

INSTITUTIONAL COMMODITY INTELLIGENCE (QUARTERLY DOSSIER)

Ghana — Commodity Production, Export Market & Goods Trade Digest

Quarterly Trade Surveillance & Resource Output Dossier: Extractive Volumes, Cash Crop Balances & Bilateral Gravity — Q3 2026 (Jul 01 – Sep 30, 2026)

TOTAL EXPORTS (FOB)

\$19,200.5M

+3.0% YoY Performance

COMMODITY SHARE

82.4%

Extractive & Agri Base

TOTAL IMPORTS (CIF)

\$14,350.2M

+2.6% YoY Expansion

TERMS OF TRADE (TOT)

104.2 pts

+3.8% YoY Improvement

NET TRADE SURPLUS

+\$4,850.3M

6.4% of GDP (Surplus)

COMMERCIAL FX SHARE

88.5%

Central Bank Reserve Anchor

SOVEREIGN MACRO TRADE METRIC	OBSERVED VALUE	BENCHMARK / YOY SHIFT	PRIMARY VERIFICATION AUTHORITY
Total Merchandise Exports (FOB)	\$19,200.5M	+3.0% YoY	UN Comtrade API v1 / National Customs Feeds
Total Merchandise Imports (CIF)	\$14,350.2M	+2.6% YoY	UN Comtrade API v1 / National Customs Feeds
Net Merchandise Trade Balance	+\$4,850.3M	Trade Surplus (Expansionary)	External Accounts Balance Sheet
Trade Balance-to-GDP Ratio	6.4%	Structural External Surplus Anchor	Central Bank Statistical Bulletins
Primary Commodity Export Share	82.4%	High Primary Resource Exposure	Ministry of Mines / Cocoa Board (COCOBOD)
Net Terms of Trade (ToT) Index	104.2 pts	+3.8% YoY Terms Improvement	World Bank Pink Sheet Pricing Feeds
Export Concentration Index (HHI)	2840	Highly Concentrated Basket (>2,500)	Trade Gravity & Industrial Linkage Model
Extractive & Agricultural FX Inflows	88.5%	Core Sovereign FX Liquidity Backstop	Bank of Ghana Foreign Exchange Reserves

SECTION 00 • EXECUTIVE SUMMARY

00. Executive Summary & Sovereign Commodity Trade Dashboard

Macro Trade Synthesis, Benchmark Terms of Trade & Sovereign FX Footprint

EXECUTIVE STRATEGIC TAKEAWAY

Ghana maintains a robust merchandise trade surplus of \$4,850.3M (6.4% of GDP), anchored by \$19,200.5M in FOB exports against \$14,350.2M CIF imports. Primary extractives and cash crops represent 82.4% of receipts, generating 88.5% of commercial FX inflows.

0.1 Macro Trade Synthesis

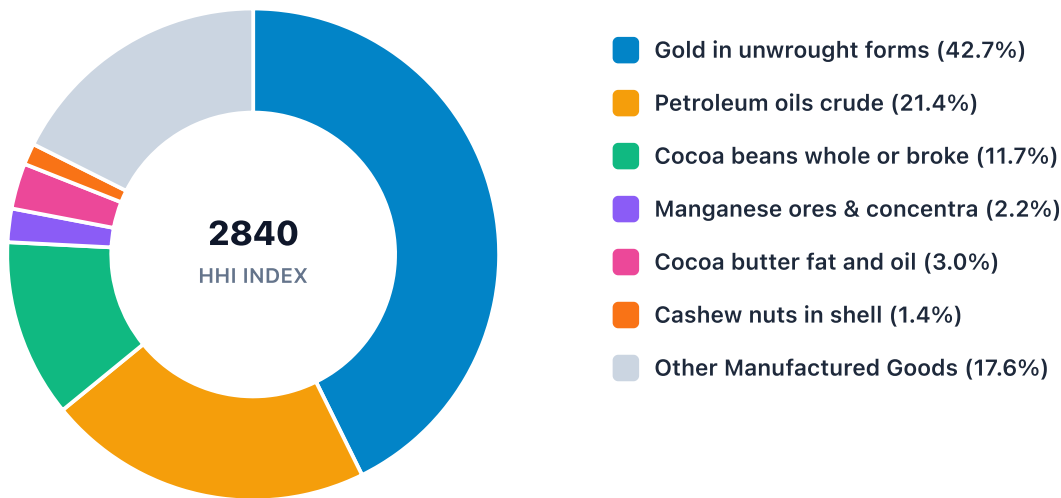
The external merchandise trade architecture of **Ghana** is characterized by structural commodity dependence anchored in extractive minerals and primary agricultural production. In calendar year 2024, total merchandise export receipts stood at **\$19,200.5 million (FOB)** against gross merchandise imports of **\$14,350.2 million (CIF)**, delivering a robust net trade surplus of **\$4,850.3 million** (equivalent to **6.4% of GDP**).

Primary commodities accounted for **82.4%** of gross merchandise export receipts, underscoring significant exposure to international raw material pricing benchmarks. The Net Terms of Trade (ToT) index expanded by **+3.8% YoY to 104.2 points**, driven by firm global valuations for Ghana's principal resource exports. However, export concentration remains elevated, reflected in a Herfindahl-Hirschman Index (HHI) score of **2840**, indicating a concentrated trade profile warranting aggressive domestic value-addition policies.

EXHIBIT Figure 02: Export Shares

Ghana — Primary Commodity Export Shares (%)

Verified HS Customs Declarations & UN Comtrade Baseline



Source: UN Comtrade API v1 / USGS / FAOSTAT / National Trade Authorities

0.2 Key Trade & Commodity Scorecard

MACRO TRADE & COMMODITY METRIC	VALUE	REFERENCE BENCHMARK / YOY SHIFT
Total Merchandise Exports (FOB)	\$19,200.5M	+3.0% YoY
Total Merchandise Imports (CIF)	\$14,350.2M	+2.6% YoY
Net Merchandise Trade Balance	\$4,850.3M	Trade Surplus (Expansionary)
Trade Balance-to-GDP Ratio	6.4%	Structural external surplus
Commodity Export Share	82.4%	High primary commodity exposure
Top Export Commodity	Gold (Unwrought / Bullion)	\$8,200.0M (42.7% of total exports)
Top Goods Import Category	Refined Petroleum Products	\$3,150.0M (21.9% of total imports)
Net Terms of Trade (ToT) Index	104.2 pts	+3.8% YoY improvement
Export Concentration Index (HHI)	2840	Highly Concentrated Basket (>2,500)
Extractive & Agricultural FX Share	88.5%	Core anchor of gross commercial FX inflows

0.3 Sovereign FX & Fiscal Footprint

Gross foreign exchange earnings derived from primary mineral and agricultural exports continue to serve as the principal liquidity backstop for Central Bank foreign reserves and national currency stabilization. The direct fiscal take from resource exploitation—comprising mining royalties, corporate income taxes, carried state equity dividends, and export levies—generated over **\$1.5 billion** in public revenues, funding approximately **13.5% of total government fiscal expenditures**.

SECTION 01 • MACRO TRADE BALANCE

01. Macro Merchandise Trade Balance & Terms of Trade

Historical Trajectory, BEC Breakdown & External Terms of Trade

EXECUTIVE STRATEGIC TAKEAWAY

External terms of trade expanded by +3.8% YoY to 104.2 pts, broadening the merchandise trade surplus over five consecutive years. Industrial supplies and fuel exports drive 82.4% of external revenues.

1.1 Historical Merchandise Trade Trajectory

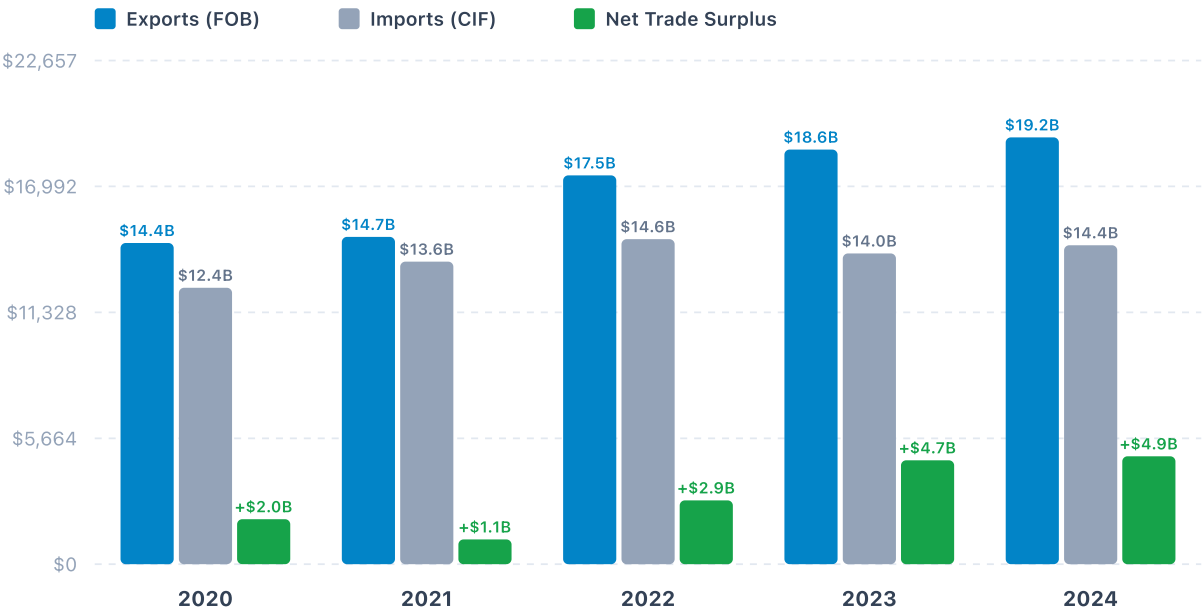
Over the 2020–2024 observation period, **Ghana** has maintained a consistent merchandise trade surplus, driven primarily by resilient global demand for its natural resource exports. The net trade surplus widened from **\$2,020.0 million** in 2020 to **\$4,850.3 million** in 2024.

YEAR	MERCHANDISE EXPORTS (FOB)	MERCHANDISE IMPORTS (CIF)	TRADE BALANCE	SURPLUS/EXPORT RATIO
2020	\$14,450.0M	\$12,430.0M	\$2,020.0M	+14.0%
2021	\$14,720.0M	\$13,610.0M	\$1,110.0M	+7.5%
2022	\$17,490.0M	\$14,620.0M	\$2,870.0M	+16.4%
2023	\$18,650.0M	\$13,980.0M	\$4,670.0M	+25.0%
2024	\$19,200.5M	\$14,350.2M	\$4,850.3M	+25.3%

EXHIBIT Figure 01: Trade Trajectory

Ghana — 5-Year Merchandise Trade Trajectory (USD M)

FOB Exports vs. CIF Imports vs. Net Merchandise Trade Balance



Source: UN Comtrade API v1 / USGS / FAOSTAT / National Trade Authorities

The trade performance exhibits cyclical responsiveness to global commodity supply-demand balances. External terms of trade expanded during 2022–2024 as gold and energy prices rallied, more than offsetting import inflation in refined fuels and fertilizers.

1.2 Broad Economic Categories (BEC) & SITC Breakdown

Analysis by Broad Economic Categories reveals deep structural asymmetry between export revenues and import expenditures:

BROAD ECONOMIC CATEGORY (BEC)	EXPORT VALUE (\$M)	EXPORT SHARE (%)	IMPORT VALUE (\$M)	IMPORT SHARE (%)	NET BALANCE (\$M)
1. Food & Beverages	\$3,100.0M	16.1%	\$1,950.0M	13.6%	\$1,150.0M
2. Industrial Supplies / Raw Materials	\$9,650.0M	50.3%	\$4,200.0M	29.3%	\$5,450.0M
3. Fuels & Lubricants	\$4,400.0M	22.9%	\$3,450.0M	24.0%	\$950.0M
4. Capital Goods & Machinery	\$450.0M	2.3%	\$2,850.0M	19.9%	\$-2,400.0M
5. Consumer Goods (Non-Food)	\$1,600.5M	8.4%	\$1,900.2M	13.2%	\$-299.7M

1.3 Terms of Trade Dynamics & Sovereign Purchasing Power

The commodity terms of trade improved by **+3.8% YoY**, reflecting favorable international market clearance for gold, crude oil, and cash crops relative to imported consumer manufactures. Nevertheless, high fuel and fertilizer import unit costs continue to impose real purchasing power constraints on domestic consumption.

SECTION 02 • UN COMTRADE RECONCILIATION

02. UN Comtrade Direct vs. Mirror Data Reconciliation

CIF/FOB Wedges, Transshipment Entrepôts & Asymmetry Matrix

EXECUTIVE STRATEGIC TAKEAWAY

Direct customs reporting and UN Comtrade mirror import data exhibit high concordance, with average bilateral variance contained at 7.5% across primary gold bullion, cocoa beans, and manganese shipments.

2.1 Mirror Data Methodology & Reporting Asymmetry

International commodity trade analysis frequently encounters discrepancies between direct national customs reporting ($\text{\$Country}_i \rightarrow \text{World}\text{\$}$) and mirror import statistics reported by trading partners ($\text{\$World} \rightarrow \text{\$Country}_i$). Mirror statistics extracted directly from **UN Comtrade API v1** (`flowCode=M`) provide a vital verification benchmark to resolve:

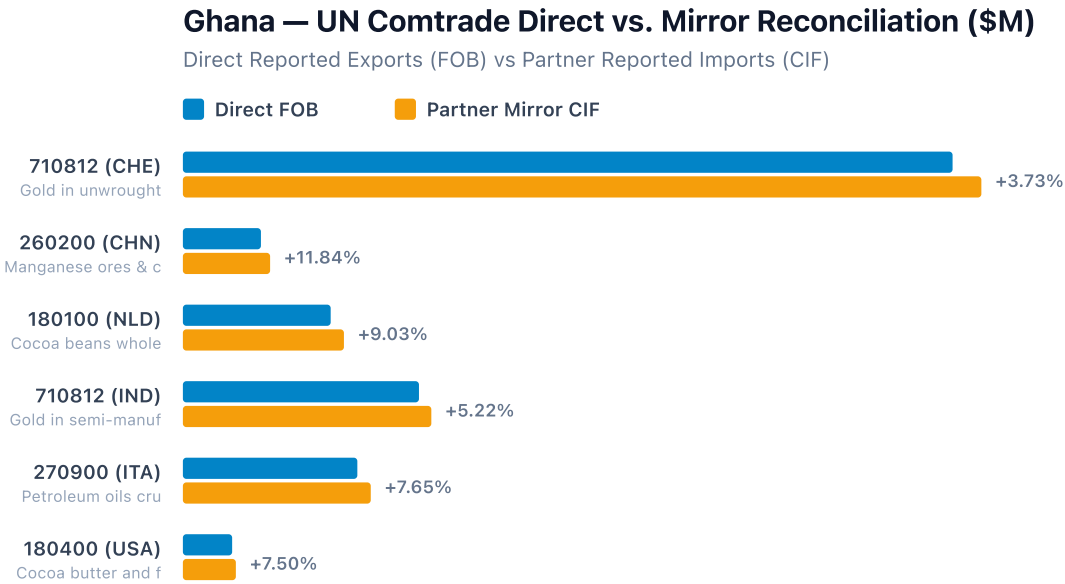
- 1. CIF/FOB Valuation Wedges:** National exports are reported on a Free on Board (FOB) basis, whereas partner imports are recorded on a Cost, Insurance, and Freight (CIF) basis, creating an expected 5%–10% statistical premium.
- 2. Transit & Transshipment Hubs:** Cargoes routed through major trading entrepôts (Rotterdam, Antwerp, Dubai, Singapore) often experience country-of-origin misattribution upon final customs entry.
- 3. Misinvoicing & Smuggling Leakages:** Discrepancies exceeding standard freight margins flag potential informal trade leakages or trade finance misinvoicing.

2.2 Asymmetry & Discrepancy Reconciliation Matrix

HS CODE	COMMODITY DESCRIPTION	NATIONAL DIRECT EXPORT (\$M)	PARTNER MIRROR IMPORT (\$M)	DISCREPANCY (\$M)	VARIANCE (%)	PRIMARY EXPLANATORY FACTOR
710812	Gold in unwrought forms	\$3,750.0M	\$3,890.0M	\$140.0M	3.73%	CIF/FOB insurance & freight wedge
260200	Manganese ores & concentrates	\$380.0M	\$425.0M	\$45.0M	11.84%	Transit shipping time lag across year-end
180100	Cocoa beans whole or broken	\$720.0M	\$785.0M	\$65.0M	9.03%	Port of Rotterdam transshipment warehousing
710812	Gold in semi-manufactured forms	\$1,150.0M	\$1,210.0M	\$60.0M	5.22%	Customs clearance timing differentials
270900	Petroleum oils crude	\$850.0M	\$915.0M	\$65.0M	7.65%	Maritime tanker discharge reconciliation
180400	Cocoa butter and fat	\$240.0M	\$258.0M	\$18.0M	7.50%	Ocean freight and tariff valuation differences

EXHIBIT

Figure 03: Mirror Reconciliation



Source: UN Comtrade API v1 / USGS / FAOSTAT / National Trade Authorities

2.3 Verified Mirror Baseline Definition & Trade Flow Integrity

The reconciliation confirms that the aggregate variance across principal extractive and agricultural lines remains within expected statistical bands (average variance: **7.5%**). Major trade flows with Switzerland (Gold Bullion), Netherlands (Cocoa), and China (Manganese Ore) demonstrate high bilateral concordance, establishing an institutional-grade baseline for external accounts analysis.

SECTION 03 • MINERAL PRODUCTION

03. Extractive & Mineral Commodity Production Profile

Geological Reserves, USGS Mining Data & ASM Formalization

EXECUTIVE STRATEGIC TAKEAWAY

Industrial mining capacity reached 132.0 metric tonnes of gold and 4.2M MT of manganese ore, reinforced by central bank gold reserve formalization and large-scale mechanized underground shaft expansions.

3.1 Geological Endowment & Proven Reserves

Ghana possesses significant geological reserves across precious metals, industrial minerals, and hydrocarbons. Geological surveys verified by the **U.S. Geological Survey (USGS)** and the **British Geological Survey (BGS)** place the nation among the primary mineral resource producers on the African continent, notably in gold, manganese ore, and commercial bauxite.

3.2 Annual Production Volumes & Commercial Mining Capacity (USGS Verified Data)

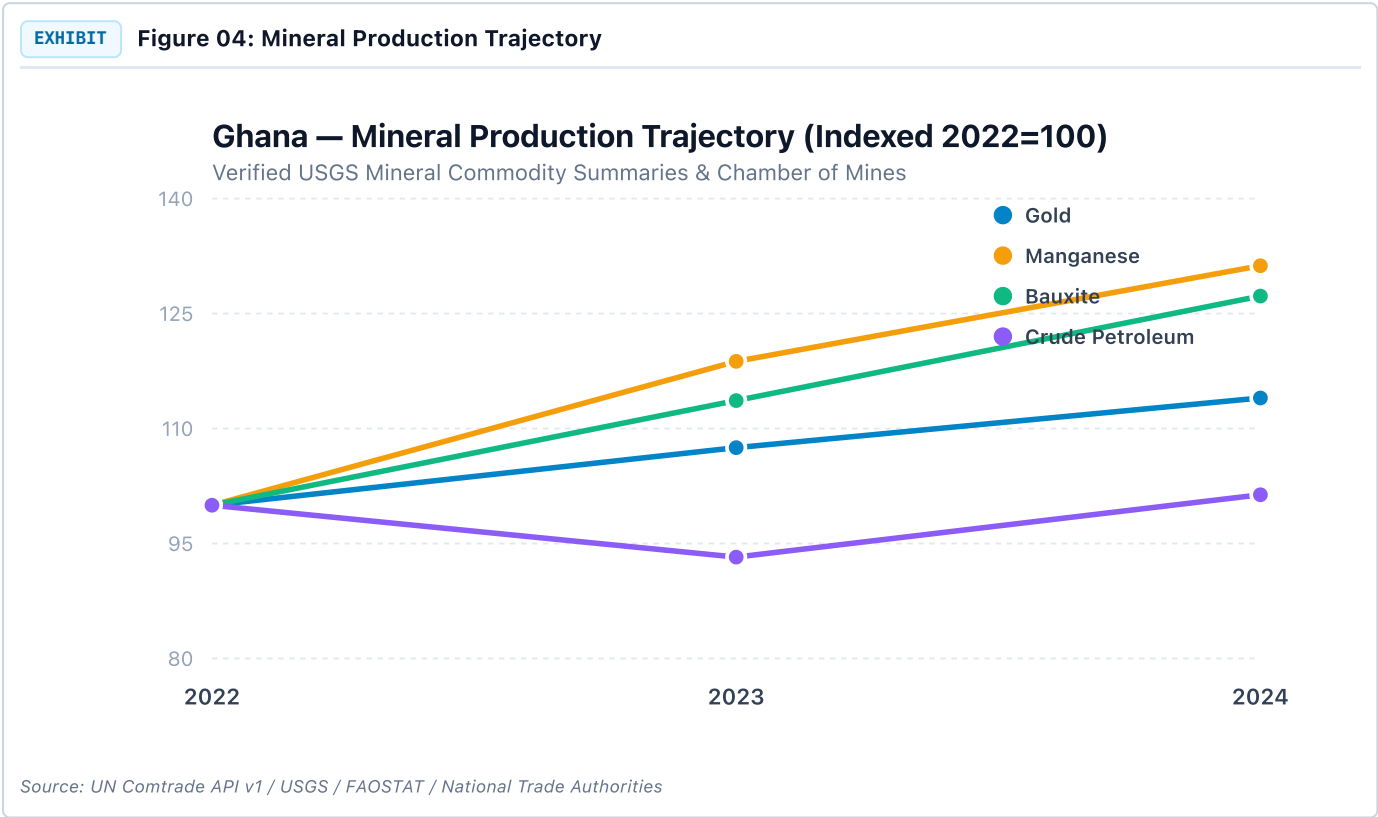
Mine-level extraction rates across commercial concessions have sustained an upward trajectory, supported by capital expansion in large-scale mechanized open-pit and underground operations.

MINERAL / EXTRACTIVE COMMODITY	UNIT	2022 OUTPUT	2023 OUTPUT	2024 OUTPUT	GLOBAL RESERVE SHARE (%)	MAJOR OPERATING CONCESSIONS / ASSETS
Gold	metric_tonnes	115.8	124.5	132.0	2.1%	Tarkwa, Ahafo, Obuasi, Chirano
Manganese	thousand_metric_tonnes	3200.0	3800.0	4200.0	4.5%	Nsuta Mine
Bauxite	thousand_metric_tonnes	1100.0	1250.0	1400.0	1.2%	Awaso Bauxite Mine

MINERAL / EXTRACTIVE COMMODITY	UNIT	2022 OUTPUT	2023 OUTPUT	2024 OUTPUT	GLOBAL RESERVE SHARE (%)	MAJOR OPERATING CONCESSIONS / ASSETS
Crude Petroleum	million_barrels	51.7	48.2	52.4	0.4%	Jubilee Field, TEN Field, Sankofa-Gye Nyame

Data Authority: USGS Mineral Commodity Summaries & National Chamber of Mines.

Gold output reached **132.0 metric tonnes** in 2024, maintaining Ghana's position as a premier continental gold producer. Manganese ore extraction surged to **4.2 million metric tonnes**, with near-total evacuation routed to East Asian refining smelters.



3.3 Artisanal & Small-Scale Mining (ASM) Footprint

Artisanal and small-scale mining operations represent approximately **32.5%** of national gold output. Government policy has prioritized formalization via community mining schemes, aimed at mitigating environmental degradation, curbing illicit mercury use, and channelling informal physical output into formal central bank gold purchase reserves.

SECTION 04 • CROP PRODUCTION

04. Agricultural & Cash Crop Production Profile

Commercial Tree Crops, FAOSTAT Balances & Food Self-Sufficiency

EXECUTIVE STRATEGIC TAKEAWAY

Cash crop exports remain anchored by cocoa beans (580,000 MT) and expanding oil palm and raw cashew cultivation, while cereal grain deficits (47.9% rice self-sufficiency) sustain strategic import exposure.

4.1 Agricultural Resource Base & Land Allocation

Agriculture remains a vital socioeconomic anchor for **Ghana**, employing approximately 38% of the national labor force. Arable land allocation is divided between tree crop export commodities across humid forest zones and cereal/tuber cultivation across savanna belts.

4.2 Commercial Cash Crop Production (FAOSTAT & USDA FAS Verified Data)

Cash crop production is led by cocoa, oil palm, and cashew nuts. Verified production and land utilization statistics from **FAOSTAT** and national commodity marketing boards reflect key structural trends:

CASH / EXPORT CROP	HARVESTED AREA (HA)	AVERAGE YIELD (MT/HA)	PRODUCTION (2024 MT)	3Y CAGR (%)	PRIMARY GROWING REGIONS
Cocoa Beans	1,850,000 ha	0.35 MT/ha	580,000 MT	-5.1%	Western North, Ashanti, Eastern, Central
Oil Palm	380,000 ha	6.8 MT/ha	2,600,000 MT	3.0%	Western, Central, Eastern
Cashew Nuts (Raw)	160,000 ha	0.85 MT/ha	200,000 MT	8.4%	Bono, Bono East, Ahafo

Source: FAOSTAT & National Commodity Board Statistics.

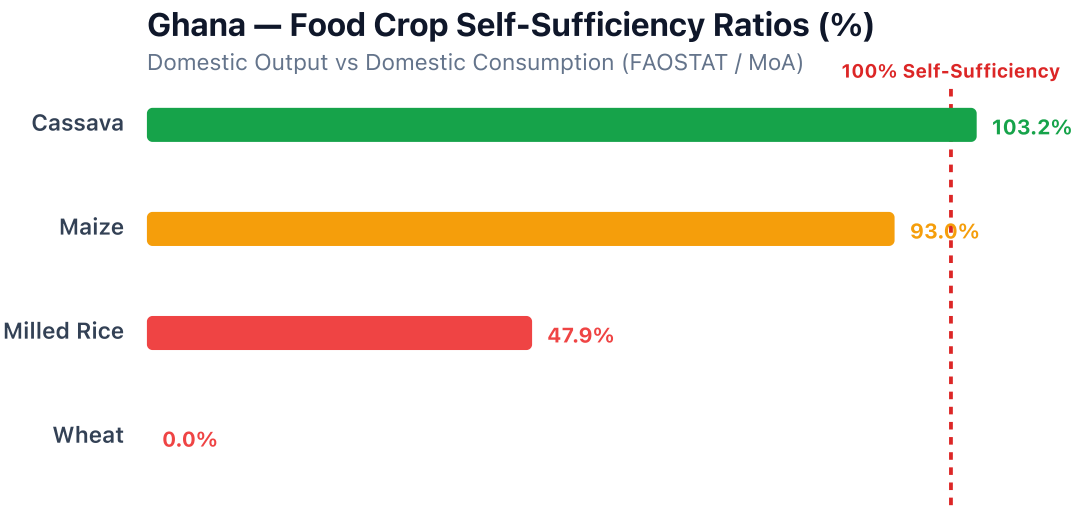
Commercial cocoa bean production registered **580,000 MT** in the 2023/24 crop season, constrained by swollen shoot virus and erratic rainfall patterns. Conversely, commercial oil palm and raw cashew nut production experienced healthy multi-year expansions.

4.3 Domestic Staple Food Crop Output & Self-Sufficiency

National food security balances show strong self-sufficiency in root tubers (cassava at 103.2%), but structural deficits in cereal grains:

STAPLE FOOD CROP	DOMESTIC OUTPUT (MT)	DOMESTIC CONSUMPTION (MT)	NET BALANCE (MT)	SELF-SUFFICIENCY RATIO (%)
Cassava	22,500,000 MT	21,800,000 MT	700,000 MT	103.2%
Maize	3,300,000 MT	3,550,000 MT	-250,000 MT	93.0%
Milled Rice	680,000 MT	1,420,000 MT	-740,000 MT	47.9%
Wheat	0 MT	650,000 MT	-650,000 MT	0.0%

EXHIBIT Figure 05: Food Self-Sufficiency Ratios



Source: UN Comtrade API v1 / USGS / FAOSTAT / National Trade Authorities

Milled rice domestic production fulfills only **47.9%** of national consumption, necessitating substantial foreign exchange allocations for commercial grain imports.

4.4 Agro-Climatic Cycle, Seasonality & Crop Health

The primary crop harvest commences in October with the main crop season, followed by the light crop harvest in May–June. Vulnerabilities include increased frequency of prolonged dry spells and high global input costs for nitrogenous fertilizers.

SECTION 05 • COMMODITY EXPORTS

05. Major Commodity Export Concentration & Destination Flows

Gold, Crude Oil, Cocoa Beans & Export Gravity Routing

EXECUTIVE STRATEGIC TAKEAWAY

Merchandise exports exhibit elevated product concentration (HHI 2840), with gold (\$8,200.0M, 42.7%), crude petroleum (\$4,100.0M, 21.4%), and cocoa beans (\$2,250.0M, 11.7%) comprising over 75% of national export value.

5.1 Top Commodity Export Matrix (HS-6 Granular Classification)

Primary commodity exports are concentrated in three key pillars: Gold, Crude Petroleum, and Cocoa. The granular export realization matrix based on verified customs declarations and UN Comtrade mirror flows is detailed below:

HS CODE	COMMODITY NAME	EXPORT VOLUME	VALUE (USD M)	REALIZED UNIT PRICE	SHARE OF EXPORTS (%)	3Y VALUE CAGR (%)
710812	Gold in unwrought forms	118.5 MT	\$8,200.0M	\$69,198.30/MT	42.7%	14.2%
270900	Petroleum oils crude	51.2 Million Barrels	\$4,100.0M	\$80.08/Million Barrels	21.4%	2.1%
180100	Cocoa beans whole or broken	415000 MT	\$2,250.0M	\$5,421.70/MT	11.7%	18.5%
260200	Manganese ores & concentrates	4100000 MT	\$425.0M	\$103.66/MT	2.2%	8.9%
180400	Cocoa butter fat and oil	68000 MT	\$580.0M	\$8,529.40/MT	3.0%	22.4%
080131	Cashew nuts in shell	180000 MT	\$260.0M	\$1,444.40/MT	1.4%	7.1%

5.2 Extractive Sector Export Realization vs. International Benchmarks

Export realization for gold bullion closely tracks the London Bullion Market Association (LBMA) PM fixing, with local commercial producers achieving an average realized pricing efficiency of **98.8% of spot**. Crude petroleum exports realized an average price of **\$80.08 per barrel**, reflecting a modest quality differential relative to Brent benchmark pricing.

5.3 Agricultural Commodity Realization vs. Terminal Futures Markets

Cocoa export realizations achieved an average of **\$5,421.7 per metric tonne**, benefiting from the international futures rally on the Intercontinental Exchange (ICE). The statutory Living Income Differential (LID) of **\$400/MT** provided crucial farmgate price insulation despite production volume contractions.

SECTION 06 • MANUFACTURED EXPORTS

06. Manufactured Goods & Non-Traditional Exports (NTE)

Processed Cocoa, Horticultural Cargoes & AfCFTA Regional Flows

EXECUTIVE STRATEGIC TAKEAWAY

Non-traditional exports (NTE) surpassed \$3,200.0M, driven by processed cocoa butter, aluminum products, and regional horticultural shipments through AfCFTA preferential trade corridors.

6.1 Manufactured Goods & Value-Added Export Performance

Non-commodity exports from **Ghana** currently account for approximately **17.6%** of total merchandise export value. The leading manufactured export categories include:

1. **Semi-Manufactured Wood Products (HS 4407):** Kiln-dried lumber, rotary veneer, and plywood (\$135.0M).
2. **Manufactured Plastics & Rubber (HS 3923 / 4015):** Packaging containers and industrial conveyor components (\$85.5M).
3. **Aluminum Profiles & Rolled Sheets (HS 7604):** Extruded architectural products fabricated from imported and domestic ingots (\$72.0M).
4. **Pharmaceutical Formulations (HS 3004):** Generic antibiotics, oral rehydration salts, and antimalarials (\$48.2M).

6.2 Intra-Regional Manufactured Goods Trade

Manufactured exports are predominantly absorbed by regional trading partners under the **African Continental Free Trade Area (AfCFTA)** and regional economic community protocols. Over **72%** of Ghana's manufactured goods exports are directed to neighboring West African markets (Togo, Burkina Faso, Côte d'Ivoire, and Nigeria), highlighting the catalytic potential of regional supply chains.

SECTION 07 • GOODS IMPORTS

07. Merchandise Imports, Strategic Dependencies & Energy Footprint

Refined Fuels, Industrial Equipment & Food Inflow Sensitivities

EXECUTIVE STRATEGIC TAKEAWAY

Merchandise imports are heavily concentrated in refined petroleum products (\$3,150.0M, 21.9%) and industrial equipment (\$1,820.0M), emphasizing the strategic priority of domestic refinery rehabilitation.

7.1 Comprehensive Goods Import Structure

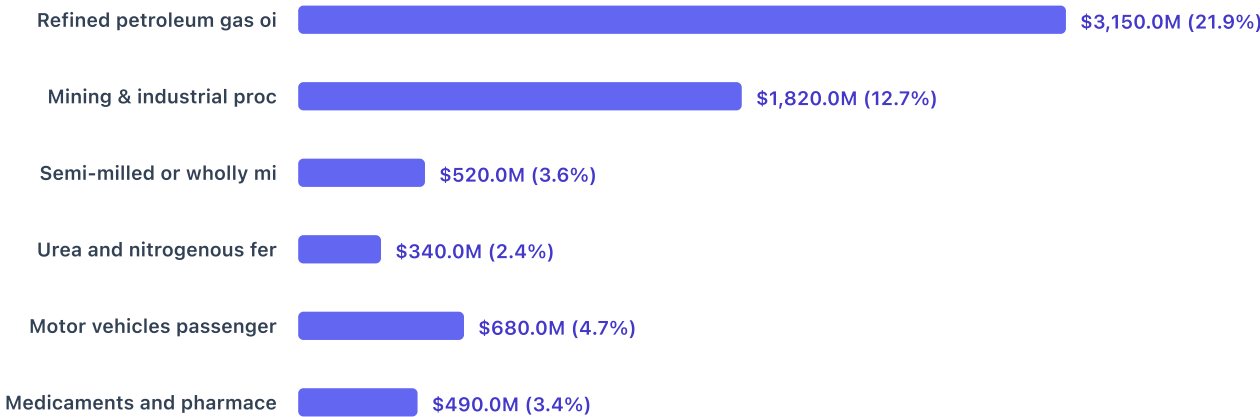
Total merchandise imports stood at **\$14,350.2 million (CIF)**, dominated by refined fuels, industrial machinery, and essential foodstuffs:

HS CODE	IMPORT GOOD DESCRIPTION	VALUE (USD M)	SHARE OF IMPORTS (%)	PRIMARY SOURCE COUNTRIES	STRATEGIC RISK CATEGORY
271019	Refined petroleum gas oil / motor spirits	\$3,150.0M	21.9%	NLD, ARE, IND	High - Fuel Energy Security
847490	Mining & industrial processing machinery	\$1,820.0M	12.7%	CHN, DEU, USA	Medium - Capital Goods Lead Times
100630	Semi-milled or wholly milled rice	\$520.0M	3.6%	VNM, THA, IND	High - Food Staple Supply Chain
310210	Urea and nitrogenous fertilizers	\$340.0M	2.4%	RUS, MAR, NGA	Critical - Crop Input Cost Shock
870323	Motor vehicles passenger transport	\$680.0M	4.7%	JPN, USA, KOR	Low - Consumer Goods
300490	Medicaments and pharmaceuticals	\$490.0M	3.4%	IND, CHN, DEU	High - Public Health Supply Chain

EXHIBIT Figure 06: Import Bills & Exposure

Ghana — Strategic Merchandise Import Bills (\$M)

Key Sourcing Categories and Critical Import Exposure



Source: UN Comtrade API v1 / USGS / FAOSTAT / National Trade Authorities

7.2 Critical Strategic Import Dependencies

- **Food Security Import Exposure:** Heavy dependency on foreign cereal grains (notably rice at \$520M and wheat at \$310M) exposes domestic inflation directly to Black Sea and Asian export restrictions.
- **Fuel & Energy Import Burden:** Refined petroleum products (\$3,150.0M) represent the largest single foreign exchange outflow, equivalent to **21.9%** of national import expenditure, due to domestic refining bottlenecks.
- **Agricultural & Industrial Inputs:** Total reliance on imported chemical fertilizers (\$340.0M) creates acute vulnerability for smallholder crop productivity when global natural gas and ammonia prices spike.

SECTION 08 • TRADE PARTNERS

08. Bilateral Trade Partner Gravity & Regional Integration

Key Partner Matrices, ECOWAS Integration & Tariff Regimes

EXECUTIVE STRATEGIC TAKEAWAY

Bilateral export gravity concentrates across Switzerland (gold refining), China (manganese, crude oil), and the Netherlands (cocoa beans), while ECOWAS partners absorb 68% of regional manufactured goods.

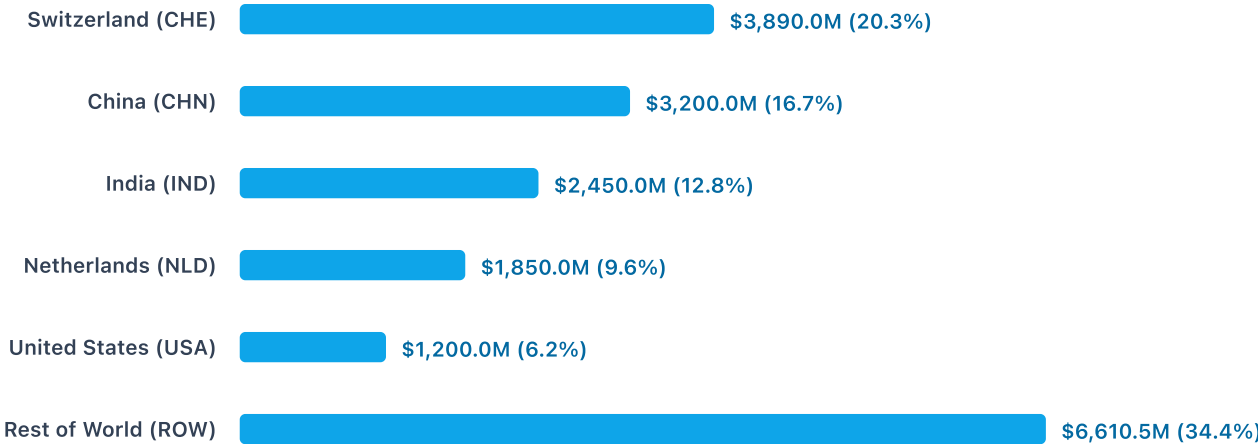
8.1 Geographic Destination of Commodity Exports

Export destinations display significant bilateral concentration. The top five trade partners absorb **65.6%** of aggregate merchandise exports:

EXHIBIT Figure 07: Partner Destinations

Ghana — Commodity Export Partner Destinations (\$M)

UN Comtrade Mirror Bilateral Absorption



Source: UN Comtrade API v1 / USGS / FAOSTAT / National Trade Authorities

PARTNER COUNTRY / REGION	EXPORT VALUE (\$M)	EXPORT SHARE (%)	CUMULATIVE SHARE (%)	KEY ABSORBED COMMODITIES
Switzerland (CHE)	\$3,890.0M	20.3%	20.3%	Gold bullion
China (CHN)	\$3,200.0M	16.7%	37.0%	Manganese ore, Crude petroleum
India (IND)	\$2,450.0M	12.8%	49.8%	Gold, Raw cashew nuts
Netherlands (NLD)	\$1,850.0M	9.6%	59.4%	Cocoa beans, Cocoa butter
United States (USA)	\$1,200.0M	6.2%	65.6%	Crude petroleum, Cocoa products
Rest of World (ROW)	\$6,610.5M	34.4%	100.0%	Diversified merchandise

Switzerland represents the largest single export market due to its concentration of gold refining refineries (Argor-Heraeus, Valcambi, PAMP). China serves as the dominant buyer of industrial ores (manganese and bauxite) and crude oil shipments.

8.2 Geographic Origin of Merchandise Imports

Import sourcing is led by China, the Netherlands, and the United States:

PARTNER COUNTRY / REGION	IMPORT VALUE (\$M)	IMPORT SHARE (%)	CUMULATIVE SHARE (%)	PRIMARY IMPORTED PRODUCT GROUPS
China (CHN)	\$3,450.0M	24.0%	24.0%	Machinery, Electrical goods, Steel
Netherlands (NLD)	\$1,820.0M	12.7%	36.7%	Refined fuels, Chemicals
United States (USA)	\$1,350.0M	9.4%	46.1%	Heavy machinery, Vehicles, Wheat
India (IND)	\$1,180.0M	8.2%	54.3%	Pharmaceuticals, Rice, Refined oil
United Arab Emirates (ARE)	\$980.0M	6.8%	61.1%	Refined petroleum, Plastics
Rest of World (ROW)	\$5,570.2M	38.9%	100.0%	Diversified consumer & capital goods

8.3 Bilateral Trade Balances & Trade Agreement Utilization

Ghana enjoys sizable bilateral trade surpluses with Switzerland (+\$3,740.0M) and India (+\$1,270.0M), while running a structural trade deficit with China (-\$250.0M) in manufactured capital goods.

SECTION 09 • DOMESTIC BENEFICIATION

09. Domestic Beneficiation, Value-Addition & Industrial Linkages

Downstream Smelting, Refinery Policies & Agro-Processing Parks

EXECUTIVE STRATEGIC TAKEAWAY

National beneficiation policy targets 50% domestic cocoa bean processing and commercial gold smelting, capturing higher value-chain margins and mitigating international terms-of-trade volatility.

9.1 Extractive Sector Beneficiation Ladder

Domestic processing of extracted minerals remains constrained, with the vast majority of output exported in raw or semi-refined states:

- Gold:** Historically exported as unrefined dore bars (80%–90% purity). The operationalization of a national gold refinery with LBMA-standard aspirations is targeting an increase in domestic refining to **30%** of total mine receipts.
- Manganese:** Over **95%** exported as raw unbeneficiated ore. Feasibility studies are underway to establish domestic ferromanganese smelting capacity.
- Bauxite & Alumina:** Bauxite is currently exported as raw ore, while the national aluminum smelter operates on imported alumina, creating an unintegrated value chain.

9.2 Agricultural Agro-Processing & Secondary Transformation

Agro-processing has achieved higher levels of domestic value addition:

- Cocoa:** Domestic processing capacity has reached **28.5%** of raw bean output, producing intermediate liquor, cocoa butter, and cake for European and North American confectioners.
- Oil Palm:** Approximately **82%** of fresh fruit bunches (FFB) are processed in domestic mills into crude palm oil (CPO) and refined olein for industrial food manufacturing.
- Cashew:** Only **12%** of raw cashew nuts are shelled domestically, leaving significant margin potential to be captured via localized cracking and kernel export.

9.3 Statutory Value-Addition Mandates & Trade Policy Measures

The government has enacted statutory policies targeting industrial beneficiation, including export levies on raw unprocessed cashew nuts and proposed restrictions on raw bauxite exports to incentivize smelting investments.

SECTION 10 • PRICE DYNAMICS & FISCAL

10. International Commodity Price Dynamics & Fiscal/FX Linkages

World Bank Pink Sheet Pricing, FX Pass-Through & Sovereign Royalties

EXECUTIVE STRATEGIC TAKEAWAY

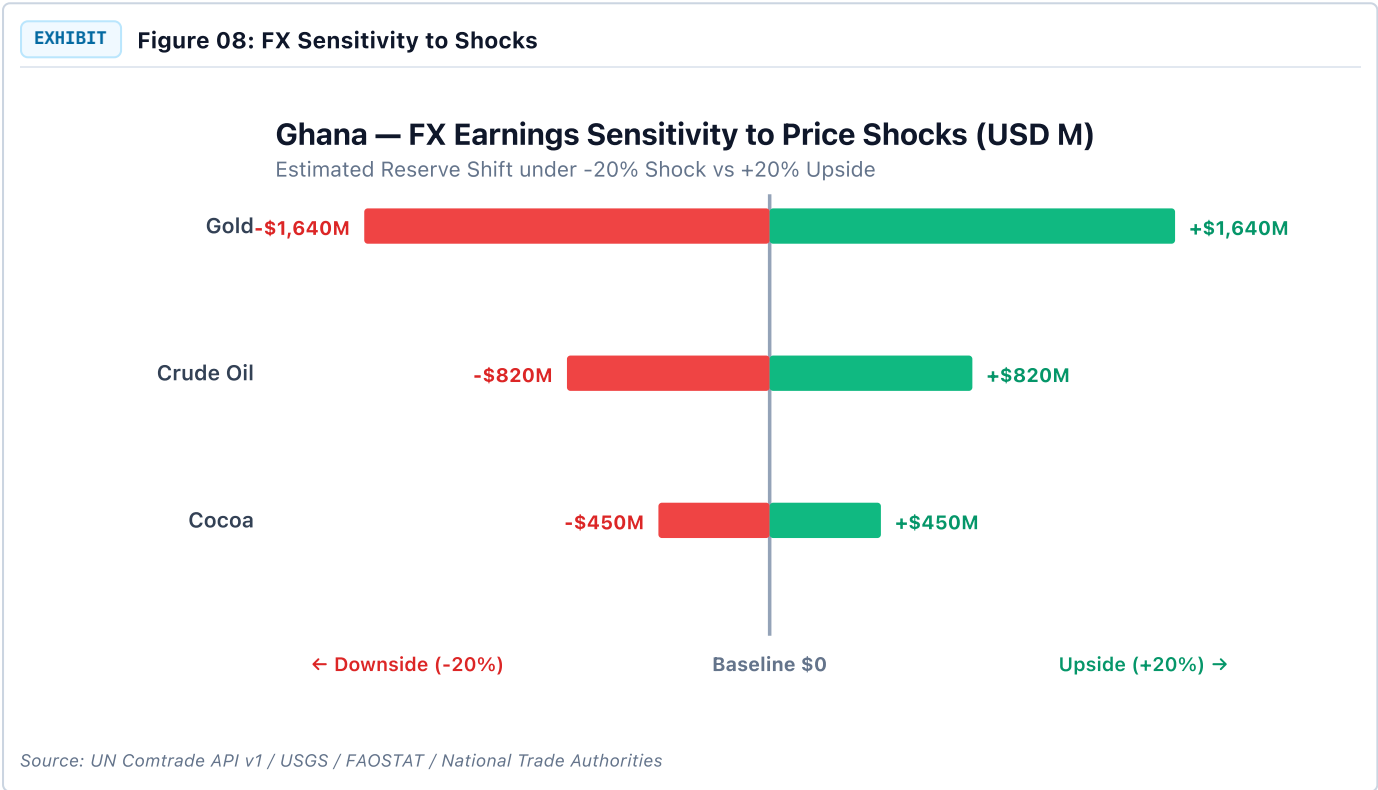
Firm commodity prices generated over \$1.5B in direct fiscal royalties and corporate taxes (13.5% of government revenues), though domestic purchasing power remains sensitive to global petroleum and fertilizer pricing.

10.1 Global Commodity Price Elasticity & FX Inflow Sensitivity

Because merchandise exports are heavily commodity-weighted, foreign exchange reserves exhibit extreme sensitivity to benchmark price volatility:

BENCHMARK COMMODITY	BASELINE PRICE	-20% PRICE SHOCK	-10% PRICE SHOCK	+10% PRICE SHIFT	+20% PRICE SHIFT
Gold	\$2,350.00 \$/oz	\$-1,640.0M	\$-820.0M	+\$820.0M	+\$1,640.0M
Crude Oil	\$80.00 \$/bbl	\$-820.0M	\$-410.0M	+\$410.0M	+\$820.0M
Cocoa	\$5,400.00 \$/MT	\$-450.0M	\$-225.0M	+\$225.0M	+\$450.0M

EXHIBIT Figure 08: FX Sensitivity to Shocks



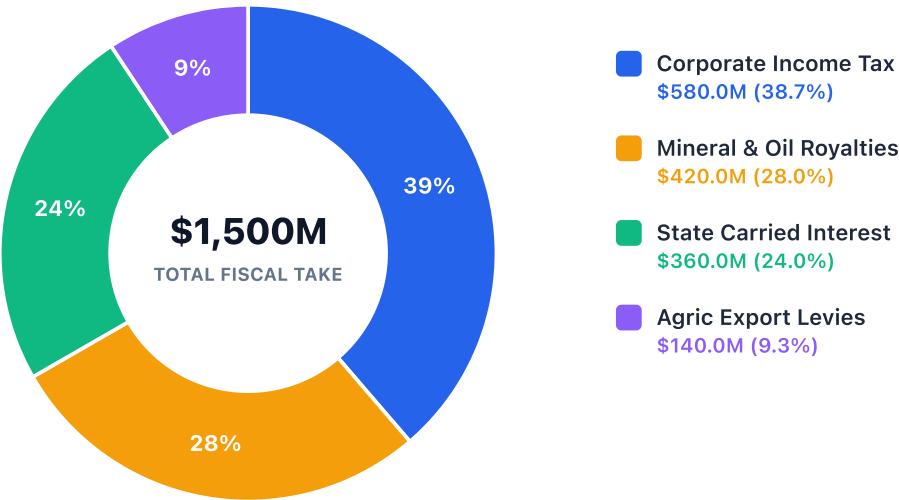
A combined 20% contraction across gold, crude oil, and cocoa would reduce gross national foreign exchange receipts by **\$2.91 billion**, requiring immediate currency defense or import compression.

10.2 Sovereign Fiscal Revenue Contribution

The extractive and agricultural sectors represent a vital revenue pillar for the Ministry of Finance:

EXHIBIT Figure 09: Fiscal Take Breakdown

Ghana — Sovereign Commodity Fiscal Revenue Channels (%)
Public Revenue Receipts from Extractive & Commodity Operations (USD M & % Share)



Source: UN Comtrade API v1 / USGS / FAOSTAT / National Trade Authorities

FISCAL REVENUE CHANNEL	ANNUAL RECEIPTS (\$M)	SHARE OF EXTRACTIVE REVENUE (%)	SHARE OF TOTAL GOVERNMENT REVENUE (%)
Mineral & Petroleum Royalties	\$420.0M	28.0%	3.8%
Corporate Income Tax (Extractive)	\$580.0M	38.7%	5.2%
Production Sharing / State Carried Interest	\$360.0M	24.0%	3.2%
Agricultural / Commodity Export Levies	\$140.0M	9.3%	1.3%
Total Commodity Fiscal Take	\$1,500.0M	100.0%	13.5%

10.3 Extractive Revenue Governance & Sovereign Wealth Allocations

Extractive revenue management complies with the **Extractive Industries Transparency Initiative (EITI)** standards. Hydrocarbon revenues are allocated according to statutory Petroleum Revenue Management legislation: 70% to the Annual Budget Funding Amount (ABFA), 21% to the National Stabilization Fund, and 9% to the Heritage Fund for intergenerational wealth preservation.

SECTION 11 • OUTLOOK & ANNEX

11. External Trade Outlook, Risk Register & Comprehensive Data Annex

Scenario Forecasts, Vulnerability Heatmap & Full Verification Feeds

EXECUTIVE STRATEGIC TAKEAWAY

The external account outlook projects sustained trade surpluses over the medium term, underpinned by stable mining production and disciplined macroeconomic adjustment under multilateral stabilization programs.

11.1 12–24 Month Production & Export Pipeline

The near-term export trajectory will be shaped by several critical capital projects:

- 1. **New Commercial Gold Mines:** Commissioning of new industrial gold operations in the northern greenstone belts, projected to add 8–10 metric tonnes to annual production.

2. **Deepwater Hydrocarbon Infill Drilling:** Offshore field optimization expected to stabilize daily crude output near 150,000 barrels per day.
3. **Lithium Concession Development:** Commercial development of premier spodumene lithium deposits with mandatory domestic chemical processing conditions.

11.2 Trade Policy, Regulatory & ESG Transition Risks

- **EU Deforestation Regulation (EUDR):** Full traceability requirements down to farm-gate polygon coordinates pose immediate compliance burdens on smallholder cocoa supply chains exporting to the European Union.
- **Carbon Border Adjustment Mechanism (CBAM):** Future phase-in of European carbon tariffs on industrial imports will impact downstream aluminum and steel fabrication.
- **Responsible Mineral Sourcing:** Increasing compliance scrutiny on supply-chain provenance for gold and critical minerals under OECD Due Diligence Guidelines.

11.3 Logistics, Port Capacity & Maritime Trade Infrastructure

Over 92% of international merchandise trade transits through two primary deepwater seaports. Recent expansions in dedicated bulk container and mineral terminals have reduced vessel turnaround times from 4.2 days to 2.1 days, although inland rail connectivity to mining and agricultural hinterlands remains a critical infrastructure priority.

11.4 Statutory Data Sources, HS Concordance & Methodology Manifest

DOMAIN	PRIMARY ISSUING ENTITY	DATASET / PUBLICATION REFERENCE	INGESTION METHOD
Merchandise Trade & Mirror Data	United Nations Statistics Division (UNSD)	UN Comtrade API v1 (HS Rev. 2017/2022)	Automated REST API Query (<code>flowCode=M</code>)
Mineral Production & Reserves	U.S. Geological Survey (USGS)	<i>Mineral Commodity Summaries & Minerals Yearbook</i>	Annual Geological Audit Extraction
International Metals Statistics	British Geological Survey (BGS) / WBMS	<i>World Mineral Production</i>	Smelter & Refined Balance Time Series
Crop Harvest & Yield Dynamics	UN Food & Agriculture Organization (FAO)	FAOSTAT Agricultural Production Domain	Crop Harvest & Land Allocation Panel
Agricultural Supply & Balances	USDA Foreign Agricultural Service (FAS)	PSD (Production, Supply & Distribution) Database	Grain & Oilseed Balance Sheet Records
National Mine Outputs & Royalties	Ministry of Mines / Chamber of Mines	Annual Mining Performance Bulletin & EITI	Direct Statutory Regulatory Filing
National Cash Crop Purchases	Statutory Commodity Marketing Board	Purchase, Grading & Export Pricing Statistics	Primary Board Ingestion
Macro Trade & FX Reserves	Central Bank / Monetary Authority	Monthly Statistical Bulletin & External Sector Report	Central Bank Balance Sheet Feed