



## USER GUIDE

# ABL Digital India Cross-Asset Weekly

A complete manual for reading the weekly report — every page, chart, table and number explained.

This guide accompanies the weekly report covering roughly 62 instruments across Indian broad-market & sectoral equities, the rupee and FX, gold, crude and metals, India VIX, REITs, and a global-context spine (US rates, credit, the dollar). The explanations apply to every edition; the screenshots are drawn from a recent one for illustration.

### What is inside

- Part 1 — Orientation: what the report is, how it is built, and how to read it fast or deep.
- Part 2 — Page by page: how to read every section, chart and value, with a screenshot of each.
- Part 3 — Concepts & methods: the analytics explained in plain language.
- Part 4 — Data & the instrument universe: every source and what it covers.
- Part 5 — Workflows, judgement and honest limitations.
- Part 6 — Glossary and a chart-reading primer.

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# How to use this guide

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This is a reference manual, not a novel — you do not need to read it front to back.

**If you are new to the report**, read Part 1 in full (about twenty minutes), then keep Part 2 open beside the report and read each page's entry the first time you meet it. After two or three weeks you will read most pages fluently.

**If you already read markets**, skim Part 1, then jump to Part 2 for the pages that are distinctive here, and use Part 3 whenever you want the method behind a number.

**If you just need to decode one chart**, open the Table of Contents, find the page name, and go straight to its entry in Part 2 — each stands on its own.

## Conventions

Bold marks the first use of a key term. Coloured boxes flag things worth remembering (blue), constructive reads (green), cautions (amber) and risks (red). Every percentile means a value's rank within its own history — the single most important idea in the report, explained in Part 3.

This report and guide are for research and information only — not investment advice, not a solicitation, and not a recommendation to buy or sell any security.

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# Part 1 — Orientation

What the report is, who it is for, how it is produced, the principles behind it, and two reading routines — a fast scan and a deeper read.

## 1.1 What the report is

The ABL Digital India Cross-Asset Weekly is the domestic counterpart to the global report: a once-a-week read of the Indian market in its full cross-asset context. It covers the Nifty and the broad-market and sectoral indices, the rupee and key crosses, gold, crude and the metals, India VIX and the REITs — and, crucially, the global forces that drive India: US yields, the dollar, global credit and EM risk appetite.

India is a net oil importer, so the report treats the crude → rupee → inflation → rates chain as a central channel, and studies how domestic assets move with — and against — the global backdrop.

### The one-sentence description

A weekly, evidence-based read of Indian broad-market & sectoral equities, the rupee and FX, gold, crude and metals, India VIX, REITs, and a global-context spine (US rates, credit, the dollar) — its trend, its regime, its correlations, its positioning and its value — written to be both quantitatively rigorous and genuinely readable.

## 1.2 Who it is for

The India-focused investor, adviser or business owner who wants a rigorous weekly read of the domestic market set against the global forces that move it. It assumes you are comfortable with the basic building blocks of markets but not with the analytics — that is what this guide is for. It is deliberately **not** a trading-signal service: it tells you what kind of environment you are in and what to watch, the context within which your own decisions are made.

## 1.3 The five-minute read

You can get the week's essential picture from the first pages:

- **Cover — the regime chip and Executive Summary.** The market state and a few sentences framing the week.
- **Executive Dashboard.** The state badges and the percentile-shaded table — run your eye down the percentile column and note anything deep red or blue.
- **Cross-Asset Scorecard and What-Changed.** The single-number risk read and exactly what moved since last week.

## 1.4 The deeper read

For the full picture, read from the big frame down to the detail — which is how the report is arranged: the dashboard and scorecard, then the analyst narrative, then the structure pages (factors, correlation, systemic co-movement, lead-lag), then the relative-value, volatility and risk pages, and finally the asset-class detail. Thirty minutes, once a week, is enough to hold the whole market in view.

## 1.5 How the report is produced

Everything is generated automatically, locally, once a week, from free and official data — no black box, no paid feed. The pipeline ingests every series and aligns it to a common weekly calendar (a failure in any one series is logged and skipped, so the report never breaks), runs the full analytical arsenal, hands a structured numeric briefing to an AI analyst that writes the narrative, and assembles the final PDF with the ABL footer on every page.

#### Why local and free matters

Because the engine runs on your own machine using public data, the report is private by default, costs nothing per run, and is fully reproducible — every number traces back to its source.

## 1.6 The principles behind every number

- **Nothing is fabricated** — every value is fetched or derived by a documented formula.
- **Everything in context** — almost every headline value carries a percentile versus its own history.
- **Honesty over false confidence** — weak signals are flagged as weak; nothing is oversold.
- **Faithful methods over speed** — real conditional-correlation and regime models, validated.
- **Turnkey and durable** — one click, on a schedule, every edition saved.

## Part 2 — The report, page by page

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Each entry explains one page: what it answers, how to read it, and a screenshot of the page itself. Read an entry the first time you meet its page.

### The Cover & Executive Summary

The cover states the week, the size of the universe and — in the coloured chip — the market regime (green risk-on, amber neutral, red risk-off). Beneath it, the Executive Summary distils the whole edition into a few sentences: the regime, the single most important development of the week, and the key risk. It is designed to stand alone — if you read nothing else, read this.

## ABL Digital India Cross-Asset Weekly

Trend, Correlation & Macro Report | week ending 2026-08-07

62 instruments across equities, sectors, FX, commodities, rates & REITs | 606 weeks



**REGIME: Neutral**

### EXECUTIVE SUMMARY

India sits in a **Neutral regime** (Markov posterior 0.53 Neutral, 0.45 Risk-on, just 0.03 Risk-off), but the internals lean risk-on: the composite risk-appetite score is **+0.51**, carried by strong sector breadth (+1.11), a benign VIX at 12.2 (28th percentile), healthy high-yield credit (+0.95), and above all a risk-over-haven tilt of +1.58. The single most important development this week is **crude's collapse** — MCX crude -9.0% on the week and -18% over three months — which for a net oil importer is an unambiguous macro tailwind through the oil→INR→inflation→rates chain, and it is showing up in a firm rupee (USDINR 95.2, -0.2% w/w) and CPI already down at 3.5%. Offsetting the bullish tape, the trend factor is a drag (nifty\_trend -0.93: the index is below its 40-week average even as it rose 1.0%), so this is a breadth-led, not leadership-led, advance. The external backdrop is only **Neutral-to-slightly-negative** (-0.28), held back by still-elevated US 10Y at 4.7% (low\_us\_rates component -1.49). The key risk is that this is a low-volatility, high-concentration market — PC1 explains 74% of sector variance and the VIX risk premium is negative (-0.7) — so the cushion against a crude rebound or a US-rate shock is thin. Weekly predictive skill here is modest; treat the tilt as a lean, not a call.

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The cover and Executive Summary.

## The Executive Dashboard

Page two is the report's flagship one-glance scorecard: the market's vital signs on a single page. State badges summarise the regime and the macro framing; a percentile-shaded table then lists every headline metric with its level, its weekly change and — the key column — its rank within its own multi-year history. Anything shaded deep red (historically high) or blue (historically low) is where this week is unusual, and those extremes are the story.

## How to read it

- Read the badges first for the market state, then run your eye down the percentile column for the red and blue extremes.
- The weekly-change column shows direction; the percentile column shows whether the level is unusual. You need both.
- This page alone is a complete five-minute read of the week.



The Executive Dashboard — the market's vital signs on one page.

## Cross-Asset Scorecard

The scorecard distils the whole panel into two single-number gauges. The first, **domestic risk appetite**, is a composite risk-on / risk-off reading; the second, **external conditions**, reads the broader backdrop. Each gauge is the simple average of several standardised components — every component is a **z-score**: how many standard deviations the current reading sits above or below its own multi-year average, sign-aligned so that a higher number always means more risk-on (or more supportive).

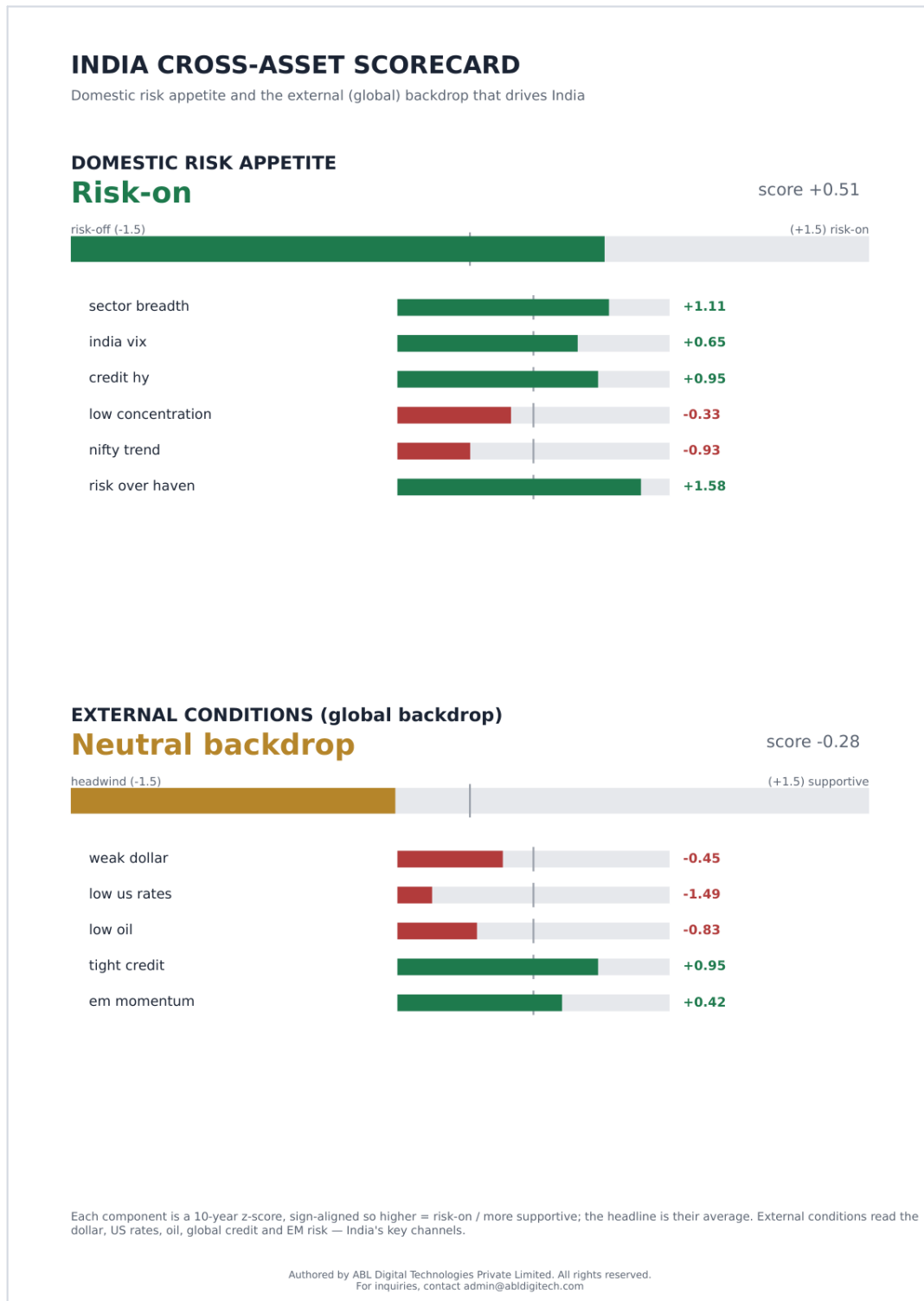
The value of a composite is that no single signal dominates and the construction is fully transparent — every component is printed with its own bar, so you can see exactly what is pulling the headline up or down. When the components disagree (some green, some red) the market is sending a mixed message and the headline sits near zero.

### How to read it

- The big number and its label are the headline; the bar shows where it sits between the risk-off (left) and risk-on (right) extremes, with the centre line at neutral.
- Each component bar below is a z-score: green and to the right of centre is supportive, red and to the left is adverse. Read them to see *why* the headline is where it is.
- A score beyond about +0.35 reads risk-on / supportive; beyond –0.35 risk-off / a headwind; in between is neutral. Track the trend week to week more than the absolute level.

#### Why a composite

Any one indicator can mislead; the average of six sign-aligned, historically-standardised signals is far steadier. Because every input is shown, the gauge is never a black box — you can always audit the headline.



The Cross-Asset Scorecard page — two composite gauges with their component breakdowns.

## What Changed This Week

This page is the fastest orientation in the report: it answers **what actually moved** and **how the headline state shifted** since last week, with nothing to interpret. Three blocks — the biggest weekly gainers and decliners; the week-over-week change in the key levels (equities, volatility, rates/credit, FX, commodities), with adverse moves in red; and the market-state readings (regime, scorecard scores, concentration) now versus the prior week.

## How to read it

- Read the gainers/decliners for the week's winners and losers at a glance.
- In Key Levels, increases in volatility, spreads or rates are red because they are the adverse direction.
- Prior-week state fills in as the tracker accumulates history — blanks early are expected.

### Read this first when short on time

Because the page is purely mechanical — no model, no judgement — it is the quickest honest read of the week.

## WHAT CHANGED THIS WEEK

Week-over-week moves and how the market-state readings shifted · 2026-08-07

### TOP GAINERS

|              |       |
|--------------|-------|
| Auto         | +7.4% |
| Metal        | +5.5% |
| Gold         | +5.1% |
| PSU Bank     | +4.1% |
| Consumer Dur | +4.0% |
| Silver       | +3.9% |
| Nasdaq       | +3.7% |
| MNC          | +3.1% |

### TOP DECLINERS

|           |       |
|-----------|-------|
| Crude     | -9.0% |
| Brent     | -8.6% |
| Realty    | -3.5% |
| NatGas    | -3.2% |
| Pvt Bank  | -2.9% |
| Energy    | -1.5% |
| Hang Seng | -1.4% |
| JPYINR    | -0.7% |

### KEY LEVELS — week-over-week

|           |          |       |           |           |       |
|-----------|----------|-------|-----------|-----------|-------|
| Nifty 50  | 24,636.0 | +1.0% | US 10Y    | 4.7       | -0.1  |
| Bank      | 58,063.6 | +1.4% | US HY OAS | 2.8       | -0.1  |
| IT        | 31,106.2 | +1.3% | Gold      | 148,725.0 | +5.1% |
| USDINR    | 95.2     | -0.2% | Crude     | 7,382.0   | -9.0% |
| India VIX | 12.2     | +0.4  | S&P 500   | 7,703.5   | +2.9% |

### MARKET-STATE READINGS — now vs prior report

|                   |           |    |         |
|-------------------|-----------|----|---------|
| Regime            | prior: R+ | -> | Neutral |
| Risk appetite     | prior: —  | -> | +0.51   |
| External backdrop | prior: —  | -> | -0.28   |
| PC1 share         | prior: —  | -> | 33%     |

The fastest orientation: what actually moved and how the headline state shifted since last week. USDINR/VIX/rate/spread increases are shown as adverse (red).

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The What-Changed page — the week's moves and the shift in headline state.

## The Analyst Narrative

After the dashboard, the report presents a multi-section written analysis — the quantitative signals turned into a joined-up story by an AI analyst working from a full numeric briefing of every computed value. It is instructed to be specific, to cite the actual numbers, to explain the 'so what' for an investor, and to be honest about uncertainty. The sections walk from the regime and market state through rates and credit, the factor and correlation structure, relative value and fair value, volatility and tail risk, the forward-looking

reads, the asset-class specials and the key risks, ending with the specific signals to watch.

**How the narrative is produced — and its guardrails**

The narrative is written by ABL's own automated pipeline using the report's live numbers; it never invents figures, and where a signal is weak it is instructed to say so. It is analysis, not advice. When you want the method behind any number the narrative cites, Part 3 explains it.

Because the narrative runs to as many pages as the week's analysis needs, the page numbers of everything after it shift by a page or two edition to edition; the order never changes.

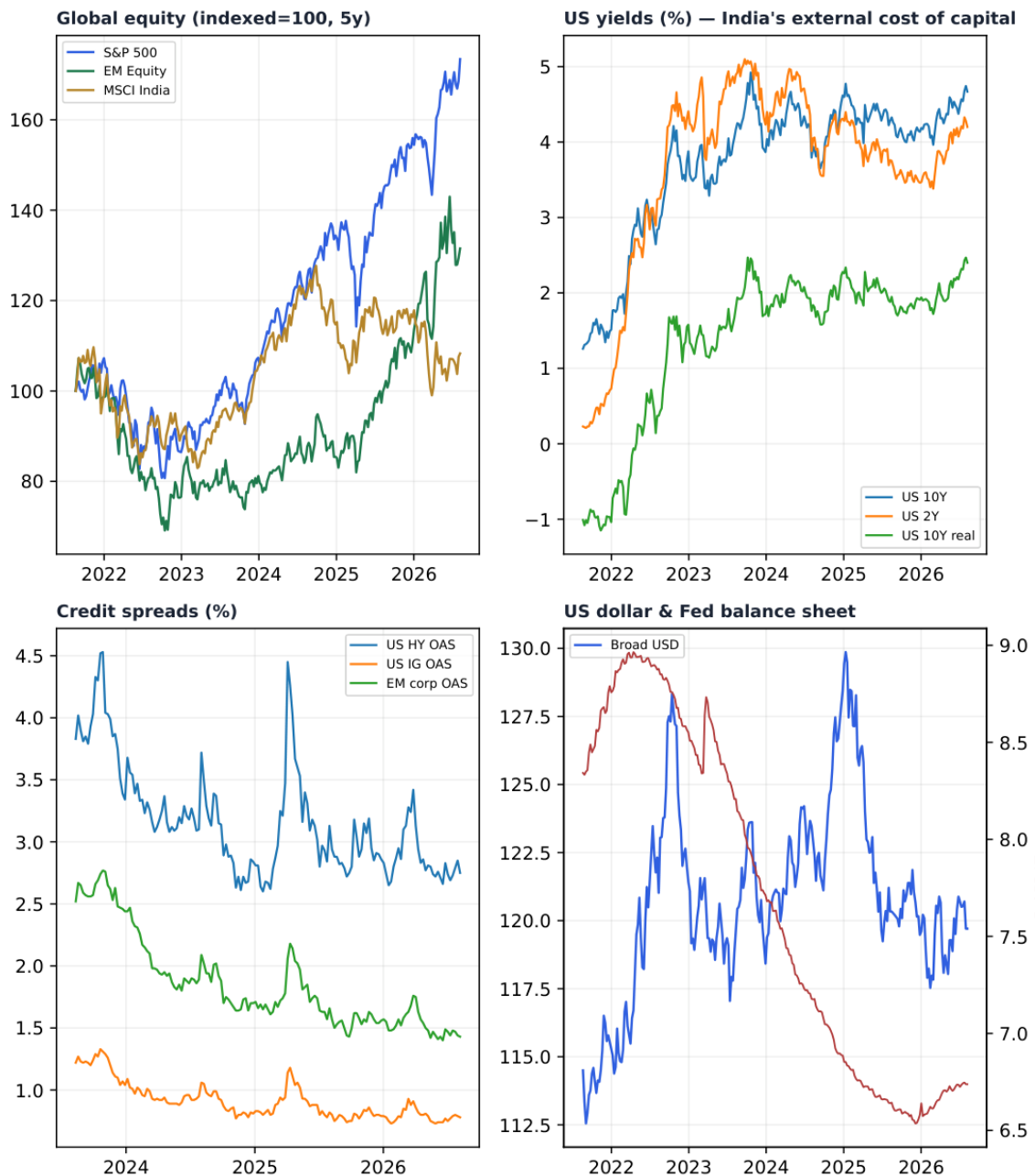
## Global Macro & Liquidity

This page frames the external backdrop: the balance sheets of the major central banks (the global tide of liquidity), the sovereign-yield landscape across the main economies, the money-market plumbing (SOFR and the reverse-repo facility) and the fiscal picture (public debt and the Treasury cash balance). Liquidity is the most-referenced driver of risk assets, so its direction sets the weather for everything else.

**How to read it**

- Rising central-bank balance sheets and a draining reverse-repo add liquidity (supportive); the reverse drains it.
- The sovereign-yield panel shows the global cost of capital — the level and spread between economies matter for capital flows.

## Global Backdrop & Rates



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Global Macro & Liquidity — central-bank balance sheets, global yields and funding.

## Macro Dashboard (Deep Tiles)

A set of pages tabulating the deep macro dashboard — labour, inflation, growth, the consumer, housing, money and policy — each indicator with its latest value, its change and its as-of date. This is the fundamental backdrop beneath the market pages.

### How to read it

- Read the change column and the as-of date together — a strong number that is three months old matters less than a fresh one.
- Group the tiles into a story: are labour, inflation and growth pulling the same way?

### Macro Pulse

Latest India macro prints (release-based figures are the official print with its as-of date; markets are weekly).

**FII/DII latest cash flows: DII net Rs 4,014 cr, FII net Rs -18 cr**

| INDICATOR                | LATEST                       | AS OF                                       |
|--------------------------|------------------------------|---------------------------------------------|
| RBI Repo Rate            | 5.25%                        | Jul 2026 (MPC, neutral)                     |
| India 10Y G-sec yield    | 6.76%                        | Jul 2026 (RBI/FBIL; +ve on crude/US-yields) |
| CPI Inflation YoY        | 3.5% (core 3.7%)             | Apr 2026                                    |
| GST Collections          | Rs 1.95 lakh cr (+13.9% YoY) | Jun 2026                                    |
| Mfg PMI                  | 54.2                         | Jun 2026                                    |
| Services PMI             | 57.3                         | Jun 2026                                    |
| IIP YoY                  | +5.1%                        | May 2026                                    |
| Real GDP growth          | 6.6% (FY27 proj.)            | RBI FY2026-27                               |
| Forex Reserves (ex-gold) | USD 571 bn                   | 2026-05                                     |
| Real House Prices (idx)  | 161.9                        | 2026-01 (NHB/BIS)                           |
| CPI Index (FRED/OECD)    | 157.6                        | 2025-03                                     |

Release-based series (repo/CPI/GST/PMI/IIP/GDP) are entered from official releases in config/macro\_prints.yaml and refreshed monthly.

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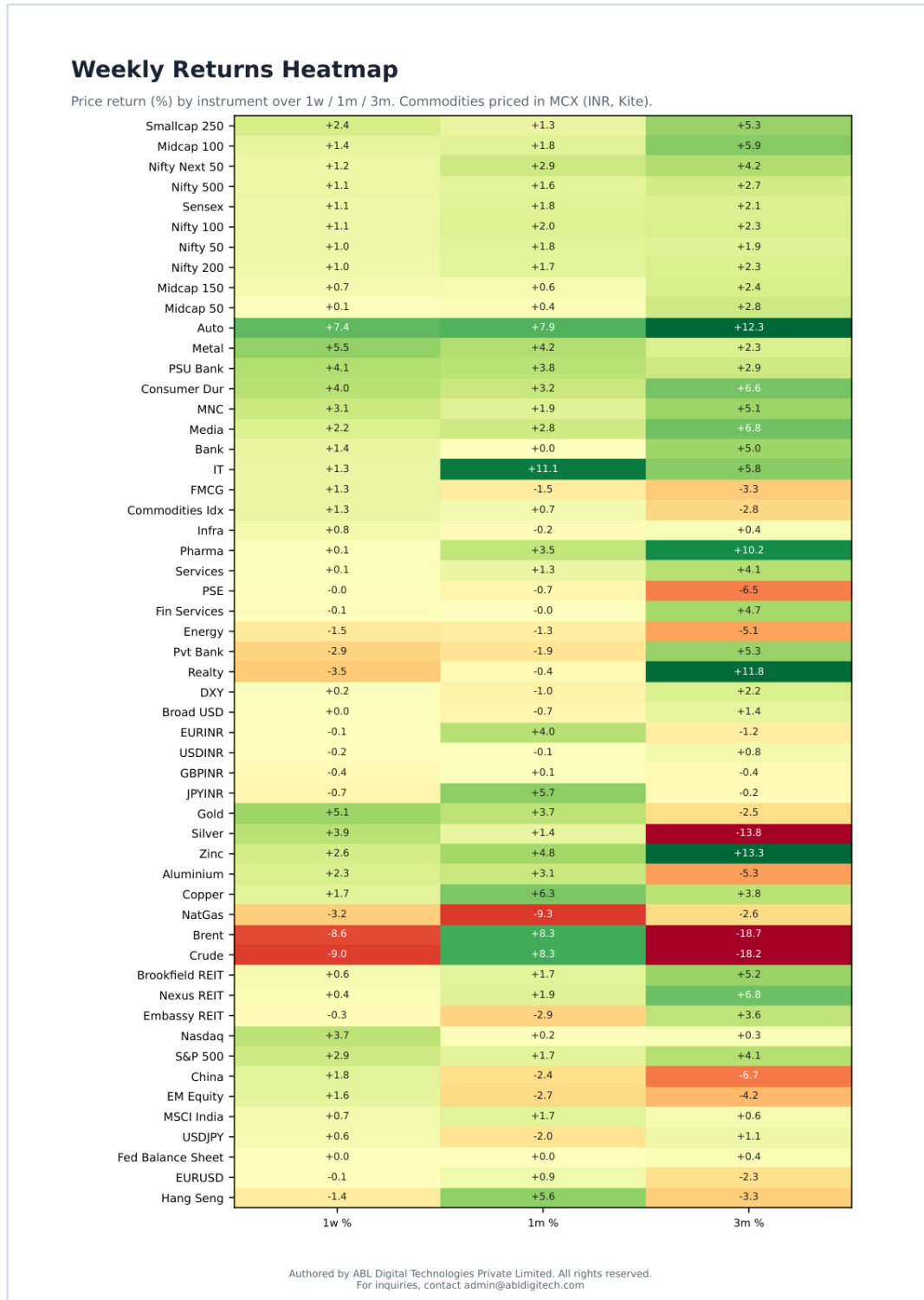
The deep macro dashboard tiles.

## Returns Heatmap

The returns heatmap is the plain scoreboard: each instrument's percentage change over the report's horizons, green for gains and red for losses — the quickest way to see the week's and the quarter's winners and losers across every asset class at once.

### How to read it

- Read down a column for one horizon; read across a row for an instrument's consistency.
- A row green on short horizons but red on long (or vice-versa) is an asset that has turned.



The returns heatmap across horizons.

## Cross-Asset Correlation Heatmap

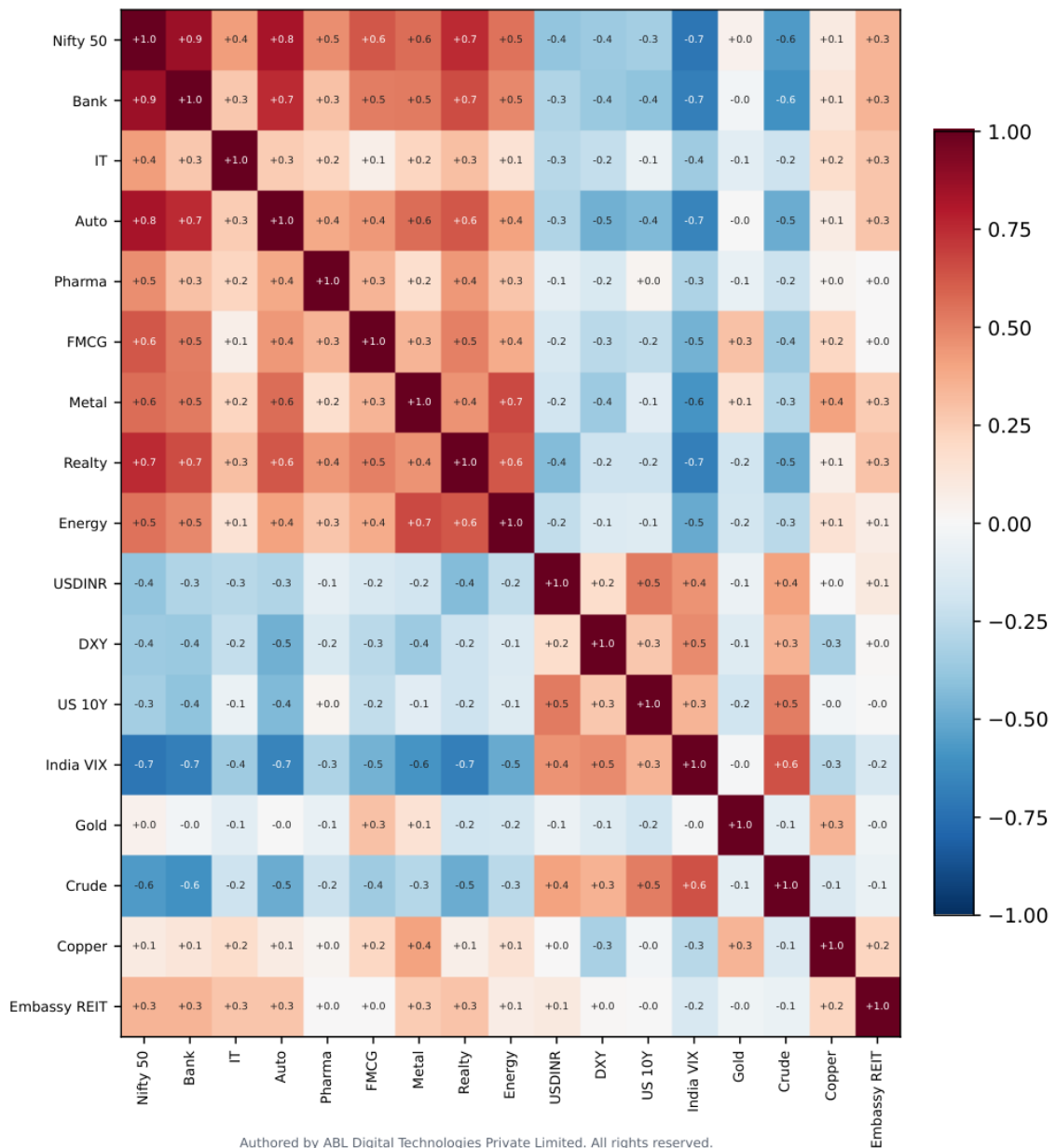
The correlation heatmap is the report's central picture of **what is moving together**. Each cell is the correlation of two instruments' weekly changes: deep red = they move strongly together, deep blue = strongly opposite, pale = little relationship.

### How to read it

- Scan for **red blocks** — clusters that rise and fall as one (concentration risk).
- Scan for **blue cells** — genuine inverse hedges (e.g. stocks vs volatility).
- A relationship that has flipped colour versus its norm is the story.

## 52-Week Cross-Asset Correlation

Correlation of weekly changes (log-returns; diffs for VIX & rates).



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The cross-asset correlation heatmap.

## Cross-Asset Factor Structure (PCA)

Principal-Component Analysis (PCA) asks a deep question: of all the ups and downs across dozens of instruments, how many **independent forces** are really driving them? It rotates the data into a small set of uncorrelated **factors**, ordered by how much of the joint variance each explains.

The first factor (PC1) is almost always a broad **risk** factor — the tide that lifts or sinks most assets together. In the India panel PC1 is the domestic risk factor, loading positively on the Nifty and the broad-market indices and negatively on India VIX and the dollar. A **high PC1 share** means one force is

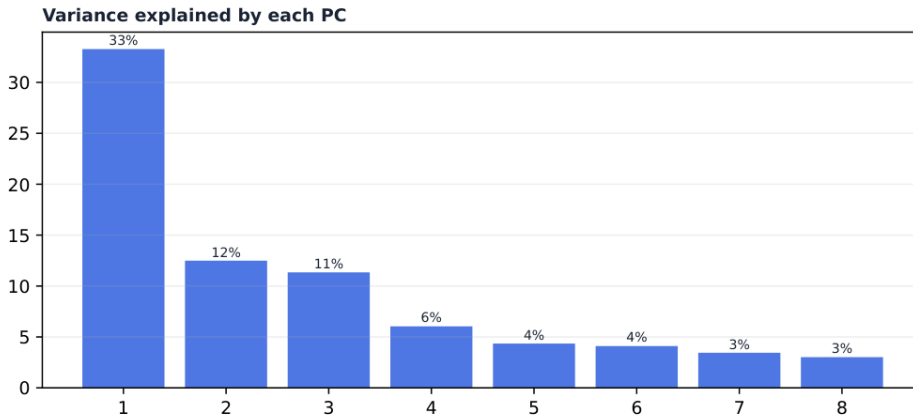
dominating everything: diversification is quietly failing, because holding many things is really holding one thing. Later factors capture rates, the dollar, energy and so on. Each factor is named by its strongest correlation with a marker instrument, so the mathematics gets a plain label.

### How to read it

- The bar chart shows each component's share of variance — a tall first bar means a single dominant factor (fragile); a flatter profile means genuinely diversified markets.
- Under each named factor, the green (+) and red (–) loadings show which instruments move with and against it — the factor's economic identity.
- A **rising** PC1 share over time warns the market is collapsing onto one risk trade.

## CROSS-ASSET FACTOR STRUCTURE (PCA)

Independent forces driving the 39 instruments (156 weeks)



### PC1 — Risk (Nifty)

33.3% of variance (cum 33%) · marker corr +0.92

+ Nifty 200 +0.26, Nifty 500 +0.26, Nifty 100 +0.26, Nifty 50 +0.25, MSCI India +0.25  
 - India VIX -0.16, US VIX -0.14, Broad USD -0.12, US HY OAS -0.12, USDINR -0.11

### PC2 — US rates (10Y) (inverse)

12.5% of variance (cum 46%) · marker corr -0.56

+ EM corp OAS +0.36, US HY OAS +0.31, US IG OAS +0.28, US VIX +0.24, JPYINR +0.21  
 - US 2Y -0.31, USDJPY -0.30, US 10Y -0.25, Nasdaq -0.23, S&P 500 -0.22

### PC3 — Global risk (S&P) (inverse)

11.3% of variance (cum 57%) · marker corr -0.37

+ Broad USD +0.36, DXY +0.34, US HY OAS +0.17, USDJPY +0.17, US IG OAS +0.16  
 - EURUSD -0.34, GBPINR -0.30, EURINR -0.28, EM Equity -0.23, Hang Seng -0.21

### PC4 — US rates (10Y)

6.0% of variance (cum 63%) · marker corr +0.66

+ US 10Y real +0.44, US 10Y +0.43, US 2Y +0.33, EURINR +0.32, USDINR +0.24  
 - S&P 500 -0.16, Nasdaq -0.14, China -0.14, EM Equity -0.13, DXY -0.13

Principal components are the uncorrelated factors explaining the most joint variance. A high PC1 share means one force (usually broad risk) dominates — diversification is thin.

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The Factor Structure page — variance explained and named factors with loadings.

## Systemic Co-Movement (Multivariate DCC-GARCH)

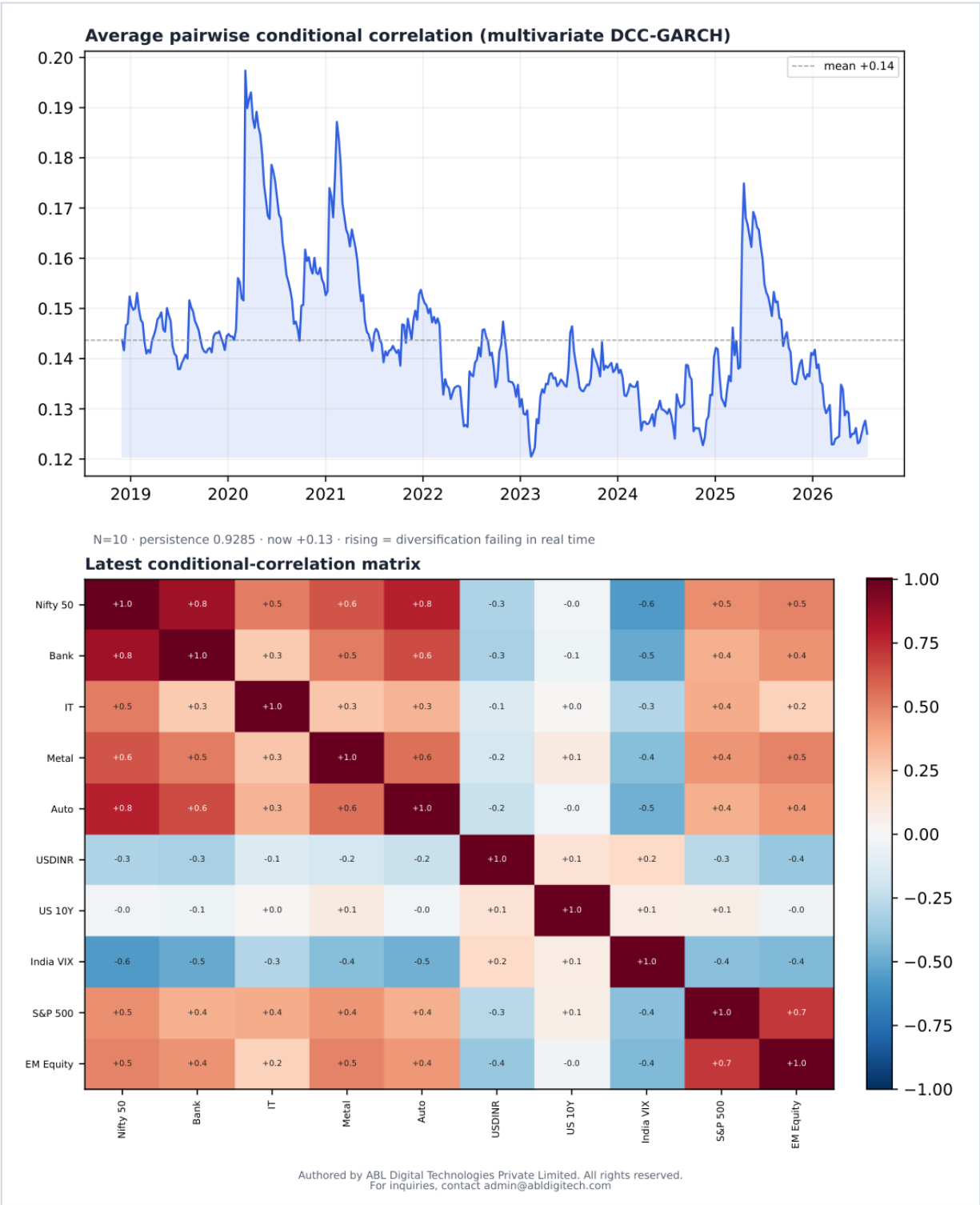
Ordinary correlation is a single average over a window. A **DCC-GARCH** model estimates a **time-varying conditional correlation** that updates as volatility clusters and shocks hit — the honest picture of how tightly assets move together *right now*, not on average.

The top chart tracks the **average pairwise conditional correlation** across a curated cross-asset set — a single systemic-risk gauge. When it spikes, everything is moving as one: diversification is failing in real

time, exactly what happens in a crisis (the 2020 and other stress spikes are visible). The bottom panel is the latest full conditional-correlation matrix.

### How to read it

- A **rising** average conditional correlation = thinning diversification and building fragility, even if prices look calm; a low, stable level = healthy, independent markets.
- In the matrix, deep red = strong co-movement, deep blue = a working inverse hedge; watch the stock–bond and stock–volatility cells.
- 'Persistence' near 1 means correlation shocks fade slowly — today's co-movement carries forward.



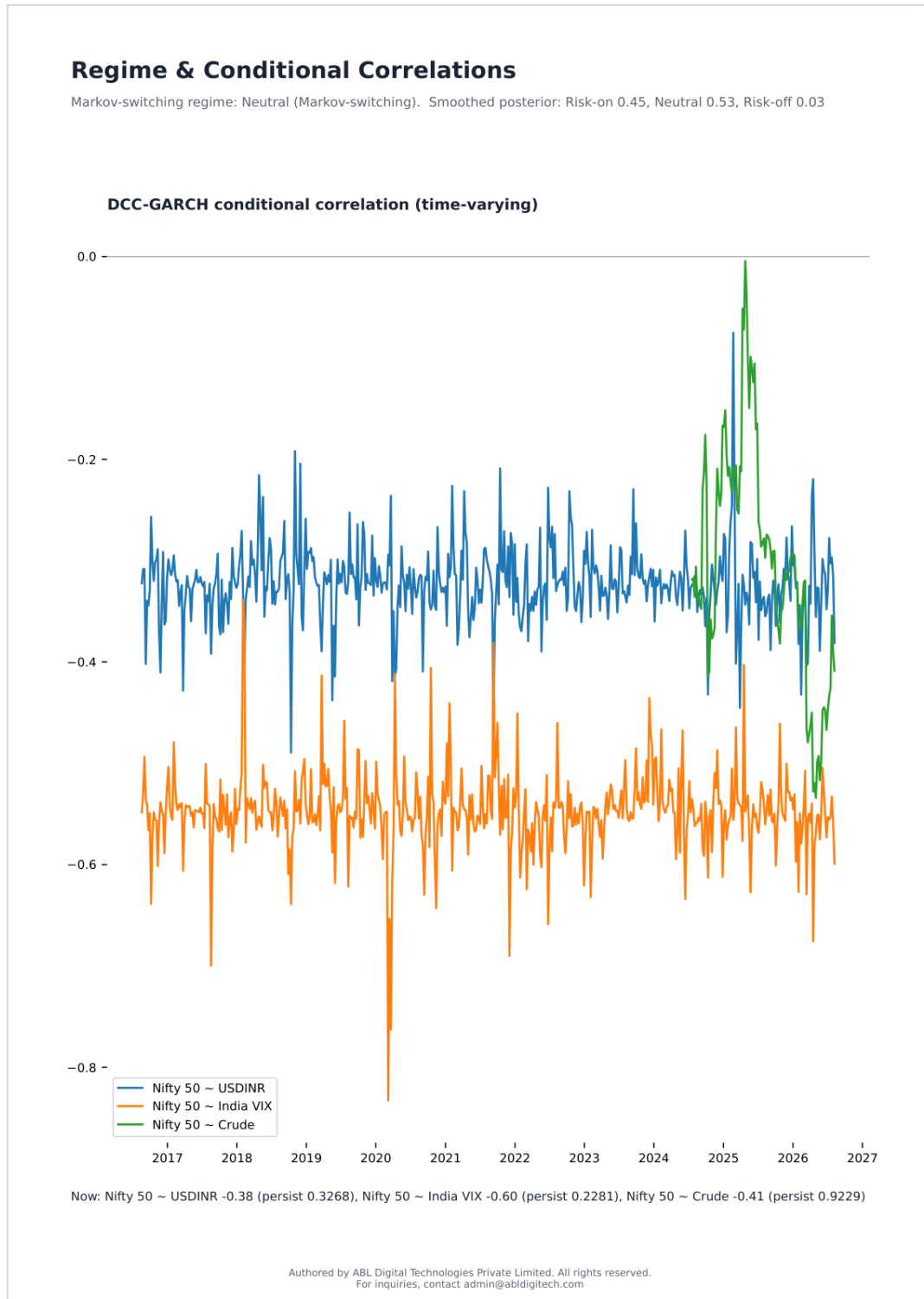
The Systemic Co-Movement page — the average conditional correlation and the latest matrix.

## Regime & Conditional Correlations

This page pairs the Markov-switching regime read with the time-varying DCC-GARCH conditional correlations for the key pairs. The regime tells you the market state and how settled it is; the conditional-correlation lines tell you whether the classic hedges (e.g. the safe-haven pair) are working right now.

## How to read it

- A conditional correlation moving toward zero or positive between a risk asset and its usual hedge means the hedge is weakening.
- The regime posterior shows how confident the state read is.



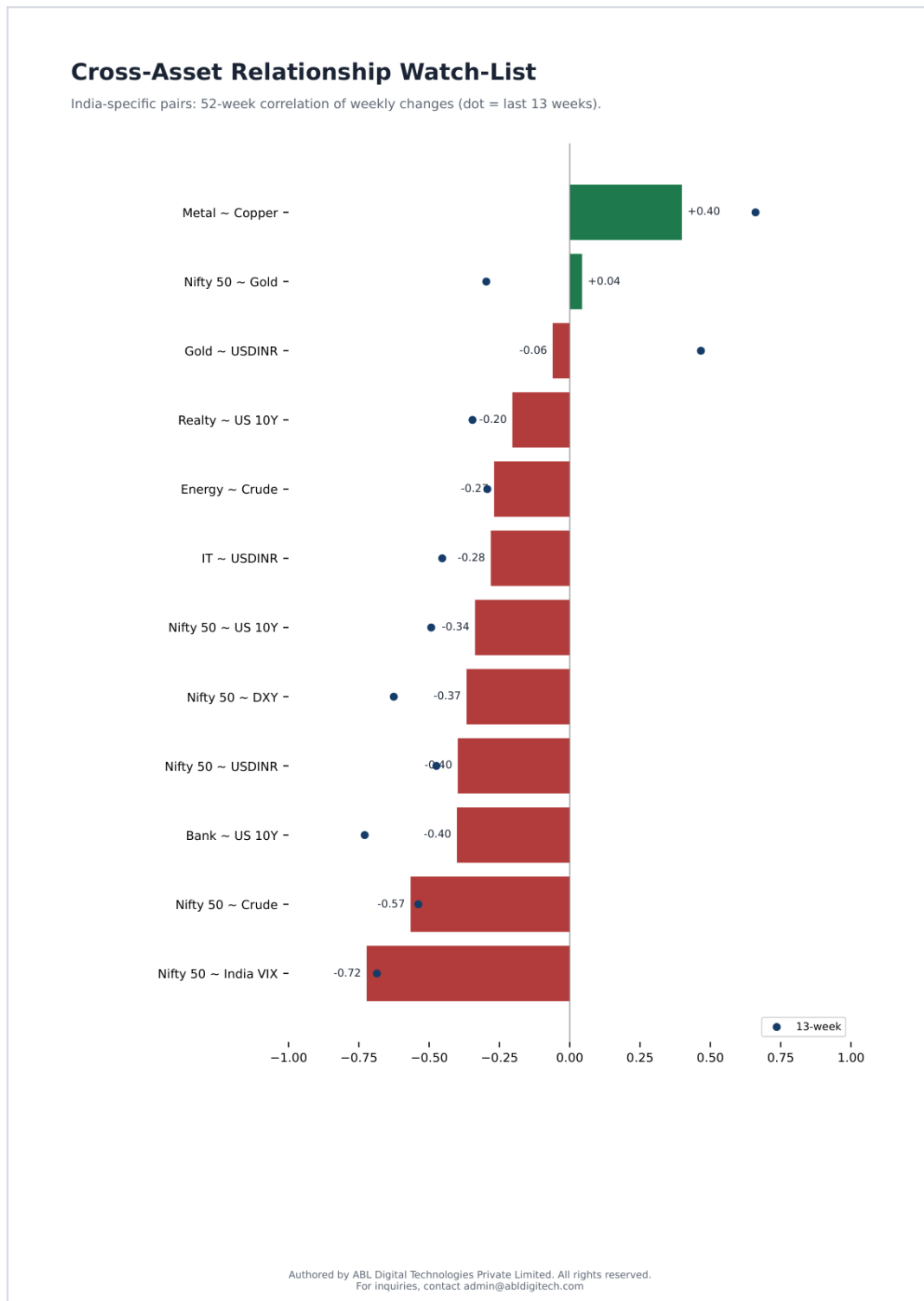
Markov regime with DCC-GARCH conditional correlations.

## Cross-Asset Relationship Watch-List

India-specific pairs (Nifty vs the rupee, Nifty vs US yields, gold vs the rupee, metals vs copper) each shown as their 52-week and 13-week rolling correlation — the classic domestic links checked against their norm.

### How to read it

- A 13-week reading far from the 52-week one flags a shifting relationship.
- The Nifty–India VIX and Nifty–crude links are the ones to watch for India.



The India relationship watch-list.

## Directional Lead-Lag — Granger Causality Network

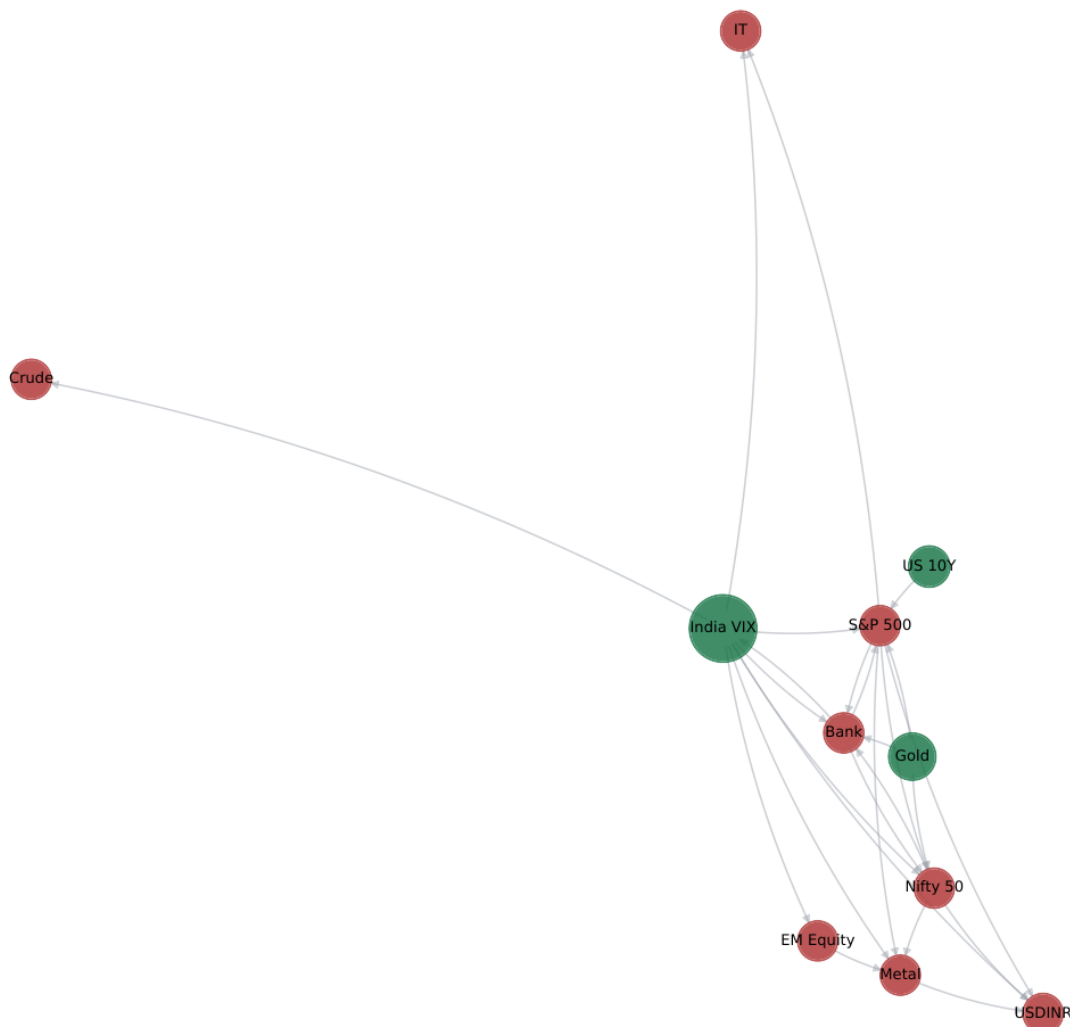
Correlation says two things move together; it does not say *which moves first*. A **Granger-causality** test asks the directional question: does one instrument's past help predict another's future beyond that other's own history? Over the whole set this builds a **directed network** of who leads whom.

Nodes are sized and coloured by **net information flow**: green, larger nodes are net **leaders**; red are **followers**. For India, global volatility, gold and US rates frequently lead, while the domestic banks and cyclical follow. Reading which markets lead tells you where the tape is being set this week.

### How to read it

- An arrow from X to Y means X's move carries information about Y's next move (at the 5% level).
- The LEADERS / FOLLOWERS lists rank the net drivers — the leaders are where to watch for a turn.
- Weekly lead-lag skill is genuine but modest; read the network as a map of influence, not a trigger.

## Directional lead-lag — Granger causality network



arrow = X Granger-causes Y (p<0.05); green/large = net information EXPORTER (leader)

**LEADERS:** India VIX +0.16, Gold +0.03, US 10Y +0.01, IT -0.01, EM Equity -0.01

**FOLLOWERS:** Bank -0.05, Crude -0.03, Metal -0.03, Nifty 50 -0.03, S&P 500 -0.02

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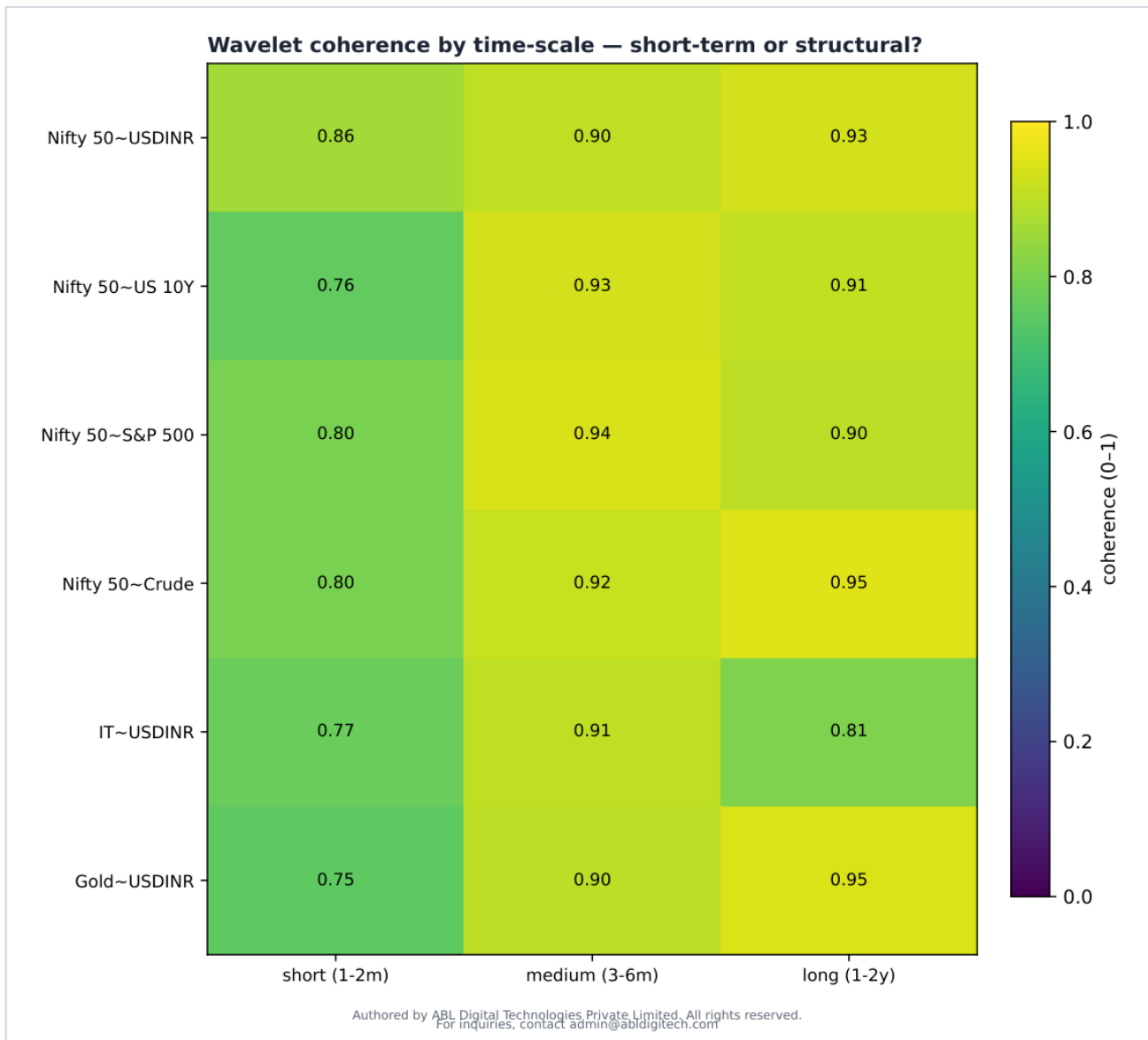
The Granger-causality network — leaders (green) and followers (red).

## Wavelet Coherence — Correlation by Time-Scale

A single correlation number blends all horizons together. **Wavelet coherence** pulls them apart, showing how tightly two instruments move at **short** (weeks), **medium** (months) and **long** (business-cycle) horizons separately. Two assets can be decoupled week-to-week yet bound over the cycle, or the reverse — and that changes how you hedge.

### How to read it

- Each cell is a coherence from 0 (unrelated at that horizon) to 1 (tightly linked); brighter = higher.
- Coherence rising toward the long band = a structural (cycle) link more than a short-term trade.
- High short-term but low long-term = a fast, tactical co-movement that need not persist.



The wavelet-coherence page — correlation resolved by time-scale.

## Statistical Relative Value (Cointegration)

Two related instruments often wander apart and then snap back — their **spread** is mean-reverting. **Cointegration** tests whether a stable long-run relationship exists. For each pair the page reports the test p-value, the hedge ratio, the mean-reversion **half-life** (weeks to close half a dislocation) and — the actionable part — the **current spread z-score**.

A spread z beyond  $\pm 2$  (red) is a historically wide dislocation; if the pair is genuinely cointegrated, it tends to converge. The honesty matters: pairs that are **not** cointegrated (the long-run link has broken) are flagged, and their z is informational only — never fade a spread whose anchor has gone.

### How to read it

- **Coint?** = **yes** + low p-value: the spread mean-reverts — the z is a real rich/cheap signal.
- **|z| > 2** (red) with 'yes' = a candidate convergence.
- **Half-life**: a few weeks = fast reversion; long = patient.

### STATISTICAL RELATIVE VALUE (cointegration)

Mean-reverting India spreads and how stretched each is now

| Pair                 | Coint? | p-val | Hedge | Half-life | Spread z     |
|----------------------|--------|-------|-------|-----------|--------------|
| Nifty vs S&P 500     | no     | 0.815 | 1.17  | 26w       | <b>+2.35</b> |
| Nifty vs Sensex      | no     | 0.670 | 0.92  | 23w       | <b>-2.16</b> |
| IT vs USDINR         | no     | 0.976 | -0.00 | 258w      | <b>+2.06</b> |
| Nifty vs EM Equity   | no     | 0.908 | 0.50  | 69w       | <b>+2.02</b> |
| Nifty vs Nifty500    | no     | 0.345 | 1.24  | 10w       | <b>+2.00</b> |
| Largecap vs Midcap   | no     | 0.070 | 1.85  | 8w        | <b>+1.88</b> |
| WTI vs Brent         | no     | 0.550 | 0.85  | 3w        | <b>-1.28</b> |
| USDINR vs DXY        | no     | 0.384 | 0.06  | 22w       | <b>-0.66</b> |
| Pvt vs PSU Bank      | no     | 0.054 | 2.78  | 10w       | <b>+0.43</b> |
| Gold vs Silver       | no     | 0.441 | 1.51  | 9w        | <b>-0.14</b> |
| Midcap vs Smallcap   | no     | 0.438 | 0.93  | 17w       | <b>-0.09</b> |
| Bank vs Fin Services | no     | 0.440 | 1.01  | 25w       | <b>+0.09</b> |

Low p-value = the spread is statistically mean-reverting. Half-life = weeks to close half a dislocation. |z|>2 (red) flags a historically wide gap. Pairs shown NOT cointegrated: the long-run link has broken — the z is informational only.

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The relative-value page — cointegrated pairs and how stretched each is.

## Sector Rotation

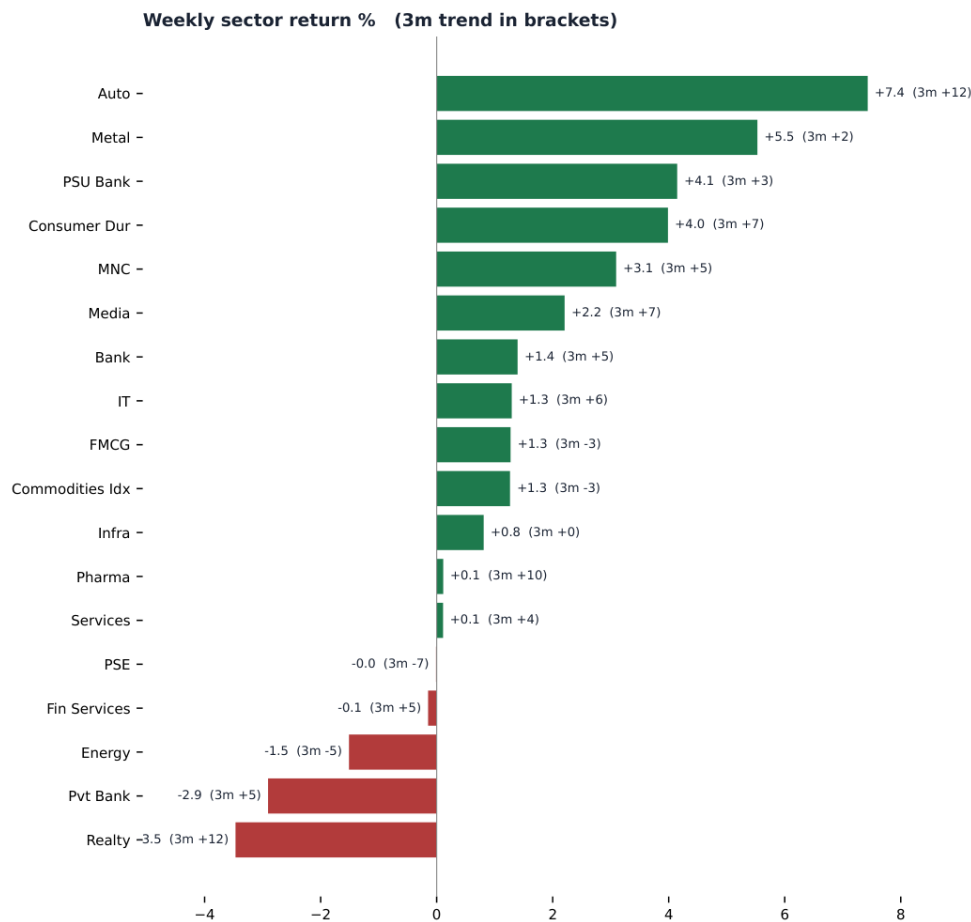
Which parts of the market are leading and lagging? The sector page ranks the sectoral indices by weekly return and shows breadth (how many are advancing and how many sit above their medium-term average). Rotation is where the week's risk appetite is actually flowing.

**How to read it**

- Broad green with high breadth = healthy participation; a narrow advance = a fragile, leadership-dependent tape.
- Compare the weekly move with the 3-month trend shown alongside each sector.

## Sector Rotation

NSE sectoral indices, weekly return. Breadth: 72% of sectors up this week; 78% above their 10-week average.



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Sector rotation — weekly returns and breadth.

## Momentum & Trend

This is the systematic trend read. For each instrument it shows trailing returns over several horizons, a composite **trend score** (the average sign of the 4/13/26/52-week returns, -1 fully down to +1 fully up), the distance below the 52-week high, and the moving-average state (a **'golden'** 10-week-above-40-week cross versus a **'death'** cross — the weekly analogue of the 50/200-day signal). Below is the **cross-sectional** relative-strength ranking of leaders and laggards.

## How to read it

- Trend score +1.00 = uptrend on every horizon; -1.00 = downtrend on every horizon; near 0 = mixed/transitioning.
- 'Below 52w high' near 0% = making new highs; a large negative = deep in a drawdown.
- The leaders/laggards show where relative strength — and money — is rotating.

### MOMENTUM & TREND

Time-series momentum, trend state and distance below the 52-week high

| Instrument   | 13w  | 26w  | 52w  | Score        | vs40wMA | <52wHi |
|--------------|------|------|------|--------------|---------|--------|
| Nifty 50     | +2%  | -4%  | +1%  | <b>+0.50</b> | -0%     | -6%    |
| Midcap 100   | +6%  | +8%  | +12% | <b>+1.00</b> | +6%     | 0%     |
| Smallcap 250 | +5%  | +16% | +11% | <b>+1.00</b> | +11%    | 0%     |
| Bank         | +5%  | -3%  | +6%  | <b>+0.50</b> | +1%     | -5%    |
| IT           | +6%  | -13% | -10% | <b>+0.00</b> | -4%     | -20%   |
| Auto         | +12% | +9%  | +24% | <b>+1.00</b> | +8%     | 0%     |
| Pharma       | +10% | +21% | +24% | <b>+1.00</b> | +13%    | 0%     |
| FMCG         | -3%  | -4%  | -12% | <b>-1.00</b> | -3%     | -13%   |
| Metal        | +2%  | +11% | +44% | <b>+1.00</b> | +10%    | -2%    |
| Realty       | +12% | +13% | -1%  | <b>+0.00</b> | +7%     | -6%    |
| Energy       | -5%  | +10% | +11% | <b>+0.00</b> | +4%     | -5%    |
| Gold         | -2%  | -4%  | +46% | <b>+0.00</b> | +2%     | -8%    |

#### Sector 26-week relative strength:

LEADERS: Pharma +21%, Realty +13%, Media +12%, Metal +11%, MNC +10%, Energy +10%

LAGGARDS: IT -13%, Services -5%, FMCG -4%, Bank -3%, PSU Bank -3%, Pvt Bank -3%

Score = mean sign of the 4/13/26/52-week returns (+1 = uptrend across all horizons). 'Golden' vs 'death' = 10w vs 40w MA cross.

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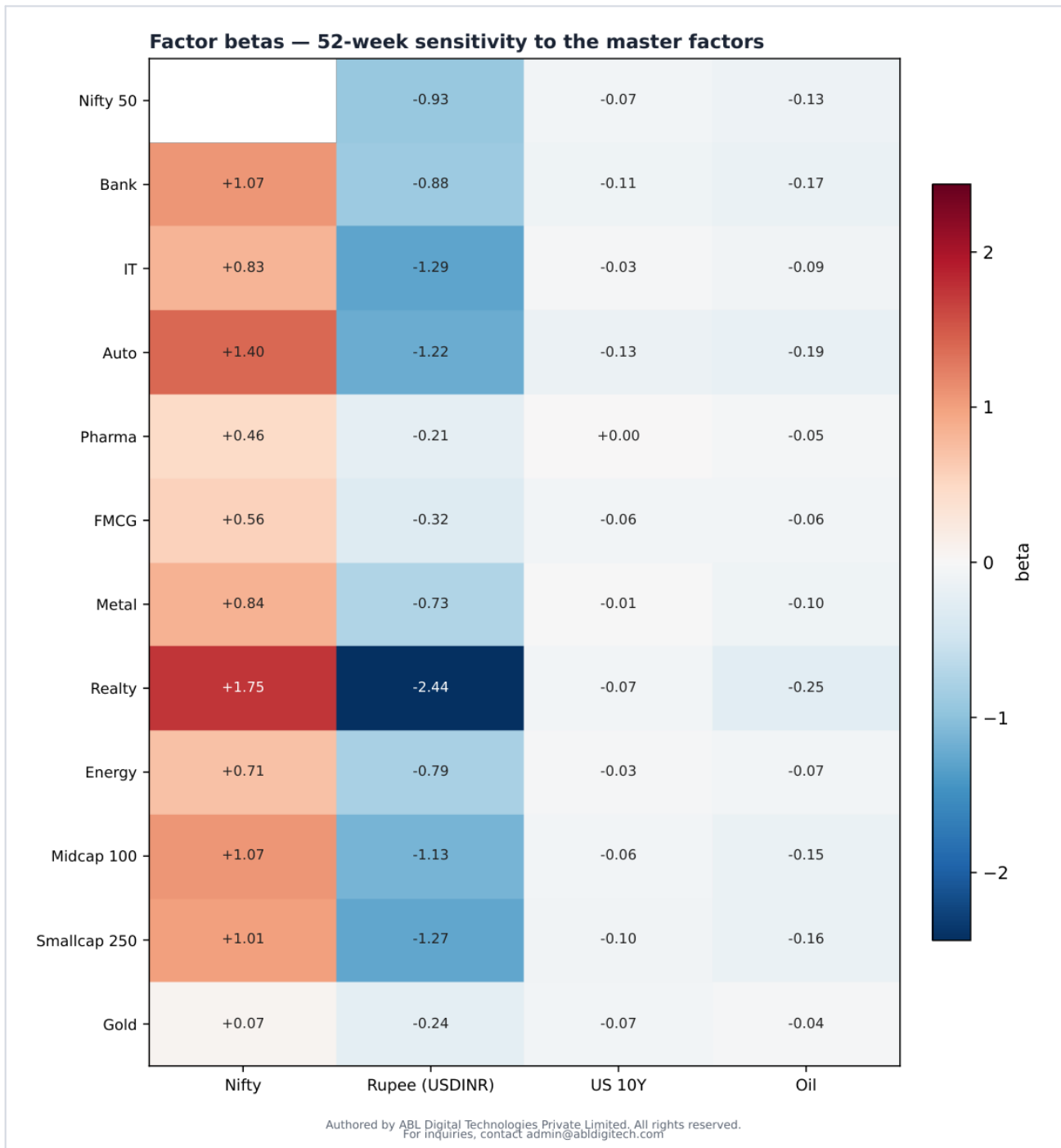
The momentum & trend page — the trend battery and relative-strength ranking.

## Factor Betas

A **beta** measures sensitivity to a driver: a beta of +1.2 to the Nifty means the asset tends to move 1.2% for every 1% move in the Nifty. This page is the risk-attribution map — each instrument's 52-week beta to the master factors (the Nifty, the rupee (USDINR), the US 10-year yield, oil). It answers 'what really drives this asset, and what would hedge it?'

### How to read it

- Red = positive beta (moves with the factor), blue = negative (a potential hedge); deeper colour = stronger sensitivity.
- A high positive beta to the Nifty = a high-risk, pro-cyclical asset; a negative beta to the rupee (USDINR) = it rises when the rupee (USDINR) falls.
- A changing beta signals a regime shift in what is driving the asset.



The factor-beta map — each asset's sensitivity to the master factors.

## Risk Concentration & Lead-Lag

A compact companion to the factor page: the PC1 loadings (each instrument's exposure to the dominant market factor) and a simple lead-lag read into the benchmark. High PC1 concentration means the market is one big single-factor trade.

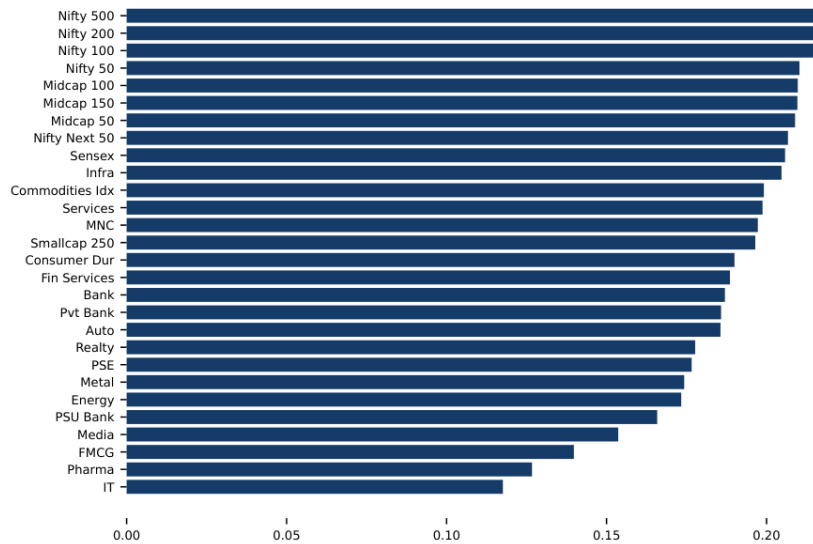
### How to read it

- Long PC1-loading bars across the board = a concentrated, single-factor market.
- The lead-lag rows show contemporaneous and one-period-lag correlation — honest, modest skill.

## Risk Concentration & Lead-Lag

PCA on equity + sector weekly moves: PC1 explains 74% of variance (PC2 6%). Higher PC1 = more single-factor.

PC1 loadings (market-factor exposure)



LEAD-LAG INTO NIFTY 50 (weekly; honest — skill is modest)

| Leader    | Contemp. corr | 1-week-lag corr |
|-----------|---------------|-----------------|
| India VIX | -0.55         | -0.22           |
| Crude     | -0.34         | -0.06           |
| US 10Y    | -0.00         | -0.06           |
| USDINR    | -0.34         | -0.01           |
| DXY       | -0.31         | -0.01           |

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PC1 loadings and the lead-lag read.

## Fair Value — Rich / Cheap vs Drivers

Is an asset expensive? The honest answer is 'expensive *relative to what should drive it*'. Each model regresses an asset on its economic drivers, computes the **model-fair value** those drivers justify, and reads the gap — the **residual**, as a % rich/cheap and a z-score. A large positive residual = rich versus its drivers (mean-reversion risk); a large negative = cheap.

Crucially, each model reports its  $R^2$  — how much of the asset it explains, and therefore how much to trust the signal. A rich/cheap read from a high- $R^2$  model is worth acting on; the same from a low- $R^2$  model is a weak anchor, stated as such.

### How to read it

- **z beyond  $\pm 1.5$**  = a stretched dislocation (rich if positive, cheap if negative).
- **$R^2$**  is the trust dial: 0.7+ is a strong anchor; below ~0.3 is weak — discount it.
- The bar shows the gap's direction and size versus the model's own residual history.

## FAIR VALUE — RICH / CHEAP vs DRIVERS

Each asset regressed on its economic drivers; the residual is the rich/cheap signal

### Banks vs Nifty & US rates

**RICH z +1.29**

actual 58063.65 · model-fair 55151.81 · gap +5.3% ·  $R^2$  0.94



### Nifty vs global rates, dollar & oil

**RICH z +1.27**

actual 24636.00 · model-fair 23826.86 · gap +3.4% ·  $R^2$  0.56



### IT vs rupee & US tech

**cheap z -1.23**

actual 31106.20 · model-fair 35256.94 · gap -11.8% ·  $R^2$  0.43



### Rupee vs dollar, oil & US rates

**RICH z +0.99**

actual 95.21 · model-fair 92.85 · gap +2.5% ·  $R^2$  0.66



### Gold vs US real yield & dollar

**RICH z +0.26**

actual 148725.00 · model-fair 141460.67 · gap +5.1% ·  $R^2$  0.54



Model-fair value is what the drivers justify; the gap is how far actual sits from it.  $|z| > 1.5$  flags a stretched dislocation. Trust in proportion to  $R^2$  — a low- $R^2$  model is a weak anchor, stated honestly.

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The fair-value page — rich/cheap residuals with honest  $R^2$ .

## Volatility Complex

The volatility page reads the options market's view of risk. The **term structure** plots expected volatility across horizons (near-dated to far-dated); an upward slope (contango) is calm, an inverted slope (backwardation) signals acute near-term fear. The **vol-risk premium** is implied minus realised volatility — normally positive (a carry cushion); when it flips negative, realised stress has overtaken what options priced. **SKEW** is the cost of crash protection, and the cross-asset panel shows bond, oil and gold

volatility in percentile terms.

### How to read it

- Term structure in contango = calm; inverted = stress.
- A negative vol-risk premium is a warning; a high SKEW percentile means the market is paying up for crash insurance.



#### PART IV

## Volatility & Risk

---

The volatility complex and downside risk.

- India VIX in context, the volatility risk premium, India-vs-US fear
- Tail risk: VaR / expected shortfall, drawdowns, tail dependence

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The volatility complex — term structure, risk premium, SKEW and cross-asset vol.

## Tail Risk

Averages hide the danger; this page quantifies the **downside**. For each instrument: the 5% **Value-at-Risk** (the typical bad-week loss), the **Expected Shortfall** (the average loss *beyond* that — how severe the worst weeks are), annualised downside volatility, the maximum and current drawdowns, and the distribution's skew and fat-tailedness.

Below the table is **lower-tail dependence** with the Nifty: the probability an instrument has a worst-decile week *given* that the Nifty does — what ordinary correlation misses. A low value = a genuine diversifier when it matters; a high one = no shelter in a sell-off.

### How to read it

- **ES5** far below VaR5 = a fat left tail: rare weeks are brutal.
- **Current drawdown** near 0 = at highs; a large negative = still off the peak.
- **Lower-tail dependence** near 0 = crashes independently; near 1 = crashes together.



#### PART IV

## Volatility & Risk

---

The volatility complex and downside risk.

- India VIX in context, the volatility risk premium, India-vs-US fear
- Tail risk: VaR / expected shortfall, drawdowns, tail dependence

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The tail-risk page — VaR/ES, drawdowns and tail dependence.

## Historical Trend — Key Metrics

The memory of the report: the headline readings from every past edition, laid out as a colour-coded grid (green favourable, amber neutral, red adverse) with the most recent week on the right. It turns single-week snapshots into a multi-month trend you can read at a glance.

### How to read it

- Read each row left-to-right for the trend in that metric over recent months.
- Newly-added metrics fill in only from the week they were introduced — blanks earlier are expected, not errors.



The historical-trend tracker of key metrics.

## Part 3 — Concepts & Methods

This part explains, in plain language, every analytical method behind the report. You do not need mathematics — each entry says what the method measures, why it matters, and how to read its output. The same toolkit powers all of ABL Digital's cross-asset reports, so learning it once serves you everywhere.

### 3.1 The percentile — the single most useful idea

A raw number rarely means much on its own. Is a credit spread of 2.7% high or low? A **percentile** answers it by ranking today's value within its own history: the 90th percentile means it has only been this high 10% of the time. Almost every headline value in the report carries a percentile (usually over ten years), and the colour shading follows it — red for historically high, blue for historically low. Learning to read the percentile, not the raw number, is the most valuable habit the report teaches.

A close cousin is the **z-score**: how many standard deviations a value sits from its own average. Zero is normal; +2 is stretched high; -2 stretched low. The scorecards are built from z-scores so that different signals become comparable and can be averaged.

### 3.2 Returns: how change is measured

Price-like series (equities, commodities, FX, crypto) are measured as **log returns** — the natural way to express percentage change so that gains and losses compound correctly. Yield- and spread-like series (interest rates, credit spreads, volatility) are measured as **level changes** (first differences) in their own units, because a move from 2% to 3% is economically a one-point move, not a 50% move. The report applies the right transform to each asset class automatically.

### 3.3 Correlation — Pearson, Spearman, rolling

Correlation measures how two series move together, from +1 (in lockstep) through 0 (unrelated) to -1 (opposite). The report uses **Pearson** (the standard linear measure) and, where robustness matters, **Spearman** (rank-based, resistant to outliers). A **rolling** correlation recomputes over a moving window so you can see the relationship evolve; comparing a 52-week to a 13-week correlation shows whether a link is tightening or loosening.

#### Correlation is not causation

Two assets can move together because a third thing drives both. The report adds directional tools (Granger causality) precisely because correlation alone cannot tell you which moves first.

### 3.4 DCC-GARCH conditional correlation

A plain rolling correlation weights every week in its window equally and reacts slowly. A **DCC-GARCH** model (Dynamic Conditional Correlation) is the professional upgrade: it first models each asset's **volatility clustering** (calm begets calm, storms beget storms) with a GARCH model, then lets the correlation itself vary through time, updating faster when shocks hit. The result is the **conditional correlation** — the honest read of how tightly two assets are linked right now. The report uses it both for key pairs (like stocks vs bonds) and, in multivariate form, as a whole-market systemic gauge (Part 3.5).

### 3.5 Multivariate DCC & systemic co-movement

Extending DCC-GARCH to many assets at once yields a time-varying correlation **matrix** for the whole set. Averaging its off-diagonal cells gives a single number: the **average pairwise conditional correlation** — how much the entire complex is moving as one. A rising value is the signature of contagion and fragility: diversification is failing even if prices look calm. This is one of the report's most important early-warning signals.

### 3.6 Markov-switching regime

Markets behave differently in calm and in crisis. A **Markov-switching** model formalises this: it assumes the market is always in one of a few hidden **regimes** (here Risk-on / Neutral / Risk-off), each with its own average return and volatility, and estimates the probability of being in each this week plus the odds of switching. It is a statistically grounded answer to 'what kind of market is this?' — more objective than eyeballing a chart. The report reports the current regime and its smoothed probability.

### 3.7 Principal-Component Analysis (the factor model)

PCA finds the handful of independent **factors** that explain the most joint variation across many instruments (see the Factor Structure page in Part 2). The first component is usually broad risk; later ones capture rates, the dollar and so on. The **share** of variance the first factor explains is a concentration gauge: a high share means one force drives everything and diversification is illusory.

### 3.8 Cointegration & statistical relative value

Two economically-linked instruments often share a stable long-run relationship even as they wander apart short-term. **Cointegration** tests for it; when present, the **spread** between them mean-reverts, with a measurable **half-life**. The current spread **z-score** tells you how stretched the pair is now — the basis of relative-value (pairs) trading. The report is careful to flag pairs that are *not* cointegrated, where a wide spread is not a reversion signal.

### 3.9 Granger causality & transfer entropy

**Granger causality** asks whether one series's past improves the forecast of another's future — a directional, if statistical, notion of 'leads'. **Transfer entropy** is a related information-theoretic measure of directed influence. Combined across the set, they build the lead-lag network (Part 2) that shows which markets set the tone. The report is explicit that weekly predictive skill is modest — the network is a map of influence, not a crystal ball.

### 3.10 Tail risk: VaR, Expected Shortfall, tail dependence

**Value-at-Risk (VaR)** at 5% is the loss a typical bad week (the worst 1-in-20) reaches. **Expected Shortfall (ES)** is the average loss *beyond* the VaR — it captures how severe the truly bad weeks are, which VaR alone misses. **Drawdown** is the fall from a prior peak. **Lower-tail dependence** measures how often two assets have their worst weeks together — the real test of a diversifier, because correlations notoriously rise to 1 in a crash.

### 3.11 Fair-value residual models

A regression of an asset on its economic drivers produces a **model-fair value**; the gap between actual and fair is the **residual** — a disciplined rich/cheap signal. The model's  $R^2$  says how much it explains and therefore how much to trust the signal. This is the engine behind statements like 'gold is X% above its real-yield-and-dollar-implied fair value'.

### 3.12 Momentum, trend and factor beta

**Momentum** is the tendency of trends to persist; the report scores it across several horizons and ranks instruments by relative strength. A **factor beta** is an asset's sensitivity to a master driver (the market, the dollar, rates, oil) — the language of risk attribution and hedging. Together they answer 'what is trending, and what drives it?'

### 3.13 Wavelet coherence

**Wavelet coherence** resolves correlation by time-scale, showing whether two assets are linked at short (weeks), medium (months) or long (cycle) horizons. It reveals relationships that a single correlation number blends away — for instance a pair decoupled week-to-week but tightly bound over the business cycle.

### 3.14 The composite scorecards

The scorecards (Part 2) average several sign-aligned z-scored signals into one risk-appetite reading and one backdrop reading. The point is robustness and transparency: no single indicator dominates, and every input is shown so the headline is auditable. They are the report's fastest single-number summary of 'how risk-on is the market, and is the backdrop helping or hurting?'

## Part 4 — Data & the instrument universe

Every number in the report comes from a free, public or official source. This part lists them and describes what the report covers.

### 4.1 Data sources

| Source                   | What it provides                                                                                     |
|--------------------------|------------------------------------------------------------------------------------------------------|
| Yahoo Finance            | Nifty, broad-market & sectoral indices, India VIX, FX, commodities, REITs, global-context equities   |
| Kite (Zerodha)           | MCX commodities in rupee terms (approved primary where available)                                    |
| FRED (St. Louis Fed)     | Global-context spine: US yields, credit spreads, the dollar, Fed balance sheet; India CPI & reserves |
| NSE                      | FII/DII net cash flows (best-effort)                                                                 |
| config/macro_prints.yaml | Release-based India prints (repo/CPI/GST/PMI/IIP/GDP) — official figures, user-refreshed             |

### 4.2 The instrument universe

62 instruments — the broad-market and sectoral NSE indices, FX, commodities and REITs, plus a global-context spine so India is always read against the world.

The report covers Indian broad-market & sectoral equities, the rupee and FX, gold, crude and metals, India VIX, REITs, and a global-context spine (US rates, credit, the dollar). The complete, current instrument list is printed in the report itself and defined in the engine's configuration; because it is curated and occasionally extended, the configuration — not this guide — is the authoritative list.

#### Robust by construction

Free data has gaps, revisions and the occasional outage. The engine fetches each series independently, logs any failure and builds the report from whatever succeeded — so a single bad source degrades one signal, never the whole report.

## Part 5 — Workflows, judgement & honest limitations

Analysis is only useful if it changes what you do. This part offers a few practical routines for using the report, and — just as important — an honest account of what it cannot do.

### 5.1 A weekly routine

- Open with the **cover and dashboard**: regime, scorecard, the percentile table. Note anything shaded deep red or blue — that is where this week is unusual.
- Read the **What Changed** page for the week's moves and any shift in the headline state.
- Read the **analyst narrative** for the joined-up story and the stated key risk.
- Dive into the pages the narrative flags — a stretched fair-value gap, a crowded position, a rising systemic correlation — and form your own view.
- Note the specific 'what to watch' signals at the end of the narrative; they are your triggers for next week.

### 5.2 Judgement: how much to trust each signal

- **Percentiles and levels** are facts — trust them fully; they are just the data in context.
- **Regime, scorecard, correlations** are robust model outputs — strong evidence, but a lens, not a verdict.
- **Fair-value and cointegration** signals are worth acting on *in proportion to  $R^2$  / the cointegration flag* — the report tells you which are strong.
- **Lead-lag forecasts** are the most uncertain — read them as modest nudges with error bands, never as point predictions.

### 5.3 Honest limitations

- It is **weekly**: it will not catch an intraday or intra-week reversal.
- It is **not investment advice** and issues no buy/sell signals — it is context for your own decisions.
- Models can be wrong: regimes are probabilistic, correlations break, and a fair-value gap can stay stretched far longer than expected.
- Free data has gaps and revisions; a single source can lag. The engine degrades gracefully and logs any failure, but a missing series means a missing signal that week.

#### The right mental model

Treat the report as an expert briefing that lays out the whole board honestly — the trend, the stresses, the crowded trades, what is cheap or dear, and what to watch. The decisions remain yours.

## Part 6 — Glossary & chart-reading primer

### 6.1 How to read the recurring chart types

- **Heatmap** — a grid of coloured cells; colour encodes a value (correlation or return). Scan for blocks of one colour (things behaving alike) and for cells that have changed colour.
- **Network** — nodes are instruments, edges are links; proximity and colour show how they cluster and whether links are positive or negative.
- **Percentile bar** — a value's rank within its own history; a bar near the right (red) is historically high, near the left (blue) historically low.
- **Term structure / curve** — a value plotted across horizons or tenors; its slope (upward vs inverted) is the signal.
- **Diverging bar** — bars extend left (negative) or right (positive) from a centre line; length is magnitude, side is direction.

### 6.2 Glossary

| Term                    | Meaning                                                                              |
|-------------------------|--------------------------------------------------------------------------------------|
| Basis point (bp)        | One hundredth of a percentage point; 100 bp = 1%.                                    |
| Breadth                 | The share of a group trending up (e.g. above a moving average) — participation.      |
| Cointegration           | A stable long-run relationship whose spread mean-reverts.                            |
| Conditional correlation | A correlation that varies through time (from a DCC-GARCH model).                     |
| Drawdown                | The percentage fall from a prior peak.                                               |
| Expected Shortfall (ES) | The average loss in the worst tail, beyond the VaR.                                  |
| Fair value (model)      | What an asset's drivers justify; the gap to actual is the residual.                  |
| Granger causality       | A statistical test of whether one series's past predicts another's future.           |
| Half-life               | The time for a mean-reverting spread to close half a dislocation.                    |
| Kurtosis                | Fat-tailedness of returns; high = rare extreme moves are more likely.                |
| Momentum                | The tendency of price trends to persist.                                             |
| Percentile              | A value's rank within its own history (90th = higher 90% of the time).               |
| PCA / factor            | A method that finds the few independent forces driving many assets.                  |
| Regime                  | A hidden market state (risk-on / neutral / risk-off) from a Markov model.            |
| Skew                    | Asymmetry of returns; negative = crashes larger than melt-ups.                       |
| Spread                  | The difference between two related series (e.g. a credit spread, or a pairs spread). |
| Tail dependence         | The chance two assets have their worst weeks together.                               |
| Value-at-Risk (VaR)     | The loss a typical bad week (worst 1-in-20) reaches.                                 |
| Volatility              | The size of fluctuations; realised = from prices, implied = from options.            |
| Z-score                 | How many standard deviations a value sits from its own average.                      |

This report and guide are for research and information only — not investment advice, not a solicitation, and not a recommendation to buy or sell any security.