

Yemen Economic Compass

**A bilingual platform that watches Yemen's economy, learns from
10+ years of real data, and turns it into clear, actionable insight**

What this is

Yemen Economic Compass is a bilingual (Arabic/English) platform that watches Yemen's economy, learns from 10+ years of real data, and turns it into clear, actionable insight.

It tracks actors (banks, MFIs, donors, ministries, sanctions lists), indicators (inflation, FX, GDP, food baskets, funding), and major events. It connects the dots to explain what changed, why, and what to do next.

Who it's for

Policymakers

CBY, NGOs, PLC ministries, commercial banks/MFs

Donors/IFIs

World Bank, IMF, EU, FMO, USAID, IsDB, regional funds

Universities

UN agencies/NGOs and serious media

Researchers

Researchers and graduate students

What it delivers

1

Live dashboards

Live dashboards with trusted numbers and sources

2

Stakeholder microsites

Stakeholder microsites (100+) explaining each actor's role, risks, and options

3

10-year timeline

A 10-year timeline of key economic/financial events with citations

4

Scenario tools

Scenario tools: "What if oil exports resume?" "What if FX auctions change?"

5

Recommendations

Recommendations: evidence-based actions tailored to each stakeholder

6

Closed-corpus AI analyst

Closed-corpus AI analyst: drafts briefs and memos in EN/AR using only verified data and uploaded reports (no open web answers)

How the intelligence works (in human terms)

It pulls data only from original, credible sources (World Bank, IMF, OCHA/FTS, WFP/HDX, JODI, UN/EU/OFAC sanctions) and from PDFs you upload (CBY reports, Sana'a Centre, ODI, etc.).

It assigns a confidence score to each data point based on source quality, freshness, and cross-checks. Lower-confidence claims are triangulated before being used in decision outputs.

It keeps a memory graph of actors, events, indicators, and policies across 10+ years.

When a user asks a question or runs a scenario, it retrieves the relevant pieces from that memory, explains the logic, and cites the sources.

It learns over time which signals are most predictive and adjusts weights transparently.

Why this matters

Yemen's economy is fragmented, fast-moving, and sensitive. Decisions need facts, history, and context—without noise or guesswork.

The Compass makes that clear, safe, and useful.

Scope (must-have)

- **Bilingual, RTL-ready site**

Bilingual, RTL-ready site with full parity (EN/AR)

- **Stakeholder Hub**

Stakeholder Hub: 100+ actor pages (see Annex 1)

- **Indicators**

Indicators: ≥50 time-series (FX Aden/Sanaa, CPI (IRG/Sanaa), GDP, food basket, oil output, OCHA FTS, sanctions intensity, banking stress, etc.)

- **Events Timeline**

Events Timeline: ≥100 events (2015–2025+) with sources

- **Regulations & Standards**

Regulations & Standards: core economic/financial laws + institutions

- **Report Library**

Report Library: 100+ credible PDFs with extraction, tagging, and citation

- **Intelligence Engine**

Intelligence Engine: trust scoring, 10-year knowledge graph, "impact chains," recommendations

- **Scenario & Simulators**

Scenario & Simulators: policy levers (auctions, sanctions changes, oil flows, aid scale), with optimistic/baseline/pessimistic and Monte-Carlo variability bands

- **Closed-corpus AI analyst (RAG)**

Closed-corpus AI analyst (RAG): EN/AR brief generation with citations

- **Production deployment**

Production deployment with CI/CD, monitoring, backups, RBAC, and security hardening

Whitelisted sources (programmatic & official)

No runtime scraping. Add more sources later via admin-approved whitelist only.

World Bank WDI (Yemen)

e.g. <https://api.worldbank.org/v2/country/YEM/indicator/NY.GDP.MKTP.CD?format=json>

IMF IFS (SDMX JSON)

e.g. CPI:
https://dataservices.imf.org/REST/SDMX_JSON.svc/CompactData/IFS/M.YEM.PCPI_IX?startPeriod=2015

OCHA HPC Tools / FTS

humanitarian flows: <https://api.hpc.tools/v2/public/fts/flow?countryISO3=YEM>

WFP VAM via HDX

food basket/prices (CSV downloads): <https://data.humdata.org/dataset/wfp-food-prices-for-yemen>

JODI Oil Data

CSV downloads: <https://www.jodidata.org/oil/database/data-downloads.aspx>

UN Sanctions Consolidated List

download endpoints on landing: <https://www.un.org/securitycouncil/content/un-sc-consolidated-list>

US Treasury OFAC SDN

CSV: <https://www.treasury.gov/ofac/downloads/sdn.csv>

EU Consolidated Sanctions List

<https://data.europa.eu/data/datasets/consolidated-list-of-persons-groups-and-entities-subject-to-eu-financial-sanctions?locale=en>

Platform architecture (recommended)

Frontend

- Next.js (TypeScript), TailwindCSS, ECharts
- i18n: next-i18next (full RTL support)

Backend

- Node.js (TypeScript) + Fastify (or NestJS)
- API surface: REST + tRPC; OpenAPI spec generated
- Background workers (BullMQ/Cloud Tasks) for ingestion

Data & Search

- PostgreSQL (managed). ORM: Prisma or Drizzle
- Vector search for RAG (pgvector or Qdrant)
- S3-compatible storage for PDFs and exports

Infra

- AWS or GCP; IaC with Terraform; CI/CD (GitHub Actions)
- Cloud WAF/CDN; secrets in KMS/Secret Manager
- Observability: metrics, logs, traces; alerting
- Backups: daily DB snapshots, versioned object storage

Data model (core tables & key columns)

Every data point has provenance (source_id) and confidence. "Vintage" is tracked (what we knew as of a specific date). Soft-delete and audit columns for admin changes.

actors

id, type, name_en, name_ar, summary, links, tags

actor_metrics

actor_id, metric_key, date, value, unit, source_id, confidence

indicators

id, code, name_en, name_ar, unit, frequency, description, default_source

indicator_points

indicator_id, date, value, unit, source_id, vintage_at, confidence

events

id, date, title_en/ar, category, severity, summary, source_ids[]

event_actor_links

event_id, actor_id, role

event_indicator_links

event_id, indicator_id, direction, lag_days

regulations

id, title_en/ar, type, status, last_update, official_link, sensitivity

documents

id, title, org, date, tags[], s3_key, checksum, text_excerpt, language

sanctions_entities

id, list_source, program, name, aka, ids, status, actor_id?

recommendations

id, actor_id?, scenario_id?, text_en/ar, impact_score, risk_score, evidence_refs[]

scenario_configs

id, name, parameters_json, created_by

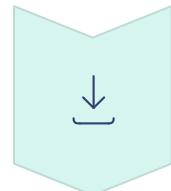
scenario_results

id, scenario_id, metric, series_json, created_at

ai_responses

id, prompt, retrieved_refs[], response_text, citations[], created_at, language

Ingestion pipelines (per source)



Fetch

with retry + ETag/If-Modified-Since



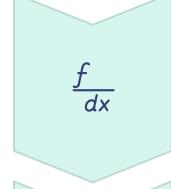
Validate schema

Zod



Map to tables

indicator_points or other tables



Compute confidence

base trust (source) \pm freshness \pm cross-agreement



Idempotent upsert

store "vintage_at"



Log outcome

every job outcome

Manual uploads (PDFs)

Admin uploads; server extracts text; saves to documents; tags by simple NER/keywords (actors, indicators, dates); human editor reviews tags.

Intelligence Engine (concrete behaviour)

01

Trust scoring & triangulation

confidence = $w_1 \cdot \text{source_trust} + w_2 \cdot \text{freshness} + w_3 \cdot \text{cross_agreement}$ (weights in config).
Claims <70 must be cross-verified or flagged before use in executive outputs.

02

Impact chains (rule-based graph)

Events link to indicators with direction/lag.
Example rules: "CBY reserve requirement ↑ → bank liquidity ↓ (lag 30–90d) → credit ↓ → CPI (possible lag 60–180d)."

03

Nowcasting & robustness

Simple state-space or exponential-smoothing nowcasts on CPI/FX when recent points are missing. Robustness switch: show results with/without low-confidence series.

04

Scenario engine

Param sliders (oil exports, aid volume, sanctions intensity, FX auction design, customs leakage). Compute p50/p10/p90 using Monte-Carlo on parameter bands and elasticities defined in config. Export CSV.

05

Recommendation engine

Templates by actor type + condition rules (e.g., if FX divergence > X and OCHA inflows ↓ then donor cash programming advice = ...). Each recommendation lists: expected effect, risks, dependencies, and sources.

06

Closed-corpus RAG

Embedding index over documents + events + indicators + recommendations. The model cannot access the open web at answer time. Every generated brief must show citations and a confidence banner.

07

Safety & "Do No Harm"

Redact sensitive operational details, personal identifiers, and any content that could endanger individuals or operations. Two content modes: Public vs Restricted (analyst).

Frontend product (what users see)



Landing

Compass highlights, last updates, scrolltelling timeline



Indicators Explorer

multi-select, compare, export, data provenance toggles



Events Timeline

filter by year/actor/category/impact with links to indicators



Report Library

filters, citation export (APA/Chicago), "Cite this" button



Scenarios & Simulators

saved scenarios, shareable links, PDF export



Compass Dashboard

12 key indicators, colour-coded severities, bilingual



Stakeholder Hub

filters (category, geography, sanctions), each page with profile, network, metrics, timeline, risks/opportunities, recommendations, documents



Regulations & Institutions

cards with summaries and official links



Executive Dashboards

CBY-Aden, donors/IFIs, banks/MFIs



Ask the Compass (AI)

EN/AR query, structured answer + charts + citations

Deliverables (definition of done)

It is critical that all 14 deliverables are completed to specification.

1 Unified repo builds locally

scripts documented

2 DB schema + ERD

and architecture diagram

3 APIs live for all indicators

ingestion jobs scheduled

4 Stakeholder Hub

with at least 30 priority pages complete (see Annex 1 "Priority 30")

5 Indicators Explorer

with ≥25 series live (others queued)

6 Events Timeline

with ≥50 validated events & sources

7 Regulations/Institutions section

populated

8 Report Library

with ≥100 PDFs, searchable + citation export

9 Intelligence Engine

trust scoring, impact chains

10 Scenario & Recommendation modules

functional; 5 preset scenarios

11 Ask the Compass RAG

working (EN/AR) with citations

12 Prod deploy

domain, SSL, WAF, monitoring, backups

13 Docs & manuals

Developer guide, Admin/Editor guide, Data dictionary, Methodology

14 Handover workshop

+ 30-day warranty

Milestones & acceptance

Payment: on passing each demo against this TOR's acceptance tests (Annex 3).



Current staging link: <https://causewayyemen.manus.space> as context only—implementation must follow this TOR, not legacy quirks.

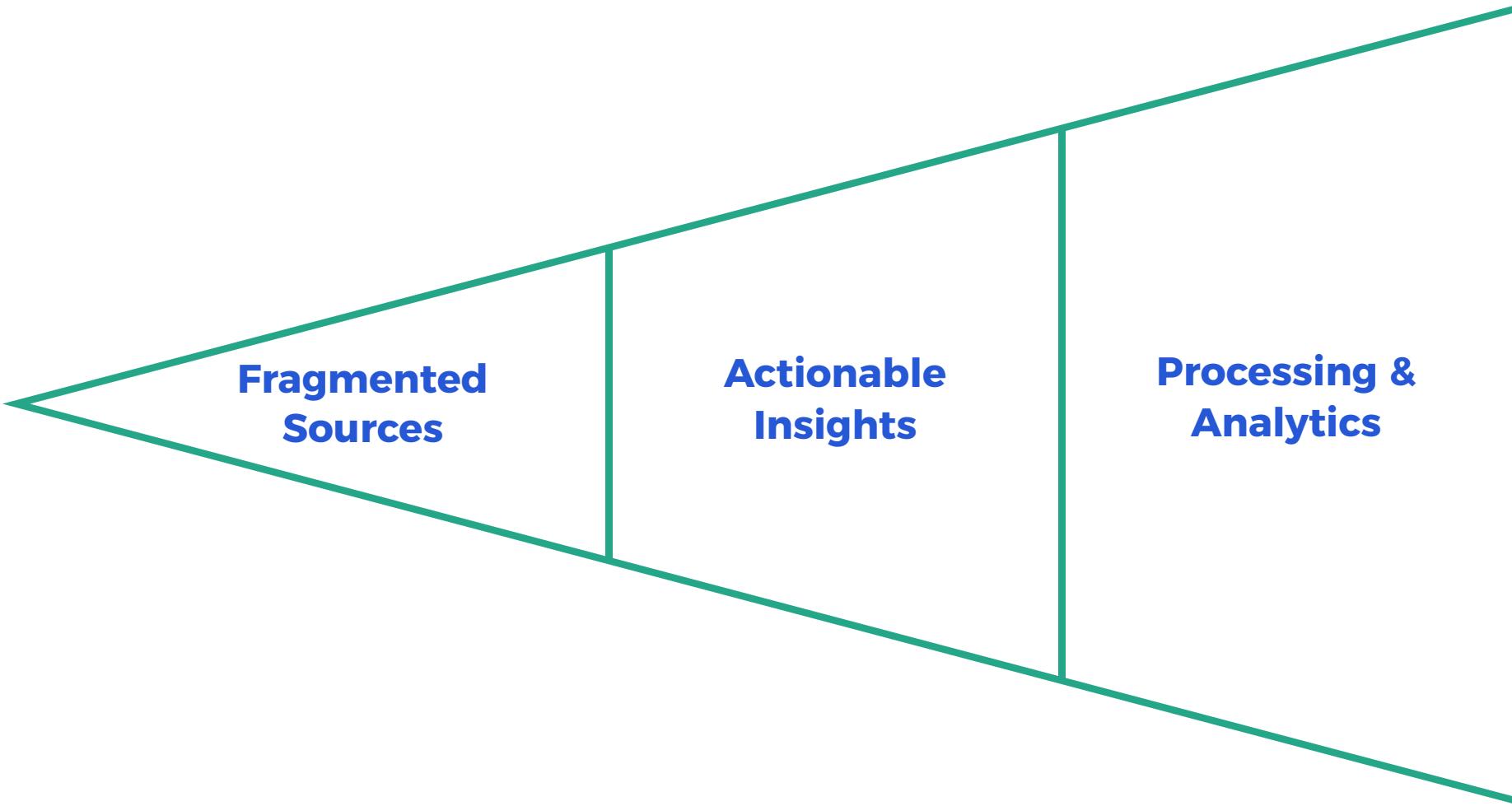
All and everything is on manus page which I can add it email for u to have access and see all versions and pull the backends and code and whatever u want

Master Narrative (English)

One-page summary



Our Value Proposition



Yemen Economic Compass is a bilingual (Arabic/English), closed-corpus intelligence platform that watches Yemen's fragmented economy, learns from 10+ years of trusted data and literature, and turns it into clear, actor-specific insight and recommendations. We synthesize information from over 50 reports and utilize 12 core indicators to provide comprehensive understanding.

What the Platform Tracks



Indicators

FX Aden/Sana'a, CPI (north/south), GDP, minimum food basket, oil output, humanitarian funding, sanctions intensity, banking stress.



Actors

CBY-Aden, CBY-Sana'a, commercial banks, MFIs, major exchangers, donors, UN agencies, regional powers, business groups.

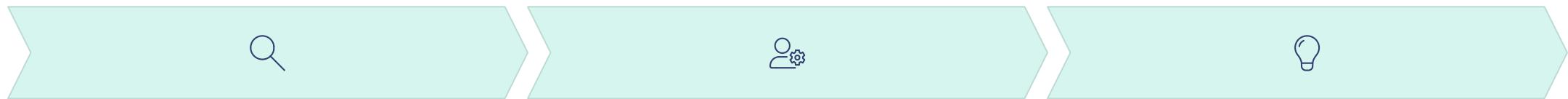


Events and decisions

Central-bank relocation, currency bans, port closures, oil-export blockades, sanctions, large cash programmes.

Connecting the Dots

It connects the dots between these nodes to answer three questions:



What changed?

(Data: indicators, events, decisions)

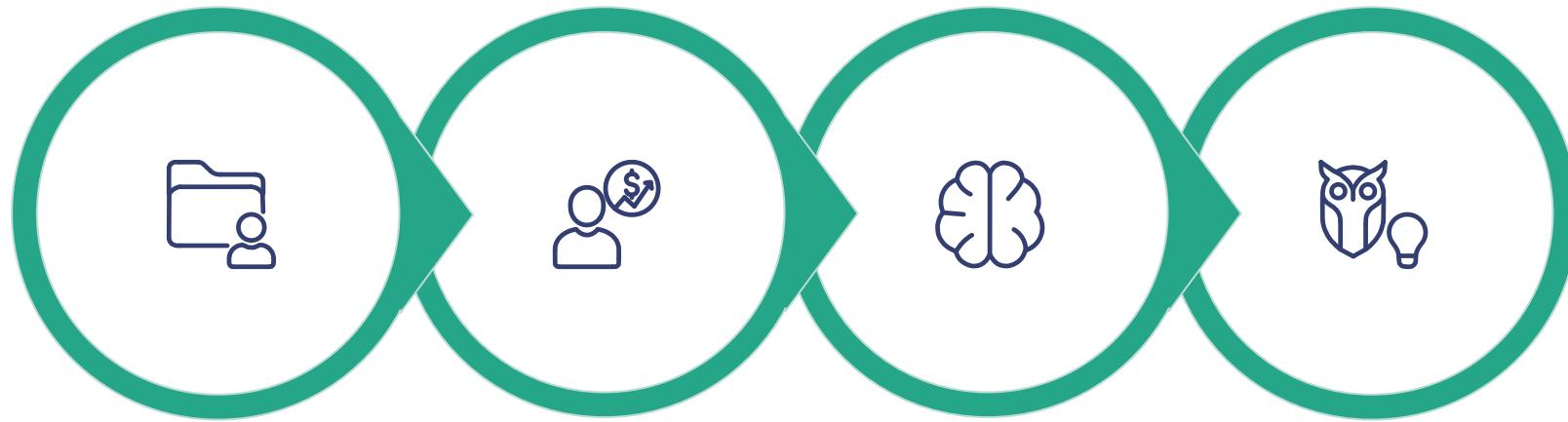
Why did it change?

(Impact chains and channels: who moved what, through which rails, into which pockets)

What now?

(Evidence-based options per actor, with risks and trade-offs)

Our Methodology: The Intelligence Engine



**Data
Collection**

Analysis

Intelligence

Insights

Our intelligence engine is built on a robust four-layer architecture, ensuring that the insights delivered are accurate, relevant, and actionable. We begin with meticulous data collection, focusing exclusively on a closed corpus of trusted, quality sources. This foundation feeds into our advanced analysis phase, where raw data is transformed into meaningful patterns. From these patterns, we generate targeted intelligence, which is then refined into clear, actor-specific insights and recommendations, available in both Arabic and English to serve our diverse user base.

Grounded in Quality Sources

Our platform relies exclusively on original, high-quality sources and a meticulously curated literature library to ensure accuracy and authority.



International Institutions

World Bank, IMF



Humanitarian Data

OCHA/FTS, WFP/HDX



Specialized Reports

CBY reports, Sana'a Center, ESCWA, ACAPS



Curated Literature

50+ major publications

Why Yemen's Financial Crisis is Different

Over 2015–2025, Yemen did not simply suffer "recession". It experienced a deliberate unmaking and rewiring of its monetary center. Four facts anchor the story:



The Humanitarian Response

The humanitarian response, especially large-scale emergency cash and voucher programmes, had to move through whatever rails worked – overwhelmingly exchangers and MFIs – and in doing so institutionalised hawala as the backbone of the system.

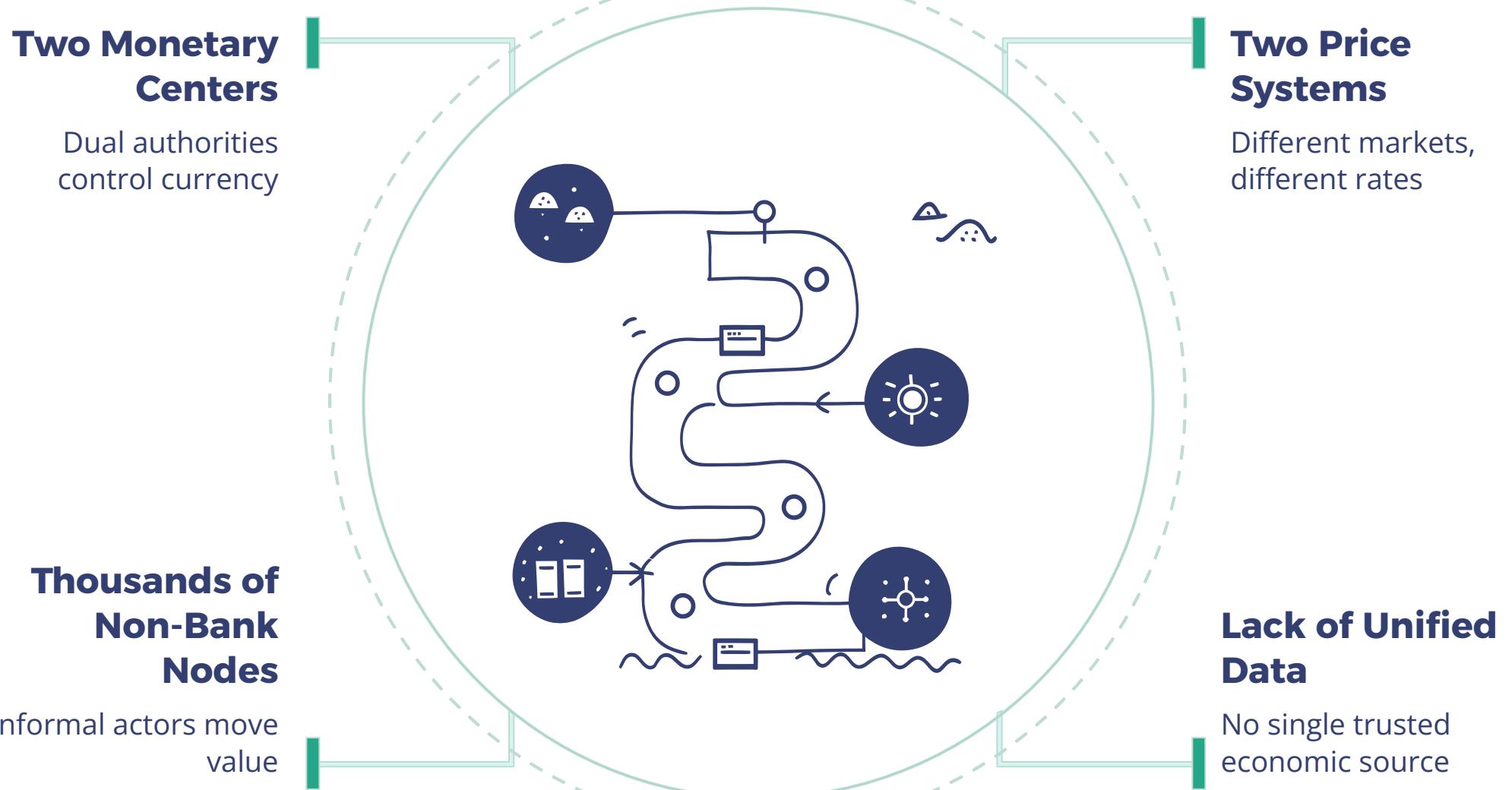
Transformation of Yemen's Financial System



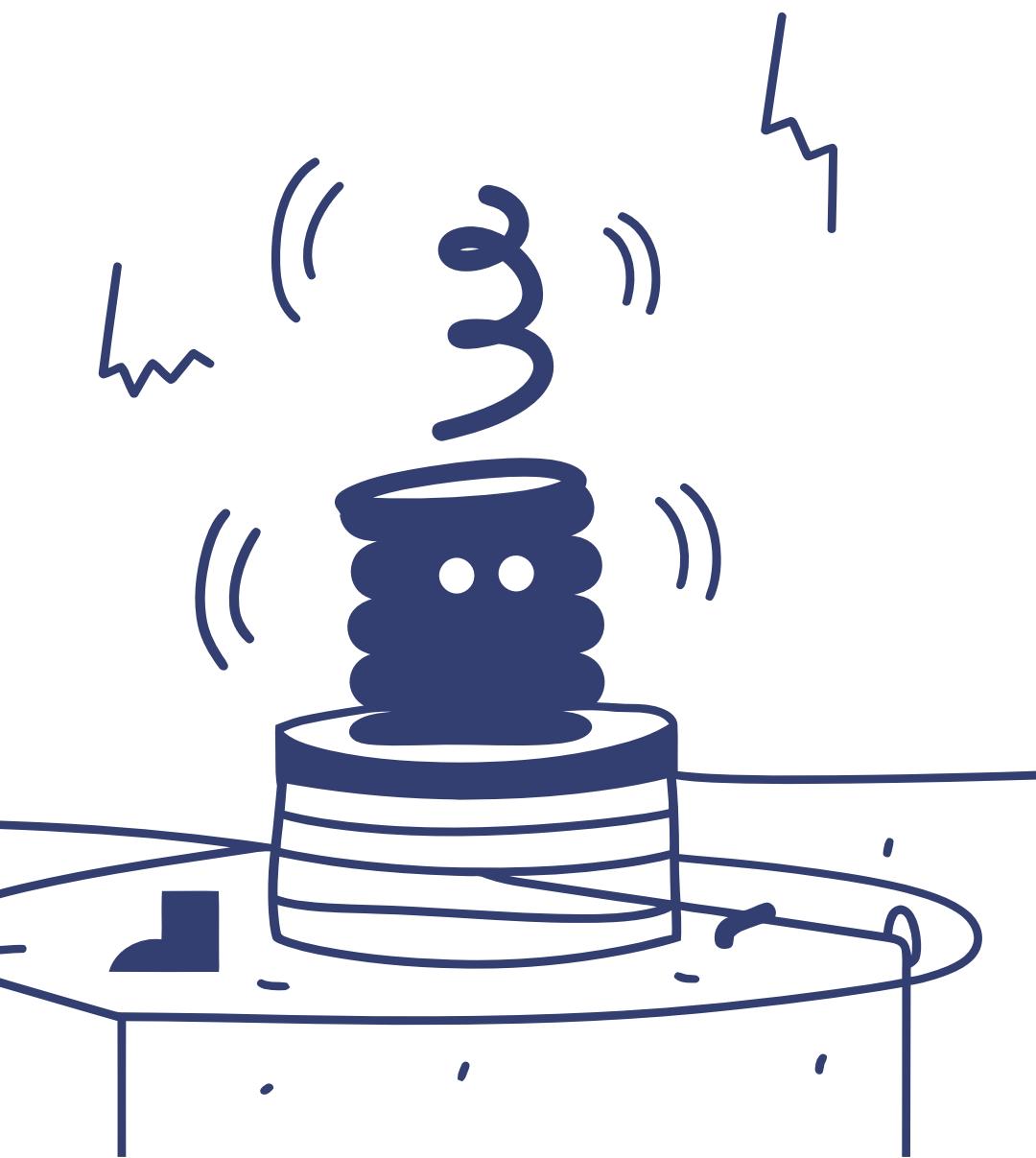
This visualization highlights the deliberate unmaking and rewiring of Yemen's monetary center, demonstrating the dramatic shifts and their devastating impact on the economy and population over a decade.

The Context We're Built For

This is the context [Yemen Economic Compass](#) is built for:



What the Platform Does



Think of the platform as four tightly linked layers that work in concert:



Seeing

Live dashboards and explorer tools



Remembering

A 10-year knowledge graph of actors, events, indicators, laws and documents



Reasoning

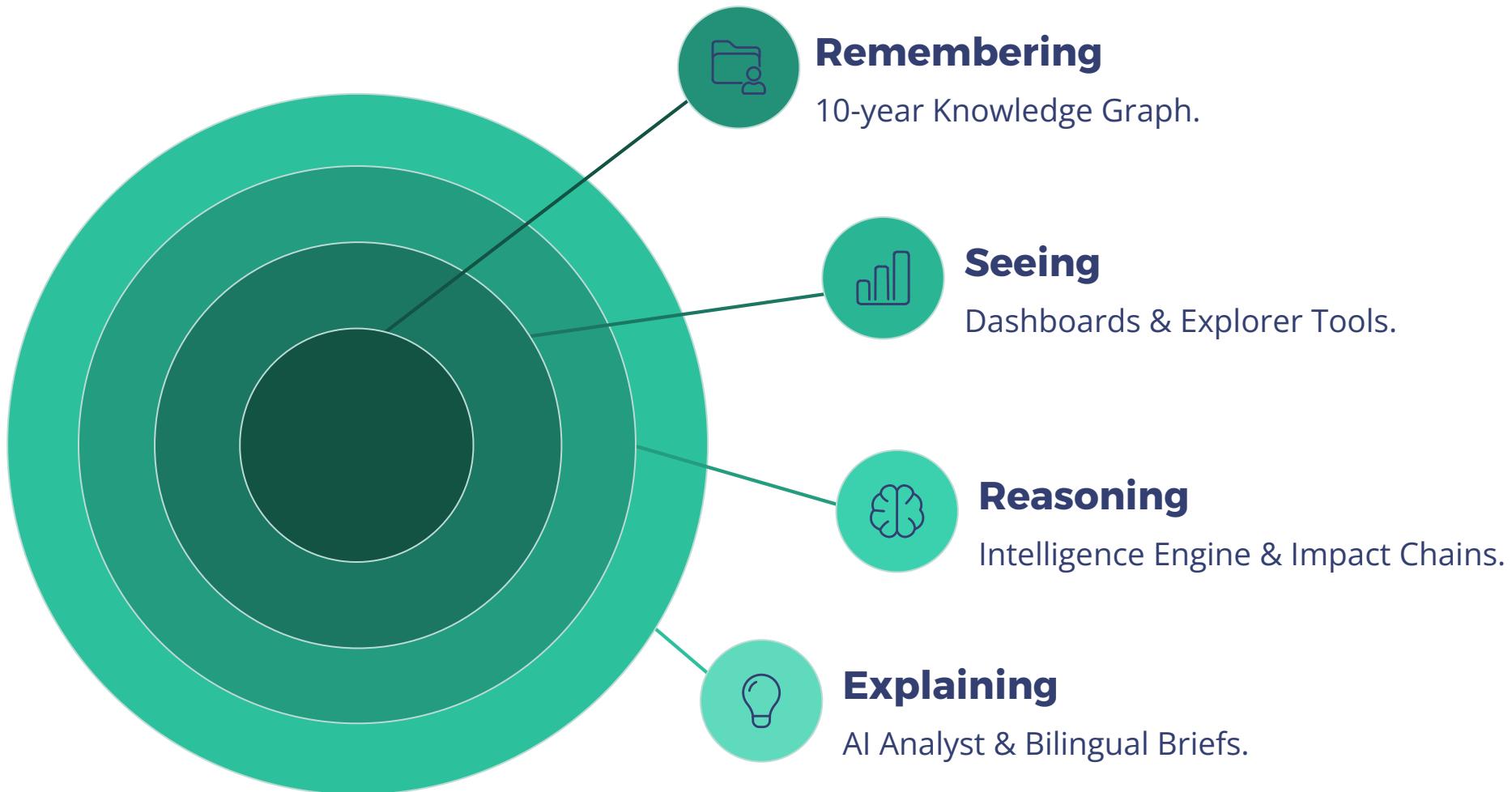
An intelligence engine that traces impact chains, tests scenarios and produces actor-specific options



Explaining

A closed-corpus AI analyst that writes bilingual briefs with citations, never going to the open web

Platform Architecture: The Four Layers



Our platform is built upon a robust four-layered architecture, each designed to process, analyze, and present information about Yemen's complex economic landscape. From data ingestion to actionable insights, each layer works in concert to deliver precise, actor-specific intelligence.

Layer 1 – What Users See

Core Products and Features

Our platform's top layer provides immediate access to critical economic insights and tools, designed for clarity and action.

Compass Dashboard (12 indicators)



- Key indicators: Real GDP (index vs 2014), real income per capita, CPI (Aden vs Sana'a), FX rates and gap, minimum food basket cost, oil output, public revenue index, humanitarian funding share, sanctions intensity index (SII), core banking stress index (CBSI).
- Features: Time slider 2014–present; each card includes a "What this means for households/banks/government" explainer.

Economic Crisis Explorer



Interactive charts and tables for detailed analysis of:

- Output and growth,
- Inflation and food prices,
- Fiscal collapse,
- External balances (reserves, remittances, trade),
- Poverty and food insecurity.

Currency War Module



- Side-by-side FX Aden vs FX Sana'a, with gap % over time.
- Visualized: Key monetary decisions (CBY relocation; Sana'a ban on new notes; Aden auctions; e-Rial pilots) pinned directly on the chart for context.

Cities Observatory



Dedicated pages for Sana'a, Aden, Taiz, Hudaydah, Marib, Mukalla and other critical cities, detailing:

- Population, and economic role,
- Local FX and food prices,
- Conflict and displacement footprint,
- Access to financial services.

Events & Shocks Timeline



A comprehensive timeline of 100+ events from 2014–2025 including war milestones, CBY decisions, oil-export shutdowns, sanctions, and major aid shifts. Each entry features:

- A short narrative,
- Severity rating,
- Linked indicators and actors,
- "Before/after" view on FX, inflation, and food prices, and revenues.

Stakeholder Hub (100+ micro-sites)



Profiles on key actors including:

- Yemeni actors: IRG/PLC, Houthi authorities, STC, tribal confederations, ministries, CBY-Aden, CBY-Sana'a, banks, MFIs, major business groups (e.g. HSA).
- Regional actors: Saudi, UAE, Oman, Iran, Qatar, Kuwait, Egypt, Jordan.
- International organizations: World Bank, IMF, UN OCHA, UNDP, WFP, UNICEF, WHO, donors.

Each page includes: profile, revenue and power structure, key decisions, sanctions status, network map, risk/opportunity summary, and a small recommendation panel.

Core products (continued):

All of this is fully bilingual with mirrored IA in Arabic; the Arabic narratives are already drafted in your material and sit as the authoritative Arabic layer.

What sits under the hood

(intelligence engine)

The intelligence layer is where the platform becomes "smart" rather than a pretty dashboard. It has four main components:



Banks & Microfinance Observatories



Sanctions & Legal frameworks



Report & Literature Library



Tools

3.1 Data model and provenance

Core tables (simplified):

	Actors CBYs, banks, MFIs, exchangers, ministries, donors, UN agencies, business groups, etc.		Indicators & Indicator Points Time series for macro, prices, funding, sanctions indices, liquidity, etc.
	Events & Event Links Every major event, linked to affected actors and indicators.		Regulations & Documents Laws, circulars, WB/IMF/OCHA/think-tank reports.
	Sanctions Entities Designated individuals/entities, linked to actors.		Recommendations & Scenarios Actor-specific options and scenario outputs.
<p><input type="checkbox"/> Each observation carries:</p> <ul style="list-style-type: none">• source_id (which institution or document),• vintage_at (what was known when),• confidence level (high/medium/low),• and notes on gaps or contested values.			

3.2 Trust scoring & triangulation

Every key indicator has a confidence score based on:

- **Base trust in the source:** (e.g., WDI vs. estimate from humanitarian survey)
- **Freshness:** How recently the data was updated or collected.
- **Cross-agreement:** Consistency between independent series (e.g., WB vs. IMF vs. ESCWA vs. Sana'a Center).

Key Rules:

Anything with <70/100 confidence is either not used in automated recommendations or flagged for review.

For conflicting claims (e.g., different FX paths, aid volumes), the engine triangulates and shows a band, not a false precision.

3.3 Impact chains ("why did this move?")

The engine encodes simple, transparent chains such as:

These are rule-based, not black-box AI. Users can click an indicator and see:

"This move is mainly explained by: X% FX pass-through, Y% shipping/insurance, Z% domestic policy and mark-ups (see Methods page)."

3.4 Scenario engine

The scenario layer lets users test "what if" questions, for example:

Inputs:

a small set of sliders (oil volumes, aid volumes, FX policy, sanctions intensity, shipping costs).

Outputs:

indicative trajectories for FX (Aden), FX gap, inflation, food basket cost, fiscal space index, banking stress index and poverty trend.

All elasticities are documented and labelled "illustrative / educational – not official forecasts".

3.5 Closed-corpus AI analyst (RAG)

The AI layer never goes to the open internet. Instead, it operates within a controlled environment, ensuring data integrity and security by:



Embedding Curated Data

It embeds all curated PDFs (reports, CBY bulletins), indicators, and events into its knowledge base.



Corpus-Limited Retrieval

It retrieves information exclusively from this predefined corpus, preventing external data leakage.



Structured Answer Generation

It generates structured answers, including summaries, numbers, charts, and implications, available in both English and Arabic.



Paragraph-Level Source Citation

All generated insights are meticulously cited, referencing the original sources at the paragraph level for transparency and verification.

Practical Use-Cases:

"Draft a 2-page brief for the World Bank Board on how the FPS/RTGS project interacts with Yemen's parallel financial system."

"Explain in Arabic for local journalists how the central bank split changed the way salaries are paid."

Data Sources & Credibility Map

Only solid, original sources feed the engine. The platform defines a "source ladder":

Each dataset has a one-page Method Card explaining:

- how it's collected,
- what's missing,
- how it's transformed,
- how often it's updated,
- and how it should not be used.

User Journeys: Designing for Our Diverse Audience

Our platform is built with specific user needs in mind. Understanding these journeys ensures we develop targeted features that deliver maximum impact for each persona.



A. Donor / IFI Economist

(World Bank, IMF, GCC fund)

- Lands on Compass → sees key stress indicators.
- Goes to World Bank Journey micro-site: FPS/RTGS project status, other WB portfolios, FTS funding patterns, impact on FX and inflation.
- Runs a scenario: "FPS live + partial oil restart + 30% aid cut" → gets graphs and a 2-page brief.

B. CBY-Aden or CBY-Sana'a Technocrat

- Uses Currency War module + CBY dashboards to see historical consequences of key decisions.
- Checks indicators and events around each auction, reserve-requirement change, or currency directive.

C. UN Agency Programme Designer

(Cash, livelihoods)

Looks at money-flow Sankey and channel risk table to choose between banks, MFIs, exchangers, mobile money in a specific corridor, with risk and compliance trade-offs.

D. Researcher / Journalist

- Uses the literature library with filters (institution/year/topic) and "Cite this" buttons.
- Pulls structured timelines and indicator series for charts in reports.



E. Yemeni Analyst / Citizen

- Reads Arabic narratives of the 10-year journey.
- Uses calculators and city pages to understand local impacts.
- Gets simple, non-technical explanations ("What does FX gap mean for bread prices?").

User Personas & Journeys: Navigating the Platform

Our platform is built with specific user needs in mind. Understanding these journeys ensures we develop targeted features that deliver maximum impact for each persona.

Implementation Brief

For the Dev / Contractor

For the implementer, Version 1 translates into three concrete workstreams:



Technical Build-Out

Develop core features and infrastructure.



Data Integration & APIs

Connect with necessary external data sources.



Deployment & Testing

Ensure robust and user-ready release.

6.1 Content & Data Ingestion

Key tasks for ingesting and standardizing data:



Core Indicators

Ingest at least 30 core indicators (12 in Compass + 18 supporting).



Major Events

Collect 50+ major events (conflict, monetary, fiscal, sanctions, aid).



Stakeholder List

Compile a comprehensive stakeholder list for the "Priority 30" actors.



Flagship Reports

Integrate 50+ flagship reports into the library.

Additionally, build the data registry and Method Cards for each indicator and source.



6.2 Product & UX

Minimum feature set to be delivered:

- ☐ Everything else (full 100+ stakeholders, advanced sanctions system, Academy, full ML/RAG features, complex simulations) can be phased as v1.1+.

Development Roadmap & Implementation Timeline

Our development roadmap outlines the core workstreams, key deliverables for Version 1, and the phased approach for future enhancements. This ensures a clear path for implementation and continuous improvement.

6.3 Intelligence Layer (v1 Scope)

For v1, while deep machine-learning isn't the primary focus, the developer must implement the following critical components:



Governance, standards, and "do no harm"

The platform follows:



IMF/WB standards

for macro indicator definitions and poverty lines;



OECD DAC and IATI norms

for aid classification and transparency;



UN/OCHA humanitarian principles

and Do-No-Harm: no operationally sensitive detail (e.g., exact hawala routes, names of individuals in volatile contexts).

- Data about specific exchangers/banks is aggregated and lagged where necessary; sanctions information is drawn directly from UN/OFAC/EU official lists.

Summary & Call to Action

Our platform stands as the **only comprehensive, bilingual intelligence platform for Yemen's fragmented economy**, offering unparalleled insights and clarity.



Closed-Corpus Approach

Ensuring data integrity and security by operating within a defined and indexed corpus, without external web access.



10+ Years of Data

Leveraging a decade of historical data to provide deep contextual understanding and trend analysis.



Actor-Specific Insights

Delivering tailored information on key stakeholders, vital for strategic decision-making.



Compliance with International Standards

Adhering to IMF/WB, OECD DAC, IATI, and UN/OCHA principles, guaranteeing ethical and responsible data use.

We invite all stakeholders to **engage with the platform** to gain critical intelligence, inform policy, and drive effective humanitarian and development interventions in Yemen.



Yemen Economic Compass

Comprehensive Master Guide

A bilingual data platform providing transparent, credible insights into Yemen's war economy by connecting macroeconomic data with key events, policy decisions, and local narratives.

Platform Vision

Introduction and Platform Goals

Yemen has endured a decade-long conflict that shattered its economy, fragmenting institutions and rewiring how money moves. The Yemen Economic Compass (a CauseWay Foundation initiative) is envisioned as a bilingual (English/Arabic) data platform to provide transparent, credible insights into this war economy by connecting macroeconomic data with key events, policy decisions, and local narratives.

The goal is to equip stakeholders – from engineers and analysts to policymakers and donors – with an intelligent, up-to-date system that aggregates all relevant data (economic indicators, humanitarian trends, financial news, expert analyses) from the past 10+ years.

Clear Structure

Organized, accessible information architecture for all users

Factual Accuracy

Every data point verified and sourced from credible institutions

Integration

Authentic sources connected at every step of analysis

This guide serves as a master blueprint for implementing the platform, detailing the context, data sources, database design, analytics, and features needed to make it a game-changer in conflict-economic monitoring. We emphasize clear structure, factual accuracy, and integration of authentic sources at every step.

Understanding the Context

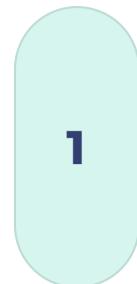
War-Economy Context (2015- 2025): Timeline and Stakeholders

A comprehensive look at how a decade of conflict transformed Yemen's financial landscape, creating two parallel economies and fragmenting every institution.



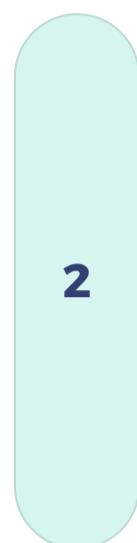
Decade of Fragmentation: Key Events 2014-2025

Understanding Yemen's financial landscape requires tracing the conflict and economic shocks year by year. Below is a timeline of major events and their economic impact, ensuring no critical development is overlooked:



2014: The Collapse Begins

Houthi insurgents seize the capital Sana'a in September 2014, ousting the central government. This marks the collapse of Yemen's unified political authority and foreshadows the coming war. By early 2015, the country is on the brink – oil exports (the main source of foreign currency) have stalled and foreign reserves are shrinking.



2015: War Outbreak and Economic Freefall

In March 2015, a Saudi-led military coalition intervenes to restore the government, leading to nationwide conflict and a strict air/sea blockade. The economy goes into freefall: GDP contracted sharply (Yemen's output would end up roughly half pre-war size) and millions were displaced.

- Yemeni rial (YER) began to depreciate rapidly
- Over 80% of the population required aid
- UN Level-3 humanitarian emergency declared
- Cash liquidity in banks began drying up



2016: Central Bank Split – "Currency War" Begins

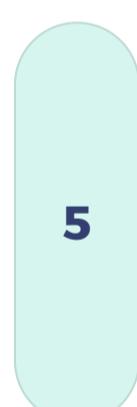
In September 2016, President Hadi relocated the CBY headquarters from Sana'a to Aden, effectively creating two rival central banks – one internationally recognized in Aden (but with limited staff and reserves) and one de facto in Sana'a (with experienced staff and most commercial banks under its purview, but no global recognition).

Critical Impact: This political shock fundamentally split monetary policy. The unified currency and payment system began fracturing: by late 2016 the Aden authorities started issuing new Yemeni rial banknotes to finance deficit, while Houthi authorities in Sana'a struggled with cash shortages and began to ban the new Aden-printed notes.



2017: Fragmentation Stabilizes

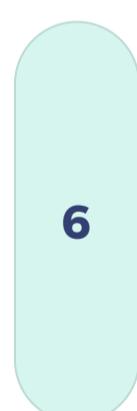
A severe cholera outbreak hit the population, compounding the humanitarian crisis. Economically, 2017 saw the Aden CBY float the Yemeni rial (abandoning a fixed exchange rate) and later receive a \$2 billion deposit from Saudi Arabia in early 2018. This infusion, used via the Aden CBY to finance critical imports (food, fuel), temporarily slowed the rial's collapse and stabilized prices of essentials.



2018: Hardening of Economic Lines

By 2018, governance fragmentation deepened: local authorities and rival central banks issued competing financial regulations and directives, confusing the business environment. The dual exchange-rate regime "hardened" – Houthi and IRG areas had distinctly separate currencies (even before an official ban) and the spread between their rial values widened.

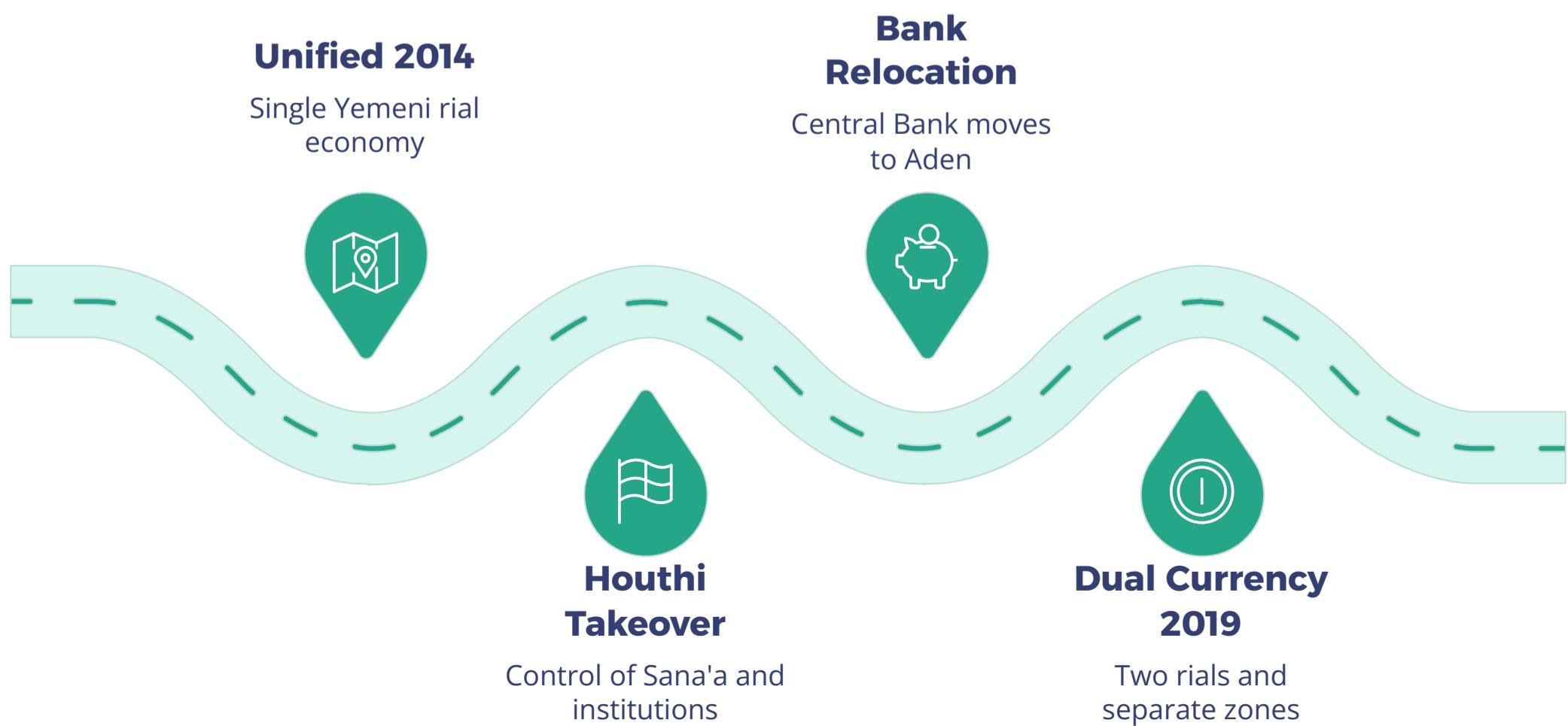
The December 2018 Stockholm Agreement (a UN-brokered deal) paused major fighting around Hudaydah port and included a prisoner swap. While it eased some humanitarian access, it did not resolve core economic disputes.



2019: Two Currencies Formalized

In December 2019, Houthi authorities banned the use of new banknotes printed by Aden since 2016. This move essentially created two versions of the Yemeni rial: a rapidly inflating "new rial" circulating in government areas and a harder "old rial" (pre-2016 notes) circulating in Houthi areas.

The impact was immediate: transfer costs for money moving between north and south skyrocketed, and a black market for exchanging old vs. new notes emerged. The public quickly felt that Yemen was no longer one economy.



Recent Years: 2020–2025

2020: Survival Amid Global Shocks

The COVID-19 pandemic brought global recession and travel restrictions, hitting Yemen's economy via reduced remittances and higher costs. Gulf countries where many Yemenis work suffered economic slowdowns, directly shrinking the flow of remittances (a key lifeline).

The "economic war" shifted to a battle over revenues: by 2020 the Houthis had solidified control over most northern revenue sources (taxes, customs at Hodeidah), while the government in Aden relied almost entirely on oil and gas revenues from the south-eastern fields and sporadic Gulf financial aid.

2021–2022: "War on Revenues" and Truce Attempts

By 2021, Houthi forces were pushing to capture the resource-rich Marib region, while intensifying cross-border drone attacks. The US designated the Houthis as a terrorist organization in Jan 2021 (later revoked by the new U.S. administration) – this created panic among banks and NGOs about sanctions compliance.

April 2022 Turning Point: A UN-brokered two-month truce began – the first nationwide ceasefire since 2016 – coinciding with the formation of a new Presidential Leadership Council (PLC) in Aden. Gulf allies pledged ~\$2 billion in financial support.

When the truce expired in October 2022, the Houthis launched drone attacks on oil export terminals, forcing the suspension of all oil exports. The internationally-recognized government lost its last major source of revenue.

2023: Fragile Improvement

With open warfare reduced, the Yemeni government (PLC) in 2023 focused on arresting the financial freefall in the south. A series of measures were introduced: a unified currency auction system, attempts to rein in speculation, and enforcement that banks move their headquarters to Aden.

These steps yielded improvement: the Aden rial, which had touched record lows (over YER 1,600 per USD) in late 2022, recovered to around YER 1,100–1,200 by mid-2023. However, late 2023 brought new tensions: Houthi forces began attacking international ships in the Red Sea.

2024: Negotiations and Uncertainty

Moving into 2024, all sides engaged in on-and-off negotiations aiming for a more durable ceasefire. The World Bank projected Yemen's GDP would contract about 1% in 2024, with the south's inflation around +7% while the north experienced -12% deflation (due to cash shortages and price controls).

Donor fatigue was a growing concern: the 2023 UN humanitarian appeal was barely 50% funded, and fresh funding in 2024 remained uncertain.

2025: Toward Stability or New Risks?

By late 2025, Yemen's currency situation had somewhat stabilized at a weak equilibrium. In government areas, the rial settled into a narrow band (hovering around YER 1,300–1,500 per USD). Houthi-controlled areas continued to use only old-design rials and even introduced newly minted coins.

However, this stability rests on shaky ground: foreign reserves are minimal, and any lapse in external support could trigger a renewed spiral. By late 2025 signs of strain appeared – reports suggested the southern rial's black-market rate topped YER 1,800 in some exchanges.

10-Year Economic Stress Summary (2015-2025)

The following table qualitatively summarizes how Yemen's financial system changed each year – encompassing conflict shocks, the central bank (CBY) status, exchange rate trends, bank liquidity, payment channels, and the role of aid/remittances:

Year	Conflict/Political Shocks	CBY Configuration	Exchange Rate Situation	Bank Liquidity	Household Payment Channels	Aid & Remittances
2015	War escalates; Saudi-led intervention; Blockade imposed. State institutions in crisis.	Unified CBY (pre-split), under extreme fiscal stress.	Sharp depreciation of YER; volatility surges; gap emerges between official vs market rates.	Rapid deterioration; banks struggle to meet cash withdrawals (FX especially).	Mix of formal bank use, cash, and local money exchangers; early shift to hawala in inaccessible areas.	Remittances vital; humanitarian aid rising but limited.
2016	Conflict entrenched; government salary budget collapses. Hadi moves CBY HQ to Aden (Sept) – start of "dual central banks."	CBY effectively splits (Aden vs Sana'a); institutional duality begins.	Severe FX shortages; black-market rate drives prices. (Market rate diverges from old official peg)	Severe cash shortage (YR & USD); banks impose withdrawal limits nationwide.	Households shift heavily to exchangers and cash-in-hand; banks losing their payment role.	Remittances a primary lifeline; aid flows growing but not yet massive.
2017	Frontlines stabilize somewhat; major cholera outbreak.	De facto dual central banks (Aden and Sana'a) fully emerge, issuing separate policies.	Multi-tier exchange rates consolidate; import costs up as rial weakens further.	Banks hold mostly frozen assets (government IOUs); liquidity crisis continues.	Hawala and exchangers now key for salary transfers; banks used only for limited formal needs.	Humanitarian cash programs expand significantly (UN/NGOs scaling up).
2018	Political fragmentation; Stockholm Agreement (Dec) pauses fighting in Hudaydah.	Rival CBYs issue competing circulars and enforcement; no coordination.	Dual-rate system hardens: two rials in circulation; north-south FX spread widens.	Structural illiquidity: many bank branches semi-frozen (esp. in conflict zones).	Exchange houses + NGOs dominate transfers; most households get funds via informal networks.	Remittances + aid become the main external inflows for communities, surpassing exports.
2019	Stalemate in peace talks; internal divisions in anti-Houthi camp. Houthis ban new banknotes (Dec) – formalizing two currencies.	Rival CBYs fully institutionalize their own rules; separate banknote regimes (old vs new rials).	Continued depreciation in gov't areas; Houthi areas stabilize their rate, widening the north-south gap.	Banks increasingly sidelined from retail finance; people withdraw if possible and avoid deposits.	Informal methods (hawala, exchangers) handle virtually all everyday payments; emergence of some mobile money but minor.	Remittances and aid are lifelines in both zones; by late 2019 aid is sizable but still cannot replace lost government spending.
2020	COVID-19 global shock; "war on revenues" intensifies – Houthis grab tax revenues, Gov't relies on Marib oil.	CBY split continues; attempts at backchannel coordination fail.	Both rials hit new lows (Aden rate briefly >800/\$); Houthi rate somewhat insulated (cash ban in effect).	Banks nearly irrelevant for new credit; many operate at minimal capacity.	Cash, hawala, mobile wallets (pilot programs) used for all transfers. Some salary payments via prepaid cards but ultimately cashed out.	Aid surpasses government spending: humanitarian agencies inject cash via local partners; remittances dip due to COVID but still huge (est. \$3.5B/yr).

10-Year Economic Stress Summary (Continued)

Year	Conflict/Political Shocks	CBY Configuration	Exchange Rate Situation	Bank Liquidity	Household Payment Channels	Aid & Remittances
2021	Relative military lull; economic warfare ongoing. US terror designation (Jan) briefly rattles markets.	CBY-Aden struggles to assert monetary control; CBY-Sana'a intensifies capital controls in its area.	Aden rial crashes in late 2021 (>YER1,000/\$) amid speculation; Sana'a rate ~600/\$. Big gap (70%).	Almost no new loans; some banks face insolvency. Aden injects new banknotes, fueling inflation; Sana'a hoards old notes.	Informal is the new normal – even government payments often funneled through exchange companies. Hawala network deeply entrenched.	Aid flows peak (\$4B in 2021) but funding shortfalls in 2022; remittances recover post-COVID slightly. Both remain critical for consumption.
2022	UN truce April-Oct; new PLC government in Aden; Houthi drone attacks halt oil exports (Oct).	CBY-Aden gets \$2B Saudi/UAE deposit (mid-year) to stabilize currency; CBY-Sana'a continues without int'l links.	Aden rial rebounds to ~YER 600-800/\$ during truce with aid, then slides to ~YER 1,100+ after Houthi attacks. Sana'a maintains ~600/\$ (old notes).	Gulf support boosts Aden's liquidity briefly; post-truce, cash crunch returns as oil rev stops.	Exchangers handle nearly all trade finance. Humanitarian agencies use their own financial service networks.	Remittances stable ~ \$3-4B; Aid still significant (50% of needs funded). Both crucial as government income collapses without oil.
2023	Relative calm (no major offensives); slow negotiations; Houthi threats to shipping (late year).	Some monetary policy reforms in Aden (FX auction, stricter banking regs) stabilize southern financial sector; Sana'a continues parallel system.	Aden rial stabilizes ~YER 1,200/\$ with new Saudi support; Sana'a rial steady ~YER 550-600/\$. Gap persists ~2x.	Slight easing of liquidity in Aden (due to Gulf funds); banks still weak. Sana'a banks still constrained by cash ban (only old notes).	Formal banking use tick up slightly in Aden, but informal channels still dominate across Yemen. Digital wallet usage grows marginally.	Aid funding approx 55% of appeal in 2023; still feeding millions. Remittances possibly rise with Gulf economic rebound. Both remain pillars of survival.
2024	Ongoing peace talks; no large-scale fighting; economic policy focus.	Prospect of reconciling central banks discussed (future unified currency?), but not realized in 2024. De facto dual systems endure.	Aden rial ~YER 1,300/\$ (managed float); Sana'a ~YER 500-600/\$ (strictly controlled) – effectively two currencies.	Banking sector in Aden slowly rebuilding trust (some diaspora deposits return); in Sana'a, banks operate but under tight Houthi oversight and no new cash injection.	Payments remain split: domestic north-south transfers still taxed by exchangers (high fees); local payments predominantly cash/phone transfers via exchangers.	Donor fatigue worsens: only ~50% of required aid funds raised. Remittances steady. Economy still aid-dependent especially in Houthi areas.
2025	Cross-border Houthi attacks spark international concern; tentative ceasefire holding.	Potential reunification of CBY under discussion if peace deal strikes; meanwhile Houthi introduce their own coins (2025) to ease old note scarcity.	Relative stability: Aden rate ~1,400-1,500/\$ (with occasional volatility); Sana'a rate ~600-650/\$ (old notes). If aid falters, southern rial at risk of sharp fall.	Banks in Aden still fragile but some re-capitalization via donors; in Sana'a, banks function as money transfer agencies (no lending, just collections). Overall liquidity remains low vs pre-war.	Informal dominance persists – after 10 years, exchangers, microfinance banks (MFs), and hawala are Yemen's financial spine. Any formal restoration will have to integrate these networks.	Humanitarian aid and expat remittances continue as lifeblood. Together they form a substantial share of GDP (aid+remittances >> export earnings). Yemen's economy cannot recover without leveraging these external inflows.

Sources: Compiled from Sana'a Center analyses, World Bank reports, and news agencies (Reuters, AP) for specific events. The table illustrates the re-routing of Yemen's financial flows – by 2025, formal banking collapsed as the primary channel, replaced by exchangers and informal networks. Yet, the financial system did not completely collapse – it adapted and survived through informal means.

Key Outcomes After 10 Years: Economic Indicators

A decade of war has decimated Yemen's socio-economic indicators. Any platform user or implementer must grasp the scale of this collapse in hard numbers. Below are core indicators (latest available data circa 2023–2025), with sources and context:

50%

GDP Collapse

Yemen's annual GDP in 2023 is roughly 50% lower than in 2014 (pre-war). Cumulatively, the conflict has caused an economic loss over \$126 billion.

54%

Income Loss

Real GDP per capita fell by 54% from 2015 to 2023. Yemenis on average have less than half the income they had a decade ago.

74%

Poverty Rate

An estimated 74% of Yemenis lived in poverty by 2022, up from around 45-50% before the war.

30%+

Unemployment

Unemployment exceeds 30-35% (with youth unemployment much higher) as both public and private sectors shed jobs.

Population and Displacement

- **Total Population:** ~31 million (2023)
- **Internally Displaced:** Over 4 million IDPs at peak
- **Humanitarian Need:** 21.6 million people (two-thirds of population) need assistance
- **Food Insecurity:** 60-70% of households affected

For detailed demographic data, the platform uses UNOCHA's population datasets, which provide population estimates by district and year (2019, 2021, 2023, 2024) sourced from Yemen's Central Statistical Organization.

Exchange Rates: The Dual Currency Reality

The Yemeni rial's value diverged into two markets:

- **Government areas (new rials):** From ~215 YER/USD pre-war to around 1,200–1,600 YER/USD in recent years, at times touching 2000+/USD
- **Houthi areas (old rials):** Held around 550–600 YER/USD since 2019 by limiting money supply

This dual exchange rate means any economic data must specify which rate applies. The platform's Currency War section will explicitly present both rates and their gap over time.

More Key Economic Indicators

Inflation and Cost of Living

Yemen has experienced persistent high inflation, especially in government areas that injected new currency. Overall price levels have more than tripled since 2015.

- By 2022, inflation in Aden-zone was estimated ~40% year-on-year at times
- Cooled to single digits after mid-2022 with truce and currency support
- Houthi areas saw suppressed inflation – even deflation of -12% in 2024

Food Basket Cost: In parts of Yemen, the cost was 4–5 times higher in 2023 than pre-war (over 50,000 YER in Aden versus ~10,000 YER in 2015).

Public Finances

Government finances are in disarray:

- Public revenue in IRG areas fell from \$4.5 billion in 2014 to barely \$1.3 billion by 2021
- After Houthi oil port attacks in 2022, oil exports dropped to near zero
- Houthi authorities collect an estimated \$1.5 billion annually in local revenues
- Both "governments" run huge fiscal deficits financed by money printing or domestic borrowing

Most civil servants (especially in the north) have not received regular salaries for years.

Humanitarian Needs

Yemen remains one of the world's worst humanitarian crises:

- 21.6 million people need humanitarian assistance (2023)
- About 5 million are on the brink of famine at IPC Level 4
- Over 4 million internally displaced
- 17.8 million lack access to basic healthcare
- 15+ million lack safe water
- 62% of households were food insecure in late 2025

Aid and External Support

Humanitarian aid flows averaged \$3 to \$4 billion per year at the height of the crisis (2018-2020), but funding has declined since 2021.

- UN appeal in 2023 asked \$4.3B but under \$2.2B was received
- Aid represents roughly 10-15% of GDP in recent years
- Remittances from diaspora inject an estimated \$3.5 billion annually
- Together, aid and remittances form the backbone of external finance

Informal channels (hawala)

Main payment infrastructure

Remittances from diaspora

Funds sent by migrants

Houthi-controlled zone

Separate financial system

Money Flow in Yemen's War Economy

Aden government zone

Parallel fiscal operations

Humanitarian aid from donors

Grants and relief funding

Gulf financial support

State and private inflows

Financial Sector Health

By 2025, Yemen's formal financial sector is a shell of its former self. Out of 17 pre-war commercial banks, several have effectively ceased operations or relocated; those in Sana'a are cut off internationally, and those in Aden lost most of their customer base.

Banking Sector Collapse

- **Private sector credit:** Only ~1-2% of GDP (down from 55% in 2014) – essentially a credit crunch
- **Core Banking Stress Index (CBSI):** Tracks metrics like non-performing loans, liquidity ratios, and capital adequacy – showing extreme stress levels especially 2016–2021
- **Bank accounts:** Only 6% of Yemenis had a bank account by 2016
- **Deposits:** Bank deposits fell from YR 2.5 trillion to 1.8 trillion between 2014-2017

Rise of Informal Finance

- **Microfinance institutions (MFIs):** Now serving over 100,000 borrowers nationwide
- **Exchange companies:** Exploded in number – hundreds of new exchanger licenses issued between 2017 and 2020
- **Hawala networks:** Became the main financial highway, not just a temporary fix

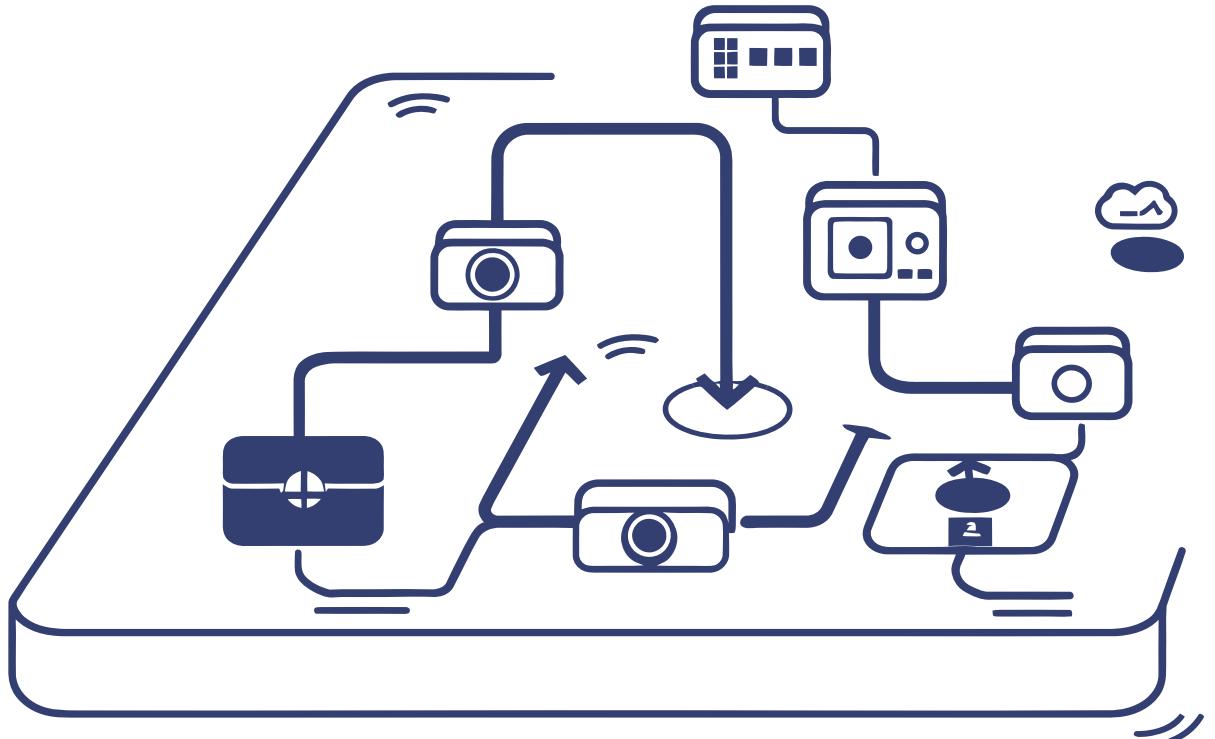
Key Insight: Yemen's financial landscape shifted from a bank-centric model to an exchanger/Hawala-centric model. The formal system did not collapse, it re-routed through informal channels.

- Critical Understanding:** Any attempt at financial recovery must acknowledge that "the formal system did not collapse, it re-routed" through informal channels. This insight is central to the platform's narrative and backed by extensive analyses from the Sana'a Center and other credible sources.

The Players

Major Stakeholders and Relationship Map

Yemen's conflict and economy involve a myriad of actors – understanding who they are and how they interrelate is crucial for platform users.



Major Domestic Actors



Houthi Authorities (Ansar Allah)

A Zaidi Shi'a rebel group turned de facto government in Sana'a (North Yemen) since 2015. They rule the former capital and most of northern/western Yemen.

- Established a Supreme Political Council
- Control northern state institutions (not internationally recognized)
- Aligned with Iran
- Levy taxes, control fuel and telecom monopolies
- Have their own central bank operations in Sana'a



Internationally Recognized Government (IRG) / Presidential Leadership Council (PLC)

Led by President Hadi until 2022, then an 8-member Presidential Leadership Council based in Aden headed by Rashad al-Alimi.

- Umbrella for anti-Houthi factions
- Backed by Saudi Arabia and international recognition
- Control limited to southern and eastern regions
- Manages the Aden-based CBY
- Depends heavily on Saudi-Emirati financial aid



Southern Transitional Council (STC)

A political movement and militia coalition formed in 2017, seeking South Yemeni autonomy or secession.

- Based in Aden and other southern areas
- UAE-backed
- Controls significant forces on the ground
- Was in conflict with Hadi's government in 2019
- Now leaders sit on the PLC but still push for independence



Islah Party

Yemen's main Sunni Islamist party (Muslim Brotherhood-affiliated) that was a key ally of President Hadi.

- Substantial influence in north-east (Marib, Taiz)
- Oppose Houthi rule vehemently
- Fighters integrated in anti-Houthi front
- UAE distrusts Islah (seeing it as Islamist)
- Allied with IRG and Saudi Arabia, at odds with STC and UAE

Various tribal militias, especially in Marib, al-Jawf, and Shabwa, align with the IRG (often due to Saudi patronage). There are also other actors like Tariq Saleh's National Resistance on the Red Sea coast, and the Giants Brigades (Salafi militia backed by UAE in the south). These actors influence control of economic assets.

Militant Groups: Al-Qaeda in the Arabian Peninsula (AQAP) had a presence in parts of Yemen's east and has been fought by both US-backed Yemeni forces and the Houthis. AQAP and the local ISIL branch exploit state collapse but are not major economic players beyond occasional looting or controlling small pockets.

Regional and International Actors



Saudi-led Coalition

Includes Saudi Arabia, United Arab Emirates (UAE), and earlier Sudan. Saudi Arabia shares a long border with Yemen and has led the coalition supporting the IRG since 2015.

Economic Influence: KSA provides military aid and crucially, financial aid (deposits to the central bank, oil grants) to keep Yemen's government afloat. Saudi/UAE have injected billions in grants and deposits (e.g. the \$2B deposit in 2018, another \$3B pledged in 2022). The coalition also imposed the blockade and air restrictions that heavily shaped Yemen's economy. As of 2023–2025, Saudi is also a key negotiator with the Houthis.



Iran

The primary backer of the Houthi movement – providing ideological support, some arms (smuggled weapons, missile technology), and possibly financial links (often via illicit networks).

Iran's Islamic Revolutionary Guard Corps (IRGC) helps train and advise Houthis. Iran reportedly extended credit for fuel shipments to Yemen (delivered clandestinely to Houthi-controlled ports). The US and allies have sanctioned these networks (e.g. the al-Jamal smuggling network financing Houthis was hit with U.S. Treasury sanctions in 2021).



United Nations and Agencies

The UN Special Envoy for Yemen (currently Hans Grundberg) mediates peace talks. UN humanitarian agencies (OCHA, WFP, UNICEF, WHO, UNDP) are major operators in Yemen.

Key Roles:

- OCHA coordinates humanitarian response
- WFP manages huge food assistance programs and tracks food prices
- UNDP conducted studies on economic impact
- UN agencies must maintain neutrality and access to both sides



International Financial Institutions

World Bank, IMF, Arab Monetary Fund have engaged with Yemen primarily via humanitarian/development projects and technical assistance.

The World Bank's IDA has provided grants for Yemen (over \$3.9B since 2016) in partnership with the UN, funding cash transfers, healthcare, and energy projects.

These financial inflows are crucial and highly credible for data – e.g. WB's periodic Yemen Economic Monitoring reports give official figures on GDP, prices, etc.



Donor Community and INGOs

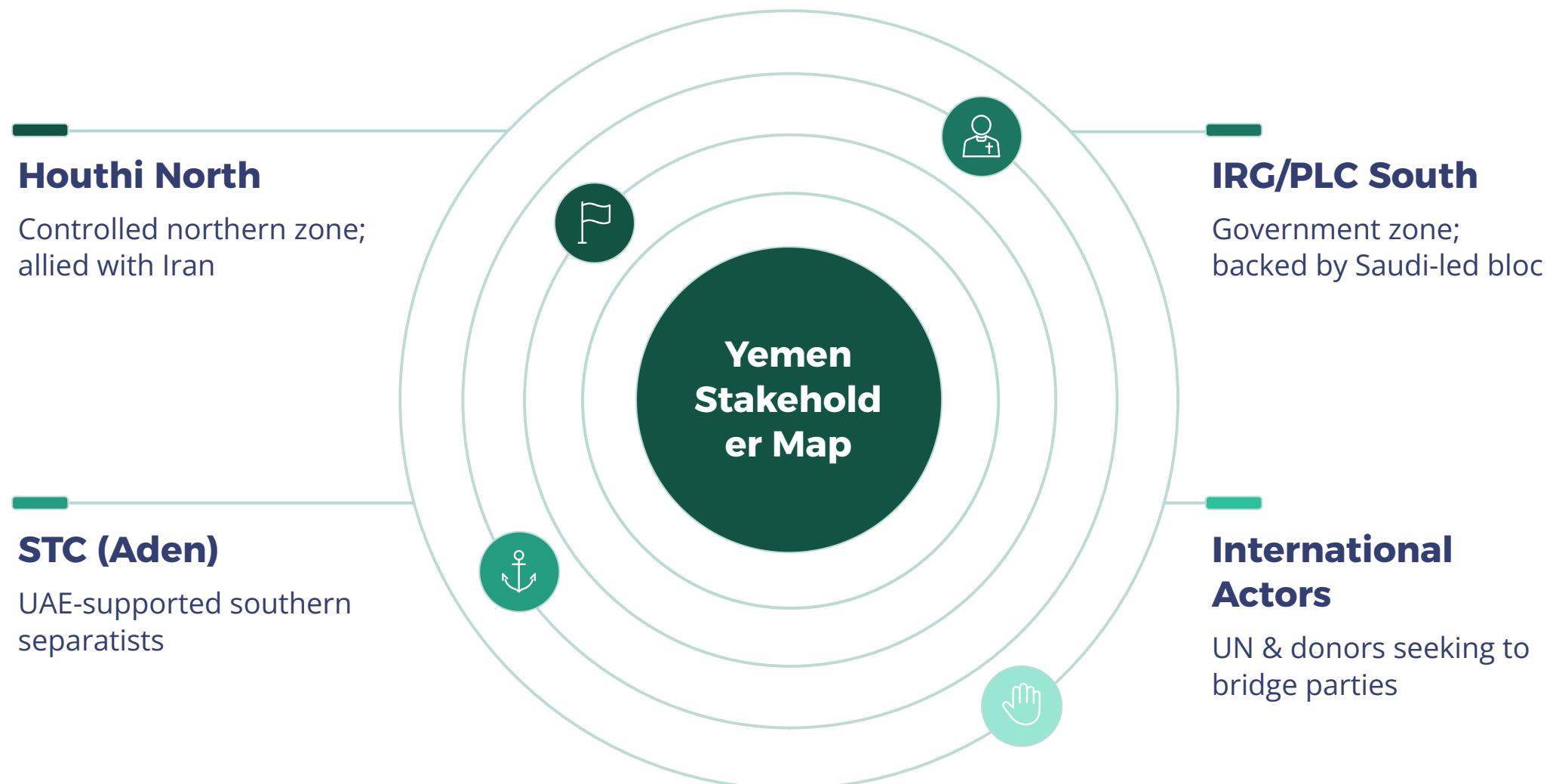
Key donor governments include the United States, European Union, United Kingdom, and others. They contribute to UN appeals and fund NGOs.

The US and UK also provide technical support on economic issues (the US Treasury had advisors working with CBY-Aden on capacity building).

International NGOs (Mercy Corps, NRC, Oxfam, etc.) deliver aid and have on-the-ground insights, sometimes producing reports on Yemen's economy.

Stakeholder Relationship Map

Yemen's war economy is shaped by these stakeholders' interactions:



Central Conflict Dynamics

The **Houthi vs. IRG/PLC** is the central conflict, with front lines dividing the country's economic space. Saudi Arabia and Iran act as external sponsors on opposing sides.

The UAE and STC carve out a semi-autonomous southern sphere, occasionally clashing with the IRG (as seen in Aden 2019).

The UN and donors try to mitigate suffering and encourage cooperation (such as pressing for salary payments or a joint economic committee), but have limited leverage.

Economic Bargaining

A unique dynamic is the **Houthi-government negotiation over revenue and salaries**: during truce talks, a key Houthi demand was that oil export revenue (earned by the IRG) be used to pay all public sector salaries countrywide (including in Houthi areas). This highlights how economic tools are bargaining chips.

Houthi and exchangers: The Houthis rely on and tightly regulate money exchange networks, since those networks handle much of the remittances and trade finance that keep the Houthi economy alive.

C BY-Aden and Saudi: Aden's central bank is propped up by Saudi deposits; its ability to stabilize the currency depends on external support.

- ☐ **Key Takeaway:** No single authority controls Yemen's economy – it is contested by at least two governments and influenced by external powers. This fragmentation is why the platform's integrated approach (tying data to actors and events) is so essential for analysis.

Major Stakeholders Summary Table

Stakeholder	Type / Role	Base / Region	Affiliation / Stance
Houthi Supreme Political Council	De facto government (est. 2015)	Sana'a (North and West Yemen)	Controls northern state institutions; Iranian-aligned rebel authority. Anti-Saudi; seeks international recognition on its terms.
Presidential Leadership Council (PLC)	De facto government (est. 2022)	Aden (South & East Yemen)	Internationally recognized government (replaced Hadi). Saudi-backed coalition of anti-Houthi factions. Struggles to unify its members (includes STC, others).
Saudi Arabia & Coalition	Foreign military & aid coalition	Operates from KSA; presence in south Yemen	Backs the IRG/PLC; aims to defeat or negotiate down the Houthis. Saudi focuses on border security; UAE focuses on Red Sea and south (with STC).
Southern Transitional Council (STC)	Southern Yemeni separatist movement	Aden and Southern governorates	Seeks autonomous South Yemen; UAE-aligned. Part of PLC but maintains independent armed forces; hostile to Islah.
Islah Party	Islamist political party	Influence in Marib, Taiz, etc.	Sunni Islamist (Muslim Brotherhood-linked). Key ally of Hadi-era government, now represented in PLC. Opposes Houthis; wary relations with UAE/STC.
Tribal and Regional Militias	Local power brokers/militias	Marib, Hadhramaut, Taiz, etc.	Various alignments: e.g. Marib tribes with Islah & Saudi; Hadhramaut local authorities cooperating with UAE. Often control local resources.
AQAP	Jihadist militant group	Scattered pockets	Opportunistic insurgent force. Fights Houthis and sometimes clashes with southern forces. Lacks formal economy role; adds security risk.
UN Special Envoy's Office	Diplomatic mediator	Regional (base in Jordan/Muscat)	Facilitates peace negotiations; proposes economic confidence-building (e.g. CBY reunification, salary payment deals). Neutral party.
UN Agencies (OCHA, WFP, etc.)	Humanitarian organizations	Nationwide (offices in Sana'a, Aden)	Provide life-saving aid (food, medicine) across lines. Require cooperation from all sides for access. OCHA coordinates relief.
World Bank / IMF	International financial institutions	External (HQ in DC) with Yemen field programs	Fund large humanitarian-development projects (via UN/NGOs). Offer analysis, but IMF programs on hold due to conflict. Push for economic reforms.
Donor Governments (US, UK, EU, GCC)	Aid donors and diplomatic actors	Global (embassies in Riyadh/Amman for Yemen)	Provide humanitarian funding, development aid, and some military support. Interested in counter-terrorism and regional stability. Advocate for economic stabilization.
Local Business Elites & Banks	Traders, importers, bankers	Sana'a, Aden, Mukalla, etc.	Adaptable actors – e.g. big importers like Hayel Saeed Anam Group which operates across Yemen. Try to maintain neutrality to trade in both areas. Suffer from currency volatility.

Building the Foundation

Data Sources, Credibility & Integration

Building an intelligent, factual platform requires pulling data from a wide array of reliable sources. Every data point must be traceable, credible, and properly contextualized.



Data Sources Overview

Below we outline the key data sources by category, explaining what each provides, how credible it is, and how it can be accessed. We also note any caveats or conditions for use. Ensuring data quality and citing sources is paramount – the system will maintain a metadata catalogue for each dataset, including source and confidence level.

01

Macroeconomic and Financial Data Sources

Central banks (Aden and Sana'a), Ministry of Finance, World Bank, IMF, UNDP, and academic studies provide the foundation for economic indicators.

02

Humanitarian and Social Data Sources

UNOCHA, WFP, UNICEF, WHO, and Food Security Cluster provide comprehensive humanitarian statistics and population data.

03

Conflict and Event Data Sources

News agencies (Reuters, AP, BBC, Al Jazeera), local media, ACLED, UN Panel of Experts, and think tanks document events and their impacts.

04

Financial and Market Data Sources

Currency exchange data, commodity prices, banking sector statistics, sanctions lists, and project/aid data from various official sources.

05

Think Tanks, Research and Gray Literature

Sana'a Center, International Crisis Group, Chatham House, academic research, and case studies from other conflict economies.

Macroeconomic and Financial Data Sources (Detailed)

Central Bank of Yemen - Aden (IRG)

The CBY in Aden (official) provides data on money supply, exchange rates, FX auction results, banking sector indicators, and public finances for areas under IRG control.

Credibility: Moderate to high for statistics like foreign exchange auction outcomes or reserve levels (though transparency is imperfect).

Access: CBY-Aden publishes via its website and Facebook page information on currency auction allocations and sometimes monthly financial reports.

Use: Primary for official exchange rate (though market rate differs), banking regulations, and government finance data.

Note: Since late 2016 CBY-Aden data doesn't cover northern banks, so it's partial. We flag this in metadata with a "coverage: IRG areas only" tag and confidence: medium due to incomplete coverage.

Central Bank of Yemen - Sana'a (de facto authority)

The Houthi-run CBY in Sana'a releases very limited data publicly. They have their own set of regulations, occasional reports or press statements (mostly in Arabic).

Credibility: Medium – data might be accurate for what it covers but it's very opaque.

Use: We rely on secondary reports (UN Panel of Experts, Sana'a Center reports) to glean Houthi-area financial data. When possible, we incorporate Houthi CBY directives to log in the Events database.

Note: For quantitative data (inflation in north, etc.), we prefer triangulating with WFP price data or academic estimates. We mark such data as estimated with appropriate caveats.

Ministry of Finance (Aden) and Economic Ministries

The IRG's Ministry of Finance, Ministry of Planning (MOPIC), and Central Statistical Organization (CSO) have some publications including government budgets and economic surveys.

Credibility: Moderate – official figures might be optimistic or incomplete.

Use: Historical context (e.g. pre-war revenue and spending breakdowns) and tracking any new budget announcements. We reference MOPIC statements for GDP estimates and economic loss calculations.

World Bank Open Data & IMF datasets

Highly credible sources for standardized indicators. The World Bank's World Development Indicators (WDI) includes Yemen data for GDP, population, poverty (though post-2015 many are modeled estimates).

Access: World Bank API for specific series (e.g., GDP, consumer price inflation). IMF has Article IV data up to 2014 and projections in Regional Economic Outlooks.

Use: Baseline national accounts, poverty rates, and cross-country comparisons. Since conflict has made data collection hard, we note confidence levels: GDP estimates are low confidence after 2015 due to data paucity.

UNDP and Academic Studies

UNDP produced detailed assessments of war impact (e.g., Yemen lost \$89 billion in output by 2019 and would be set back decades of development).

Credibility: Generally high for UNDP; varies for academic papers.

Use: Enrich analysis and forecasting scenarios. These sources reside in the Reports & Literature library for user reference.

Humanitarian and Social Data Sources (Detailed)

UNOCHA Humanitarian Data and Reports

UNOCHA is a principal source for humanitarian stats: Humanitarian Needs Overview (HNO) reports (annual) and Humanitarian Response Plans (HRP) provide figures on people in need, IDPs, etc.

Credibility: High (data compiled with clusters and vetted)

Access: ReliefWeb or UNOCHA's API. UNOCHA's FTS (Financial Tracking Service) has an API for funding data.

Use: Display "People in Need" trends, IDP numbers over time, and track aid funding vs. requirements. Give context on humanitarian pressure – e.g. overlaying conflict events with spikes in needs.

WFP and Food Security Cluster

The World Food Programme (WFP) monitors food prices, household food security surveys (e.g. via mVAM), and publishes monthly Food Security Updates.

Credibility: High (field collected data)

Access: WFP website or Food Security Cluster dashboards

Use: The platform's Inflation & Cost of Living page will rely on this to show inflation in essentials. IPC (Integrated Phase Classification) assessments classify famine risk.

UNICEF and Health Cluster

For stats on malnutrition, health access, water/sanitation (WASH), UNICEF and WHO provide figures (e.g. "500,000 children severely malnourished in 2025").

Credibility: High

Use: Enrich the social context with economic implications (a malnourished workforce, etc.). Include key health/education stats in Poverty & Labour sub-page or sidebars.

Population Data – OCHA/CSO

For population by area, we use OCHA's population dataset (derived from Yemen's CSO projections and adjusted by agencies).

Source: humdata.org has "Yemen: Population Estimates by District (2019-2024)"

Credibility: High (though war has caused migration, these are estimates)

Use: Integrate into a reference table so that any per-capita calculations (e.g. aid per capita, GDP per capita) use consistent denominators. Can be fetched via HDX API or downloaded as CSV.

Yemen's Fragmented Financial Landscape – Comprehensive Overview

Since the outbreak of war in 2015, Yemen's financial system has endured a decade of fragmentation. The country operates with dual institutions and parallel economies. This comprehensive document examines every aspect of Yemen's financial landscape across commercial banking, microfinance, informal networks, key stakeholders, and regulatory frameworks.

Introduction: Conflict-Driven Economic Fragmentation

Since the outbreak of war in 2015, Yemen's financial system has endured a decade of fragmentation. The country operates with dual institutions and parallel economies. The Central Bank of Yemen (CBY) split in 2016, creating two rival central banks – one in Aden under the internationally recognized government (IRG) and another in Sana'a under Houthi de-facto authorities. This schism has led to divergent monetary policies, separate currencies, and bifurcated exchange rates: Houthi-controlled areas banned new Aden-printed rials and maintained a rate around ~YR 600 per USD, while government areas flooded with newly printed cash saw the rial plunge to ~YR 1,300 per USD by late 2021. The result is effectively two monetary zones, with distinct banknote circulations and parallel exchange rates, complicating commerce and fueling inflation.

Aden Central Bank

Internationally recognized government (IRG)
Exchange rate: ~YR 1,300/USD (2021)
New currency printing

Sana'a Central Bank

Houthi de-facto authorities
Exchange rate: ~YR 600/USD
Banned Aden-printed rials

For example, at one point the Aden-based exchange rate collapsed to an unprecedented YR 2,905/USD before partial recovery to ~YR 1,676/USD after emergency measures. The "currency war" – including competing money issuance and ban of rival's currency – has severely eroded purchasing power and driven hyperinflation in basic goods.

Institutional Division and Monetary Governance Collapse

Institutional division has undermined monetary governance and oversight. The relocation of major bank headquarters from Sana'a to Aden (often to comply with sanctions and align with the recognized government) created regulatory chaos. Banks must navigate conflicting directives from the two central banks, resulting in operational paralysis and a decline in financial intermediation. Trust in formal banking has been devastated – only around 6% of Yemeni adults hold a formal bank account, and an estimated 95% of businesses remain unbanked. Such financial exclusion has forced most transactions into cash and informal channels, hindering credit access and economic resilience.

6%

Banked Adults

Yemeni adults with formal bank accounts

95%

Unbanked Businesses

Businesses operating outside formal banking

2

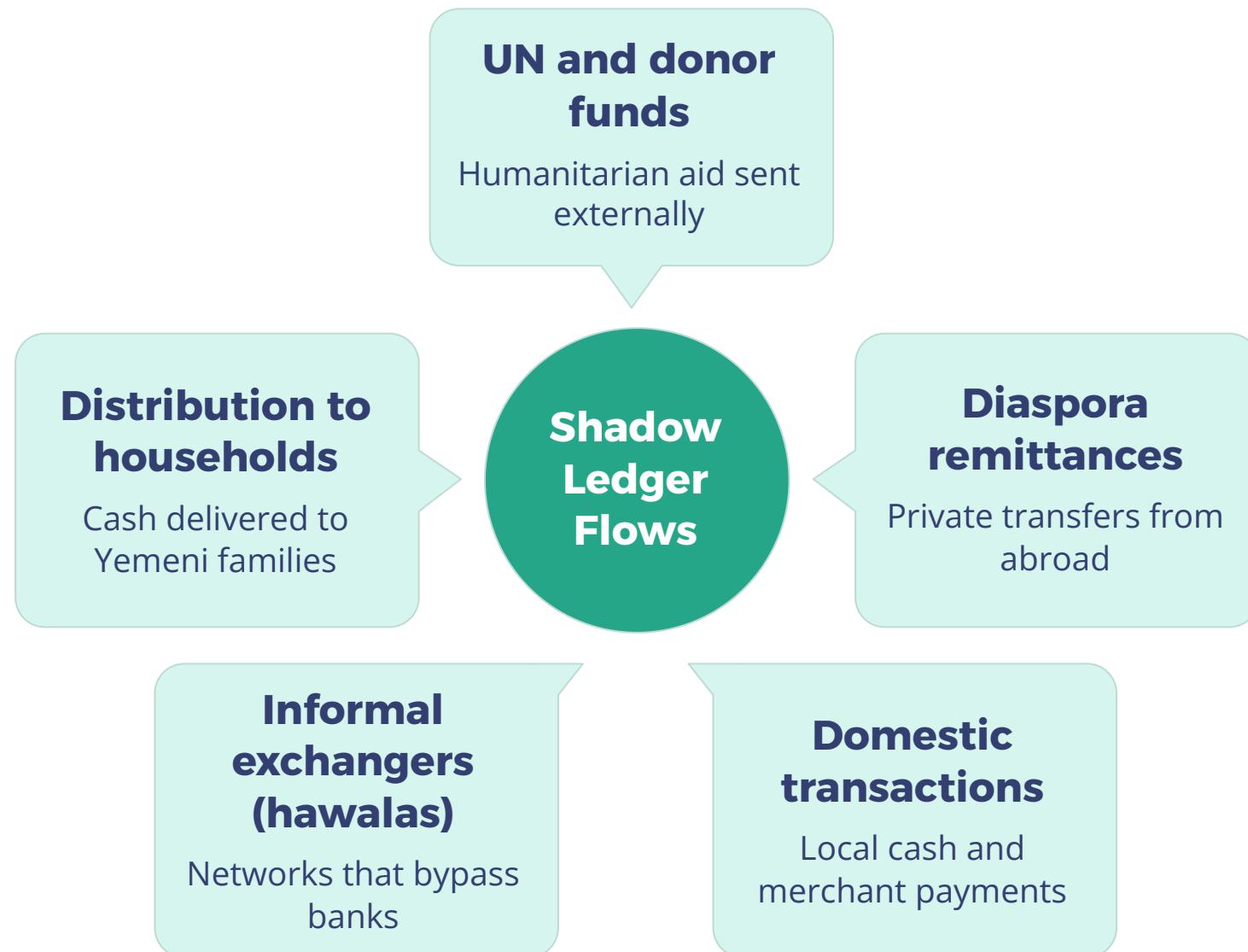
Central Banks

Rival institutions issuing conflicting directives

Yemen's banking sector, once modestly developing, has been largely marginalized by the war. Today it serves primarily a limited role: facilitating international transfers (e.g. via SWIFT) and holding deposits for a shrinking base of clients, while the majority of domestic payments, remittances, and even aid disbursements flow outside the formal banking network.

The Shadow Ledger: Informal Finance Dominates

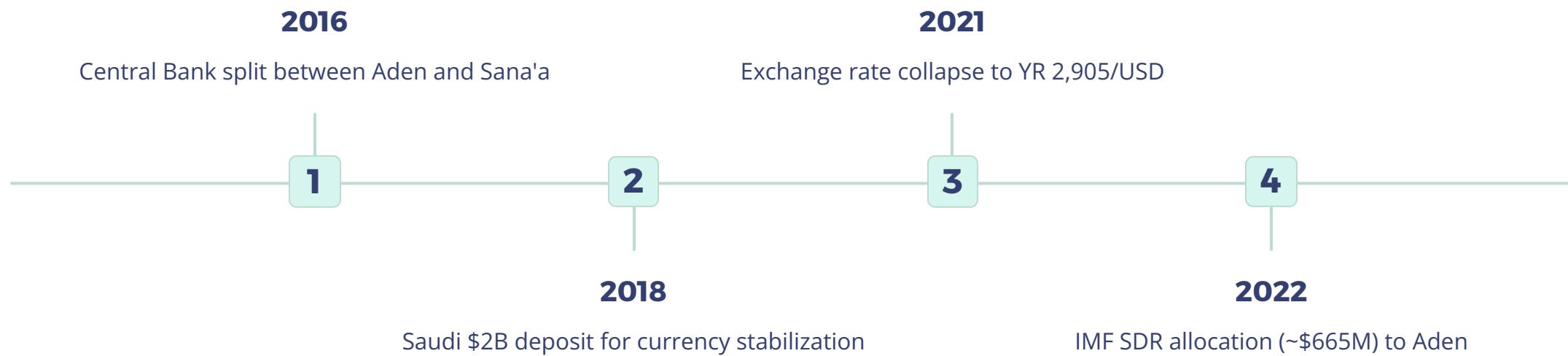
Amid this upheaval, a "shadow ledger" of informal finance now dominates. Money exchange houses (hawalas), microfinance networks, and informal traders have effectively taken over the functions of transferring funds and providing liquidity. Humanitarian aid from the UN and donors, which pours hundreds of millions into Yemen, often bypasses the central banks and commercial banks – instead routing through this parallel system of exchangers and agents to reach households. Remittances from the Yemeni diaspora (historically the largest foreign exchange source) also increasingly flow via informal money transfer companies, given restrictions and the mistrust of banks.



While these informal mechanisms have kept the economy afloat, they operate with minimal oversight, raising concerns about money laundering, terror finance, and the difficulty of reconstituting a unified financial system in the future.

International Interventions and Their Limitations

In the face of fragmentation, both Yemeni authorities and international partners have attempted interventions. The Saudi deposit of \$2 billion in 2018 – intended to stabilize the currency and finance letters of credit for essential imports – is one prominent example. The CBY-Aden used the funds to provide importers (food companies) with foreign currency at preferential rates to temper prices. While this temporarily stabilized the rial and food prices in 2018-2019, it also became a source of controversy (addressed further below).



More recently, in 2022, the IMF's Special Drawing Rights (SDR) allocation (~\$665 million) provided a boost to Aden's reserves, but institutional weaknesses, corruption allegations, and continued factional divisions have limited its effective use. The lack of a coherent national monetary policy, compounded by the dual authorities, means piecemeal measures struggle to reverse the rial's volatility and the banking sector's collapse. Overall, Yemen's financial architecture in 2025 is a tale of resilience through informality – a system kept alive by ad-hoc mechanisms and non-state networks, even as formal institutions are split and diminished.

Commercial Banking Sector: Collapse and Adaptation

Prior to the conflict, Yemen's banking sector was small but functional – comprising a mix of state-owned banks and private banks (some conventional, some Islamic). The war's effects, however, have left it in disarray. Operational commercial banks have shrunk to just 15–17 institutions nationwide, including about 11 conventional banks and 4 Islamic banks (plus a few microfinance banks). Many bank headquarters relocated to Aden after 2016, as Houthi-controlled Sana'a became subject to international isolation; by 2020, the Aden CBY reported that a majority of banks formerly based in Sana'a had officially moved their legal domicile to Aden. This shift was partly driven by U.S. sanctions and terrorism designations that made operating under Houthi jurisdiction risky.



Pre-War Banking

Functional sector with state-owned and private banks serving the economy

War Impact

Headquarters relocated from Sana'a to Aden, creating operational chaos

Dual Regulation

Banks navigate conflicting directives from two central banks

Sector Collapse

Only 15–17 banks operational, lending ceased, liquidity crisis

However, the relocation created an east-west split: branches in Houthi areas versus management in Aden, leading to duplication of compliance requirements and confusion in regulation. Commercial banks must juggle two sets of instructions (e.g. regarding liquidity, reporting, or foreign exchange) from the rival central banks, undermining their ability to lend or function normally. Unsurprisingly, banks have grown extremely conservative – most stopped issuing letters of credit or loans, and instead simply safeguard deposits (where not frozen) and facilitate limited transfers. Private sector credit has dried up, and banks largely ceased new lending due to uncertainty and risk.

Liquidity Crises and Banking Sector Challenges

Liquidity crises also struck the banks. With the government itself split, public finances and deposits fragmented: the Houthi-run Ministry of Finance in Sana'a pulled government deposits from banks in the north, while the Aden Ministry of Finance did the same in the south. This, along with loan defaults amid economic collapse, meant banks faced severe liquidity shortages. Many depositors could not withdraw their savings as banks imposed limits. Confidence in banks eroded further, pushing Yemenis toward cash and gold or foreign currency hoards. According to one analysis, by 2020 only 6% of Yemen's money supply was held as deposits in banks, reflecting the public's flight from the banking system.

"By 2020 only 6% of Yemen's money supply was held as deposits in banks, reflecting the public's flight from the banking system."

In such an environment, foreign correspondent banking ties also suffered – global banks became hesitant to deal with Yemeni banks due to sanctions compliance and Yemen's high-risk profile. This made it hard for Yemeni banks to execute international payments, except through a few remaining channels (often via Jordanian banks or Arab Bank).

Major Commercial Banks in Yemen's Banking Sector

Despite these headwinds, a core group of banks continues to operate, trying to maintain basic services. Notable commercial banks include: the International Bank of Yemen (IBY) and the Yemen Bank for Reconstruction & Development (YBRD) – both long-standing institutions that form part of the system's backbone. YBRD, for example, is one of the oldest banks (founded in the 1960s) and historically government-owned, with a mandate for development projects; it has strived to keep branches open and pay salaries. The Cooperative and Agricultural Credit Bank (CAC Bank) – a large state-owned bank founded in 1982 – remains one of the few banks with a broad network (reportedly 58 branches nationwide). CAC Bank was Yemen's largest bank by assets pre-war and continues to serve government payrolls and handle international aid funds in Aden. (Its capital is about YR 10 billion according to recent data.)

Bank	Year Est.	Type / Ownership	Notes (pre-2020)
CAC Bank (Coop. & Agr. Credit)	1982	State-owned commercial	Largest branch network (~58 branches); HQ relocated to Aden (2016)
National Bank of Yemen	1969	State-owned commercial	Based in Aden; served government in south
YBRD (Yemen Bank for Reconstr. & Dev.)	1960s	State-owned (development focus)	Oldest bank; HQ Sana'a, now split ops due to conflict
Tadhamon Islamic Bank	1995	Private Islamic (HSA Group)	Largest private bank (~\$900 M assets); major food import financer
International Bank of Yemen	1979	Private commercial	Major private bank, core to formal sector
Yemen Kuwait Bank	1979	Private commercial	One of the oldest private banks in Yemen
Saba Islamic Bank	1997	Private Islamic	Noted Islamic lender, part of Islamic banking growth
Yemen Islamic Bank (for Finance & Inv.)	1996	Private Islamic	First Islamic bank in Yemen; established by regional investors
Shamil Bank of Yemen & Bahrain	2002	Private Islamic (foreign JV)	Joint venture with Bahraini bank (Islamic banking)
Arab Bank – Yemen	1970s	Foreign branch (Jordan)	Foreign-owned; handles intl. transactions (limited in war)
United Bank Ltd. (Yemen)	1970s	Foreign branch (Pakistan)	Presence of Pakistani bank (operations scaled down)
Yemen Commercial Bank	1993	Private commercial	Medium-sized private bank (Aden-based)
Wadi Hadramout Bank	2018	Private commercial (new)	New bank launched amid war (IRG licensing)
Finance & Development Bank	2019	Private commercial (new)	New bank (possibly microfinance upscaled)
Al Kuraimi Islamic Bank	See MFIs	See Microfinance section	Leading microfinance bank, now quasi-commercial

- ☐ **Note for readers unfamiliar with Yemen:** Al-Kuraimi Islamic Microfinance Bank, while legally a microfinance institution, functions at scale similar to commercial banks and is detailed in the microfinance section. The table shows the diversity of Yemen's banking sector before the war, including state-owned, private, Islamic, and foreign banks.

Wartime Banking Challenges and Corruption Allegations

Wartime challenges: Banks have faced asset quality deterioration (most loans turned non-performing as businesses collapsed or borrowers fled), and capital erosion (some banks fell below required capital adequacy). The banking law and CBY regulations, based on the Central Bank Law No. 14 of 2000 and Banking Law, became difficult to enforce uniformly after the split. Both CBYs have issued sometimes conflicting circulars – for instance, about freezing certain accounts, or instructions on currency exchange. In Houthi-controlled areas, authorities at times took punitive action against banks (e.g. detaining bank staff or pressuring banks to comply with Sana'a directives). In Aden, CBY-Aden struggled to assert its supervisory authority beyond its limited territory and faced its own governance issues.

A UN Panel of Experts in 2021 even accused CBY-Aden and government officials of colluding with traders to embezzle funds from the 2018 Saudi deposit via preferential exchange rates. The panel claimed that the Yemeni government diverted \$423 million of the Saudi funds (48% of it allegedly to one business conglomerate, HSA Group), amounting to "money laundering and corruption" that hurt food prices. These explosive allegations – implicating virtually all major food-importing companies and the central bank – were contested and later retracted. In March 2021 the Panel acknowledged that a preliminary review found no evidence of corruption in the use of the Saudi deposit and noted that food prices had in fact stabilized in 2019 when the funds were used. All references to the corruption claims were withdrawn pending further assessment.

- ❑ **Context for international readers:** This episode highlights the opacity and mistrust surrounding Yemen's financial system during the war. It also underscored the importance of transparent auditing and internationally-backed oversight when large aid or deposit programs are implemented. CBY-Aden's credibility was badly hurt by the incident even though the accusations were "disregarded" later, and it has since been working with IMF and donors on improving transparency and reporting.

Sanctions, Compliance, and International Banking Relations

Sanctions and international compliance have also shaped the banking sector. The U.S. Treasury and UN have sanctioned various entities and persons tied to the conflict. Notably, Hashem Ismail (al-Madani) – the Houthi-appointed governor of the Sana'a central bank – was sanctioned by the U.S. in December 2024 as a "primary overseer" of Iranian funds to the Houthis. Yemeni banks with any connections to Houthi authorities have to avoid dealings with such sanctioned figures to not risk secondary sanctions. Moreover, the entire Houthi-controlled banking apparatus is largely cut off internationally due to U.S. sanctions on the Houthi movement (designated as Specially Designated Global Terrorists by late 2024).

U.S. Treasury Sanctions

Hashem Ismail (Houthi CBY governor) sanctioned December 2024

Al-Omgy and Brothers money exchange sanctioned 2021 for terrorism links

Houthi Movement Designation

Designated as Specially Designated Global Terrorists by late 2024

Entire Houthi banking apparatus cut off internationally

AML/CFT Requirements

Banks expected to follow anti-money laundering standards

Aden CBY receiving technical assistance for compliance

FATF Concerns

Yemen on FATF radar pre-war for AML deficiencies

Split system makes unified regulation impossible

In early 2021, the U.S. had also sanctioned Al-Omgy and Brothers, a prominent Yemeni money exchange business, for aiding terrorism (Al Qaeda) – signaling that even informal financial players face scrutiny. Yemen's banks are expected to follow AML/CFT (anti-money laundering and counter-terror finance) standards, and the Aden central bank has been receiving technical assistance to strengthen compliance units. However, enforcement is extremely challenging in the current environment. Yemen was already on FATF's radar pre-war for AML deficiencies; the split has only made regulation harder. Banks in Aden areas try to follow international norms (e.g. implementing customer due diligence, UN sanctions list screening), whereas banks in Houthi areas may quietly facilitate Houthi transactions or debt financing that would be problematic internationally. This divergence further undermines a unified banking system.

Political Risks and the Path to Banking Sector Recovery

Political and security risks continue to loom over banks. In the south, infighting among anti-Houthi factions affected financial governance – e.g. the Southern Transitional Council (STC) at times clashed with the Hadi/Rashad administration over control of economic institutions, even briefly besieging the Aden central bank in 2020. Such events undermine confidence in the banking regulator. In the north, Houthi authorities have periodically raided banks and money exchangers (especially during currency volatility) to arrest "speculators" or enforce their decrees. This creates a climate of fear rather than a stable banking environment.

Despite everything, commercial banks remain a critical piece for eventual recovery. They hold institutional knowledge, trained staff, and systems that informal networks lack. Rebuilding Yemen's economy will require recapitalizing and reunifying these banks under a single regulatory framework. Comparatively, other conflict states offer lessons: for example, Libya's central bank was split for years during its civil war, but by 2023 the branches initiated reunification, enabling improved monetary policy coordination and banking supervision. Yemen could follow a similar path – an eventual political settlement might allow the CBY offices in Aden and Sana'a to reconcile ledgers and jointly back the banking sector.

01

Audit and Assessment

CBY-Aden conducting audits of banks with IMF and World Bank support

02

Credit Reporting Systems

Introducing credit reporting infrastructure to track borrower history

03

Deposit Insurance

Exploring deposit insurance mechanism to rebuild public trust

04

Currency Auctions

Weekly FX auctions started 2021 to stabilize exchange rates

05

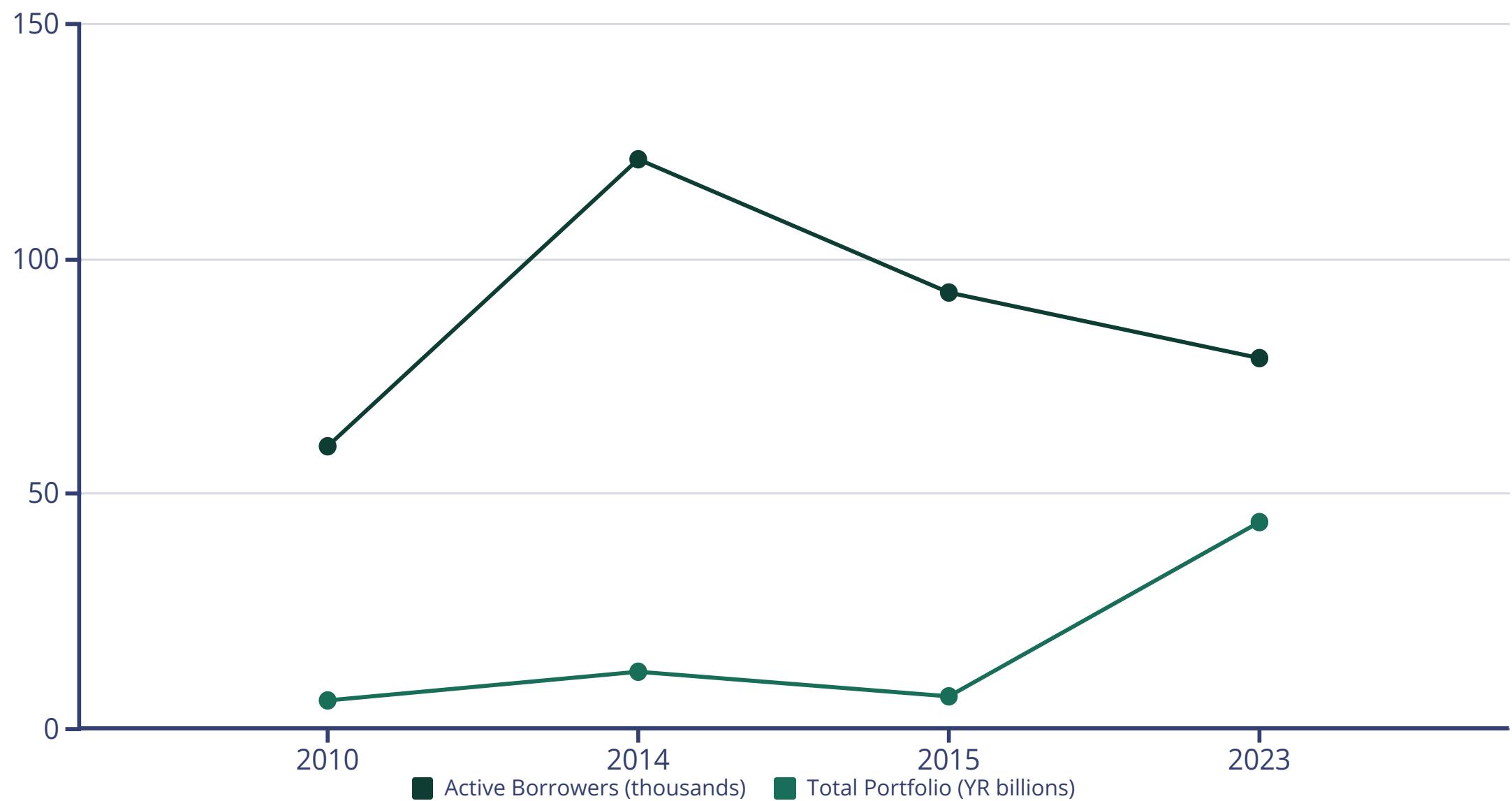
Political Settlement

Eventual reunification of CBY offices required for full recovery

In the meantime, stopgap measures are being pursued: CBY-Aden (with IMF and World Bank help) has been conducting audits of banks, introducing credit reporting systems, and even exploring a deposit insurance mechanism to rebuild trust. Both central banks also began currency auctions in recent years (Aden's CBY started weekly FX auctions in 2021 with World Bank support) to stabilize the rial exchange rate and inject liquidity to banks for import financing – with some success in the south. However, without a political solution, the commercial banking sector will likely remain fragmented and frail, ceding most day-to-day financial intermediation to the informal sector.

Microfinance Institutions: Expansion amid Crisis

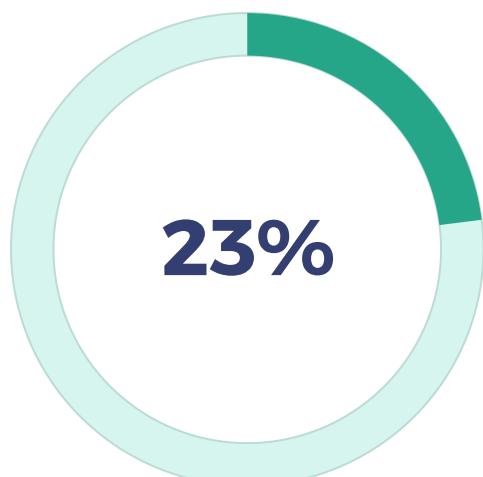
Yemen's microfinance sector has undergone a radical transformation during the conflict. Before 2015, microfinance in Yemen was modest but growing, spearheaded by the Social Fund for Development (SFD) and donors. The Microfinance Banking Law No. 15 of 2009 created a framework for Microfinance Banks (MFBs) – specialized banks allowed to collect deposits and offer loans to small borrowers. Yemen was actually ahead of many Arab countries in this regard: unlike Jordan or Tunisia (which restrict microfinance to credit-only NGOs), Yemen (and Sudan) enabled MFIs to become licensed banks that mobilize savings. This enabling regulatory environment led to early successes: Al-Amal Microfinance Bank (established 2008 as the region's first microfinance bank) and Al-Kuraimi Islamic Microfinance Bank (formerly a money exchange company that became a bank in 2010) gained hundreds of thousands of clients.



By 2014, Yemeni microfinance institutions had about 121,000 active borrowers, nearly double the number in 2010. The total micro-loan portfolio reached YR 12.2 billion (~\$57 million) by 2014. Importantly, microfinance was making strides in financial inclusion – serving low-income entrepreneurs, many of them women in rural areas, who were outside the formal banking sector.

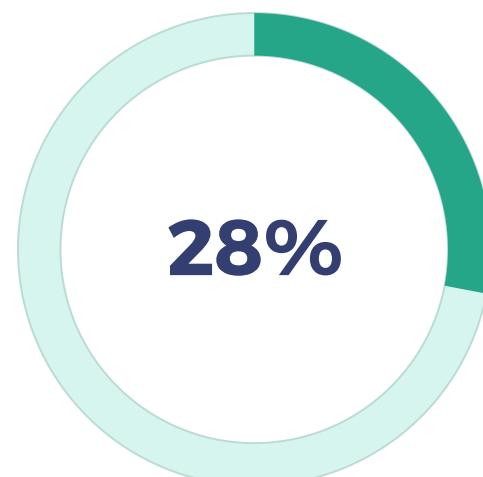
War's Impact on Microfinance and the Depositor Surge

The war in 2015 delivered a severe blow. In the first year of conflict, active microfinance borrowers dropped by 23%, from ~121,000 to ~93,000. Branches in conflict zones closed, many clients defaulted or fled, and some microfinance programs lost donor funding. By 2023, the number of active borrowers had further declined to about 78,686, a 15.5% drop since 2015. However, paradoxically, microfinance banks started to attract a new kind of customer: depositors seeking a safe haven. As trust in traditional commercial banks evaporated post-2016, Yemenis increasingly put their money into microfinance banks like Al-Kuraimi, which were seen as more accessible and perhaps less entangled in the political feuds.



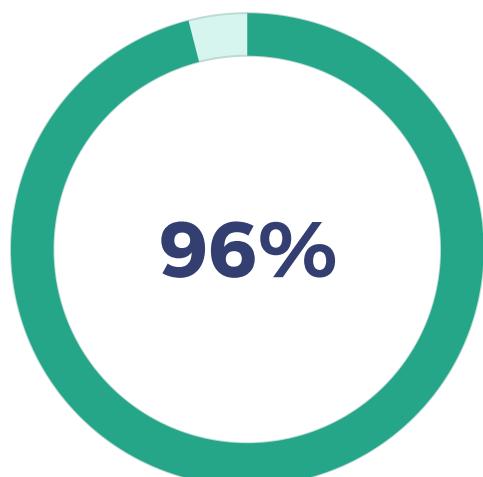
Borrower Drop (2015)

First year decline in active microfinance borrowers



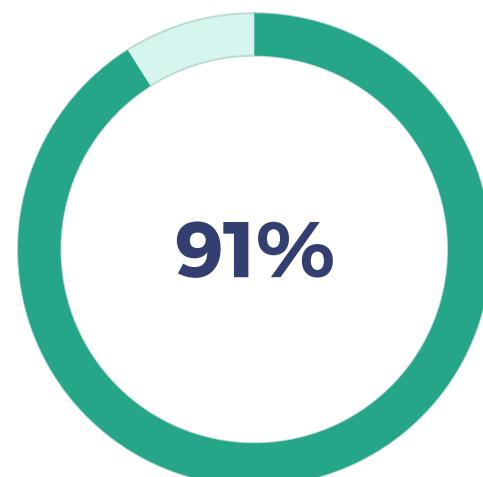
Annual Depositor Growth

Active savers growth rate reaching 3.3M by 2023



Deposit Market Share

MFBs' share of all microfinance deposits



Al-Kuraimi's Dominance

Al-Kuraimi's share of depositor growth

Microfinance banks, while a small segment (only ~8% of banking assets in 2020), saw a surge in deposit accounts. The number of "active savers" in microfinance banks grew 28% annually, reaching 3.3 million depositors by 2023, capturing a 96% market share of deposits among all microfinance institutions. This is an astonishing figure that reflects Al-Kuraimi's role – Al-Kuraimi Islamic Bank alone accounts for 91% of that growth. Essentially, Al-Kuraimi became the de facto bank for millions of Yemenis during the war, thanks to its reputation and wide agent network.

Dual Structure and Explosion of New Microfinance Banks

Dual structure: Yemen's microfinance sector now operates on two levels – formal MFBs regulated by the CBY, and informal MFIs (NGO programs and lending foundations) overseen by the SFD under the Law on Associations. The formal MFBs can take deposits and are subject to the Microfinance Bank Law and CBY supervision. The informal MFIs (about a dozen programs) cannot take deposits and rely on donor funds, governed as non-profits. The distinction is important: MFBs have more capacity and have grown much larger due to deposit mobilization. For example, Al-Kuraiimi and Al-Amal (both MFBs) have far more clients and financial clout than a small NGO-run microcredit scheme. The SFD's Microenterprise Unit (SMEPS) helped many NGO MFIs before the war and continues to support the sector with training and concessional loans. But since the war, the big story has been the proliferation of new MFBs – many of them converted from money exchange companies.

Explosion of new microfinance banks: Taking advantage of the regulatory arbitrage, money exchange companies have sought MFB licenses to broaden their services. The split central banks actually competed in granting licenses. Since 2021, over a dozen new MFBs have emerged across Yemen. The CBY-Aden (government side), with encouragement from international partners (IMF, World Bank, USAID), launched initiatives to strengthen financial inclusion – issuing 10+ new MFB licenses by 2022-2023. Meanwhile, the CBY-Sana'a (Houthi side) also approved at least 2 new MFBs and had about a dozen applications in process. In fact, a March 2022 CBY-Aden resolution (No. 2/11/2022) explicitly mandated separation of microfinance from pure exchange business, nudging exchangers to become MFBs if they want to take deposits or make loans.

- **Why this matters:** For the exchange houses, an MFB license "unlocks a treasure trove of benefits": they can accept public deposits, offer micro-loans, provide international transfers (SWIFT), etc., which were forbidden under the Money Exchange Law that limited them to remittances and currency trades. The result is an "exponential growth" of licensed micro-banks, potentially exceeding the number of pre-war traditional banks.

Major Microfinance Institutions in Yemen

Some notable new entrants among MFBs include: Al-Busairi Bank for Microfinance and Bin Dowal Islamic Microfinance Bank – both established in Hadramawt governorate, arising from local exchange businesses. Al-Qasimi Islamic Microfinance Bank, linked to Al-Qasimi Exchange Company in Sana'a, even managed to secure dual licenses from both CBY-Aden and CBY-Sana'a to cover operations in both territories. This highlights the complexities of the divided system: some entrepreneurs are hedging by getting recognition from both regulators. As of late 2023, Yemen likely has around 15 licensed microfinance banks (including the pre-war ones and the new batch). The Yemen Microfinance Network (a national association) provides support and lobbies for these institutions, though it has to coordinate with two central bank authorities now.

Microfinance Institution (MFI / MFB)	Established	Type	Notes
Al-Amal Microfinance Bank (Sana'a)	2008 (opened '09)	Microfinance Bank (MFB)	World's first MFI bank focused on micro-entrepreneurs; supported by SFD/CGAP. Survived war in Sana'a; continues operations.
Al-Kuraiimi Islamic Microfinance Bank	2010 (as MFB; founded as exchange co. 1990s)	Microfinance Bank (MFB)	Yemen's largest microfinance institution (millions of clients). Ex-money exchanger turned full bank, offers nationwide remittances, savings, mobile banking. Vital for humanitarian cash transfers.
National Microfinance Foundation	2003	NGO Foundation (MFI)	Network of microcredit programs across governorates; backed by SFD, provides loans via local branches.
Aden Microfinance Foundation	1997 (as NGO)	NGO Foundation (MFI)	Based in Aden; provides micro-loans in the south.
Azal Microfinance Program (Azal City)	c.2001	NGO Program (MFI)	Program offering micro-loans in Sana'a region; now limited by Houthi oversight.
Al-Busairi Microfinance Bank (Mukalla)	2022	New MFB (Private)	Former exchange house in Hadramout, became licensed bank. Focuses on deposit-taking and small loans in Eastern Yemen.
Bin Dowal Islamic Microfinance Bank	2022	New MFB (Private)	New MFB in Hadramout (converted from money exchanger). Growing in eastern region.
Al-Qasimi Islamic Microfinance Bank	2023	New MFB (Private)	Originated from Al-Qasimi Exchange (Sana'a); uniquely got licensed by both Aden & Sana'a authorities. Operates in north, possibly expanding south.
Yemen Microfinance Network (YMN)	2009	Association/Network	Umbrella organization for MFIs; provides training, advocacy, coordination (supported by SFD and donors).
Small & Micro Enterprise Promotion Service (SMEPS)	2005	Govt/Donor Project (via SFD)	Implements microfinance development programs, capacity building for MFIs, and special lending projects (supported by World Bank, etc.).

Key distinction: "MFB" indicates licensed Microfinance Bank under the 2009 law, supervised by CBY; "MFI" indicates non-bank microfinance programs under SFD supervision.

Microfinance Opportunities, Risks, and Recommendations

Opportunities and risks: The upside of the microfinance boom is improved financial inclusion. These new micro-banks potentially bring services to populations long without banking access. They can mobilize dormant savings (as seen by millions of new deposit accounts) and extend credit to micro-businesses, helping revive local economies. Unlike the old donor-dependent MFIs, the new MFBs have a commercial sustainability model (earning from lending spread and services). Additionally, Yemen's rules let MFBs offer diverse products – micro-savings, insurance, remittances – which can deepen resilience in communities. Al-Kuraimi's success exemplifies this potential: it leveraged technology (mobile money app, widespread agents) to reach customers even in rural areas and became a trusted financial intermediary at a time when big banks were failing. This suggests properly regulated microfinance banks can be a "powerful engine for financial inclusion, economic growth, and poverty reduction" even amid conflict.

Opportunities

- Improved financial inclusion for underserved populations
- Mobilization of dormant savings (3.3M depositors)
- Credit access for micro-businesses and entrepreneurs
- Commercial sustainability model
- Technology-enabled reach to rural areas

Risks

- Rapid licensing outpacing regulatory capacity
- Fragmented authority creating uneven playing field
- Inexperienced staff in microfinance principles
- Mission drift toward affluent urban customers
- Unsustainable lending practices and competition
- High inflation and currency instability

Recommendations

- Improved regulation and oversight for MFBs
- Pause new licenses and assess landscape
- Capacity-building in risk management
- Foster consolidation of weaker MFBs
- Develop national credit registry
- Create credit guarantee schemes
- International donor technical assistance

However, there are serious concerns. The rapid licensing of MFBs may be outpacing the capacity of regulators to supervise them. The CBY division creates an uneven playing field – e.g. some new MFBs in Aden get donor support and training, whereas those in Sana'a operate under different (and possibly laxer) oversight. Fragmented authority could also mean duplication or regulatory arbitrage, where an entity might exploit gaps (as Al-Qasimi did by getting dual licenses). Many of the new MFBs have inexperienced staff in microfinance principles. There is risk of "mission drift" – instead of lending to poor, underserved clients, these profit-driven MFBs might chase easily reachable, more affluent customers in cities (essentially behaving like mini commercial banks). Fierce competition could drive some to unsustainable lending practices (over-lending, underpricing loans, or even Ponzi-like reliance on new deposits). If multiple MFBs all concentrate in the same urban markets (as noted, many just mirror their origin exchange companies' locations), rural areas and the truly poor may remain underserved – defeating the inclusion goal.

Money Exchangers and Informal Financial Networks

In Yemen's war economy, money exchangers (sarrafīn) have arguably become the central nervous system of finance. These are the informal (often family-owned) money transfer companies and currency exchange offices present in every city and town. Traditionally, Yemen has had a vibrant hawala network – used by migrant workers to send remittances home, and by traders to move funds without formal banks. The conflict's destruction of banking infrastructure propelled exchangers to the forefront. Money exchangers now handle the bulk of remittance inflows, currency conversion, and even serve as quasi-bankers for NGOs and businesses. A 2020 assessment noted that when banks could not operate across front lines, exchangers stepped in to transfer money from, say, government-held Marib to Houthi-held Sana'a through their networks. Their flexibility and ubiquity made them indispensable.



Remittance Processing

Handle bulk of remittance inflows (\$3-4 billion annually pre-war) from Yemeni diaspora, ensuring families receive support from relatives abroad



Currency Conversion

Provide currency exchange services across front lines, enabling trade and commerce between divided territories



Aid Distribution

Partner with UN and NGOs to disburse cash assistance, avoiding central banks and potential aid diversion



Trade Finance

Enable traders to finance imports by moving money to foreign suppliers via regional networks in Dubai and Amman

The Yemeni Exchangers Association (a union of money exchange businesses) exists to liaise with regulators – for instance, the CBY-Aden consults it and CBY-Sana'a also imposes directives through it. However, enforcement is mixed. Both central banks have tried to regulate exchange companies: requiring licenses, setting capital requirements, and issuing circulars on exchange rate policy. In practice, with hundreds of small exchangers operating, oversight is limited. In 2018–2019, the Houthi authorities in Sana'a took drastic steps against exchangers during a rial crash – dozens of exchangers were arrested for "speculation" as the de facto authorities tried to fix the rate by fiat. They even briefly banned large transfers of rials from south to north and capped local transfers, attempting to choke what they saw as arbitrage between the two currencies. These heavy-handed tactics had temporary effects but also drove many transactions underground. Meanwhile, CBY-Aden set up an FX auction system in 2021 to moderate the market, which many exchange firms participate in by buying dollars for importers. This has brought a segment of exchangers into a more transparent process (the auctions are public), but the parallel market still dominates.

Key Business Stakeholders: Hayel Saeed Anam (HSA) Group

Perhaps no private actor is more crucial to Yemen's economy than the Hayel Saeed Anam Group. Founded in 1938 by Hayel Saeed Anam, this family-owned conglomerate has interests spanning food production, commodities trading, manufacturing, banking, and more. HSA Group's subsidiaries are embedded in daily Yemeni life: they dominate the import of staple foods (flour, sugar, cooking oil, rice), they produce biscuits, pasta, dairy products domestically, and they own supermarket chains. The group also has industrial operations (e.g. cement, packaging, steel) and consumer goods lines. Tadhamon Islamic Bank, as noted, is part of the HSA Group's holdings in finance (one of the founders was from the Saeed family), giving HSA an insider role in banking. By some estimates, HSA Group companies employed over 15,000 Yemeni workers pre-war, and the group's revenues accounted for a significant chunk of non-oil GDP.



Food Import & Production

Dominates import of staple foods (flour, sugar, oil, rice)

Produces biscuits, pasta, dairy domestically

Owns supermarket chains



Industrial Operations

Cement production

Packaging manufacturing

Steel production



Financial Services

Tadhamon Islamic Bank (part of HSA holdings)

Insider role in banking sector



Employment Impact

15,000+ workers pre-war

Significant chunk of non-oil GDP

Contributions during conflict: The HSA Group has played a pivotal role in maintaining food supply amid war. As the largest importer, it took on the risk of bringing in wheat and flour when others could not. The Saudi deposit's letter-of-credit mechanism (2018–2019) channeled nearly half of its subsidized forex to HSA's import arm – 48% of the \$423 million in subsidies went to HSA Group companies. This was simply because HSA's market share in Yemen's food import sector is massive (the Panel of Experts later acknowledged HSA was "the leading business and industrial conglomerate in Yemen since the 1960s" and "the largest food importer in Yemen for years", hence naturally receiving a large share). The group claims that thanks to those funds, it lowered food prices 10–26% for Yemeni consumers, mitigating hunger. Indeed, independent reports from late 2018 confirm that an influx of forex for imports helped the rial recover value and food prices to drop. Beyond trading, HSA companies kept many of their factories running (where security allowed) and provided jobs when unemployment elsewhere soared.

Philanthropy and aid: The Saeed family established the Hayel Saeed Anam Charity Foundation, which has funded hospitals, schools, and direct humanitarian aid. During the war, the foundation has been involved in relief distribution, sometimes coordinating with international NGOs. For example, when the UN faced hurdles in Houthi areas, HSA's wide logistics network (trucks, warehouses) was leveraged to move aid goods. The family's public stance has been mostly apolitical and focused on stability – they have at times acted as intermediaries between conflict parties on economic matters. For instance, there were reports that Abduljabbar Hayel (a senior HSA figure) engaged in dialogue to keep Hodeidah port operational for imports early in the war. The group also participated in Covid-19 response, donating medical supplies and oxygen plants in 2020 when Yemen's health system collapsed. In terms of youth empowerment, HSA sponsors scholarship programs and business incubator competitions for Yemeni youth, aiming to foster entrepreneurship that could one day feed into their workforce or supply chain.

Other Major Business Groups and Economic Actors

Bin Mahfouz Group

Another prominent family conglomerate, the Bin Mahfouz are known for banking and trading activities. They have ties to the Yemen Kuwait Bank (one of the Bin Mahfouz family members was a founder) and various import businesses. The group is influential in the Hadramout and Saudi business circles (some of the family members also invested in Saudi Arabia). During the war, they maintained a lower profile but continue to operate in import/export. They have been involved in philanthropic contributions especially in Hadramout (e.g. funding local relief efforts).

Shaher Abdulhak (Shaher Group)

The late Shaher Abdulhak was often called the "King of Sugar" – his business empire (Shaher Trading) monopolized soft drink bottling (he owned the Yemeni franchise of Coca-Cola), sugar imports, and other commodities. While Shaher himself passed away in 2020, his businesses still operate. The group had significant capital overseas, which was an advantage in wartime to finance imports. They were part of the Saudi deposit L/C program as well (being one of the 91 importers mentioned by the UN Panel). Shaher Group's continued role is mostly in the food and beverage sector. They had to navigate both sides – e.g. keeping the Coca-Cola plant in Sana'a running under Houthi supervision while also dealing with international suppliers.

Al-Kuraiimi and Al-Hayel Groups

(Not to be confused with HSA). Al-Kuraiimi Group – beyond the microfinance bank – includes general trading businesses that the Al-Kuraiimi family runs. They became key players in supply chains for basic goods due to their financial network. Al-Hayel Group is a smaller but notable player in the Hadramout region, involved in fuel importation and trade.

Al-Ahmar Business Interests

The Al-Ahmar family (powerful tribal-political family) also had business ventures – e.g. Hameed al-Ahmar, a prominent figure, owned telecommunications (Sabafon mobile network) and banking stakes (he was a major shareholder of Shamil Bank). Post-2015, the Houthi forces seized many Al-Ahmar assets in the north (they nationalized Sabafon's Sana'a operations and others). Hameed and brothers in exile invested in projects in Marib and Saudi. Their influence in the formal economy waned compared to pre-war, but they remain stakeholders, especially if a political settlement returns them from exile.

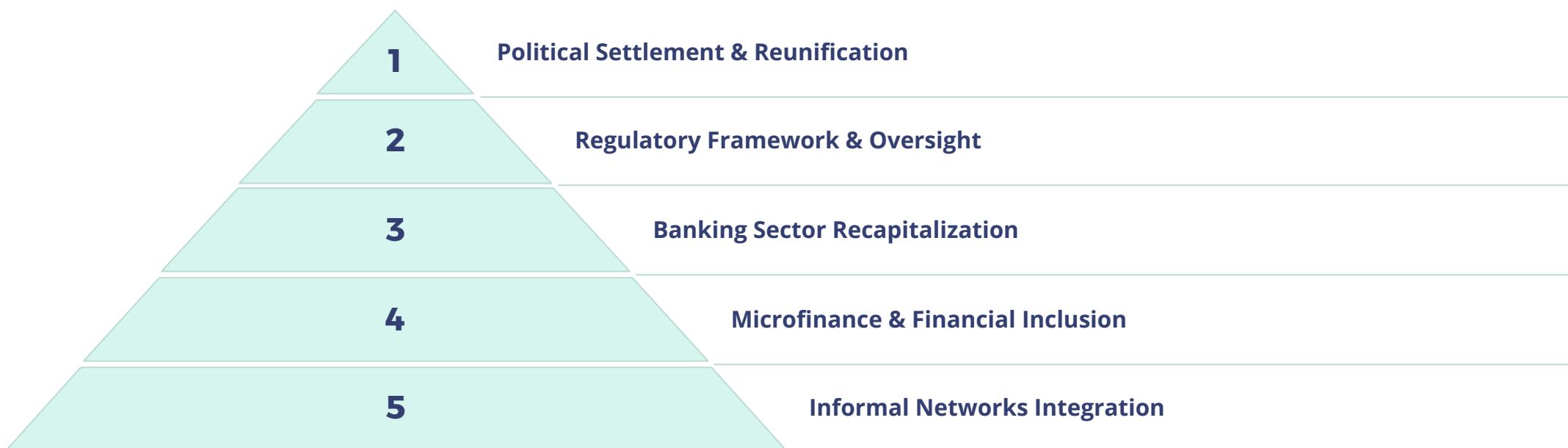
Southern Business Figures

In the south, notable businessmen include Ahmed Al-Essi – a tycoon in oil shipping and a close ally of former President Hadi. Al-Essi's companies were involved in importing fuel for Yemen (which has been contentious, with allegations of overpricing fuel during crises). Another is Fahem Group (Ali Abdullah Fahem family), big in food imports as well, mainly in Hodeidah and now Aden. These actors have sometimes been accused of profiteering (for example, fuel import monopolies leading to higher gasoline prices), and they are part of the power tussle in the south (Al-Essi, for instance, had high political clout and was briefly head of Yemen's Football Association as well).

- ☐ **Understanding Yemen's business landscape:** These business groups are not just economic actors – they are deeply intertwined with political power structures. Their ability to operate across divided territories, maintain international connections, and control critical supply chains makes them essential to understanding Yemen's wartime economy and future reconstruction.

Toward a Unified Economic Vision and Comprehensive Intelligence

Drawing from all the above, it's evident that Yemen's financial and economic fragmentation is both a symptom and a driver of the conflict. Efforts to address it must be comprehensive and transparent. The envisioned platform (economic intelligence system) would serve as a central repository of data on all these stakeholders, laws, and indicators – a "Yemen Economic Observatory" that can provide real-time dashboards and deep-dive reports. Such a platform can enhance accountability by clearly showing, for example, who benefited from certain public funds, or which banks are in distress, etc. It can also inform policy and best practices by learning from comparative cases (like Libya's central bank reunification, Sudan's microfinance efforts, Somalia's regulation of hawalas, etc.).



Crucially, gathering information from credible sources is key. The user mentions sources like the Sana'a Center for Strategic Studies, which has produced high-quality analyses on Yemen's economy (e.g. on the dual exchange rate, the fuel economy, the microfinance sector). Those, alongside reports by the World Bank, IMF Article IV reviews, ACAPS and ODI reports on Yemen, UN Panel of Experts reports, and local research by Yemeni scholars, all need to be part of the knowledge base. The platform should store these literatures, with meta-tags (e.g. "banking sector", "remittances", "CBY split") so that analysts and even algorithms can pull context when needed. This way, if a subscriber asks for a brief on "Impact of currency divergence on food security", the system can draw on both data (exchange rates, food prices) and contextual analysis (from Sanaa Center, WFP, etc.) to generate a rich, contextualized answer – almost like an expert consultant.

To ensure credibility, the methodology behind data and narratives must be transparent. Each data point (like an exchange rate or GDP figure) should be sourced (e.g. from CBY bulletins or World Bank) with confidence levels if applicable. Analytical conclusions should be backed by citations (as we have done throughout this document). Any gaps in data – e.g. a certain bank's financials not available after 2016 – should be clearly indicated, possibly with suggestions on how to fill them (maybe via future surveys or approximations). This honesty about data quality will enhance trust in the platform's outputs.

Finally, the end-goal is that by having a holistic view – covering formal banks, microfinance, informal networks, key business players, regulatory environment, and international linkages – stakeholders from Yemeni citizens to international donors can make informed decisions. Whether it's a donor deciding how to channel aid (bank vs hawala), or a policymaker planning central bank reunification, or a journalist investigating war profiteering, the compiled intelligence would be invaluable.

"Yemen's financial system cannot be divorced from its political context; thus, a thorough mapping 'across every angle' is necessary."

In summary, Yemen's financial system cannot be divorced from its political context; thus, a thorough mapping "across every angle" is necessary. The tables and profiles above illustrate how each component interlinks: the central bank split affects commercial banks; commercial banks' weakness boosts exchangers and microfinance; business conglomerates interface with all sides to keep the economy breathing, sometimes at the cost of entrenching unequal structures. A comprehensive solution – and by extension, a comprehensive data platform – must account for all these moving parts. With the war's end perhaps on the horizon (ceasefires holding more firmly in 2023–2024 than before), planning for economic reunification and recovery is urgent. Tools like the Yemen Economic Observatory can thus play a key role in guiding post-conflict reconstruction, ensuring it is inclusive, evidence-based, and transparent to avoid repeating mistakes and to capitalize on the resiliency that Yemen's people and informal institutions have demonstrated over this tumultuous decade.

A1) Conflict, Events, Maritime, Access, Sanctions

What	Why it matters	Where to get it	How to fetch / API
Armed conflict & political violence (ACLED)	Geocoded events, actors, fatalities; best-in-class for conflict analytics	ACLED (licence/API required)	API documented by ACLED (requires key).
Air war & civilian harm (Yemen Data Project)	Airstrike-level data since 2015, methodology notes	Yemen Data Project (official site)	(Public site; download pages vary. Treat as periodic bulk imports; validate against ACLED where possible.)
UN Verification & Inspection Mechanism – UNVIM (Hudaydah, Saleef)	Actual ships cleared, by cargo (food, fuel), by month—directly links to food/fuel availability	UNVIM (UN OCHA)	Monthly updates (PDF/HTML). Use scraping + human verification on month close.
Access constraints & humanitarian ops status (ReliefWeb /OCHA)	Provides formal access notices, security incidents, and ops updates	ReliefWeb – Yemen country page	RSS/JSON feeds per collection (see Section B).
UN Panel of Experts on Yemen (UNSC 2140)	Gold-standard investigative reporting: arms flows, finance networks, sanctionable conduct	UN Documents (UNDOCs)	Annual report; cite doc symbol (e.g., S/2024/731). Scrape index for PDFs/annexes.
Sanctions lists (US/EU/UK/UN)	Legal lists used in banking filters, KYC, compliance, risk	US OFAC Sanctions List Search (UI & bulk); EU consolidated list ; UK OFSI consolidated list	US: SLS search + bulk; EU: data.europa.eu bulk; UK: OFSI list portal. Integrate daily.

Code-style fetch pointers (examples):

```
# ACLED (requires token; example only)
https://api.acleddata.com/acled/read?country=Yemen&event_date=2011-01-01 | 2050-01-01&limit=0&key=YOUR_KEY
```

```
# UNVIM – monthly reports (scrape + parse)
https://www.vimye.org/ # discover monthly pages
```

```
# OFAC – daily consolidated exports
https://ofac.treasury.gov/sanctions-list-search # UI
https://ofac.treasury.gov/sanctions-lists/consolidated-sanctions-list-data-files # bulk
```

```
# EU consolidated list (JSON/XML, updated daily)
https://data.europa.eu/data/datasets/consolidated-list-of-persons-groups-and-entities-subject-to-eu-financial-sanctions
```

A2) Humanitarian, Population, Displacement, Food Security

What	Why it matters	Where to get it	How to fetch / API
Funding flows (OCHA FTS)	Ground truth for who-funded-what-by-when; critical for disbursements	FTS API (HPC Tools)	GET /v2/public/fts/flow?countryISO3=YEM (paginate); also orgs, plans.
Displacement (IOM DTM)	IDP numbers, movements, returnees, site-level insights	IOM-DTM Yemen (HDX)	Use CKAN API to programmatically download CSVs per round.
Refugees/Asylum (UNHCR)	Cross-border displacement; caseloads by status	UNHCR Operational Data Portal (Yemen)	Scrape series tables / use UNHCR data services where available. (Primary portal reference.)
Food prices & minimum food basket (WFP VAM)	Local market signals; underpins your FBF indicator	HDX dataset "WFP food prices for Yemen"	CKAN endpoint: .../api/3/action/package_show?id=wfp-food-prices-for-yemen (get resources, then CSV/ZIP).
IPC / FEWS NET	Early warning on food security phases; narratives & maps	FEWS NET (country page)	Use page/RSS scraping for monthly/quarterly outlooks (FEWS APIs limited). (Country portal reference).
WHO health events (e.g., cholera)	Epidemics affecting labour, prices, access	WHO EMRO & WHO HQ	Pull situation reports; store as events + indicator weekly series. (Reference: WHO Pages).
Population baselines (COD/HDX)	Denominators for rates; district/city population	HDX Yemen COD Population	CKAN endpoint for COD packages; version-control snapshots.

CKAN pattern (HDX) - programmatic:

```
# Find a package and get its resource file URLs
https://data.humdata.org/api/3/action/package_show?id=wfp-food-prices-for-yemen
```

```
# Then download the resource 'url' (CSV/ZIP). Repeat for COD-population, DTM, market monitors.
```

A3) Economy, Prices, FX, Oil, Trade/Ports

What	Why	Where	How / API
World Bank WDI (GDP, poverty, external balance, etc.)	Long, clean macro series back to 1990	World Bank API	Example: https://api.worldbank.org/v2/country/YEM/indicator/NY.GDP.MKTP.CD?format=json&per_page=200
IMF IFS / SDMX	Monetary & financial: reserves, M2, CPI (where available)	IMF Data Services (SDMX JSON)	.../REST/SDMX_JSON.svc/CompactData/IFS/YE M.FI... (choose series)
Oil – production, exports	Primary FX earner pre-war; still a key scenario driver	U.S. EIA (international data)	EIA tables include Yemen series where available (see crude trade tables; production where present).
JODI Oil	Official energy data (requires profile)	JODI Data Portal	Use CSV downloads post-auth; store metadata for audit. (Portal reference)
Ports/imports logistics	Ships, tonnage, food/fuel inflow	UNVIM + Logistics Cluster (WFP)	Merge UNVIM monthly with WFP Logistics briefs (ReliefWeb collections).
Exchange rate (dual markets)	Aden vs. Sana'a FX divergence drives prices	Central bank bulletins + trusted market monitors	Store both official/bulletin and observed/market quotes; treat as two series. (See CBY and market monitors; combine with WFP price sheets .)

- ☐ **For FX and CPI:** Yemen official CPI is sparse/contested post-2015. Use: (1) WFP market-price-based inflation proxy; (2) IMF/UNDP estimates; (3) [CBY bulletins](#). Triangulate (rules in Section D).

A4) Law, Regulation, Institutions & Must-Have Report Collections

Law, regulation, institutions (for your "Regulations & Standards" section)

- [Central Bank of Yemen – Aden](#) (official decisions, circulars), [Central Bank – Sana'a](#) (bulletins), [Ministry of Finance](#) (budget docs), [Tax/Customs Authorities](#), [CSO](#) (statistical yearbooks where available).
- Note: official domains and archives shift; your crawler should harvest all available PDFs and persist immutable copies with provenance metadata.
- [UN Sanctions regimes \(UNSC Yemen sanctions list & Panel reports\)](#), [AML/CFT laws](#) (Yemen gazette scans), Payments/E-money regulations (CBY circulars).

(Direct official portals can change; anchor to [ReliefWeb "Documents"](#) + [UNDOCs](#) for persistence; see Section B collection links.)

B) Must-have "all-years" report collections (download from originals)

Use these collection pages to backfill 2011–2025 and keep current. Store every PDF with metadata (title, date, source, URL, SHA256).

B1) Humanitarian planning & flows

- [Humanitarian Response Plans \(HRP\) – Yemen](#) (2015–present), [Humanitarian Needs Overviews \(HNO\)](#) – canonical annual baselines and targets. Fetch all years from [ReliefWeb's Yemen collections](#).
- [OCHA Financial Tracking Service \(FTS\)](#) – plan documents + API flows for funding to Yemen.

B2) Conflict, sanctions, compliance

- [UNSC Panel of Experts on Yemen](#) (annual reports) – evidence base for sanctions, arms networks, revenue streams. Cite doc symbols and download from [UNDOCs](#) (e.g., S/2024/731).
- [OFAC/EU/UK](#) consolidated sanctions lists – daily bulk files for name screening and your SII (Sanctions Intensity Index).

B3) Macro & sector

- [World Bank Yemen country publications](#) (Economic Updates, Macro Poverty Outlook, project docs). (Use [WB publications portal](#) + project pages.)
- [IMF country pages \(IFS data\)](#), press releases, staff statements where applicable).
- [UNDP & UN agencies](#) (e.g., [UNDP Assessing the Impact of War on Development in Yemen](#), [WHO health situation reports](#), [WFP Market Monitors](#)). (Use [agency libraries](#); [ReliefWeb aggregates](#).)

B4) Displacement & population

- [IOM-DTM Yemen](#) – all rounds, methodologies, rapid assessments ([HDX packages](#)).
- [UNHCR Yemen](#) – caseload dashboards and country updates.
- [COD Population](#) – all revisions via [HDX COD portal](#) (for district/governorate).

B5) Prices, food security, ports

- [WFP VAM – Yemen food prices](#) (by market/commodity), [minimum food basket methodology \(HDX dataset\)](#).
- [UNVIM](#) – monthly vessel/cargo updates (food, fuel).

C) Concrete API & Download Cheat-Sheet

Put these in etl/jobs/*.ts and schedule with retry + checksum.

```
# World Bank – GDP current US$ (back to 1960); add per_page to cover all years  
https://api.worldbank.org/v2/country/YEM/indicator/NY.GDP.MKTP.CD?format=json&per\_page=200
```

```
# OCHA FTS – all funding flows to Yemen (paginate)  
https://api.hpc.tools/v2/public/fts/flow?countryISO3=YEM
```

```
# IMF IFS – example (reserves, money, prices) via SDMX JSON (choose series IDs)  
http://dataservices.imf.org/REST/SDMX\_JSON.svc/CompactData/IFS/YEM.NNOB\_XDC.A
```

```
# HDX (CKAN) – get the file URLs (WFP prices)  
https://data.humdata.org/api/3/action/package\_show?id=wfp-food-prices-for-yemen
```

```
# ACLED – events (requires token; sample shape)  
https://api.acleddata.com/acled/read?country=Yemen&event\_date=2011-01-01|2050-01-01&limit=0&key=YOUR\_KEY
```

```
# UNVIM – monthly report list (crawl)  
https://www.vimye.org/
```

```
# EU consolidated sanctions list (bundle)  
https://data.europa.eu/data/datasets/consolidated-list-of-persons-groups-and-entities-subject-to-eu-financial-sanctions
```

```
# OFAC – consolidated sanctions list bulk files  
https://ofac.treasury.gov/sanctions-lists/consolidated-sanctions-list-data-files
```

(See citations above for each family.)

D) Triangulation & Validation Rules

Always store: raw value, unit, method, vintage, source URL, SHA256, confidence.

Indicator	Primary	Cross-checks	Recon rule (pseudo)
GDP (current US\$)	WB WDI	IMF WEO/IFS narrative	Prefer WB unless WEO newer; if delta > 10% same year, flag for analyst review.
Inflation (proxy)	WFP price indices	IMF CPI , ad-hoc CSO	Compute Laspeyres from WFP commodity basket; backfill with IMF CPI if available; mark as derived.
FX (Aden, Sana'a)	CBY bulletins + market sheets	WFP market prices (implied FX), remittance dealers	Maintain FX_ADEN and FX_SANA; if gap > 15% for > 14 days ⇒ trigger Currency Stress Alert.
Food basket cost	WFP VAM (FBF)	FEWS NET narratives, market monitors	Use WFP; when missing, compute from WFP commodity lines (rice/wheat/fuel) with standard basket weights.
Imports (fuel/food)	UNVIM	WFP Logistics Cluster	Join by month; if UNVIM < 70% of 12-mo avg and FX gap rising ⇒ Supply Shock Alert.
Displacement	IOM DTM	UNHCR, OCHA sitreps	Use DTM rounds; interpolate linearly; major step changes must coincide with conflict event clusters (ACLED) .
Sanctions intensity (SII)	OFAC/EU/UK counts	UN Panel of Experts	SII = weighted(# new listings, severity, domain [finance/arms/shipping]) over 90 days; normalise 0-100.

E) Database Schema & F) Alerting & Intelligence

E) Database schema (production)

- actors(id, name, type, area_of_influence, aliases[], sanction_ids[], ...)
- events(id, date, geo, actor_ids[], type, fatalities, source_url, source_sha, confidence)
- indicators(code, name, unit, frequency, description, source_primary, source_alt[])
- indicator_values(code, period, value, method, vintage_date, source_url, sha, confidence)
- ports_imports(month, port, cargo_type, tonnage, vessels, source_url, sha)
- sanctions_entities(id, program, name, aka[], listed_on, measures[], source_list, raw_json)
- projects(id, donor, implementer, sector, amount, start, end, status, docs[])
- regulations(id, issuer, date, subject, summary, link, sensitivity_tag)
- causations(event_id ⇒ indicator_code, lag_days, effect_estimate, method, notes)

F) Alerting & intelligence (how it actually works)

F1) Signal detectors (streaming jobs)

- **Conflict spike detector:** rolling 7-day [ACLED](#) counts per governorate; z-score > 2.0 ⇒ Conflict Surge.
- **Currency stress:** gap% = (FX_ADEN–FX_SANA)/mid. If gap% > 15% for 14 days or |d/dt| > 5%/wk ⇒ Currency Fragmentation.
- **Supply shock:** [UNVIM](#) fuel+food tonnage < 70% of trailing 12-mo avg AND concurrent Red Sea incident ⇒ Port Supply Risk.
- **Sanctions pulse:** SII 20-point jump in 30 days, or designation of banking/port/shipping nodes ⇒ Compliance Heat.
- **Humanitarian underfunding:** [FTS](#) plan coverage < 35% by mid-year ⇒ Funding Gap Critical.

F2) Causation graph (event → indicator)

Store event-impact edges with lag windows (e.g., Red Sea attack → imports ↓ (t+1..t+3) → fuel price ↑ (t+1..t+4) → FBF ↑ (t+2..t+5)). Train elastic-net or Bayesian structural time series on historicals; keep features interpretable; show confidence.

F3) Confidence model (0-1)

- Source quality ([UN](#)=0.95, [WB/IMF](#)=0.9, [ACLED](#)=0.85, media tiered 0.5–0.8).
- Cross-confirmation (n distinct top-tier sources) and consistency (no contradiction with prior).
- Recency & completeness (freshness decay; missing fields penalise).
- Final: conf = wqSq + wcCc + wrR + wmCompleteness. Publish with Low/Medium/High badges.

F4) Auto-Briefs, Distribution & Governance

F4) Auto-briefs & distribution

Products

- Flash Alert (\leq 250 words + 1 chart)
- Executive Readout (1–2 pp)
- Weekly Compass (KPI deck)

Branding & disclaimers

Watermark "System-generated; human-reviewed" + confidence.

Routing

Tag every alert with topic (currency, fuel, ports, food, conflict, sanctions) and stakeholders (donors, CBY, banks, humanitarian ops, press).

Template (exec):

Subject: Yemen | Currency Fragmentation Alert — FX gap rose to 17% (High confidence)

Why it matters (3 bullets) ...

What just happened (data with sources) ...

Likely impacts (ports, fuel, FBF) ...

Recommended actions (by audience) ...

Sources: [FTS API](#), [UNVIM](#), [WFP VAM](#), [ACLED](#) (URLs)

Confidence: High (0.82)

Delivery

Email + dashboard + API; Arabic & English side-by-side; "Do No Harm" redlines (no sensitive operational details).

Personalisation

e.g., CBY-Aden gets monetary policy read; port authorities get import alerts; WFP gets food/fuel nexus charts.

G) Governance & quality

- **Provenance:** store URL + SHA256 of every file; never overwrite raw.
- **Versioning:** indicators are vintaged (revisions tracked).
- **Peer review:** analyst must approve any High-impact alert before mailout.
- **Bilingual parity:** every chart caption and tooltip translated; glossary tooltips site-wide.
- **Sensitivity tags:** PUBLIC | LIMITED | SENSITIVE-OPS. HRP/HNO are public; certain CBY memos may be LIMITED.

H) Glossary, I) Sprint Plan & K) Intelligence Layer Example

H) Glossary (public-facing, embedded tooltips)

- **FX**

Foreign exchange; here, YER per USD (two markets since 2019: Aden vs. Sana'a).

- **FBF (Minimum Food Basket)**

Monthly cost for a standard family's essential diet.

- **FTS**

[OCHA Financial Tracking Service](#)—official registry of humanitarian funding.

- **UNVIM**

[UN mechanism](#) clearing commercial imports to Hudaydah/Saleef during conflict.

- **IPC**

[Integrated Food Security Phase Classification](#) (Phase 1-5).

- **DTM**

[IOM Displacement Tracking Matrix](#) (IDP/returnee assessments).

- **SII**

Sanctions Intensity Index—composite we compute from new listings & scope.

- **CBY**

[Central Bank of Yemen](#) (two authorities since 2016: Aden & Sana'a).

- **ACLED**

[Armed Conflict Location & Event Data](#) (geocoded conflict events).

- **HDX/CKAN**

[Humanitarian Data Exchange](#) and its [API](#) for datasets.

I) What to ingest first (10-day sprint plan)

01

Day 1-2 (plumbing)

Stand up secrets, schedulers, S3, SHA256, vintaging tables.

02

Day 3-4 (feeds)

[WB](#) GDP + [FTS](#) + [WFP prices](#) + [UNVIM](#) + [IOM DTM](#) (last 10 years).

03

Day 5 (validators)

Implement rules in Section D; create "Data Quality" dashboard.

04

Day 6-7 (alerts)

Currency, supply, sanctions pulses + email templates + Arabic/English.

05

Day 8 (visuals)

Master Compass tiles (GDP, FTS coverage %, FX gap, FBF, imports).

06

Day 9-10 (reports)

Auto-generate Weekly Compass and Flash Alert.

K) How the "intelligent" layer surfaces the story (worked example)

Scenario: Houthi-claimed drone strike on a Red Sea vessel + sharp Aden/Sana'a FX divergence.

System chain:

1. Event ingested ([ACLED](#) + Reuters/[UNVIM](#) page) ⇒ conflict spike in Red Sea grid cells.
2. Imports forecast (state-space model): next 1-3 months fuel/food tonnage down 20-30% (CI 60-75%).
3. Price pass-through (basket model): FBF up +8-12% lagging 1-2 months.
4. Funding check ([FTS](#)): HRP fuel logistics funding at 24% (below threshold).
5. Stakeholder-specific alerts:
 - [CBY](#)-Aden: FX gap → consider temporary FX auctions for fuel importers; publish circular.
 - [WFP](#)/Logistics Cluster: prioritise fuel pipelines; adjust cash transfer values.
 - Donors: fast-track logistics line items.
6. Auto-brief generated (AR/EN), confidence High (0.78), attached chart pack (imports, FX gap, FBF).

Final notes for the team

- Build incremental crawlers for [ReliefWeb](#), [UNDOCS](#), [UNVIM](#), [HDX\(CKAN\)](#), [FTS](#), [OFAC/EU/UK](#), [EIA](#).
- Keep a single Source Registry table with: owner, endpoint, cadence, auth, last_success, last_hash, licence.
- Every number on-site is footnoted: Source name + link + vintage.
- Bilingual content by default; glossary tooltips everywhere.
- "Do No Harm" is enforced in code: the mailer refuses to send anything with SENSITIVE-OPS.