**M8.B1–B6** EXPLAINER

**1) Data contracts for all M8.Bn (1 → 6) + one consolidated explainer**

Below are **drop‑in data contracts** you can paste into your docs. They are written so M9 (display‑only) can rely on them without re‑computation. I’ve also called out the **JSON “levers”** you can tweak per module.

**Notation**  
*Paths are relative to your project root.*  
*Amounts with suffix '\_NAD\_000' / '\_USD\_000' are in thousands.*  
*Ratios are unitless decimals unless stated otherwise.*  
*“Required” = must exist; “Optional” = present when derivable; if not present, the module writes a warning into its debug file.*

**M8.B1 — Base timeseries (calendar + FX bridge)**

**Inputs**

* outputs/m7\_5b\_profit\_and\_loss.parquet (required)
* outputs/m7\_5b\_balance\_sheet.parquet (required)
* outputs/m7\_5b\_cash\_flow.parquet (required)
* FX curve: prefer outputs/m0\_inputs/FX\_Path.parquet; fallback outputs/FX\_Path.parquet. Must contain Month\_Index and one FX column (any of: USD\_to\_NAD, USD\_NAD, FX\_USD\_NAD, USDtoNAD, NAD\_per\_USD, Rate\_USD\_to\_NAD).

**Outputs**

* outputs/m8b\_base\_timeseries.parquet  
  **Schema (required)**  
  Month\_Index:int | Calendar\_Year:int | Calendar\_Quarter:int  
  **Schema (optional, when FX available)**  
  NAD\_per\_USD:float (or the detected FX column name; treated as NAD per 1 USD).
* outputs/m8b1\_debug.json — JSON with: fx\_path\_used, fx\_col\_used, warnings array.
* outputs/m8b1\_smoke.md — quick checks, row counts, and a column preview.

**Levers (JSON)**

* outputs/m8b\_terms.json (optional, shared):
* {
* "fx": {
* "override\_path": "outputs/m0\_inputs/FX\_Path.parquet",
* "override\_column": "NAD\_per\_USD"
* }
* }

If either override is missing/invalid, the runner auto‑detects using the synonym list above.

**M8.B2 — Promoter scorecard (monthly & yearly)**

**Inputs**

* Same three M7.5B core artifacts as B1 (required).
* (Optional) benchmarks from outputs/m8b\_benchmarks.catalog.json (colors/thresholds).

**Outputs**

* outputs/m8b2\_promoter\_scorecard\_monthly.parquet  
  **Schema** *(one row per metric per month)*  
  Month\_Index:int | Metric\_ID:str | Metric\_Name:str | Value:float | Currency\_Context:str ("NAD"/"USD"/"NA" for ratios) | Unit:str (e.g., "000", "ratio") | Notes:str (optional)
* outputs/m8b2\_promoter\_scorecard\_yearly.parquet  
  **Schema** *(one row per metric per year)*  
  Calendar\_Year:int | **same measure columns as monthly** (values are **yearly sums** for flows, **arithmetic means** for ratios, **means of month‑end** for stocks)
* outputs/m8b2\_debug.json — what was derived vs approximated (e.g., OPEX fallback).
* outputs/m8b2\_smoke.md — list of KPI ids, counts, and min/max sanity.

**Guaranteed metric IDs (examples)**

* Liquidity & WC: current\_ratio, quick\_ratio, working\_capital\_NAD\_000, working\_capital\_USD\_000
* Profitability & margins: ebitda\_margin, operating\_margin, net\_margin, roa, roe, asset\_turnover
* Cash‑flow health: cfo\_NAD\_000, cfi\_NAD\_000, cff\_NAD\_000, free\_cash\_flow\_NAD\_000 (+ USD twins)

**Levers (JSON)**

* outputs/m8b\_benchmarks.catalog.json (see B5 below) controls color bands and thresholds per Metric\_ID.
* outputs/m8b\_terms.json (optional):
* {
* "promoters": {
* "cash\_runway\_exclude\_maintenance\_capex": true
* }
* }

**M8.B3 — Junior investor engine (instrument‑aware)**

**Inputs**

* outputs/m7\_selected\_offer.json (required) — frozen option/instrument + terms; if missing ticket, the engine also looks in the 500k grid and M7.5 schedule (see below).
* outputs/m8b\_gate\_valuations.json (optional) — enterprise values at gates:
* {"month\_24\_NAD\_000": 32000, "month\_36\_NAD\_000": 40000, "month\_42\_NAD\_000": 45000, "month\_48\_NAD\_000": 52000}

If absent, engine caps Month‑36 at **NAD 40,000,000** by policy.

* **Fallback ticket discovery (no assumptions):**  
  outputs/m7\_r1\_scores.parquet/.csv → Ticket\_USD for the selected option; and/or  
  outputs/m7\_5\_junior\_financing.parquet → draws tagged as junior instrument.

**Outputs**

* outputs/m8b\_investor\_metrics\_selected.parquet  
  **Schema** *(per instrument, per gate)*  
  Instrument:str | Gate\_Month:int (24/36/42/48 when available) | Metric\_ID:str (moic, irr, dpi, rvpi, tvpi, break\_even\_month, …) | Value:float | Currency\_Context:str ("NAD", "USD", "NA") | Notes:str  
  *(Monthly cashflow trajectory may be included as rows with Gate\_Month=0 and Metric\_ID like cum\_net\_to\_investor\_NAD\_000.)*
* outputs/m8b3\_debug.json — shows where ticket and gates came from, FX used, and ownership basis.
* outputs/m8b3\_smoke.md — present gates, core returns, and sanity checks.

**Levers (JSON)**

* outputs/m8b\_terms.json (optional, shared):
* {
* "investor": {
* "ownership\_basis": "gate36\_ev", // "cap\_table" when equity share is known
* "equity\_valuation\_cap\_NAD\_000": 40000,
* "gate\_months": [24,36,42,48]
* }
* }

*Tip:* If you later provide a modeled cap‑table share at the gate, set "ownership\_basis": "cap\_table" and supply ownership\_fraction in m7\_selected\_offer.json.

**M8.B4 — Senior lender pack (bankability)**

**Inputs**

* M7.5B PL/BS/CF (required).
* outputs/m8b\_terms.json (optional) for discount rate and CFADS policy.

**Outputs**

* outputs/m8b4\_lender\_metrics\_monthly.parquet  
  **Schema** *(one row per metric per month)*  
  Month\_Index:int | Metric\_ID:str (dscr, icr, llcr, plcr, ltv, debt\_to\_assets, debt\_to\_equity, equity\_ratio, …) | Value:float | Currency\_Context:str | Notes:str
* outputs/m8b4\_lender\_metrics\_yearly.parquet  
  Calendar\_Year:int | same measure columns as monthly (aggregated)
* outputs/m8b4\_debug.json — discount rate used, CFADS variants, collateral treatment.
* outputs/m8b4\_smoke.md — DSCR min/avg, LLCR vs PLCR sanity.

**Levers (JSON)**

{

"lenders": {

"discount\_rate\_annual\_pct": 12.0,

"cfads\_variant": "pre\_maintenance", // or "post\_maintenance"

"collateral\_haircuts": {"land": 0.2, "equipment": 0.3}

}

}

**M8.B5 — Benchmarks & comparators**

**Inputs** none required.

**Outputs**

* outputs/m8b\_benchmarks.catalog.json — the **playbook** M9 uses for colors/tooltips.  
  **Shape**
* {
* "current\_ratio": {
* "title": "Current Ratio",
* "audience": ["promoters","lenders"],
* "unit": "ratio",
* "bands": {"red": "<1.0", "yellow": "1.0–1.5", "green": ">=1.5"},
* "source": "Ag. lending references",
* "display": "tile"
* },
* "dscr": {
* "title": "Debt Service Coverage Ratio",
* "audience": ["lenders"],
* "unit": "ratio",
* "bands": {"red": "<1.2", "yellow": "1.2–1.5", "green": ">=1.5"},
* "display": "line+min\_callout"
* }
* // … more metrics
* }
* outputs/m8b\_benchmarks.values.parquet — optional region/enterprise reference values used for comparator lines.

**Levers (JSON)**

* Edit the bands and display type per metric; M9 reads this file directly.

**M8.B6 — IFRS presentation pack for M9**

**Inputs**

* M7.5B PL/BS/CF (required) — already IFRS‑friendly via aggregator in M7.5B.

**Outputs**

* outputs/m8b\_ifrs\_statements.parquet  
  **Schema** *(normalized for M9 render)*  
  Statement:str ("PL"|"BS"|"CF") | Line\_Code:str | Line\_Label:str | Month\_Index:int | NAD\_000:float | USD\_000:float (optional if FX available) | Notes\_Key:str (nullable)  
  *(For yearly views, M9 groups by Calendar\_Year.)*
* outputs/m8b\_ifrs\_mapping.json — canonical → IFRS‑18 headings and section ordering.
* {"PL": {"Revenue":"IFRS18.IE5.Revenue", "EBITDA":"IFRS18.IE5.OperatingResult", ...}, "BS": {...}, "CF": {...}}
* outputs/m8b\_ifrs\_notes.json — placeholders for mandatory notes:
* {
* "accounting\_policies": "PLACEHOLDER: revenue recognition, biological assets…",
* "judgements\_estimates": "PLACEHOLDER: yield assumptions, FX policy…",
* "debt\_note": "PLACEHOLDER: terms, covenants…",
* "capex\_rollforward": "PLACEHOLDER: additions/disposals…"
* }
* outputs/m8b6\_debug.json, outputs/m8b6\_smoke.md

**Levers (JSON)**

* Edit labels/order in m8b\_ifrs\_mapping.json.
* Fill text in m8b\_ifrs\_notes.json (M9 shows them verbatim under the corresponding line items).

**Consolidated explainer (put this in docs/M8B\_README.md)**

* **What M8.B does:** transforms M7.5B statements into **audience‑specific KPI packs** and an **IFRS presentation pack**; all monetary outputs in **NAD (000)** and **USD (000)** when FX is available; **ratios are unitless**.
* **What you can tweak (no code):**  
  *FX* (B1) via m8b\_terms.json.fx.\*; *benchmarks* (B5) via m8b\_benchmarks.catalog.json; *investor gates & ownership basis* (B3) via m8b\_gate\_valuations.json and m8b\_terms.json.investor; *lender discount rate/CFADS variant* (B4) via m8b\_terms.json.lenders; *IFRS labeling & notes* (B6) via m8b\_ifrs\_mapping.json and m8b\_ifrs\_notes.json.
* **Quality bar:** each module writes a \*\_smoke.md and \*\_debug.json. M9 will refuse to render a panel if its smoke check is missing or shows a hard fail.

**2) JSON manifest for M9 (drop‑in)**

Save the block below as outputs/m9\_manifest.json. It tells M9 **what to render**, **from which files**, and **how to group** by audience. It does **not** recompute anything.

{

"version": "1.0",

"source\_dir": "outputs",

"currency\_toggle": ["NAD", "USD"],

"time\_granularities": ["monthly", "yearly"],

"files": {

"base\_timeseries": "m8b\_base\_timeseries.parquet",

"fx\_curve": "m8b\_fx\_curve.parquet",

"promoters\_monthly": "m8b2\_promoter\_scorecard\_monthly.parquet",

"promoters\_yearly": "m8b2\_promoter\_scorecard\_yearly.parquet",

"investor\_selected": "m8b\_investor\_metrics\_selected.parquet",

"lenders\_monthly": "m8b4\_lender\_metrics\_monthly.parquet",

"lenders\_yearly": "m8b4\_lender\_metrics\_yearly.parquet",

"benchmarks\_catalog": "m8b\_benchmarks.catalog.json",

"benchmarks\_values": "m8b\_benchmarks.values.parquet",

"ifrs\_statements": "m8b\_ifrs\_statements.parquet",

"ifrs\_mapping": "m8b\_ifrs\_mapping.json",

"ifrs\_notes": "m8b\_ifrs\_notes.json"

},

"audiences": [

{

"id": "promoters",

"title": "Promoter Scorecard",

"panels": [

{

"type": "kpi\_tiles",

"source": "promoters\_monthly",

"spotlight\_metrics": [

"current\_ratio",

"quick\_ratio",

"working\_capital\_NAD\_000",

"ebitda\_margin",

"cfo\_NAD\_000",

"free\_cash\_flow\_NAD\_000"

],

"benchmarks": "benchmarks\_catalog"

},

{

"type": "yearly\_summary",

"source": "promoters\_yearly",

"group\_by": "Calendar\_Year",

"metrics": [

"current\_ratio",

"working\_capital\_NAD\_000",

"operating\_margin",

"net\_margin",

"roa",

"roe"

]

}

]

},

{

"id": "investors",

"title": "Junior Investor Returns",

"panels": [

{

"type": "gate\_table",

"source": "investor\_selected",

"gate\_field": "Gate\_Month",

"metrics": ["moic", "irr", "dpi", "rvpi", "tvpi", "break\_even\_month"],

"notes\_field": "Notes"

},

{

"type": "trajectory\_chart",

"source": "investor\_selected",

"metric": "cum\_net\_to\_investor\_NAD\_000",

"time\_field": "Month\_Index"

}

]

},

{

"id": "lenders",

"title": "Lender Metrics & Covenants",

"panels": [

{

"type": "line\_with\_min\_callout",

"source": "lenders\_monthly",

"metric": "dscr",

"callout": "min"

},

{

"type": "table",

"source": "lenders\_yearly",

"metrics": ["llcr", "plcr", "icr", "ltv", "debt\_to\_assets", "debt\_to\_equity", "equity\_ratio"]

}

]

},

{

"id": "ifrs",

"title": "IFRS Financial Statements",

"panels": [

{

"type": "statement\_view",

"statements\_file": "ifrs\_statements",

"mapping\_file": "ifrs\_mapping",

"notes\_file": "ifrs\_notes",

"statements": ["PL", "BS", "CF"],

"periods": ["monthly", "yearly"]

}

]

}

],

"display\_prefs": {

"thousand\_unit\_suffix": "\_000",

"number\_format": {"decimals": 2, "thousands\_sep": ",", "decimal\_point": "."},

"traffic\_light\_benchmarks": "benchmarks\_catalog"

},

"quality\_checks": {

"require\_smoke\_files": true,

"smoke\_files": [

"m8b1\_smoke.md",

"m8b2\_smoke.md",

"m8b3\_smoke.md",

"m8b4\_smoke.md",

"m8b5\_smoke.md",

"m8b6\_smoke.md"

]

}

}

**How M9 consumes this**

* Reads the files block to locate inputs.
* Uses audiences[\*].panels to decide **what to show** and **which metrics** to select from the parquet files.
* Benchmarks/colors come directly from m8b\_benchmarks.catalog.json.
* IFRS statements render using the mapping and notes files; no math in M9.

**What’s next / sanity checks you can run quickly**

* **Presence check (PowerShell one‑liner):**
* $p=".\outputs"; ls $p\m8b\*\_\*.parquet, $p\m8b\*\_\*.json, $p\m8b\*\_smoke.md, $p\m8b\*\_debug.json, $p\m9\_manifest.json | ft -AutoSize
* **Gate valuations present?**
* Get-Content .\outputs\m8b\_gate\_valuations.json
* **FX column used (from M8.B1 debug)?**
* Get-Content .\outputs\m8b1\_debug.json

If you want, I can also add a tiny **M9 preflight checker** that reads m9\_manifest.json and prints “green”/“missing” per section—but for now, the contracts and manifest above are enough for you to wire M9 as a pure renderer.