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Ghana Sovereign Stress Simulation

Oil Shock Scenario: Sustained Brent Crude at \$110+

Model Type: Non-Linear Sovereign Stress Test

Objective: Identify Break Points, Not Averages

Scenario Duration: 4 – 8 Weeks (Sustained Shock)

Classification: Confidential — For Professional & Institutional Readers

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EXECUTIVE SUMMARY

This simulation models Ghana's sovereign risk trajectory under a sustained global oil shock — Brent Crude at \$110 or above, maintained for four to eight weeks. It is constructed as a non-linear stress test, meaning its focus is not on finding average outcomes or probabilistic midpoints. Its purpose is to identify the specific nodes at which system stability breaks, and to map the causal sequence through which that breakdown occurs.

Ghana enters this scenario in a structurally sensitive position: post-restructuring, re-engaged with the IMF, and with improving headline metrics. But the analysis shows that precisely this phase — recovery with fragility — creates the highest vulnerability to confidence-driven shocks.

The core finding is deceptively simple: Ghana does not break because of oil. Ghana breaks because of how it reacts to oil.

The system's failure node is not macroeconomic. It is credibility. A single policy signal — fuel subsidies, broad consumer relief, fiscal expansion — can trigger a non-linear cascade from fragility to instability within days.

STAGE	RISK SCORE	SYSTEM STATE
Stage 1 — Initial Shock (Days 1–10)	7.2 / 10	Stable but shifting
Stage 2 — Transmission (Weeks 2–4)	7.8 / 10	Fragility emerging
Stage 3A — Disciplined Path	~7.0 / 10	Painful but stable
Stage 3B — Policy Deviation	8.8–9.2 / 10	Confidence break

STAGE 1 — INITIAL SHOCK

Days 1 – 10 | Risk Score: 7.2 / 10 | System State: Stable but Shifting

Global Trigger

- ◆ Brent Crude spikes above \$110 per barrel
- ◆ Global risk sentiment deteriorates — emerging market assets reprice broadly
- ◆ Oil importers across Sub-Saharan Africa face immediate cost pressure

Immediate Ghana Impact

- ◆ Import bill rises sharply: petroleum products account for a significant share of Ghana's import basket
- ◆ Foreign exchange demand increases as oil importers hedge against further depreciation
- ◆ The Ghana Cedi begins to weaken — not yet alarmingly, but the directional signal is clear
- ◆ Inflation expectations tick upward, particularly in transport and energy sub-indices

At this stage, the system absorbs the shock. Market participants are adjusting positions, not abandoning them. The Bank of Ghana retains policy optionality. The signal to watch is speed, not level.

Analytical Note

The first ten days of an oil shock are rarely decisive in themselves. What matters is the signal they send about government resolve and the coherence of the policy framework. In Ghana's current configuration — mid-IMF programme, reserves partially rebuilt — the initial window is an opportunity to demonstrate institutional discipline. Markets are watching, but they are not yet running.

STAGE 2 — TRANSMISSION

Weeks 2 – 4 | Risk Score: 7.8 / 10 | System State: Fragility Emerging

FX Pressure Becomes Visible

- ◆ USD/GHS depreciation accelerates beyond the gradual pace of Stage 1
- ◆ The Bank of Ghana faces a binary choice: intervene and drain reserves, or hold and allow depreciation
- ◆ Interbank FX spreads widen — a technical early warning signal that dealer confidence is fragmenting
- ◆ Importers front-load USD purchases, compounding the demand spike

Bond Market Reaction

- ◆ Yields on Government of Ghana domestic bonds begin rising

- ◆ Treasury auction bid-to-cover ratios weaken — demand from primary dealers starts thinning
- ◆ Foreign holders of cedi-denominated instruments reassess their positions

Fiscal Pressure Builds

This is the most politically sensitive juncture. As fuel prices rise and transport costs pass through to consumer goods, political pressure mounts on the government to act. The calls will be framed in social terms — protecting the poor, supporting traders, easing transport costs. They are not irrational. But their fiscal implications are dangerous.

⚠ Critical Inflection Point

The market begins questioning policy consistency. This is the transition from a macroeconomic stress scenario to a confidence stress scenario. Once credibility is in question, the calculus of market participants changes fundamentally — from risk assessment to regime assessment.

The key insight from the 'Pricing Uncertainty' framework: uncertainty is not the enemy. Unpriced uncertainty is. When the government's reaction function becomes uncertain, risk premia embed that uncertainty instantly — and non-linearly.

STAGE 3 — THE CONFIDENCE TEST

Weeks 4 – 8 | This is where systems break — or hold.

Stage 3 is the bifurcation point. The system arrives here carrying accumulated stress from the first four weeks — higher import costs, a weaker Cedi, rising yields, and a politically charged domestic environment. What happens next depends almost entirely on one variable: the government's policy choice.

Two paths diverge. Their macroeconomic starting points are identical. Their outcomes are not.

PATH A — DISCIPLINED POLICY RESPONSE ✓ Risk Score: ~7.0 | Outcome: Painful but Stable

- ◆ Government holds the IMF programme line — no broad subsidies, no fiscal expansion
- ◆ Bank of Ghana maintains tight liquidity conditions; limits intervention drawdown
- ◆ Public communication reinforces the fiscal anchor — MPC statement, Ministry messaging remain consistent

Outcome: After an initial volatility spike, FX stabilises as the market prices in policy consistency. Yields plateau. External credibility holds. Eurobond spreads widen temporarily, then compress as the programme discipline signal is absorbed. The shock is painful — inflation rises, purchasing power falls — but the system does not break.

PATH B — POLICY DEVIATION ✗ Risk Score: 8.8 – 9.2 | Outcome: Confidence Break [HIGH PROBABILITY TAIL RISK]

The government, responding to political pressure, announces: fuel subsidies, targeted consumer relief, or a broader spending expansion. The fiscal justification appears reasonable. The political logic is sound. But the market signal is catastrophic.

The Non-Linear Cascade

Step 1 — Fiscal Slippage Signal

Markets detect inconsistency between the announced measure and the IMF programme commitments. The credibility of the programme anchor is questioned. Rating watch signals emerge from external observers.

Step 2 — FX Spiral

Cedi depreciation accelerates sharply. Importers and institutional investors simultaneously move to hedge USD exposure. The rush is self-reinforcing: each depreciation step validates the next move. The Bank of Ghana faces impossible choices — intervene and deplete reserves, or hold and allow the spiral to deepen.

Step 3 — Bond Market Breakdown

Domestic bond yields spike. Treasury auctions underperform — in extreme scenarios, they fail outright. The funding cost of government debt rises sharply, creating a self-reinforcing fiscal deterioration: more borrowing needed at precisely the moment when borrowing costs are highest.

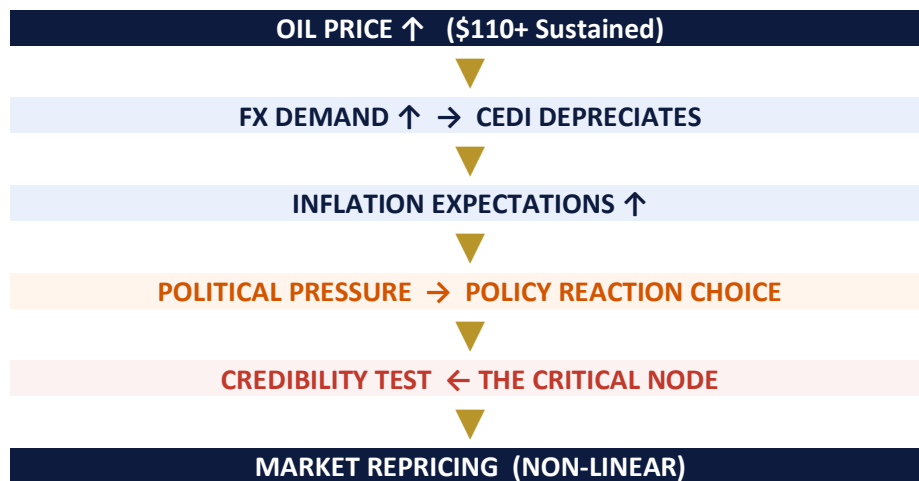
Step 4 — External Market Repricing

Eurobond spreads widen aggressively. This repricing does not happen gradually — it is concentrated and rapid, as external holders reassess the trajectory of the post-restructuring recovery. The move is not justified by any single data point; it is a regime shift in how Ghana's sovereign credit is priced.

System State: Confidence Break. Outcome: Return to pre-restructuring stress dynamics. This is not a full default scenario. It is a severe instability window — one that could be self-correcting, but only at high economic cost and with significant damage to the institutional credibility that Ghana has spent years rebuilding.

THE TRANSMISSION ARCHITECTURE

The dynamic at the core of this scenario is not linear. Standard macro models — which trace oil prices through import costs, inflation, and output — miss the critical node. The diagram below maps the actual transmission pathway.



The system does not fail gradually. It fails at the policy credibility node — a discrete threshold, not a slope. This is the defining characteristic of confidence-driven sovereign stress: it is discontinuous. Models that assume smooth adjustment paths will systematically underestimate the tail risk.

EARLY WARNING SIGNAL FRAMEWORK

The value of a stress simulation is not in its conclusions — it is in the early warning architecture it generates. The following signals, observed in real time, provide actionable intelligence about which path the system is travelling.

Signals Within Days (Immediate Monitoring Required)

- ▶ **Cedi depreciation speed, not level** — A sudden acceleration in the rate of change is more informative than the absolute USD/GHS level. Track the 3-day moving velocity.
- ▶ **Interbank FX spread widening** — When the bid-offer spread in the interbank market widens materially, it signals that dealer willingness to provide liquidity is deteriorating — an early structural fracture.

Signals Within Weeks (Elevated Alert)

- ▶ **Weak domestic bond auction demand** — Declining bid-to-cover ratios at T-bill and T-bond auctions precede yield spikes. This is the fiscal funding market signalling doubt.
- ▶ **Sudden yield movements (non-gradual)** — A step-change in yields — rather than a gradual drift — indicates that a market pricing regime has shifted. Monitor the shape of the yield curve alongside the level.

⊖ DECISIVE SIGNAL — RED FLAG

Any government announcement that resembles: 'temporary fuel support', 'consumer energy relief', or 'targeted subsidy measures' — regardless of framing or stated duration. This is the trigger signal. Once announced, it becomes the market's reference point for regime assessment. The speed of the subsequent FX and bond market reaction will be proportional to the clarity of the IMF programme deviation implied.

STRATEGIC POSITIONING FRAMEWORK

The following framework translates the scenario analysis into actionable positioning guidance for institutional investors, sovereign risk managers, and corporate treasury teams with Ghana exposure.

1. Shift to Defensive Positioning

- Exit long-duration cedi-denominated fixed income exposure — duration risk amplifies in a yield spike scenario
- Maintain high cash and near-cash liquidity buffers — optionality is the most valuable asset in a confidence regime
- Prioritise USD-linked and USD-denominated assets where operationally feasible — natural FX hedge against Cedi depreciation

2. Increase Monitoring Frequency

Transition from daily to intraday monitoring across three indicators:

- FX rate and interbank spread (real-time)
- Government bond auction results and secondary market yields (same-day)
- Official policy statements from Ministry of Finance, Bank of Ghana, and Presidency (keyword monitoring)

3. Trade the Regime, Not the Noise

This is the most important conceptual shift. In a confidence-regime scenario, the traditional toolkit — macro data releases, GDP forecasts, inflation prints — becomes secondary. What drives asset prices is the market's reading of the policy regime.

Small news items generate large market reactions. This is information, not irrationality. Volatility is the market's way of pricing political risk that models cannot quantify. Monitor the qualitative signal more carefully than the quantitative data.

Practically: set tighter stop-loss thresholds, reduce position sizing, and treat any policy announcement as a potential regime signal until the IMF track record is re-established.

PROBABILITY ASSESSMENT & FINAL CONCLUSIONS

Based on the structural analysis above, the current probability distribution between the two paths is assessed as follows:

PATH	PROBABILITY	RISK CHARACTERISATION
Path A — Disciplined Policy Response	60%	Base scenario — manageable
Path B — Policy Deviation	40%	Tail risk — materially elevated

A 40% tail risk is not a small number. In conventional risk frameworks, tail risks are events assigned probabilities of 5–15%. A 40% scenario is a near-coin-flip. Its consequences — return to pre-restructuring stress dynamics — are severe enough to justify treating it as the primary scenario for stress-testing purposes, even if the base case remains disciplined.

The Strategic Context

Ghana is currently in what this analysis characterises as the most dangerous phase in sovereign cycles: improving fundamentals combined with extreme shock sensitivity. The rebuilding of credibility is not yet complete. The institutional memory of the 2022–2023 crisis remains fresh for market participants. The buffer between stability and instability is thin.

This is not a pessimistic view of Ghana's trajectory. It is a precise view. The path to sustained stability runs through this window of elevated vulnerability. Understanding its architecture — and its early warning signals — is the first requirement of navigating it.

CORE INSIGHT

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Ghana breaks because of how it reacts to oil.**

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