



# UBS Quantitative Research

## *Alpha & Analytics*

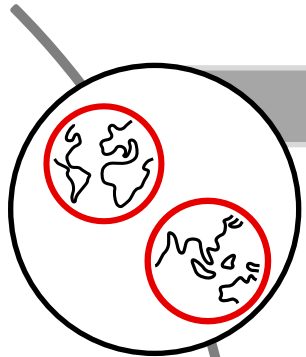


Q4 2025

This material has been prepared by UBS AG, London Branch

# UBS Quant Research

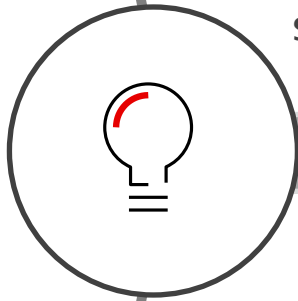
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## Global Research Team

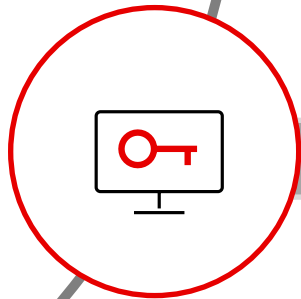
UBS Quant Research includes over 25 experts across the US, Europe, Asia and Australia with decades of buy-side and sell-side industry experience.

Analysts are organized regionally for localized expertise and support.



## Innovative Alpha Generation

The team delivers innovative alpha ideas using traditional and alternative data for both fundamental and quantitative investors.



## Advanced Technology Utilization

UBS Quant Research leverages Machine Learning, AI, and LLMs to lead innovation in financial research and insights.



# UBS Quant Research

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## Flagship Research

### Innovative & Unique

Our team leverages both sell-side and buy-side experience across a diverse set of academic expertise.

Our Flagship Research offers insights that are orthogonal to traditional quant factors.

We are always looking to be an industry leader, whether by utilizing technological advances via machine learning techniques, exploring LLMs and AI, or systematically identifying idiosyncratic insights from UBS sector analysts while retaining investment intuition.

## Quant Answers

### Informational Advantage

We systematically deliver insights to clients via UBS Quant Answers.

The powerful and broad platform helps investors interpret and manage their exposures and risks across a wide range of market factors and influences.

QA allows our clients, from quant to fundamental investors, to tap directly into the innovation that is being developed by the Quant team at UBS.

## Bespoke Research

### Proprietary Data & Innovation

We collaborate with our clients to provide solutions to their unique questions. Our work gives them an independent and unbiased analysis (whether it is running a backtest, constructing portfolios or delving into specific sectors).

Our clients are able to tap into the broad knowledge base not only within the quant team but more broadly within UBS.

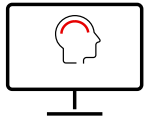
We turn around requests in a timely manner given our robust infrastructure.



# Flagship Research

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## Humans and Machines: Toward the Singularity



AI, encompassing machine learning algorithms, large language models and neural networks, offers unprecedented speed and analytical power, whilst human investors contribute contextual understanding, judgment and ethical insight.

## Style Guide



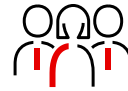
Our Style Guide covers an extensive range of metrics globally and regionally. It includes macro market drivers, style, factor, sector and regional performance, volatility, sharpe ratio and hit rate, valuation statistics and market stats.

## Collaborative Intelligence: How to combine human and machine insights to generate alpha?



Machines have an advantage in processing large volumes of historical information and subsequently pricing stocks. Humans have an advantage in understanding how changes in the world will affect the future of a company's earnings and hence the present value of the business. So, how do we integrate historical information with a forward-looking view?

## A Comprehensive Crowding Factor



Crowding is simply too many of the same type of market participants holding the same or similar positions. Crowding can occur both on the long and short side of names and both can have issues. In this report we explain and analyse the UBS Comprehensive Crowding Factor.

## Does your risk model forecast your risk?



A good risk model is an important tool for all portfolio managers. Most risk models use either a time series or cross-sectional approach. We argue for a hybrid approach to risk modelling.

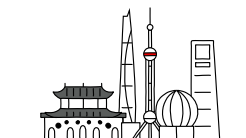
Find our publications on UBS Neo:  
<https://neo.ubs.com/quantitative>



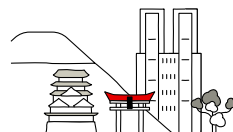
# Asia Research: Harnessing Alpha

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In Asia, domestic themes drive alpha



China



Japan



India

“China’s domestic equity market presents a variety of investable universes with various size, sector and fundamental profiles. As of August 2025, the China A-share market consisted of over 5,000 stocks listed on the Shanghai Stock Exchange (SSE) and the Shenzhen Stock Exchange (SZSE).”

“We have seen renewed bottom-up drivers of increased returns with the rise of activism, company-level efforts to reduce cross-shareholding networks, and increased management accountability. With these measures, we have seen a steady acceleration in capital management, investor focus and, in particular, shareholder returns.”

“With over 5,000 stocks listed in the cash market, India provides a broad opportunity set for investors. Between the two major exchanges and the significant importance of the Futures and Options (“F&O”) market, understanding the various investment options in India is critical.”



# UBS Quant Research

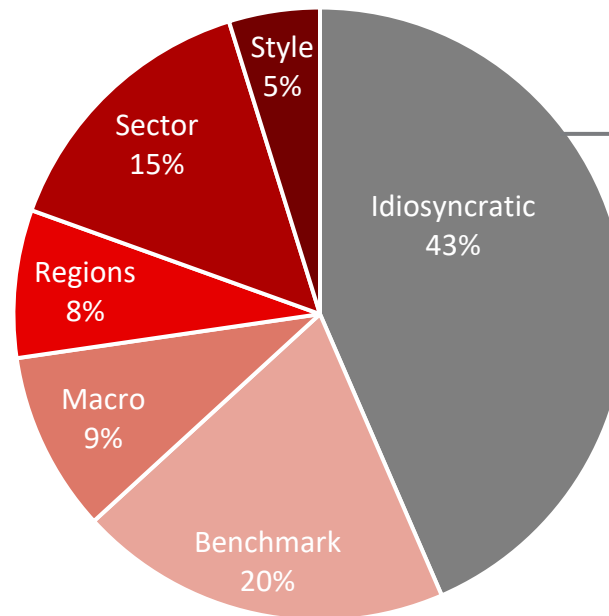
60% of the variance can be explained by known factors

Beta, Macro factors, Regions, Sector, & Quant factors

Remaining 40% is idiosyncratic

This is where alpha lives & can be harnessed through human insights

Variance Across Market



Sources of  $\alpha$

- Macro Risk
- Sector Research
- Style & Thematic Research

- Analyst Insights
- Hedge Fund Alpha
- Smart Money

Source: UBS Quant Research, as of 26 Sept 2025



# Informational Edge: Leveraging Fundamental

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## Industry Expertise

“Analysts are industry experts with knowledge about what drives their industry, what factors are the most important and what company relationships matter.”

## Forecasting

“Humans have an advantage in understanding how changes in the world will affect the future of a company's earnings and hence the present value of the business.”

## Corporate Access

“Events that connect companies with investors through conferences, ‘non-deal roadshows’, fire-side chats, and conference calls, that bring together investor relations and market intelligence.”

Systematically capture UBS Analyst Insights on 3,900+ stocks globally



# UBS Quant Answers: Informational Advantage

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30+ insight-driven datasets: find more information in the [Quant Answers tear sheets](#)

And get in touch with us at [ubs-quant-answers@ubs.com](mailto:ubs-quant-answers@ubs.com)

## Analyst Insights

- Analyst Estimate Data
- Analyst Upside Rankings
- Key Calls
- Quant Research Review
- Industry Network Intelligence

## Market Insights

- Comprehensive Crowding
- Ownership
- Stock Loan Alpha
- Hedge Fund Idiosyncratic Score

## Risk Models & Analytics

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- Portfolio Analytics
- Capacity Analysis

## Quant Factors & Models

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## China

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- Southbound Ownership



# UBS Quant Answers

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## Comprehensive Risk Management

The platform helps investors interpret and manage exposures and risks across various market factors efficiently.

## Direct Access to Innovation

Clients can directly access innovations developed by the Quant Research team to enhance investment strategies.

## Advanced Analytical Tools

Offers tools like the Hybrid Risk Model, Style Guide, and fundamental analysis for customized client solutions.

	UBS Quant Answers <small>.../answers/token</small>
<b>The Answers from the UBS Quantitative Research team</b>	
Analyst Data	▼
Evidence Lab	▼
Prices & Factors	▼
Macro Strategy	▼
Market Stats	▼
Network	▼
Ownership	▼
Risk Modelling & Portfolio Analytics	▼
Proprietary Factors	▼
Sector Fundamental Models	▼
Sector Rotation	▼
Style Guide	▼
Answers Token	▼



# UBS Quant Answers Data Delivery

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## Quant Answers web page

Browse our data sets on the Quant Answers documentation page, retrieve data and find details of delivery frequency and history. You will also find our Python client here.

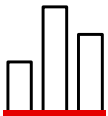
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## API Access

Data sets are accessible via OpenAPI standard with token-based authentication and Python client support.

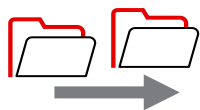
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## Microsoft Excel Add-in

An Excel add-in is available from the Microsoft Store for easy and direct access to data sets within spreadsheets.

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## SFTP Delivery

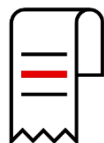
Certain data sets are available via secure SFTP transfer, either by default or upon request.



# UBS Quant Research: Analyst Insights

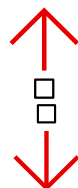
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Systematically capture human insights as a source of orthogonal alpha



## Analyst Estimate Data

A wide range of valuation and accounting data points per stock direct from UBS analysts across the full global universe of coverage of over 3,900 firms. Available back to 2003 or delivered live.



## Analyst Upside Rankings

We've used a point-in-time database containing daily time-stamped UBS analysts price targets for global coverage back to 2008. We tie each stock to the lead analyst at each point in time and calculate the forecast upside or downside for each stock. We then apply a ranking to each stock under the analyst's coverage, ranking by upside from most to least. We find that this simple method yields an effective way to determine what could be each analyst's 'best ranked idea'.



## Key Calls

Curated by stock covering analysts and product management, UBS APAC Key Calls represents a list of our highest-conviction, bottom-up ideas across the APAC region. These are stocks where UBS has a differentiated view, approach or evidence. Constituents can be Buys or Sells in any market, with a minimum ADV of \$5m. They have a typical timeframe of 3-9 months. They represent the key fundamental research calls within the APAC coverage universe.

## Quant Research Review



Proprietary UBS data based on scored analyst inputs. Our lead analysts answer questions on industry and regulatory conditions, and short-term future catalysts. They answer questions on every stock they cover, building a unique time series. The data is presented as a score per company per question.



## Industry Network Intelligence

The Industry Network Intelligence captures relationships between companies and macro drivers. We collect and connect the company and industry knowledge of our fundamental analysts to build a network, with the aim to understand the key drivers of company performance and provide a rich source of information for future quantitative research. At the core of our approach lies the unique combination of our fundamental and macro knowledge, drawn from the vast expertise of our large team of analysts, and access to powerful quant and strategy knowledge and data sets.



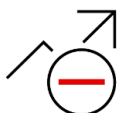
# UBS Quant Research: Market Insights

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## Comprehensive Crowding

Our composite crowding factor is based on a proprietary combination of multiple data sets. It provides a good overall lens for positioning information, and a dynamic daily score. Our approach encompasses information on both the long and short sides and is a more stable and reliable path than attempting to define crowding through incomplete data sets or secondary approaches such as price movements, factor spreads, or various correlations. More critically, it has higher informational content.



## Stock Loan Alpha

Our composite alpha score is based on internal research combining stock loan data and proprietary UBS implied volatility data. The composite factor is strong globally and robust within each geographic subregion. Highest- and lowest-ranked names in several regions and sectors can provide a fundamental approach to implementation.



## Ownership

Skillful active investors deliver consistent and sizable alpha, and a significant portion of that is orthogonal to common factors, i.e. idiosyncratic. Based on institutional holdings from the FactSet Ownership database, UBS adds proprietary calculation logic to measure both mutual fund and hedge fund investors' holdings, allowing users to analyse their portfolios against these investors' aggregate active positioning.



## Hedge Fund Idiosyncratic Score

We establish a systematic process to extract hedge funds' stock-specific insights from their reported holdings. The resulting idiosyncratic score is orthogonal to fundamentals and common style factors. Stocks with the highest scores, that is, the 'best' ideas of hedge funds, have consistently outperformed the market.



# UBS Quant Research: Risk Model & Analytics

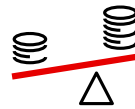
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## Hybrid Risk Model

The UBS Hybrid Risk Models have an innovative structure and unique flexibility of construction. They are customisable: create your own bespoke risk model or use our pre-calculated models.

Most risk models use either a time series or cross-sectional approach. Style risk factors are well suited to a cross-sectional approach, while market, region, sector and macro risk factors are better modelled with a time series approach. The UBS Hybrid Risk Model incorporates both of these. We use the Expectation Maximisation (EM) algorithm to estimate the model and by including Bayesian priors we may reduce sampling errors and speed up the convergence of the EM algorithm.



## Portfolio Analytics

Full analysis of your long-only or long-short equity portfolio. The analysis includes risk forecasting with the Hybrid Risk Models, style analysis with our Style Guide factors, fundamentals, ownership data, analyst recommendations, crowding, liquidity analysis and more.

Automation and the flexibility of our risk models allows for analysis of a portfolio from multiple angles to find hidden risk exposures.



## Capacity Analysis

Our interactive model estimates capacity using five different methods. It allows the user to input a fund's holdings and change adjustable drivers.



# UBS Quant Research: Quant Factors & Models

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## Carbon Score

We create a composite carbon score based on three metrics: carbon emissions to sales (aka carbon intensity), emissions to earnings (a crude measure of carbon risk) and emissions to market-cap (associated with a portfolio's carbon footprint).

## Default Risk



Our implementation of the KMV Merton distance-to-default model guides as to the relative likelihood of default of companies. The model estimates the proximity of a corporate default event, given the company's level of gearing and equity volatility. The number of "days to default" is assessed using gearing and volatility.

## Intangible Capital



We have created an enhanced definition of book to price that capitalizes internally developed intangibles: Research & Development Expense (R&D) and Selling, General and Administrative Expenses (SG&A). We calculate knowledge capital, amortizing 70% of R&D and 30% of SG&A each period.



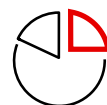
## Factor Values

Daily factor scores from UBS Quant's extensive generic factor and style factor library. Factors can be used for back-testing, screens or constructing quantitative portfolios. They can be produced on global, regional, country or sector universes and are available in standardised format to enable fair comparison of stocks across different items.



## Machine Learning Earnings Growth

Inputs include a variety of macroeconomic, sector and quantitative factors to produce forecasts of future earnings (and earnings growth). Back-testing the model shows it generally predicts earnings growth more accurately than consensus and forecasts become more accurate towards the point the earnings are realised.



## Sector Fundamental Models

The fundamental drivers of stocks can vary from sector to sector. We take an integrative approach in building sector-specific alpha models aimed at leveraging fundamental insights through a quantitative lens. We partner with UBS sector analysts globally to determine how they think about a sector. We then develop a framework, custom built for each sector, that captures these fundamental insights in a systematic way.



## Style Guide

Styles are at the core of any quantitative process. We provide a comprehensive overview of style factor returns and valuation. Style returns can be returned in USD or local currency, at a variety of frequencies, and on an absolute basis. Style basket valuations are available using a range of metrics. We provide analytics for all our Value, Momentum, Quality, Growth, Size and Risk factor styles.



# UBS Quant Research: China

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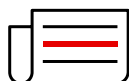
## Company Visits

Based on the communication activities between investors and listed companies in China, from WIND Institution Field Research Dataset, we aggregate the number of company visits, as well as the number of visitors by different investor types.



## Margin Financing & Short Selling

We assess two use cases where leverage is crucial: 1) around index rebalance events, margin financing flows can be a good proxy to quantify the level of crowdedness from onshore hedge funds pre-positioning for the rebalance; 2) based on the balance of margin financing, we can detect investor willingness to increase leverage and take risks, and predict the style rotations when the switch between risk-on and risk-off occurs.



## News Sentiment

Based on DataYes News Sentiment Dataset, we apply proprietary aggregation to calculate the total news sentiment score, as the sum of all sentiment scores across all news reports, for each stock, on each day.



## Onshore Ownership MF

Based on daily fund performance from the WIND Mutual Fund Performance Dataset, UBS uses a proprietary fund selection model to identify fund managers' skills by anchoring funds against their peer cohorts, and selects the best funds in each cohort.



## Onshore Ownership HF Sectors

We identify the most skillful managers across China's hedge fund industry using the WIND Hedge Fund Performance Dataset. Our dynamic model evaluates hedge fund managers' skills versus peers to identify the smart money. We then derive the sector positioning of both the full hedge fund cohort and the smart money by attributing their fund performance to sector exposures, and subtract sector-level benchmark weights calculate active positions.



## Offshore Ownership

Based on institutional holdings from the DataYes Stock Connect Holdings, UBS adds proprietary calculation logic to measure both mutual fund and hedge fund investors' holdings, allowing users to analyse their China A-share portfolios against these investors' aggregate active positioning.



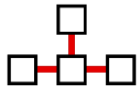
## Southbound Ownership

Our dataset allows users to analyse their HK shares portfolio against these investors' aggregate active positioning. To infer investors' active positioning from their holdings, we first construct separate aggregate portfolios for southbound, hedge funds and mutual funds. Active weights are in turn computed by comparing aggregate portfolio weights against benchmark weights across all Southbound eligible stocks, cap weighted.



# UBS Quant Research: Macro

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## MacroSense

This tool estimates the sector, country and style impact of the macroeconomic scenario given as input by the user. Built using the UBS Hybrid Risk Model, it is an interactive tool where users can enter in changing macro conditions and see the sensitivities to sector, country, style and individual securities.



## Market Statistics

Three broad types of market statistics are available for clients: cross-sectional dispersion of returns, pairwise correlation of returns, and average index volatility. For each market we calculate a time series of our three market statistics. Together they help identify the relative breadth of the opportunity set for stock pickers and give an indication of the likely effectiveness of quantitative strategies.



## Strategy Regimes

Business cycle analysis drives the Equity Strategy team's macro scoring. Many strategists will look to forward-looking business cycle indicators and some will even analyse them through the lens of 'regimes', as we do – downturns, recoveries, expansions and slowdowns. The Strategy team take their analysis several steps further by acknowledging the uncertainty inherent in leading index signals.



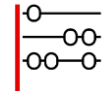
## Commodity Forecasts

We have daily history back to 2019 for point-in-time estimates across a range of commodities, FX, precious metals and yields. We currently provide estimates up to five years forward.



## Nowcasting from UBS Evidence Lab

UBS Evidence Lab leverages high frequency non-traditional big data to generate a Nowcast of key US economic indicators unconstrained by, and often weeks ahead of, official government releases. Available key indicators include Auto SAAR, ISM Manufacturing, Retail Sales (Ex-Autos, Ex-Gas), Private Construction, Nonfarm Payrolls and Headline and Core CPI.



## Global Economic Forecast Database

The UBS Global Economic Forecast Database covers 35+ economies and tracks 25+ indicators including GDP, inflation, labour market, financial and fiscal indicators, policy rates, FX, gold and oil prices.



## Global Risk Appetite Index

Our Risk Appetite indices provide a single aggregate measure of relative risk-adjusted performance across a range of assets (e.g., for the Global Risk Appetite index the assets are sovereign bonds and equity indices). Specifically, they measure how many units of incremental return investors have been paid for each unit of incremental risk taken across the chosen range of assets. More colloquially, they answer the question, "how have markets paid recently for taking more risk?"



# Contact information

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