment dates; all listed cycles are retained.

Table 48. LEAP 2025: payment windows imply bounded—not exact—delays

Cycle	Scheduled window	Reported payment window	Delay bounds, days
94	2025-01-20 to 2025-01-24	2025-03-24 to 2025-03-28	59–67
95	2025-03-17 to 2025-03-21	2025-03-24 to 2025-03-28	3–11
96	2025-05-19 to 2025-05-23	2025-06-30 to 2025-07-04	38–46
97	2025-07-21 to 2025-07-25	2025-08-04 to 2025-08-08	10–18
98	2025-09-15 to 2025-09-19	2025-10-01 to 2025-10-17	12–32

Sources: UNICEF social-protection brief [\[S05\]](#); IDER calculations [\[S08\]](#).

Note: Cycle 98: Table 2 starts payment on 1 October, but the prose gives 13 October. The wider table interval is used here; the prose-date sensitivity is reported separately.

LEAP’s source annual averages are not household-weighted delay measures

Unweighted cycle bounds are a date-arithmetic diagnostic, not an estimate of receipt delays among beneficiaries.

Table 49. LEAP’s source annual averages are not household-weighted delay measures

Scheduled year	Listed cycles	Mean lower bound	Mean upper bound	Source mean
2024	6	44.33 days	54.67 days	47 days
2025	5	24.40 days	34.80 days	28 days

Sources: UNICEF social-protection brief [\[S05\]](#); IDER calculations [\[S08\]](#).

Note: Using cycle 98’s prose date instead raises the 2025 lower mean bound from 24.4 to 26.8 days; the upper bound remains 34.8. Neither series is household-weighted.

Source conflicts and verified transcription corrections are distinguished

Source conflicts remain open; an identifiable transcription error is corrected at its origin.

Table 50. Source conflicts and verified transcription corrections are distinguished

Item	Source evidence	Treatment in this edition
LEAP cycle 90 transcription	The previous report used 2–6 August 2024; source Table 2 prints 2–16 August.	Correct the upper delay from 78 to 88 days; recompute all affected mean bounds and matched-season comparisons.
Education capital execution	Text reports 69.7% average implementation; Figure 9 shows five of six annual capital deviations below –50%.	Withhold the capital point from Figure 16; do not recover an exact annual series from unlabelled bar heights.
LEAP cycle 98 payment date	Table 2 prints 1–17 October 2025; adjacent prose gives the week of 13–17 October.	Use the wider table interval in the primary bounds and report the narrower prose sensitivity separately.
Broad social-protection growth	Rounded GHS 17.3 bn to 21.9 bn implies 26.59%; source text says 27.7%.	Keep the discrepancy; do not treat source rounding as an explanation that has been established.
NHIA release versus receipt	MoF GHS 4.6 bn versus NHIA GHS 3.192 bn in H1 2025.	Keep the GHS 1.408 bn timing/perimeter difference unresolved; do not label it missing funds.

Sources: UNICEF education brief [\[S03\]](#); UNICEF social-protection brief [\[S05\]](#); IDER calculations [\[S08\]](#).

Note: Cycle 90 is a verified transcription correction, not a source contradiction. The four remaining conflicts require underlying records or authoritative clarification.

Selection correction begins with the eligible roster—not the observed payments

No weighting estimator has been fitted because inclusion probabilities and the missing-unit population are not observed.

OBSERVED COVERAGE	PAYMENT SELECTION	IDENTIFY OR BOUND
The health file captures three economic categories, not a random sample of Ghanaian facilities. Its completeness within that file does not establish national coverage. No statistical weight can manufacture omitted programme or provider records.	Retain unpaid claims, failed transfers, quarantined LEAP records, programme exits and closed facilities. Freeze eligibility before the evaluated intervention; document reasons for non-observation separately from a measured zero.	Inverse-probability weighting needs observed inclusion covariates, overlap and a defensible missing-at-random condition. Without these, bounded service outcomes permit worst-case bounds only when the missing share is known.

Sources: UNICEF social-protection brief [\[S05\]](#); Lee: selection bounds [\[S11\]](#); IDER calculations [\[S08\]](#).

Note: Lee-type trimming additionally requires an identified treatment assignment and monotonic selection. These assumptions are not verified in the current records.

A causal design must identify a shock that is not the spending response itself

The target is a response to an externally justified change in debt-payment pressure, not a coefficient on a jointly determined ratio.

Table 51. A causal design must identify a shock that is not the spending response itself

Design issue	Ghana-specific risk	Required analysis before a causal release
Common national treatment	A national debt shock is identical across the three economic categories. Year fixed effects absorb a purely time-varying shock.	Use genuine treatment or exposure variation with a justified assignment mechanism; report the identifying comparison explicitly.
Anticipated maturities	Debt schedules reflect past borrowing choices and expected refinancing. They are not automatically exogenous instruments.	Measure anticipation, creditor composition, market access and predetermined exposure; assess direct channels and first-stage relevance.
Simultaneous fiscal changes	Debt restructuring can coincide with revenue, inflation, exchange-rate, grant and expenditure reforms.	Define the treatment package; avoid attributing their joint change to debt service alone or controlling mechanically for treatment mediators.
Timing and units	Annual budgets, authorisations, accepted claims, payment orders and bank credits refer to different events.	Link payment due/value dates to monthly sector outcomes. Prespecify lags, calendar effects, real units and treatment timing.

Sources: IMF CR 26/212 [\[S01\]](#); Callaway and Sant’Anna [\[S09\]](#); Keane and Neal [\[S12\]](#); IDER calculations [\[S08\]](#).

Note: These are eligibility conditions for future causal analysis, not claims that the present data satisfy them.

Inference follows assignment and data support—not the appearance of precision

No significance stars, bootstrap confidence intervals or fitted causal coefficients are added to the accounting tables.

Table 52. Inference follows assignment and data support—not the appearance of precision

Estimation setting	Prespecified procedure	Stop or qualify when
Staggered rollout with valid controls	Estimate group-time effects using never-treated or not-yet-treated comparisons; report aggregation and simultaneous event-time inference.	Parallel trends, no anticipation or overlap are unsupported; treatment timing is chosen in response to outcomes.
Event-study robustness	Show pre-treatment paths and sensitivity to bounded deviations from parallel trends; a non-rejected pretrend test is not proof.	A claimed effect disappears under economically plausible trend deviations or the pre-period is too short to inform the restriction.
Instrumental-variable design	Report the first stage, substantive exclusion restrictions and weak-instrument-robust confidence sets appropriate to the dependence structure.	An external-rate or maturity instrument affects spending through direct revenue, FX or policy channels. A strong first stage does not cure exclusion.
Clustering and multiplicity	Use the treatment-assignment/dependence unit; prespecify outcomes, horizons and simultaneous or multiplicity-adjusted inference.	One national episode is disguised as many independent provider shocks; resampling cannot create independent assignments.

Sources: Callaway and Sant’Anna [\[S09\]](#); Rambachan and Roth [\[S10\]](#); Keane and Neal [\[S12\]](#); IDER calculations [\[S08\]](#).

Note: P01 remains unestimated. For P02, the effect of administrative-support assignment is not automatically the effect of cash payment itself.

Business use changes when the empirical exposure is stated precisely

These decisions follow the observed funding and execution records; they are not security recommendations.

Table 53. Business use changes when the empirical exposure is stated precisely

Decision owner	Specific evidence from this report	Operational consequence
MoH and essential-input suppliers	Goods/services real per-resident resources fell 31.25%; the resource-protection benchmark gap is GHS 1.337 bn.	Examine purchase orders, input inventories and certified claims separately from payroll. Do not treat the benchmark gap as collectible receivables.
Capital contractors and lenders	Capital actuals fell 15.83% while the execution rate rose; 2023 dominates the pooled budget denominator.	Underwrite certified milestones, revised project budgets and payment dates—not an improved aggregate execution percentage.
School-feeding caterers and programme managers	2024 estimated coverage of source need is 97.76%, versus 84.7% fiscal execution.	Reconcile the appropriation, number of feeding days, per-child allowance and caterer bank credits before sizing working-capital needs.
LEAP managers and development partners	Payment-window bounds vary substantially by cycle, and source payment dates conflict for cycle 98.	Track cycle-level settlement and household cash-out; a release-delay average does not identify the distribution of delays to poor households.

Sources: UNICEF health brief [\[S04\]](#); UNICEF social-protection brief [\[S05\]](#); IDER calculations [\[S08\]](#).

Note: Quantify enterprise cash exposure only after obtaining that enterprise's actual contracts, receivables, covenants and available liquidity.

Real resources and additive contributions

Additional executed methods E27–E32; definitions, maintained conditions and outputs.

E27 Category resource protection

EXECUTED ACCOUNTING

$$g_j=100[A_{j,1}/(A_{j,0}fn)-1] \tag{E27a}$$

$$Gap_j=A_{j,0}fn-A_{j,1} \tag{E27b}$$

A is source actual spending; f=1.229 and n=1.019 are price and population factors. Gap is expressed in current-year GHS million.

ASSUMPTIONS / INTERPRETATION

Same category and source perimeter at both endpoints. The gap is a counterfactual benchmark, not arrears or a clinical-output estimate.

Sources: IDER calculations [\[S08\]](#).

Note: These methods deepen descriptive evidence and diagnose identification; none estimates the national causal effect of debt service.

E28 Additive real-change contribution

EXECUTED IDENTITY

$$c_j=100[A_{j,1}/(fn)-A_{j,0}]/A_0 \tag{E28a}$$

$$\sum_j c_j=g_{total} \tag{E28b}$$

A0 is the sum of 2023 actuals across the three captured categories. Contributions are percentage points and sum to –13.9908.

ASSUMPTIONS / INTERPRETATION

A common price/population factor is required for this exact additive bridge. Contributions do not identify the cause of a category change.

Influence diagnostics and programme denominators

Additional executed methods E27–E32; definitions, maintained conditions and outputs.

E29 Influence and budget-error audit

EXECUTED SENSITIVITY

$$e_t = 100 \sum_{s \neq t} A_s / \sum_{s \neq t} B_s \tag{E29a}$$

$$W_t = 100 \sum_j |A_{j,t} - B_{j,t}| / \sum_j B_{j,t} \tag{E29b}$$

A and B are actual and budget. Every year is omitted once within category. W is the absolute category deviation as a percentage of total budget.

ASSUMPTIONS / INTERPRETATION

Retain the complete sample. Exclusion ranges are not confidence intervals; absolute deviations are not additional financial losses.

Sources: IDER calculations [\[S08\]](#).

Note: These methods deepen descriptive evidence and diagnose identification; none estimates the national causal effect of debt service.

E30 School-feeding need coverage

EXECUTED SOURCE DIAGNOSTIC

$$\text{Need}_t = \text{Release}_t + \text{Gap}_t \tag{E30a}$$

$$\text{Coverage}_t = 100 \text{Release}_t / \text{Need}_t \tag{E30b}$$

Release and Gap are source Figure 10 labels in GHS million. Need is implied by that decomposition, not independently measured by IDER.

ASSUMPTIONS / INTERPRETATION

Positive implied need is required. Keep need coverage distinct from actual/budget execution and preserve rounded-input sensitivity.

Payment windows and empirical identification

Additional executed methods E27–E32; definitions, maintained conditions and outputs.

E31 Interval-dated payment delay

EXECUTED DATE ARITHMETIC

$Delay_k \in [P_{k,L}-S_{k,U}, P_{k,U}-S_{k,L}]$ (E31a)

$MeanDelay \in [mean(L_k), mean(U_k)]$ (E31b)

S and P are scheduled and reported payment date windows. Differences are calendar days. Mean bounds give each listed cycle equal weight.

ASSUMPTIONS / INTERPRETATION

No exact within-window dates or beneficiary weights are invented. Report both source date versions where prose and table conflict.

Sources: IDER calculations [\[S08\]](#).

Note: These methods deepen descriptive evidence and diagnose identification; none estimates the national causal effect of debt service.

E32 Observed identification-rank audit

EXECUTED FEASIBILITY TEST

$X=[1,DS_t]; rank(X)=1<2$ (E32a)

$T_{matched}=|T_{health} \cap T_{debt,actual}|=1$ (E32b)

The intersection is 2024. Three category rows repeat the same GHS 122.5 bn debt-service value; they are not separate treatment assignments.

ASSUMPTIONS / INTERPRETATION

No debt slope is identified with an intercept in this matched sample. Adding source projections or synthetic historical debt values is prohibited.

A stronger headline must survive changes in composition, dates and precision

Further review: 27 September 2026. The 26 September evidence cut-off and source amounts are retained.

BUDGET COMPOSITION Aggregate health execution rises 4.25 percentage points. The exact split is -5.11 points from category execution-rate changes and +9.36 from budget reweighting. An improved total is not an across-the-board improvement.	COMPARABLE PAYMENT COHORTS Compare the first five scheduled LEAP cycles in each year. The reported-cycle mean delay is 17.2–38.0 days lower in 2025 under the source windows. This is not a household-weighted or causal effect.	HONEST UNCERTAINTY Displayed-input rounding leaves the captured real per-resident decline near 14%. Missing-scope tipping tests state the assumptions needed to change an expanded total; they do not correct unobserved coverage.
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Sources: UNICEF health brief [\[S04\]](#); UNICEF social-protection brief [\[S05\]](#); IDER calculations [\[S08\]](#).

Note: New calculations are deterministic accounting, interval-date bounds and conditional sensitivity. No national debt-service causal coefficient is estimated.

The aggregate execution gain reflects budget reweighting, not stronger category rates

Symmetric two-order decomposition, 2023–2024; weights are shares of the captured annual budget.

Table 54. The aggregate execution gain reflects budget reweighting, not stronger category rates

Category	Budget share 2023	Budget share 2024	Within-rate contribution	Budget-mix contribution
Compensation	57.34%	71.71%	–6.34 pp	15.15 pp
Goods and services	20.25%	22.74%	–6.05 pp	2.40 pp
Capital	22.41%	5.54%	7.28 pp	–8.20 pp
Captured total	100.00%	100.00%	–5.11 pp	9.36 pp

Sources: UNICEF health brief [\[S04\]](#); IDER calculations [\[S08\]](#).

Note: Average budget weights multiply changes in category execution rates; average rates multiply changes in weights. Contributions sum to the 4.25-point total change. This is an identity, not a causal decomposition.

A 9.36-point composition effect offsets a 5.11-point rate effect

Captured total execution: 90.69% in 2023 and 94.94% in 2024.

Figure 32. A 9.36-point composition effect offsets a 5.11-point rate effect



Sources: UNICEF health brief [\[S04\]](#); IDER calculations [\[S08\]](#).

Note: The net improvement is 4.25 points. Composition reallocates weights; it does not prove better procurement, timely payment or more services.

Non-compensation resources fell 31.54% per resident in the 2024 common-price test

Goods and services plus capital only; compensation excluded. Annual source record, 2020–2024.

Table 55. Non-compensation resources fell 31.54% per resident in the 2024 common-price test

Year	Budget, GHS m	Actual, GHS m	Execution	Share of captured actual
2020	1,499.85	1,101.50	73.44%	25.82%
2021	2,055.22	2,948.63	143.47%	34.46%
2022	2,820.36	1,511.35	53.59%	21.20%
2023	6,520.24	4,188.33	64.24%	30.21%
2024	4,449.00	3,591.06	80.72%	24.05%

Sources: UNICEF health brief [\[S04\]](#); IDER calculations [\[S08\]](#).

Note: 2023–2024 nominal change: –14.26%; common-CPI and population-adjusted change: –31.54%. This aggregate includes capital and administration, not only medicines or essential supplies.

Displayed-input rounding does not reverse the real-resource findings

Assumed nearest-unit rounding: source amounts to GHS 0.01 m; CPI and population growth to 0.1 percentage point.

Table 56. Displayed-input rounding does not reverse the real-resource findings

Category	Point change	Lower rounding bound	Upper rounding bound
Compensation	−6.394%	−6.478%	−6.310%
Goods and services	−31.254%	−31.316%	−31.192%
Capital	−32.787%	−32.848%	−32.726%
Non-compensation	−31.537%	−31.599%	−31.475%
Captured total	−13.991%	−14.068%	−13.913%

Sources: IMF CR 26/212 [\[S01\]](#); UNICEF health brief [\[S04\]](#); IDER calculations [\[S08\]](#).

Note: Sixteen endpoint combinations per row. These are rounding envelopes, not confidence intervals, sampling uncertainty, source-revision risk or sector-price sensitivity. Totals propagate all component half-units.

LEAP comparisons now use the same five scheduled payment seasons

Matched seasons are January, March, May, July and September. Payment windows retain actual reported dates.

Table 57. LEAP comparisons now use the same five scheduled payment seasons

Reported cohort	Cycles	Mean delay bounds	Median delay bounds
2024 all six listed	6	44.3–54.7 days	39.5–48.5 days
2024 matched first five	5	52.0–62.4 days	66.0–74.0 days
2025 matched first five	5	24.4–34.8 days	12.0–32.0 days

Sources: UNICEF social-protection brief [\[S05\]](#); IDER calculations [\[S08\]](#).

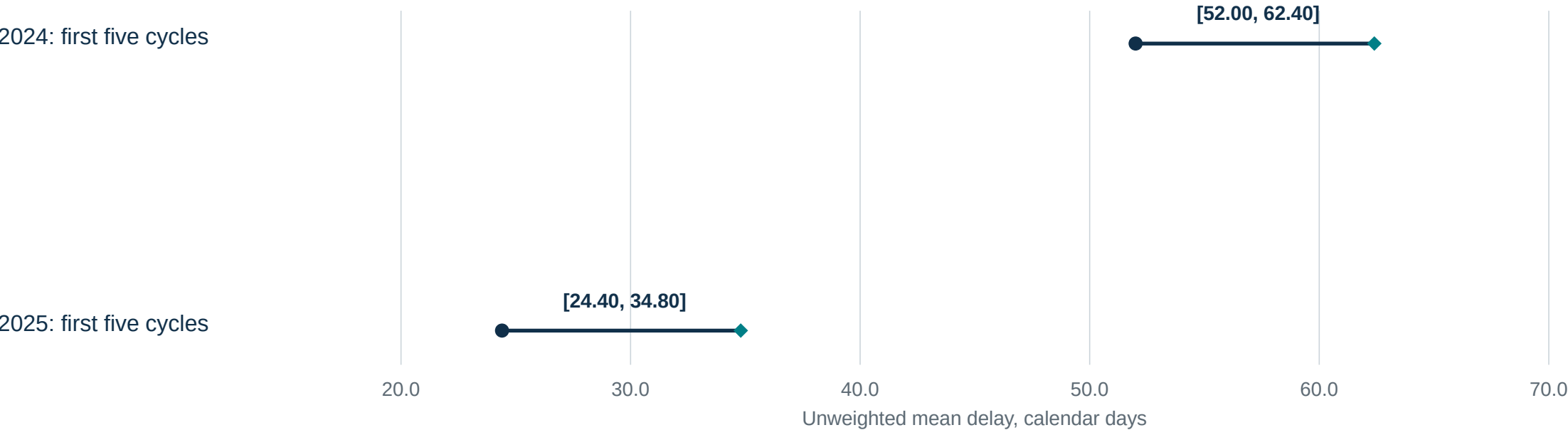
Note: 2024 all-six results remain visible to show the coverage effect. Each cycle has equal weight. Median bounds are endpoint medians, not an invented exact median or beneficiary distribution.

Reported-cycle delays are lower in the matched 2025 cohort

2025 minus 2024 mean-delay difference lies between -38.0 and -17.2 calendar days.

Figure 33. Reported-cycle delays are lower in the matched 2025 cohort

DATE-WINDOW BOUNDS — NOT CONFIDENCE INTERVALS



Sources: UNICEF social-protection brief [\[S05\]](#); IDER calculations [\[S08\]](#).

Note: Cycle 98 prose-date sensitivity narrows the change to -35.6 to -17.2 days. These are published-cycle windows, not a causal effect of debt changes or a measure of household cash-out.

A lower average does not establish that all LEAP payments were timely

First five scheduled cycles in each year; an exceedance means strictly more than the stated number of days.

Table 58. A lower average does not establish that all LEAP payments were timely

Analytical threshold	2024 count bounds	2024 share bounds	2025 count bounds	2025 share bounds
14 days	3–5 of 5	60–100%	2–4 of 5	40–80%
28 days	3–3 of 5	60–60%	2–3 of 5	40–60%
56 days	3–3 of 5	60–60%	1–1 of 5	20–20%
84 days	1–2 of 5	20–40%	0–0 of 5	0–0%

Sources: UNICEF social-protection brief [\[S05\]](#); IDER calculations [\[S08\]](#).

Note: At 28 days, 2025 has two definitely late cycles and one possibly late cycle. Thresholds are analytical comparisons, not legal deadlines. Counts refer to cycles, not households.

An unobserved spending envelope cannot be repaired with an invented weight

Observed 2020–2024 capital execution is 44.71%. The omitted budget share below is assumed, not estimated.

Table 59. An unobserved spending envelope cannot be repaired with an invented weight

Assumed omitted budget share	Required omitted execution for 80% total	Required omitted execution for 100% total
5%	750.50%	1,150.50%
10%	397.60%	597.60%
20%	221.16%	321.16%
30%	162.34%	229.01%
50%	115.29%	155.29%

Sources: UNICEF health brief [\[S04\]](#); IDER calculations [\[S08\]](#).

Note: This is a tipping test for an expanded, non-overlapping and identically defined capital envelope. Neither 80% nor 100% is a recommended policy target. No upper bound on unknown execution is imposed; overexecution exists in the captured data.

The unresolved causal question is precisely defined—not replaced by a correlation

Target: the response of real cash execution or payment delay to a separately justified debt-payment-pressure shock.

Table 60. The unresolved causal question is precisely defined—not replaced by a correlation

Identification element	Specific risk in the current records	Evidence needed for estimation
Treatment and timing	Annual service is jointly determined; a common national shock is not three category treatments.	Dated, externally justified variation; anticipation and the comparison group specified before outcomes.
Direct channels and controls	Exchange rates affect both foreign-debt payments and imported service inputs. Revenue and releases may be mediators.	A causal pathway map; no exchange-rate instrument without exclusion evidence; distinguish total and direct effects.
Coverage and selection	Reported categories and paid cycles do not identify omitted providers or households.	Fixed eligible rosters, nonpayment and exit reasons; weighting only with observed covariates, overlap and justified missingness.
Inference and outcomes	One matched annual date and no linked service outcomes cannot support a national debt slope.	Historical comparable outturns, independent treatment variation, linked outcomes and assignment-level inference.

Sources: Callaway and Sant’Anna [\[S09\]](#); Rambachan and Roth [\[S10\]](#); Lee: selection bounds [\[S11\]](#); Keane and Neal [\[S12\]](#).

Note: A strong first stage, fixed effects, extra lags or a bootstrap cannot establish exclusion, recover missing populations or create independent policy shocks.

The additional analysis narrows interpretation without manufacturing precision

Arithmetic validation, source reproduction, population coverage and causal identification are separate tests.

ESTABLISHED WITHIN SCOPE

The composition bridge closes exactly; captured non-compensation spending falls in both nominal and common-price per-resident terms; matched-season LEAP date intervals can be calculated without exact payment dates.

SENSITIVE OR UNRESOLVED

Pooled capital execution depends strongly on budget weights. Education capital narrative/graphic and LEAP cycle 98 dates retain source conflicts. No complete consolidated human-development spending total is available.

NOT CLAIMED

No national crowding-out coefficient, household payment-delay distribution, service-output loss, investment return or eliminated selection bias is reported. Conditional tipping assumptions never become observed facts.

Sources: UNICEF health brief [\[S04\]](#); UNICEF social-protection brief [\[S05\]](#); IDER calculations [\[S08\]](#).

Note: The source records remain frozen. Reproducibility validates the computation conditional on those records; it does not authenticate the original public accounts.

Composition and non-compensation resources

Additional executed methods E33–E38; source scope and assumptions remain explicit.

E33 Aggregate execution composition

EXECUTED EXACT IDENTITY

$$E_t = \sum_j w_j e_{j,t} \tag{E33a}$$

$$\Delta E = \sum_j \bar{w}_j \Delta e_j + \sum_j \bar{e}_j \Delta w_j \tag{E33b}$$

w is the category budget share; e is actual/budget in percent. Bars denote the average of 2023 and 2024 endpoint values.

ASSUMPTIONS / INTERPRETATION

Uses the same three categories at both dates. Symmetric interaction allocation is a convention, not an estimate of causal channels.

Sources: IDER calculations [\[S08\]](#).

Note: These methods validate accounting and comparability; none estimates a national debt-service treatment effect.

E34 Non-compensation resources

EXECUTED SOURCE AGGREGATION

$$N_t = A_{\text{goods},t} + A_{\text{capital},t} \tag{E34a}$$

$$g_N = 100 [N_{2024} / (N_{2023} \times 1.229 \times 1.019) - 1] \tag{E34b}$$

N excludes compensation but includes all captured goods/services and capital. Source amounts are GHS million.

ASSUMPTIONS / INTERPRETATION

No claim that this is only essential supplies. The two-category real per-resident change is –31.54%, using common CPI.

Precision and comparable payment cohorts

Additional executed methods E33–E38; source scope and assumptions remain explicit.

E35 Displayed-input rounding

EXECUTED ENDPOINT SENSITIVITY

$g_L=100[(A_1-d)/(A_0+d)/(f+h)/(n+h)-1]$ (E35a)

$g_U=100[(A_1+d)/(A_0-d)/(f-h)/(n-h)-1]$ (E35b)

d=0.005 × the number of summed categories, in GHS m; f=1.229, n=1.019 and h=0.0005. All denominators remain positive.

ASSUMPTIONS / INTERPRETATION

Nearest-displayed-unit rounding is imposed. Bounds do not cover source errors, revisions, sampling uncertainty or the wrong sector deflator.

Sources: IDER calculations [\[S08\]](#).

Note: These methods validate accounting and comparability; none estimates a national debt-service treatment effect.

E36 Comparable LEAP cycles

EXECUTED INTERVAL COMPARISON

$\mu_y \in [\text{mean}(L_{y,k}), \text{mean}(U_{y,k})]$ (E36a)

$\Delta\mu \in [\mu_{2025,L}-\mu_{2024,U}, \mu_{2025,U}-\mu_{2024,L}]$ (E36b)

k indexes five scheduled seasons in each year: January, March, May, July and September. Bounds use reported payment windows.

ASSUMPTIONS / INTERPRETATION

Equal cycle weights, not household or transfer-value weights. This controls seasonal coverage only; it does not identify a policy effect.

Payment tails and omitted-scope sensitivity

Additional executed methods E33–E38; source scope and assumptions remain explicit.

E37 Delay-tail bounds

EXECUTED FINITE-COHORT BOUNDS

$$p_L(d)=100K^{-1}\sum_k 1[L_k>d] \tag{E37a}$$

$$p_U(d)=100K^{-1}\sum_k 1[U_k>d] \tag{E37b}$$

K=5 reported scheduled cycles per matched cohort; d is 14, 28, 56 or 84 calendar days. 1[] denotes an indicator.

ASSUMPTIONS / INTERPRETATION

Within-window exact dates are unknown. Strict exceedance is an analytical definition; these are neither legal deadlines nor household shares.

Sources: IDER calculations [\[S08\]](#).

Note: These methods validate accounting and comparability; none estimates a national debt-service treatment effect.

E38 Omitted-scope tipping test

EXECUTED CONDITIONAL ACCOUNTING

$$r_{\text{expanded}}=(1-q)r_{\text{observed}}+qr_{\text{omitted}} \tag{E38a}$$

$$r_{\text{omitted}}^*=[r^*-(1-q)r_{\text{observed}}]/q \tag{E38b}$$

q is an assumed omitted-budget share of an expanded envelope, not a missing-record count. Observed pooled capital execution is 44.71%.

ASSUMPTIONS / INTERPRETATION

Requires non-overlap, consistent prices/periods and identical spending definitions. No q is estimated and no selection correction is claimed.

More cedis did not buy more resources per resident in the captured health accounts

For the Ministry of Finance, Parliament, sector ministries and Treasury officials.

THE MONEY TEST

Captured health spending rose 7.71% in 2024. After the stated prices and population adjustment, purchasing power per resident fell 13.99%. Goods/services and capital together fell 31.54% on that basis.

THE BUDGET TEST

The execution headline improved from 90.69% to 94.94%. A changing budget mix accounts for +9.36 points, while category-rate changes contribute -5.11. A better total does not establish better delivery in every category.

THE NEXT EVIDENCE

The GHS 2.429 bn resource-protection gap is a comparison with 2023 purchasing power—not unpaid bills. Before any spending response, distinguish this benchmark from valid claims, available cash and service requirements.

Sources: IMF CR 26/212 [\[S01\]](#); UNICEF health brief [\[S04\]](#); IDER calculations [\[S08\]](#).

Note: Historical source dates are retained. Conclusions describe the captured accounts and published payment windows, not current provider conditions or identified debt-service effects.

A budget announcement is not a supplier's bank receipt

For banks, pension funds, insurers, investors, contractors, manufacturers, corporate finance teams and MSMEs.

DEBT RATIOS ARE NOT CASH

The source's 2026 debt-service/revenue comparator is 66.37%, a projection. Gross principal may be refinanced. This ratio cannot tell a supplier when an invoice will be paid or an investor which security to hold.

VERIFY THE CLAIM

Goods/services actuals fell 13.91% and capital actuals fell 15.83% in 2024 in the captured health series. These are historical exposure signals—not forecasts of a named customer's default or proof that a contract is collectible.

MATCH DATES AND CURRENCY

Enterprise liquidity depends on accepted invoices, due dates, customer concentration and usable finance. The report's provider cash paths are scenarios. Apply them only after replacing every illustrative input with verified enterprise records.

Sources: IMF CR 26/212 [\[S01\]](#); UNICEF health brief [\[S04\]](#); IDER calculations [\[S08\]](#).

Note: This report provides no security selection, credit approval, borrower-specific default probability or current market quotation.

Programme funding, payment and household receipt are different outcomes

For social-protection managers, development partners, researchers, media, civil society and beneficiary organisations.

KEEP DENOMINATORS CLEAR

School-feeding funding covered 97.76% of the source's stated 2024 need, while estimated budget execution was 84.7%. Neither number confirms caterer bank credits, feeding days or meals received.

DO NOT HIDE DELAY TAILS

For the same five LEAP payment seasons, 2025 reported-cycle delays are lower. Yet two cycles were definitely more than 28 days late and a third may have been. Household receipt dates remain unobserved.

NO CAUSAL SHORTCUT

The report does not show how much debt service caused these changes. It has one matched historical year and no linked service-outcome panel. A causal headline would exceed this evidence; date, scope and payment stage belong beside every quoted statistic.

Sources: UNICEF social-protection brief [\[S05\]](#); IDER calculations [\[S08\]](#).

Note: Twenty-eight days is an analytical comparison, not a legal deadline. The LEAP finding is cycle-based and unweighted, not a claim about every beneficiary.

Make debt and service-funding evidence comparable before drawing conclusions

For the Ministry of Finance, CAGD, Treasury, BoG and Parliament.

A01 Build a matched debt-and-cash register

PROPOSED OWNER

MoF debt office + Treasury/CAGD

TIME

Day 30 after approved access

ACTION / DELIVERABLE

Record principal, interest, currency, due date, paid amount and matched financing for every item in the agreed pilot scope. Show the 13-week payment calendar separately from annual projections.

MEASURABLE ACCEPTANCE TEST

100% of captured items carry a source, scope and payment status. Show the amount and count of unmatched records; do not force unreconciled differences to zero.

A02 Publish an execution bridge with the budget mix

PROPOSED OWNER

Sector finance leads + parliamentary technical staff

TIME

Day 45
refresh monthly

ACTION / DELIVERABLE

For the same scope, present original and revised budgets, actual spending and the split between category-rate and composition changes. Keep the 2023–2024 health example as a documented reference.

MEASURABLE ACCEPTANCE TEST

Every reported total reconciles to its categories at source precision. Each headline rate is accompanied by nominal actuals and its dated denominator.

Sources: IDER calculations [\[S08\]](#).

Note: Proposed operational actions and owners; the clock starts after access and institutional approval. These are not agreed mandates, spending-allocation recommendations or instructions to delay legally due payments.

Link money to the provider and beneficiary records that users need

For health, education and social-protection finance teams, NHIA and programme implementers.

A03 Add a non-compensation and delivery annex

PROPOSED OWNER

Sector finance + procurement and service leads

TIME

Day 30 baseline
Day 60 first linked annex

ACTION / DELIVERABLE

Separate payroll, goods/services and capital; link in-scope purchase orders to accepted claims, payment status and an agreed service indicator such as available supplies or completed milestones.

MEASURABLE ACCEPTANCE TEST

All captured claims have a status or an explicit missing flag. Display money separately from physical outputs; no resource-protection benchmark is labelled arrears.

A04 Report each payment stage and retain nonpayment

PROPOSED OWNER

Programme finance + payment-service and beneficiary-data leads

TIME

Day 45 register
Day 90 first cohort report

ACTION / DELIVERABLE

Link scheduled payment, authorisation, fund receipt, provider bank credit and household cash-out where authorised. Preserve failed transfers, unpaid claims, exits and quarantined records.

MEASURABLE ACCEPTANCE TEST

Report the share of the eligible roster with each stage observed. Publish median and tail delays only for the specified stage; document unresolved cycle 98 dates.

Sources: IDER calculations [\[S08\]](#).

Note: Proposed operational actions and owners; the clock starts after access and institutional approval. These are not agreed mandates, spending-allocation recommendations or instructions to delay legally due payments.

Translate historical spending signals into verified cash exposure

For suppliers, contractors, MSMEs, banks, fund managers, pensions, insurers and development finance institutions.

A05 Maintain a receivables-based 13-week cash schedule

PROPOSED OWNER

Enterprise chief finance officer + receivables team

TIME

Day 30
update weekly

ACTION / DELIVERABLE

Map every in-scope government-linked invoice to acceptance evidence, currency and expected settlement. Run stated payment-delay cases with verified operating costs and usable credit.

MEASURABLE ACCEPTANCE TEST

100% of captured receivables have invoice, acceptance and status fields. Separate disputed sums and hypothetical funding gaps from legally supported claims.

A06 Match assets and counterparties to dated obligations

PROPOSED OWNER

Institutional treasury + risk and investment-operations teams

TIME

Day 30
review monthly

ACTION / DELIVERABLE

Identify maturities, currency and government-customer exposure within the institution's own records. Separate reinvestment, settlement-delay and currency scenarios from reported historical evidence.

MEASURABLE ACCEPTANCE TEST

Each scenario discloses all input assumptions and committed versus uncommitted liquidity. Escalations follow the institution's approved limits; no report ratio substitutes for its cash records.

Sources: IDER calculations [\[S08\]](#).

Note: Proposed operational actions and owners; the clock starts after access and institutional approval. These are not agreed mandates, spending-allocation recommendations or instructions to delay legally due payments.

Make the next evidence release reproducible and explicit about identification

For IDER, development partners, researchers, statistical teams and media editors.

A07 Register the empirical design before estimating effects

PROPOSED OWNER

IDER evaluation lead + authorised data custodians

TIME

Day 90 design review
Day 180 feasibility decision

ACTION / DELIVERABLE

Define the treatment, comparison, outcome, eligible roster and dependence unit. Test overlap, anticipation, source comparability and instrument exclusion before fitting a causal model.

MEASURABLE ACCEPTANCE TEST

Release a signed identification and coverage checklist. When assumptions fail, publish the supported descriptive or bounded result; do not add causal language or synthetic observations.

A08 Attach an evidence label to every public statistic

PROPOSED OWNER

Publication lead + commissioning and media review teams

TIME

Day 15 template every subsequent release

ACTION / DELIVERABLE

Use four visible fields: period, population/perimeter, payment stage and evidence type. Link each figure to data and code; include limitations in extracts as well as the full report.

MEASURABLE ACCEPTANCE TEST

100% of released charts have units, sources and reproducible values. Projections, scenarios and date bounds are labelled; no out-of-scope national or household claim is inferred.

Sources: IDER calculations [\[S08\]](#).

Note: Proposed operational actions and owners; the clock starts after access and institutional approval. These are not agreed mandates, spending-allocation recommendations or instructions to delay legally due payments.

References and source links — 1 of 4

Titles link to the cited publications; exact locators and access limits are preserved in the register.

[S01 International Monetary Fund; Ghanaian authorities | August 2026; staff report 10 July 2026](#)

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

PDF pp. 51–54: Tables 2, 3b and 3c; p. 114 social-floor performance; p. 118 PCI floors; p. 131 TMU social definition.

[S02 Ministry of Finance, Ghana | 13 November 2025](#)

2026 Budget Statement and Economic Policy

PDF p. 199 / printed 183: Appendix 4A social sector; PDF p. 201 / printed 185 multi-sector; paragraphs 1145–1163.

[S03 UNICEF Ghana | November 2025](#)

Education Budget Brief 2025

PDF p. 2 Figure 1 broad nominal/real series; pp. 7–9 composition and execution narrative.

References and source links — 2 of 4

Titles link to the cited publications; exact locators and access limits are preserved in the register.

[S04 UNICEF Ghana | November 2025](#)

Health Budget Brief 2025

PDF p. 3 Figure 3 nominal/real; PDF p. 8 Figure 9 budget versus actual by economic category.

[S05 UNICEF Ghana | November 2025](#)

Social Protection Budget Brief 2025

PDF p. 2 broad financing; pp. 6–7 payment timing; p. 9 NHIA releases; p. 11 school feeding execution.

[S06 Ghana Statistical Service | Accessed 26 September 2026](#)

Ghana at a Glance: Projected Population 2026

Ghana at a Glance, POP: projected population 34,378,768, 2026.

References and source links — 3 of 4

Titles link to the cited publications; exact locators and access limits are preserved in the register.

[S07 International Monetary Fund | 2014](#)

Government Finance Statistics Manual 2014

Chapters 3,6 and 9: recording bases, expenditure, transactions in financial assets and liabilities.

[S08 Institute of Development and Economic Research | 27 September 2026](#)

Debt Service and Human Development: Measurement, Execution and Further Validation Protocol

This archive: validation_analysis.py, further_validation_analysis.py, further_validation_pages.py, verify.py; corrected source date, accounting extensions, matched-season bounds and audience action pages.

[S09 Brantly Callaway and Pedro H. C. Sant’Anna | 2021; accessible author manuscript revised 2020](#)

Difference-in-Differences with Multiple Time Periods

Journal of Econometrics 225(2): 200–230; identification, group-time effects and simultaneous inference.

References and source links — 4 of 4

Titles link to the cited publications; exact locators and access limits are preserved in the register.

S10 Ashesh Rambachan and Jonathan Roth | 2023

A More Credible Approach to Parallel Trends

Review of Economic Studies 90(5): 2555–2591; robust inference under bounded departures from parallel trends.

S11 David S. Lee | 2009; accessible author manuscript February 2008

Training, Wages, and Sample Selection: Estimating Sharp Bounds on Treatment Effects

Review of Economic Studies 76(3): 1071–1102; selection bounds and their identifying restrictions.

S12 Michael P. Keane and Timothy Neal | 2024

A Practical Guide to Weak Instruments

Annual Review of Economics 16: 185–212; instrument relevance and weak-IV inference.

Debt sustainability and human development require a connected account

The report identifies financing pressure, execution gaps and real-resource risks without assuming a causal verdict.

DEBT AND FISCAL CASH

Distinguish interest, principal, gross refinancing and revenue. A service-to-revenue ratio is not the share of taxes necessarily unavailable for all other spending.

SECTOR RESOURCES

Retain programme and fund boundaries; compare budgets with actuals. The captured health series shows that nominal growth and higher execution can coexist with weaker real resources or less actual capital spending.

DELIVERED SERVICES

Track cash at the provider and beneficiary level alongside essential inputs. Protecting human development requires evidence about timing, prices, recipients and services—not only a higher allocation.

Sources: IMF CR 26/212 [\[S01\]](#); UNICEF education brief [\[S03\]](#); UNICEF health brief [\[S04\]](#); UNICEF social-protection brief [\[S05\]](#).

Note: Independent IDER publication; no national crowding-out coefficient, investment recommendation or external institutional certification is claimed.

Institute of Development and Economic Research

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Evidence for informed decisions.

For research enquiries, supporting data, methodological documentation or corrections to this report, contact the Institute of Development and Economic Research.

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