



Quant Research

Research, Data and Analytics from the UBS Quantitative Research team

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Contents



Research



UBS Quant Answers



Bespoke Work

How can UBS Quant help you?

Manager ABC is a fundamental shop with minimal quant inputs. By using the **UBS Hybrid Risk Model** through **UBS Quant Answers** it was able to identify and mitigate unwanted macro factor exposures. It increased its Sharpe ratio and fund profitability.

Manager XYZ is a large quant shop which read one of our research reports and was able to identify a **unique and proprietary UBS data set** to incorporate into its process. This provided orthogonal inputs to its existing factors and it was able to partner with UBS as one of only a handful of clients using that data.

Manager DEF is a 'quantamental' shop that sees the benefit of both. It was able to **partner** with the UBS Quant team to develop an alpha model incorporating **UBS's carbon stock screens**.



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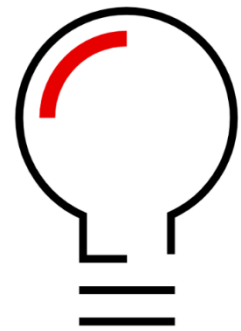
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Research



Flagship Research

Innovative and Unique Insight over the years

A Definitive Approach to Crowding



We define a comprehensive UBS crowding factor based on a combination of multiple external and internal data sets. A complementary blend of prime brokerage data, stock loan data, 13F regulatory filings, and proprietary data provides a good overall lens for positioning information.

Quant Insight: Sector Focus

Banks - Real Estate - Software



Working with our fundamental analyst sector teams, we layer a quant approach over their insights. Each of our sector models is developed in collaboration with the relevant team, and the resulting model is individual to their sector or coverage.

Is there information in the value spread?



Many investors keep track of the value spread on the assumption that it will help them to time their exposure to value. We tested this empirically. The results were disappointing – the simple buy & hold value strategy typically outperformed the timed value strategy.

Does your risk model forecast your risk?

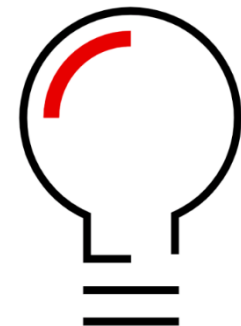


UBS Hybrid Risk Models: A good risk model is an important tool for all portfolio managers. Most risk models use either a time series or cross-sectional approach. We argue for a hybrid approach to risk modelling.

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. We ask our analysts to contribute their short horizon views.



Latest Research

Innovation and Thought Leadership

Humans vs Machines:
Which are better at
forecasting earnings
growth?



Our new proprietary earnings growth model takes a machine learning approach. Inputs include 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.

Insight into your
portfolio: Risk and
Performance



We follow the performance attribution framework proposed by Grinold (2011). At its core, the approach suggests that holding any portfolio equates to holding a series of explanatory systematic (factor) portfolios and an idiosyncratic (residual) portfolio. It is then straightforward to identify the sources of return and risk.

Equity Alpha Using
Bond Maturities and
a Macro Regime
Model



Embedding debt maturities into a macro regime model is a topical subject given rates over the last couple of years. We construct an equity factor that encompasses risk of debt that is expiring soon. It is used to build cohorts of stocks that outperform during different interest rate regimes.

Overnight Returns



The overnight returns to a stock are typically larger than the trading session returns. We examine three plausible explanations: market makers avoiding inventory risk, retail investors overpaying for stocks, and the greater risk associated with news released overnight.

Clustering: A
Practical Guide

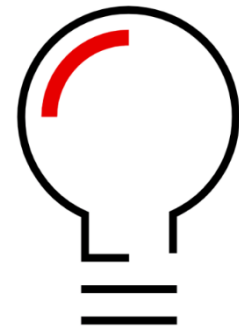


We introduce a clustering framework, agnostic to inputs and problem space, with a high level of process visibility and a focus on decoupling the process to allow any of the component parts to be interchanged. It can be used to address a range of different clustering scenarios.

Which sectors in
China does our
model favour?



We propose a comprehensive model to forecast sector rotations in China. Our model incorporates three features: fundamental factors, smart-money positioning and news sentiment.



Recurrent Publications

A Look Back with an Eye Ahead

Crowding Monitor Model



Our crowding monitor allows you to view crowding and changes in crowding across regions, sectors and styles. Our crowding factor allows us to track crowding on both the long and the short side, which makes it a useful tool in risk management and alpha implementation.

Factor Performance and Valuations



In this weekly publication we show how factors have been performing at a regional level and globally. We provide an up-to-date snapshot of how factors have been performing on a short-term horizon based off our daily factor returns database and to track what styles are and are not working.

High Quality Dividends



We use our quantitative models to find stocks that appear high quality compared to their peers, and which pay a dividend and are unlikely to cut it. We choose names to be representative of different regions and sectors. Finally, we ask our UBS sector analysts to further scrutinise each name.

Sector Rotation Model



Our sector rotation model on United States, Asia ex Japan and Southeast Asia universes. Which sectors does our Quant model prefer?

Opportunities for Active Managers “How are the ‘smartest’ managers positioned?”

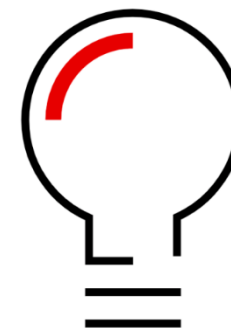


Based on hierarchical clustering and 'peer alpha', we have developed a novel technique to identify the best of the best among asset managers. We model their positioning on macro factors and sectors using a time series approach.

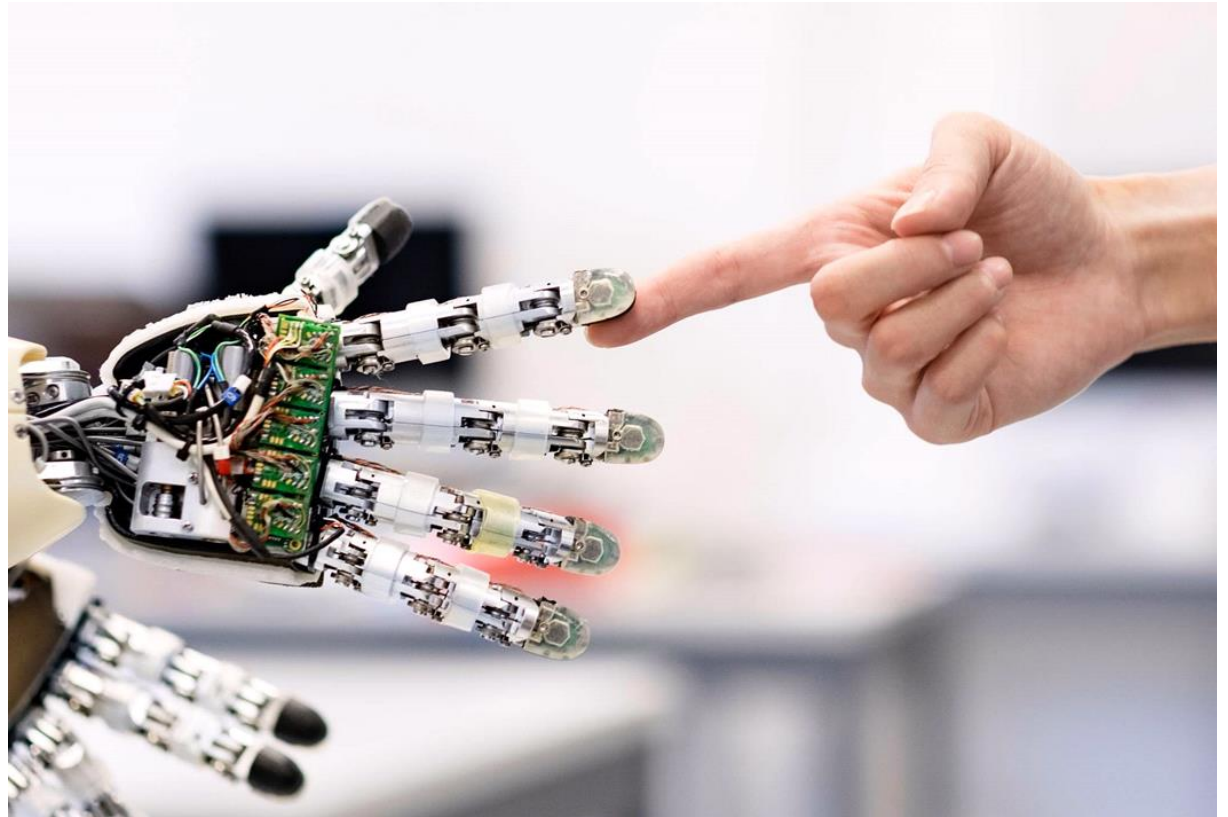
Style Guides: Global, US, China, Asia, Europe



Our Style Guide covers an extensive range of metrics globally and regionally. It includes the Macro market driver, Style, Factor, Sector and Regional performance, Volatility, Sharpe ratio and hit rate, Valuations statistics, Market Stats and Crowding.



UBS Quant Answers



UBS Quant Answers



UBS Quant Answers

..swagger.json

The Answers from the UBS Quantitative Research team

Disclaimer | Contact us | Python client | Excel addin | PSI43363988

Servers

▾

Evidence Lab ▾

Prices & Factors ▾

Macro Strategy ▾

Market Stats ▾

Ownership ▾

Risk Modelling & Portfolio Analytics ▾

Proprietary Factors ▾


Research Review ▾

Style Guide ▾

Answers Token ▾

UBS Quant Answers is a powerful and broad platform which 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.

UBS Quant Answers delivers portfolio risk forecasting with the well-known **UBS Hybrid Risk Model**, portfolio style and fundamental analysis, our successful Style Guide product and several other data and analysis modules, giving a customized offering to our clients. 

Delivery

➤ **API:** OpenAPI standard with token-based authentication.

➤ **Excel add-in:** Also available for ease of use.



Quant Answers Portfolio Analytics

Full Analysis of Your Equity Portfolio: Risk, Style, Fundamentals and More

Hybrid Risk Model

Portfolio risk analysis with an innovative risk model structure.

Create your own bespoke risk model or use our pre-calculated models.

Clear and concise reporting, no black boxes.

Hybrid model uses a combination of time series regression factors and cross-sectional or 'fundamental' style factors.

Aggregate Statistics

Fundamental analysis of the portfolio and benchmark, using analyst forecasts. Essential ratios such as P/E, P/B, Dividend Yield, Earnings Growth and ROE, among others, are included.

Style Analysis

Style Group portfolio exposures. View your portfolio and benchmark positioning.

Composite Carbon Score

Our proprietary carbon emissions score at stock and at portfolio level.

Analyst Ratings

UBS analyst ratings for the stocks in your portfolio, and a view of the proportion of your portfolio held in Buys and Sells.

Liquidity

Uses measures of market turnover for each stock over various time horizons. View the time taken to liquidate your portfolio and the amount remaining over different time horizons.

Country and Sector Reporting

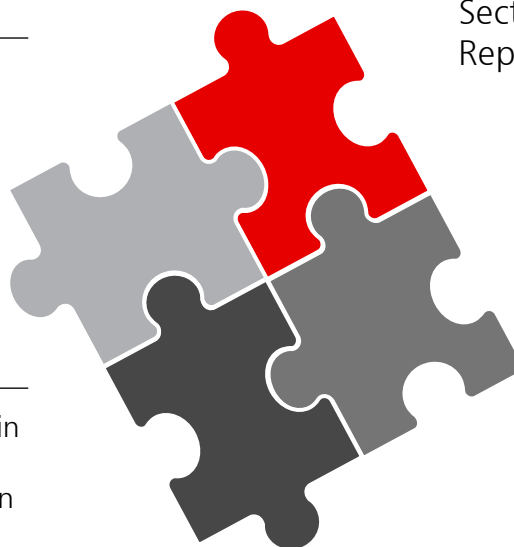
Country weights and sector reporting, using GICS sector definitions.

Ownership

Get a view of the stock ownership figures for your portfolio.

Comprehensive Crowding

Quintile positioning in our powerful proprietary crowding score.



Constant Development and Innovation

Portfolio Analytics grows as our quant research team creates new and interesting data sets for our clients.



Quant Datasets and Models (1)

UBS Quant Data with Unique Proprietary Alpha Sources

Comprehensive Crowding



Our composite crowding factor is based on a combination of multiple external and internal data sets. It is a complementary blend of prime brokerage data, stock loan data, 13F regulatory filings and proprietary data.

Analyst Data: Point in Time and 20 minute feed

A wide range of valuation and accounting data points per stock direct from UBS analysts across the full global universe of coverage of about 2,900 firms. Available back to 2000 or delivered live.

Ownership



Based on institutional holdings from the FactSet Ownership database, UBS adds proprietary calculation logic to estimate mutual fund and hedge fund investors' current holdings. Users can measure their portfolios against these investors' aggregate active positioning. Institutional holdings of onshore and offshore investors in China are also used.

China A Company Visits



We aggregate the number of company visits, as well as the number of visitors by different investor types. This allows users to quantify the institutional investor attention, towards their China A-share portfolios.

China A News Sentiment



The News Sentiment factor integrates the level of domestic investor attention and the direction of sentiment. Users can use this dataset to quantify the domestic sentiment from mass media and retail investors in China across their portfolios.



Quant Datasets and Models (2)

UBS Quant Data with Unique Proprietary Alpha Sources

Composite Carbon



For each stock, we compute the percentile rank of the stock versus its region and sector by three metrics: carbon emissions to sales, to market cap and to earnings. We take the average to get an overall composite carbon score.

Styles



Styles are at the core of any quantitative process. We have sets of global and regional style indices and we publish regular (monthly and weekly) updates on their performance. These style indices are also part of the Portfolio Analytics module in UBS Quant Answers.

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.

Capacity Analysis



Our interactive model estimates capacity using five different methods. It considers a variety of variables, including market statistics and statistics from the client's fund.

MacroSense



This tool estimates the sector, country and style impact of the macroeconomic scenario given as input by the user. It is built using the UBS Hybrid Risk Model.

KMV Merton Default Risk



Our implementation of the 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.

Factors



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.



Quant Datasets and Models (3)

UBS Quant Data with Unique Proprietary Alpha Sources

Sector Models



Working with our fundamental analyst sector teams, we layer a quant approach over their insights. Each of our sector models is developed in collaboration with the relevant team, and the resulting model is individual to their sector or coverage.

Machine Learning Earnings Growth



Consensus forecasts tend to absorb information slowly, especially further from announcement date. Machine learning models are more likely to generate negative earnings growth forecasts and also adapt to new information more quickly than consensus.

Macro Strategy Regimes



The Equity Strategy team analyses business cycles through the lens of 'regimes' - downturns, recoveries, expansions and slowdowns. We take business cycle analysis several steps further by acknowledging the uncertainty inherent in leading index signals.

Intangibles



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).

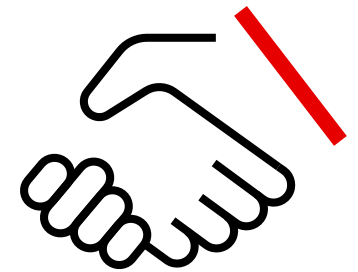
US Nowcasting from Evidence Lab



Styles are at the core of any quantitative process. We have sets of global and regional style indices and we publish regular (monthly and weekly) updates on their performance. These style indices are also part of the Portfolio Analytics module in UBS Quant Answers.



Bespoke Work



Bespoke Work

Combine Proprietary Data and Innovation

Bespoke studies

This can be anything from back-tests of what works in a specific sector, to how best to construct a portfolio with desirable exposures, to identifying which macro factors drive sector returns.

Collaboration and cooperation

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).

Custom alpha models

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.

Custom data files

We leverage both commercial and proprietary datasets covering global securities with historical data going back to the 1980s. Files can be customised to our clients' requirements.



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