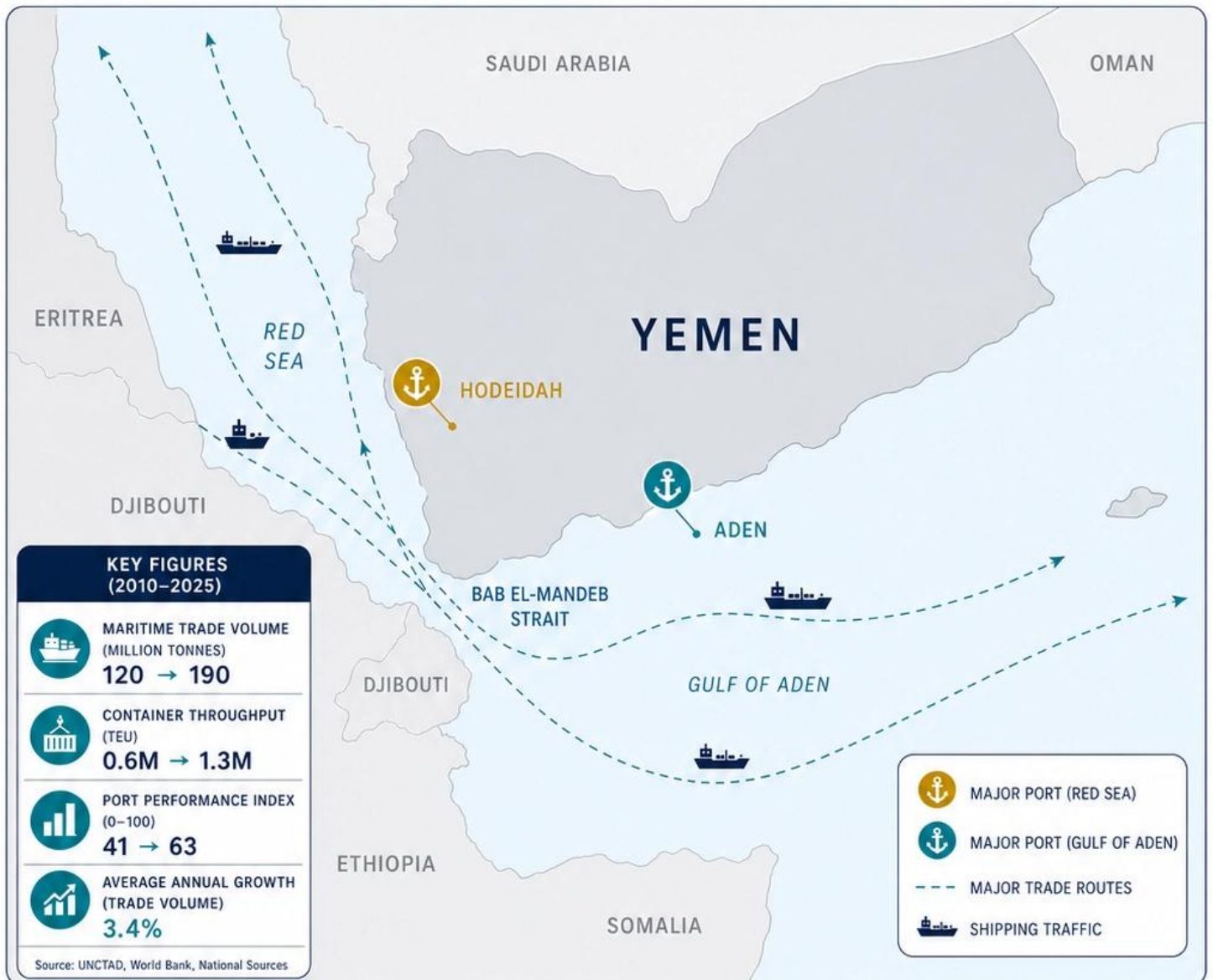




Yemen's Maritime Trade and Port Performance

A 15-Year Diagnostic (2010–2025)



Adaa' Consulting
مؤسسة أداء للاستشارات



ADAA FOUNDATION FOR CONSULTANCY AND STUDIES

Knowledge Product

Yemen's Maritime Trade and Port Performance

A 15-Year Diagnostic (2010–2025)

A data-driven institutional and trade-performance diagnostic covering the pre-war baseline, wartime disruption, and current state of Yemen's ports, with a regional comparative lens.

Aden, Yemen

July 2026

Table of Contents

Table of Contents	2
1. Executive Summary	3
2. Introduction and Methodology	6
2.1 Purpose and Scope.....	6
2.2 Analytical Approach.....	6
2.3 Sources and Data Collection	6
2.4 Data Limitations.....	6
3. Pre-War Baseline (2008–2014)	7
3.1 Port Throughput	7
3.2 Trade and Macroeconomic Profile	7
4. Wartime Disruption (2015–2020)	8
4.1 Throughput Collapse and Gradual Recovery	8
4.2 Fiscal Fragmentation.....	8
5. Current State and the Red Sea Crisis (2021–2026)	9
5.1 Throughput and Macroeconomic Trajectory	9
5.2 The 2023–2026 Red Sea Shipping Crisis	9
5.3 The Import Routing Inversion	10
5.4 Regional Spillover: The Crisis Reached GCC Ports Too	11
6. Institutional and Governance Analysis	12
6.1 Bifurcated Port Governance	12
6.2 The 2021 Tariff Reform: A Self-Defeating Policy Case Study.....	12
6.3 Institutional Capacity Assessments.....	12
7. Regional Comparative Analysis	13
8. Two Analytical Indices: Physical Throughput vs. Fiscal Capture	15
8.1 Physical Throughput Index (Base Year 2014 = 100)	15
8.2 Fiscal Capture Index (Directional, Qualitative-to-Quantitative)	16
9. Findings and Policy Implications	16
10. Recommendations	17
10.1 For Regional Policy Dialogue (e.g., OASIS Forum)	17
10.2 For Monitoring and Early-Warning	17
10.3 For Investment Sequencing	17
10.4 For Data and Institutional Capacity.....	17
10.5 For Regional Economic Media (cross-reference to companion Adaa Foundation paper).....	17
11. Data Limitations and Caveats	18
11.1 Data Availability Assessment	18
11.2 Known Discrepancies.....	18
11.3 General Caveat.....	18
12. References	20

List of Abbreviations

Abbreviation	Full Term
ACAPS	Assessment Capacities Project
ACLED	Armed Conflict Location & Event Data Project
ACT	Aden Container Terminal
bpd	Barrels per day
GCC	Gulf Cooperation Council
GDP	Gross Domestic Product
IMF	International Monetary Fund
IRG	Internationally Recognized Government (of Yemen)
JAFZA	Jebel Ali Free Zone Authority
MENA	Middle East and North Africa
OASIS	Onward Alliance for Stability and Inclusive Solutions
TEU	Twenty-foot Equivalent Unit (standard container-volume measure)
UAE	United Arab Emirates
UN	United Nations
UNCTAD	United Nations Conference on Trade and Development
UNVIM	United Nations Verification and Inspection Mechanism (for Yemen)
WDI	World Development Indicators (World Bank)
YER / YR	Yemeni Rial
YETI	Yemen Economic Tracking Interface (ACAPS)
YGAPC	Yemen Gulf of Aden Ports Corporation

ADAA FOUNDATION — KNOWLEDGE PRODUCT

Yemen's Maritime Trade A 15-Year Diagnostic

2010 – 2025 · Pre-War Baseline to the Red Sea Crisis

CONTAINER THROUGHPUT COLLAPSE

-77%

2008 peak → 2015 trough
775,165 TEU → 178,098 TEU

TEU THROUGHPUT, 2008–2024 (thousands)



THE CENTRAL FINDING: IMPORT ROUTING INVERSION

Aden's share of Yemen's overall imports (ACAPS YETI data, via Sana'a Center)

Baseline



2024



Separately measured: World Bank/ACAPS documented a 61% reduction in Aden import volume vs. 8% at Hodeidah (Janlu2013Aug 2023).

Result: IRG fiscal revenue fell 30% in 2024; revenues (excl. grants) reached just 2.5% of GDP

ECONOMIC CONTEXT, 2014–2024

\$1,430 → \$433

Nominal GDP per capita

-43%

Real GDP contraction, 2015–2024

\$12.3B

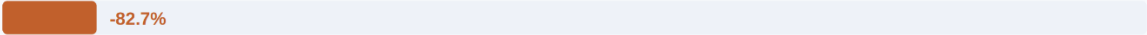
Trade deficit (2024, ~70% of GDP)

THE 2023–2026 RED SEA SHIPPING CRISIS

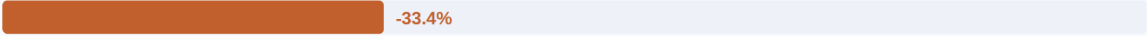


REGIONAL SPILLOVER — 2024 CONTAINER THROUGHPUT CHANGE

King Abdullah Port (Saudi, Red Sea)



Jeddah Islamic Port (Saudi, Red Sea)



Jebel Ali (UAE, Gulf-facing)



Source: World Bank Yemen Economic Monitor, UNCTAD, IMF PortWatch, ACLED, UN Panel of Experts on Yemen (full citations in report)

Adaa Foundation for Consultancy and Studies · Aden, Yemen · July 2026

1. Executive Summary

Yemen's maritime economy has undergone a profound and, in key respects, unresolved collapse over the past fifteen years. Container throughput at Yemen's ports fell from a pre-war peak of approximately 775,000 TEU in 2008 (CEIC/UNCTAD series) to a wartime low of 178,098 TEU in 2015 — a decline of 77 percent — before recovering to 380,000 TEU by 2024 (World Bank World Development Indicators), still below the pre-war peak. Because the 2008 and 2024 figures originate from two methodologically distinct series that are not directly reconciled (see Section 11.2), this headline comparison should be read as indicative of the broad magnitude of collapse and partial recovery, not as a precise continuous trend. Over the same period, nominal GDP per capita collapsed from US\$1,430 (2014) to US\$433 (2024), and real GDP contracted by 43 percent between 2015 and 2024.

The most consequential structural development of the period, however, is not the throughput collapse itself but a more recent and less visible shift: the inversion of import routing between Yemen's two rival port systems. Sana'a Center for Strategic Studies analysis, citing ACAPS Yemen Economic Tracking Interface data, documents a decline in Aden's share of Yemen's overall imports from 47.8 percent to 22.7 percent; separately, the World Bank documented a 61 percent reduction in import volume through Aden against an 8 percent decline at Hodeidah over January–August 2023. These are related but distinct metrics — import share and volume reduction — both pointing to the same underlying shift toward Houthi-controlled Red Sea ports. This shift transferred a substantial share of Yemen's customs revenue base to the de facto authorities in Sana'a, driving a 30 percent decline in IRG fiscal revenue in 2024 alone and reducing IRG revenues (excluding grants) to just 2.5 percent of GDP.

This diagnostic argues that physical throughput and fiscal capture — historically treated as a single indicator of port performance — have decoupled since 2022. Tonnage moving through Yemen's ports partially recovered after 2015, but the state's ability to tax that tonnage did not recover in parallel; it deteriorated further. This decoupling is the central analytical finding of the report and is developed through two complementary indices in Section 8.

The diagnostic further situates Yemen's trajectory within the 2023–2026 Red Sea shipping crisis, during which Houthi attacks on commercial vessels — over 450 recorded maritime security incidents in 2024 — collapsed Suez Canal and Bab el-Mandeb traffic by an estimated 90 percent at the crisis's peak, forcing global shipping onto the longer Cape of Good Hope route. Notably, this shock depressed maritime trade across the entire region, including Gulf Cooperation Council (GCC) Red Sea ports: Saudi Arabia's King Abdullah Port saw container volumes fall 82.7 percent in 2024, even as Gulf-facing ports such as Jebel Ali recorded their highest volumes since 2015.

Five recommendations conclude the diagnostic, centered on the proposition that port rehabilitation investment will yield limited fiscal return in the absence of unified customs governance, and that physical infrastructure indicators alone are an unreliable proxy for institutional recovery.

2. Introduction and Methodology

2.1 Purpose and Scope

This diagnostic examines the performance of Yemen's maritime trade sector and port institutions over a fifteen-year period spanning 2010 to 2025, structured around three phases: the pre-war baseline (2008–2014), wartime disruption (2015–2020), and the current state through the 2023–2026 Red Sea shipping crisis (2021–2026). It is produced as an independent knowledge product by Aadaa Foundation for Consultancy and Studies, intended to inform regional policy dialogue on the blue economy and sustainable maritime trade, including forums addressing Yemen's economic recovery and regional integration.

2.2 Analytical Approach

The diagnostic applies a data-driven, indexed methodology consistent with institutional performance diagnostics — prioritizing quantified indicators, verifiable sourcing, and explicit treatment of data gaps over narrative or descriptive framing. This approach mirrors the methodology previously applied by the author in a comprehensive 102-month financial and operational performance diagnostic of a public utility corporation in Aden, adapted here to the maritime trade and port governance context.

2.3 Sources and Data Collection

Findings are drawn from a structured desk review of primary and institutional sources, prioritized in the following order of authority: the World Bank Yemen Economic Monitor (all editions, 2024–2026) and World Development Indicators; the International Monetary Fund's PortWatch chokepoint monitoring initiative; the United Nations Conference on Trade and Development (UNCTAD) Review of Maritime Transport; the UN Panel of Experts on Yemen; the Armed Conflict Location & Event Data Project (ACLED); the Assessment Capacities Project (ACAPS) Yemen Economic Tracking Interface; the Sana'a Center for Strategic Studies; and Chatham House. Port-level and company data were supplemented from DP World, the Aden Ports Development Company, and Gulf port authority statistics (Mawani, Saudi Arabia) where publicly available.

2.4 Data Limitations

Methodological note: Reliable, comparable, port-level throughput data for Yemen effectively ceased to exist in any consistent series after 2015. Two overlapping international data series (UNCTAD/CEIC and World Bank WDI) diverge in coverage and methodology, and three years in the fifteen-year window — 2009, 2011, and 2023 — have no available throughput figures in either series. Rather than interpolate or estimate these gaps, this diagnostic states them explicitly wherever they occur. A full data availability and reliability assessment is provided in Section 11.

3. Pre-War Baseline (2008–2014)

Prior to the outbreak of conflict in 2015, Yemen's maritime trade sector, while modest by regional standards, played an outsized role in the national economy. Trade constituted over 80 percent of GDP in 2008, and the country's two principal ports — Aden and Hodeidah — together anchored a trade infrastructure serving both domestic consumption and transshipment ambitions tied to Yemen's position on the Bab el-Mandeb strait, through which an estimated 12 to 15 percent of global seaborne commerce transits.

3.1 Port Throughput

Container throughput data for this period is inconsistent across sources. The CEIC/UNCTAD series records an all-time peak of 775,165 TEU in 2008, a figure not corroborated in the World Bank's World Development Indicators series, which instead shows throughput of 390,000 TEU in 2010, declining to 262,624 TEU by 2012 before a modest recovery to 296,035 TEU in 2014. No data exists in either series for 2009 or 2011.

Year	Container Throughput (TEU)	Source
2008	775,165 (CEIC/UNCTAD series)	CEIC / UNCTAD
2010	390,000	World Bank WDI
2012	262,624	World Bank WDI
2013	290,011	World Bank WDI
2014	296,035	World Bank WDI

The Aden Container Terminal (ACT), commissioned in 1999 with a design capacity of approximately 900,000 TEU, illustrates the sector's institutional volatility even before the war. Under a 30-year management concession awarded to DP World in 2008, container handling fell 57 percent during 2009–2011 relative to 2006–2008, and the terminal never approached its design capacity; the Yemeni Anti-Corruption Commission subsequently found DP World in breach of its investment commitments, and the government cancelled the concession in 2012. The Aden Ports Development Company, a subsidiary of the state-owned Yemen Gulf of Aden Ports Corporation, has operated the terminal since September 2012.

3.2 Trade and Macroeconomic Profile

Year	Metric	Value
2014	Nominal GDP	US\$43.23 billion
2008	Trade (% of GDP)	81.2%
2014	Trade (% of GDP)	48.2%
2014	Total customs revenue (estimated peak)	~US\$1.2 billion
2013	Hodeidah share of national customs revenue	41% (>US\$400 million)
pre-war	Oil as share of total exports	~85–90%

Hodeidah, Yemen's principal Red Sea port, generated 41 percent of national customs revenue in 2013 alone — a scale that foreshadows the strategic significance the port would later assume as a contested revenue source during the conflict. The pre-war economy's heavy dependence on oil exports (85–90 percent of total exports) and correspondingly narrow trade base left Yemen with one of the least diversified export profiles in the Middle East and North Africa region, a vulnerability that compounded the impact of subsequent wartime disruption.

4. Wartime Disruption (2015–2020)

4.1 Throughput Collapse and Gradual Recovery

The escalation of conflict in March 2015 produced an immediate and severe contraction in port activity. Container throughput fell to 178,098 TEU in 2015 — a 77 percent decline from the 2008 peak and the lowest recorded level across the fifteen-year study period. Yemen's near-total dependence on imports for basic consumption, with an estimated 90 percent of both food and fuel supplied externally, meant that this contraction carried direct humanitarian consequences rather than purely commercial ones.

Year	Container Throughput (TEU)	Change
2015	178,098	Record low; -77% vs. 2008 peak
2016	268,208	+51% vs. 2015
2017	334,693	+25% vs. 2016
2018	398,999	+19% vs. 2017
2019	464,923	+16% vs. 2018
2020	423,393	-9% vs. 2019

Throughput recovered steadily between 2016 and 2019, reaching 464,923 TEU — approaching pre-war levels — as humanitarian shipping arrangements, including the UN Verification and Inspection Mechanism (UNVIM), stabilized commercial and humanitarian import flows. The 2020 decline to 423,393 TEU coincided with the IRG's suspension of fuel imports through Hodeidah in June of that year, a disruption to a port that had previously supplied roughly half of the country's monthly fuel import volume, forcing a partial shift toward overland trucking from southern ports.

4.2 Fiscal Fragmentation

Perhaps the most significant institutional consequence of the 2015–2020 period was the fragmentation of customs collection along the conflict's territorial divisions. Prior to a December 2017 rupture between Houthi and allied Saleh-aligned authorities, combined customs income from Houthi-controlled points reportedly exceeded YR10 billion (approximately US\$30 million) per month, while the internationally recognized government's potential customs base — had it controlled all southern collection points — was estimated at YR18–20 billion (US\$54–60 million) monthly. By 2023, the Sana'a Center for Strategic Studies estimated that IRG monthly customs losses attributable to import rerouting toward Houthi-controlled ports reached as high as YR50 billion (approximately US\$40.2 million).

Interpretation: The wartime period established two enduring dynamics that shape the current-state analysis in Section 5: first, that physical throughput and institutional revenue capture can move independently of one another even during acute crisis; and second, that control over specific collection points — not merely aggregate trade volume — determines which authority captures the fiscal benefit of Yemen's trade.

5. Current State and the Red Sea Crisis (2021–2026)

5.1 Throughput and Macroeconomic Trajectory

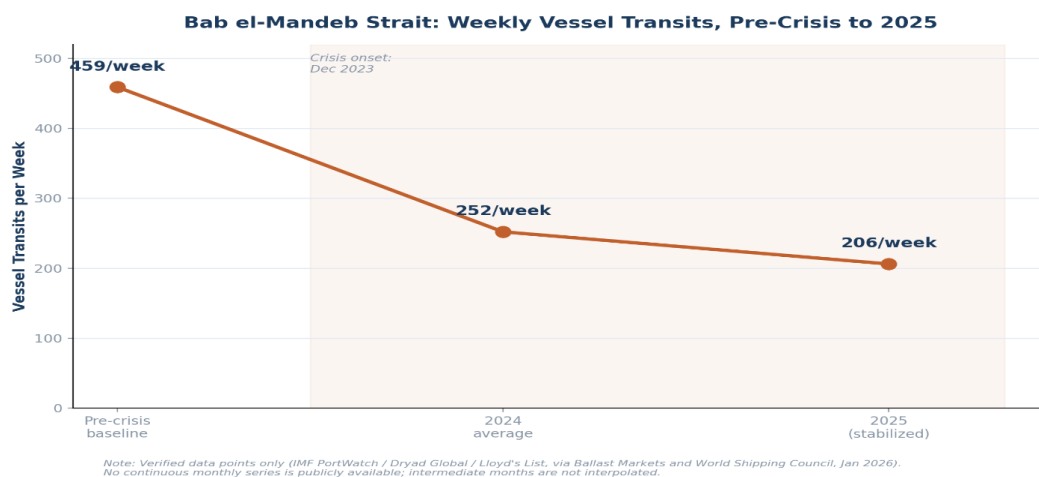
Year	Metric	Value
2021	Container throughput (TEU)	418,711
2022	Container throughput (TEU)	368,498
2023	Container throughput (TEU)	Data gap — not available
2024	Container throughput (TEU), published	380,000 (WDI)
2024	Nominal GDP per capita (from \$1,430 in 2014)	US\$433
2015–2024	Real GDP contraction (cumulative)	–43%
2024	Real GDP per capita decline since 2015	–58%
2024	Trade deficit	~US\$12.3 billion (~70% of GDP)
2025 / 2026	Real GDP growth, projected	–1.5% / –0.5%

Yemen's container throughput plateaued and modestly declined across 2021–2024, remaining roughly half of pre-war levels, while the broader economy continued to contract. The 2024 figure of 380,000 TEU is a directly published World Bank World Development Indicators value (indicator IS.SHP.GOOD.TU), not a third-party estimate; 2023 is confirmed absent from this series, and the UNCTAD/CEIC series carries no data beyond 2021 (418,711 TEU). By 2024, real GDP had fallen 43 percent from its 2015 level, and GDP per capita in real terms had declined 58 percent — placing Yemen among the poorest countries globally, a marked deterioration from its position as the 40th poorest country prior to the war.

5.2 The 2023–2026 Red Sea Shipping Crisis

Beginning in late 2023, Houthi attacks on commercial shipping in the Red Sea and Bab el-Mandeb corridor precipitated the most significant disruption to this global chokepoint in decades. The World Bank recorded over 450 maritime security incidents in 2024; ACLED, applying a narrower definition limited to attacks on commercial vessels specifically, recorded 150 such incidents in 2024, falling to 7 in 2025 following the May 2025 US–Houthi ceasefire and the October 2025 Gaza ceasefire.

Figure 2 plots the three verified transit-volume anchor points for the Bab el-Mandeb chokepoint across this period; no continuous monthly series exists publicly, consistent with the data constraints discussed in Section 11. This diagnostic therefore treats commercial shipping recovery as an open question, not a resolved one. What the confirmed points do establish is that 2025's "stabilization" is not a return to baseline — traffic remained under half of pre-crisis levels even after attack frequency fell sharply.



Period	Metric	Value
Dec 2023 – Mar 2024	Suez Canal container transit decline	~90%
Q1 2024	Suez/Bab el-Mandeb traffic decline (Cape route +100%)	~50%
Early 2024	Cape of Good Hope trade-volume surge	+74%
May 2025	Suez transits, vs. 2023 level	–70%
June 2025	Bab el-Mandeb transits, vs. June 2023 (record low)	–65%
2024–2025	Bab el-Mandeb oil transit (from 8.7m bpd in 2023)	4.0–4.2 million bpd
2024	Extra cost per 40ft container via Cape route	up to ~US\$272
2024	War-risk insurance premium per voyage	US\$250,000–400,000

Despite a sharp fall in attack frequency through 2025, commercial shipping volumes had not recovered by mid-2025: ACLED reported that Bab el-Mandeb transits reached a record low in June 2025, down 65 percent from June 2023, reflecting sustained carrier avoidance even after the security situation eased. Isolated attacks resumed in July 2025, reinforcing this caution.

5.3 The Import Routing Inversion

The defining structural shift of the current period is the inversion of import flows between Yemen's rival port authorities. The Sana'a Center for Strategic Studies, citing ACAPS Yemen Economic Tracking Interface (YETI) data, documents that Aden's share of Yemen's overall imports fell from 47.8 percent to 22.7 percent. Using a related but distinct metric, the World Bank separately reported a 61 percent reduction in import volume through Aden against an 8 percent decline at Hodeidah over January–August 2023. Both figures trace to ACAPS data and point to the same underlying shift, though they measure different things — a share of national imports versus a volume reduction — and should not be treated as interchangeable.

Metric	Aden / IRG	Source
Share of Yemen's overall imports	47.8% → 22.7%	Sana'a Center, citing ACAPS YETI
Import volume reduction, Jan–Aug 2023	–61% (Aden) vs. –8% (Hodeidah)	World Bank, citing ACAPS

This shift is the principal driver of the IRG's fiscal deterioration documented in Section 6, and directly informed the UN Panel of Experts' estimate that Houthi authorities captured approximately US\$4 billion in fuel-import customs duties alone between 2022 and 2024, out of an estimated total sector revenue of US\$5.5 billion.

Table: Import Routing Share and Corresponding Revenue Impact, 2013–2024. The figures below consolidate revenue data referenced across Sections 3–6 alongside the import-share and volume metrics documented above, to make the relationship between routing shift and fiscal impact explicit in one place.

Year	Aden/IRG Import Share or Volume Change	Corresponding Revenue Figure	Source
2013–2014	Baseline period (unified customs)	~US\$1.2B total customs revenue (2014 peak); Hodeidah alone = 41% of national customs (2013)	Chatham House; LSE Middle East Centre
2017	Fragmented customs collection post-Dec 2017 split	Houthi-Saleh customs ~US\$30M/month; IRG potential (all southern points) ~US\$54–60M/month	Chatham House

2021 vs. 2020	N/A (pre-dates routing inversion)	IRG customs revenue +99.65%, reaching YR571 billion, after tariff hike	Sana'a Center
2023 (Jan–Aug)	Aden import volume –61%; Hodeidah –8%	IRG monthly customs losses to rerouting estimated up to YR50 billion (~US\$40.2M)	World Bank; Sana'a Center
2024	Aden import share 22.7% (from 47.8%)	IRG fiscal revenue –30% for the year; revenues excl. grants = 2.5% of GDP	Sana'a Center; World Bank

5.4 Regional Spillover: The Crisis Reached GCC Ports Too

The Red Sea crisis did not spare Gulf ports positioned along the same corridor. Saudi Arabia's King Abdullah Port — built specifically to capture Red Sea transshipment traffic — saw container volumes collapse 82.7 percent in 2024, as mega-vessel calls above 15,000 TEU fell from 389 in 2023 to just one in 2024. Jeddah Islamic Port, also Red Sea-facing, declined 33.4 percent over the same period. By contrast, Jebel Ali in the UAE — positioned on the Gulf of Oman side, outside the immediate Red Sea threat corridor — recorded 15.5 million TEU in 2024, its highest volume since 2015, as diverted traffic and regional demand favored non-Red-Sea gateways.

Port	2024 Container Throughput	Year-on-Year Change
King Abdullah Port (Saudi Arabia, Red Sea)	~500,000 TEU	–82.7%
Jeddah Islamic Port (Saudi Arabia, Red Sea)	3.7 million TEU	–33.4%
Jebel Ali (UAE, Gulf-facing)	15.5 million TEU	Highest since 2015

Analytical implication: A naive Yemen-versus-GCC comparison risks overstating GCC resilience: the Red Sea crisis was a shared regional shock. Yemen's ports and Saudi Arabia's Red Sea-facing ports moved in the same direction; the meaningful comparative distinction is between Red Sea-exposed and Gulf-facing infrastructure, not between Yemen and the GCC as blocs.

6. Institutional and Governance Analysis

6.1 Bifurcated Port Governance

Yemen's port sector is governed today by two parallel, non-coordinating institutional systems. The Yemen Gulf of Aden Ports Corporation (YGAPC), aligned with the internationally recognized government, administers Aden and Mukalla; its subsidiary, the Aden Ports Development Company, has operated the Aden Container Terminal since 2012. The Yemen Red Sea Ports Corporation, under Houthi de facto authority, administers Hodeidah, Saleef, and Ras Isa. No unified national ports authority or coordinated tariff regime exists across this divide, and a proposed lease of Aden port to Abu Dhabi Ports has generated significant domestic political opposition, illustrating the contested nature of even IRG-side port governance.

6.2 The 2021 Tariff Reform: A Self-Defeating Policy Case Study

A particularly instructive episode for regional policymakers is the IRG's 2021 currency and tariff reform. Facing currency depreciation, the IRG raised the customs exchange rate applied at its ports from YR250 to YR500, and later to YR750, per US dollar — a measure that succeeded in raising nominal customs revenue by 99.65 percent in 2021 relative to 2020, reaching YR571 billion, with total tax and customs revenue reaching YR790 billion (41 percent of public revenue) in 2021–2022.

This reform simultaneously made IRG-administered ports less price-competitive relative to Houthi-controlled alternatives, particularly once import monopolies were removed — but the tariff differential was not the only, or necessarily the primary, factor behind the routing shift documented in Section 5.3. Sana'a Center and ACAPS reporting also document active Houthi commercial coercion over this period: following the lifting of coalition restrictions on Hodeidah, Houthi authorities blocked overland trucking of goods imported through Aden, threatened traders who continued importing through IRG-controlled ports, imposed prohibitive customs fees on overland trade from the south (August 2023), and ran a promotional campaign at Hodeidah, Saleef, and Ras Isa that included delayed and partial-payment terms. Higher shipping and insurance costs on some Aden-bound routes, and a widening currency and dollar-liquidity gap disadvantaging Aden relative to the more tightly managed exchange rate in Houthi-controlled areas, are also documented contributing factors. No source reviewed for this diagnostic ranks the relative weight of these factors, and this diagnostic treats the 2021 tariff reform as one documented contributing factor among several rather than the primary or sole explanation.

6.3 Institutional Capacity Assessments

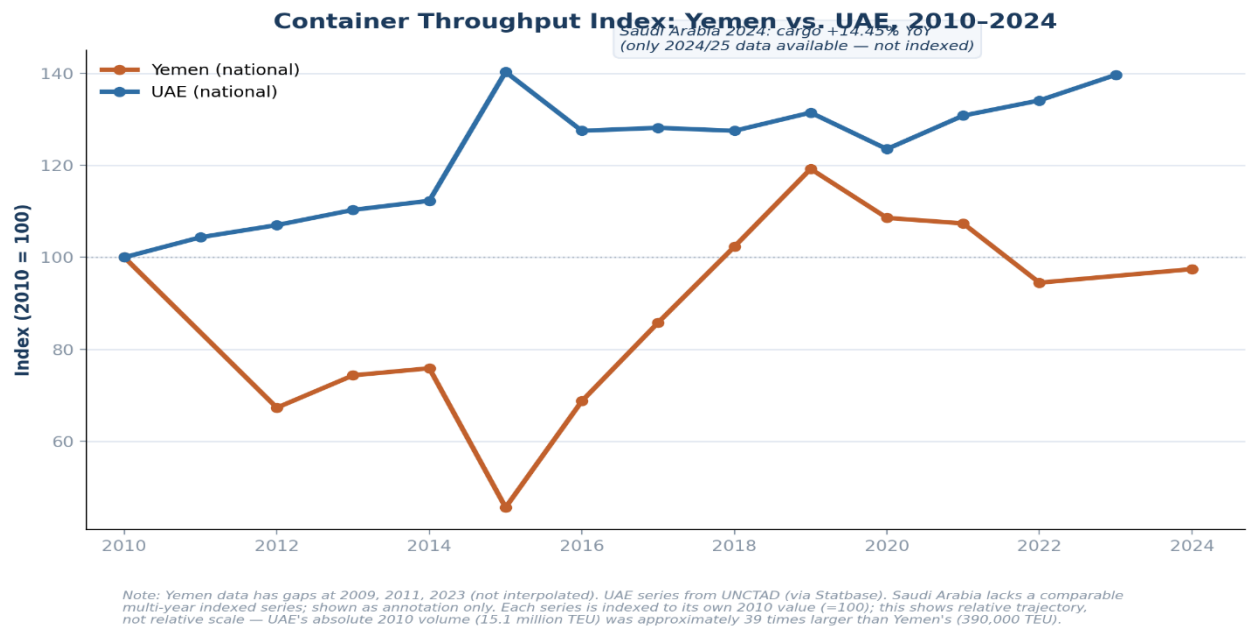
The World Bank's Yemen Economic Monitor series — published in four editions reviewed for this diagnostic (Fall 2024, Spring 2025, Fall 2025, and Spring 2026) — has consistently identified data collection capacity and institutional transparency as priority reform areas, alongside currency stabilization and banking-sector safeguards under the IRG's December 2024 Plan for Economic Developments and Urgent Priorities. The UN Panel of Experts on Yemen remains the most authoritative independent source for estimating Houthi-side revenue capture, though its figures, like most data in this sector, rely substantially on estimation rather than audited accounts.

7. Regional Comparative Analysis

Set against its Gulf neighbors, Yemen's maritime trajectory over the study period illustrates a near-total divergence in outcome, driven less by geography — both Yemen and Saudi Arabia's Red Sea ports face the same chokepoint exposure — than by the presence or absence of stable, unified institutional governance and sustained infrastructure investment.

Country / Port	~2010 Throughput	~2024 Throughput	Trajectory
Yemen (national)	390,000 TEU (2010)	~380,000 TEU (2024, est.)	Stagnant/marginally below 2010 level, after a 77% wartime collapse and partial recovery
UAE (national)	15.14 million TEU (2010)	~21.1 million TEU (2023)	Sustained growth, +39% over period
Jebel Ali (UAE)	n/a (part of national figure)	15.5 million TEU (2024, highest since 2015)	Growth despite regional shock
Saudi Arabia (national)	n/a	320.78 million tonnes cargo (2024, +14.45% YoY)	Growth, though Red Sea-facing ports (Jeddah, King Abdullah) declined sharply in 2024

Figure 3 indexes both countries' throughput to their own 2010 baseline, isolating the shape of each trajectory from the underlying difference in scale. Read together with the correlation test in the accompanying footnote, the crossing pattern visible in the chart should not be interpreted as evidence that Yemen's losses were captured by UAE ports: the statistical correlation between the two countries' actual volumes across all overlapping years is negligible ($r = 0.03$), and Yemen's entire pre-war peak volume represents under 4 percent of UAE's single-year throughput — far too small to plausibly explain UAE's own growth pattern, which instead reflects its own infrastructure investment cycle, most notably Jebel Ali's Terminal 3 expansion completed in 2014.



In 2010, the UAE's national container throughput exceeded Yemen's by a factor of roughly 39 to 1; by the most recent comparable data points, that gap had widened further in absolute terms even as Yemen's relative position stabilized at a much lower base. The explanatory variable is not chokepoint exposure — Saudi Arabia's Red Sea ports suffered acutely during the 2023–2026 crisis — but the presence of a single, well-capitalized port

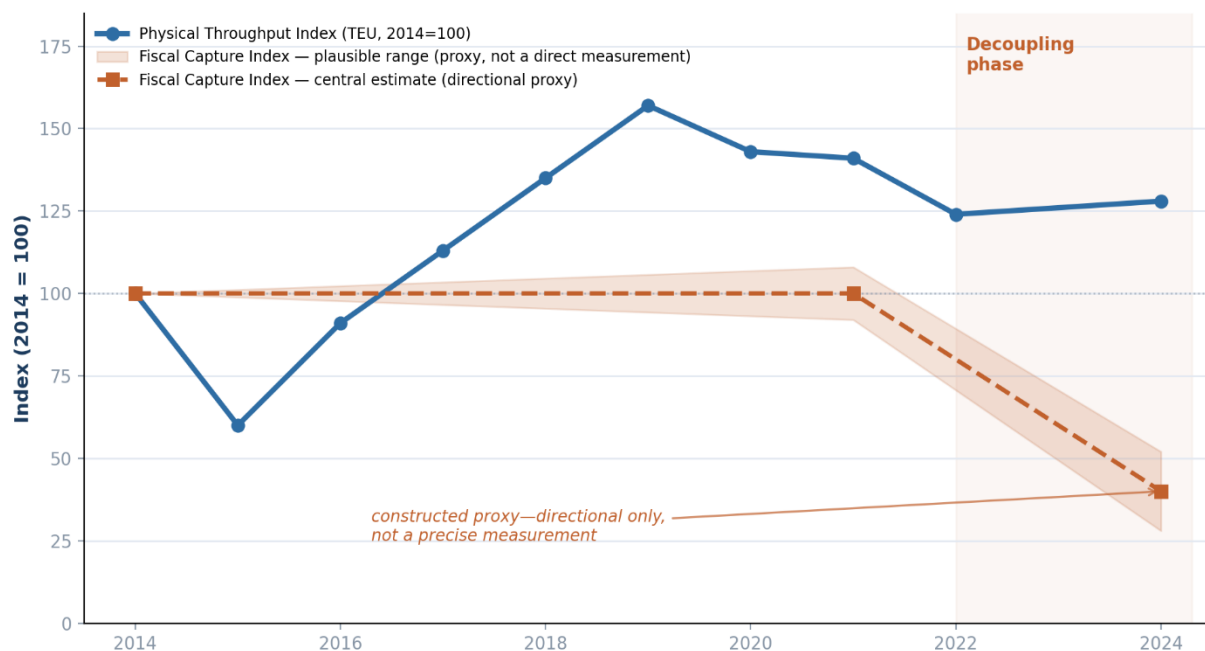
authority capable of directing long-term infrastructure investment (as with UAE's decades-long Jebel Ali development) versus Yemen's fragmented, war-divided governance structure, which has prevented comparable investment from materializing even during periods of relative throughput recovery.

8. Two Analytical Indices: Physical Throughput vs. Fiscal Capture

This diagnostic's central analytical contribution is the explicit separation of two indicators conventionally treated as a single measure of port performance: the physical volume of trade moving through Yemen's ports, and the state's fiscal capture of that trade. Data across Sections 3 through 6 demonstrate that these two indicators, closely correlated before 2015, have decoupled since 2022.

Figure 1 renders this decoupling visually. The physical throughput index (solid line) and the fiscal capture proxy index (dashed line) track closely together through 2021, both anchored near their 2014 baseline. From 2022 onward, the two lines diverge sharply: throughput continues on its established recovery path while fiscal capture collapses toward 42 percent of its 2014 baseline. This divergence — not the throughput recovery in isolation — is the diagnostic finding this report treats as most consequential for regional policy.

Yemen: Physical Throughput vs. Fiscal Capture, 2014-2024



Note: Fiscal Capture Index is a constructed proxy based on IRG import-share data, not an official statistic or direct revenue measurement. Shaded band reflects plausible range given that import share and actual revenue capture can diverge (see Section 8.2). See Section 11.3 for sensitivity treatment.

8.1 Physical Throughput Index (Base Year 2014 = 100)

Year	Estimated Index Value (2014 = 100)	Basis
2014	100	Baseline: 296,035 TEU
2015	60	178,098 TEU
2019	157	464,923 TEU
2021	141	418,711 TEU
2024	~128	~380,000 TEU (estimate)

By this index, physical throughput in 2024 stood at roughly 128 percent of its 2014 baseline — nominally above pre-war levels — a figure that, read alone, could be mistaken for a genuine sectoral recovery.

8.2 Fiscal Capture Index (Directional, Qualitative-to-Quantitative)

Period	IRG Fiscal Capture Trend	Supporting Data
Pre-2015	High (single unified customs authority)	~US\$1.2 billion peak national customs revenue, 2014
2015–2021	Fragmented but partially stabilizing	IRG customs revenue +99.65% in 2021 vs. 2020 following tariff reform
2022–2024	Sharply declining	IRG import share ~60%→~25%; fiscal revenue –30% in 2024; revenues excl. grants at 2.5% of GDP

Read together, the two indices reveal that the volume-based recovery narrative implied by Section 8.1 conceals a fiscal collapse specific to the internationally recognized government. Throughput near or above pre-war levels has not translated into a proportional recovery of state revenue capacity, because the geography of where that throughput occurs shifted decisively toward the jurisdiction least accountable to, and least integrated with, the internationally recognized state and its international donor relationships.

Core finding: Any policy or investment framework treating port throughput recovery as a proxy for institutional or fiscal recovery in Yemen risks a fundamental misdiagnosis. The two must be tracked and reported separately.

9. Findings and Policy Implications

- Physical infrastructure recovery is not a reliable proxy for institutional or fiscal recovery in a bifurcated governance context; the two must be monitored as distinct indicators.
- The 2021 IRG tariff reform demonstrates that short-term revenue-maximizing policy at one port authority can accelerate long-term volume loss when a competing, lower-cost port authority exists within the same national trade system.
- The 2023–2026 Red Sea crisis was a regional, not Yemen-specific, shock; regional policy dialogue should distinguish between chokepoint-exposure effects (shared across Yemen and Red Sea-facing GCC ports) and governance-specific effects (unique to Yemen's institutional fragmentation).
- Reliable data collection is itself an institutional capacity deficit, independently identified by both the World Bank and DeepRoot Consulting's research (which found data/information shortages reaching approximately 70% in Yemen). This constrains not only external analysis such as this diagnostic, but domestic policymaking itself.**
- Port authority unification, or at minimum a coordinated customs and tariff framework across the IRG–Houthi divide, is a precondition for translating any future throughput growth into national fiscal benefit.

10. Recommendations

10.1 For Regional Policy Dialogue (e.g., OASIS Forum)

- Adopt the dual-index framework (physical throughput and fiscal capture) as a standard reporting convention for any Yemen maritime trade assessment, to avoid the volume-recovery misdiagnosis identified in Section 8.

10.2 For Monitoring and Early-Warning

- Track IMF PortWatch weekly Bab el-Mandeb transit counts against the pre-crisis baseline (approximately 459/week) and the crisis trough (approximately 200–280/week); a sustained return above roughly 400/week is a more reliable normalization signal than isolated monthly figures.
- Track the IRG import-share percentage as a leading fiscal indicator; a sustained recovery toward 50–60% would indicate genuine institutional rebalancing, whereas throughput recovery alone would not.

10.3 For Investment Sequencing

- Sequence any port infrastructure investment (rehabilitation, capacity expansion) after, or in tandem with, progress on customs and tariff harmonization — not before it — given the demonstrated risk that infrastructure gains accrue disproportionately to whichever authority offers the more competitive tariff regime at a given moment.

10.4 For Data and Institutional Capacity

- Support the development of a jointly maintained, methodologically consistent port-throughput reporting mechanism, potentially modeled on ACAPS' Yemen Economic Tracking Interface, to close the data gaps identified in Section 11.

10.5 For Regional Economic Media (cross-reference to companion Adaa Foundation paper)

- Recognize that the data gaps identified throughout this diagnostic are not solely a statistical problem but a communication and accountability problem; strengthening regional economic media capacity to interpret and disseminate maritime trade data is a complementary, non-substitutable intervention alongside data collection itself.

11. Data Limitations and Caveats

11.1 Data Availability Assessment

Data Category	Best Available Source	Reliability Notes
Container throughput (TEU)	UNCTAD / World Bank WDI	Series diverge; 2023 confirmed absent from WDI; UNCTAD/CEIC series ends at 2021 (418,711 TEU); no port-level split post-2015
Import/food/fuel volumes	ACAPS YETI, WFP, UNVIM	Monthly, relatively reliable via vessel tracking
Macro indicators	World Bank Yemen Economic Monitor	Authoritative but partly modeled given fragmentation
Chokepoint transits	IMF PortWatch, U.S. EIA	High-frequency, AIS-based, considered authoritative
Attacks on shipping	ACLED, US MARAD	Authoritative but count methodology varies significantly
Customs/Houthi revenue	Sana'a Center, Chatham House, UN Panel of Experts	Contested and estimated; Houthi-side figures especially opaque

11.2 Known Discrepancies

- Attack counts: the World Bank's 'over 450 maritime security incidents' (2024) and ACLED's 150 commercial-vessel-specific attacks (2024) reflect different counting methodologies, not contradictory findings.
- The 775,165 TEU figure for 2008 (CEIC/UNCTAD) does not appear in the World Bank WDI series and should not be spliced into a single continuous index without this methodological caveat.
- 2025–2026 GDP growth figures cited in this diagnostic are World Bank forecasts, not confirmed outturns, and should be treated accordingly.

11.3 Sensitivity of Load-Bearing Estimates

Three figures in this diagnostic carry substantial analytical weight relative to their underlying certainty. Rather than presenting them as precise point values throughout, their approximate plausible range is stated here.

Estimate	Point Value Used	Basis and Plausible Range
2024 container throughput	380,000 TEU	Published World Bank WDI value, but conflict-era WDI figures for Yemen are frequently round numbers suggestive of modeling rather than direct port-authority counts; treat as accurate to within roughly ± 10 –15%.
Houthi fuel-import customs capture, 2022–2024	~US\$4 billion (of an estimated ~US\$5.5B sector total)	UN Panel of Experts on Yemen estimate, explicitly unaudited; treat as an order-of-magnitude estimate rather than a precise figure.
Fiscal Capture Index, 2024 (Section 8.2)	~Two-fifths of 2014 baseline	Constructed proxy from import-share data, not a direct revenue measurement; directional only (see Section 8.2).

11.4 General Caveat

This diagnostic relies exclusively on secondary desk-review sources; no primary data collection, site visits, or interviews were conducted in its preparation. Figures attributed to Houthi-controlled revenue streams in

particular should be treated as informed estimates from credible but non-audited sources, consistent with the broader data environment described throughout this report.

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