



PICTET ASSET MANAGEMENT

How AI can improve investment performance – The evolution of quantitative investing

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MARKETING MATERIAL

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PICTET ASSET MANAGEMENT

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Carefully choosing stock selection approach



Neural Networks

**GREAT FOR IMAGES, SOUNDS
AND TEXT POOR FOR STOCK
PREDICTIONS**

- Underperform on financial tabular data
- Poor handling of data irregularities
- Computationally expensive to train
- Less interpretable (black box)

BEST FOR STOCKS



Gradient Boosted Trees

**GREAT PERFORMANCE FOR
TABULAR DATA**

- Adapted to financial tabular data
- Robust to missing and noisy data
- Computationally efficient
- Interpretable (Crystal box)



GPT & LLMs

**BUILT FOR TEXT NOT FOR
FINANCIAL TABLES**

- Output non controllable
- Risk of hallucination on numbers
- Worse than traditional methods
- Less interpretable (black box)

Boosted Trees delivers: Stability, Accuracy, Interpretability

ML and AI is superior in harvesting local market inefficiency

✓ **Harvesting local inefficiencies**

- Hidden in short lived effects efficiently exploiting interactions and non linearities
- Uncover information where Traditional econometric models fail by casting opportunities in noise and residuals
- AI necessary to extract useful Information



✓ **predicting the long wave of the Market Cycle**

- Equally Captured by AI or Traditional models
- No consistent superiority from AI
- Greatest complexity and less transparency with AI



AI, the foundation for next gen quant approaches

Traditional approach

Few curated signals

Total return

Low-Medium frequency

Linear models

Quant 2.0 with AI

Hundreds of diversified raw features

Idiosyncratic return

Higher frequency

Non-linear models

Source: Pictet Asset Management, as of 30.09.2024.

Features engineered from a wide range of data

Features groups

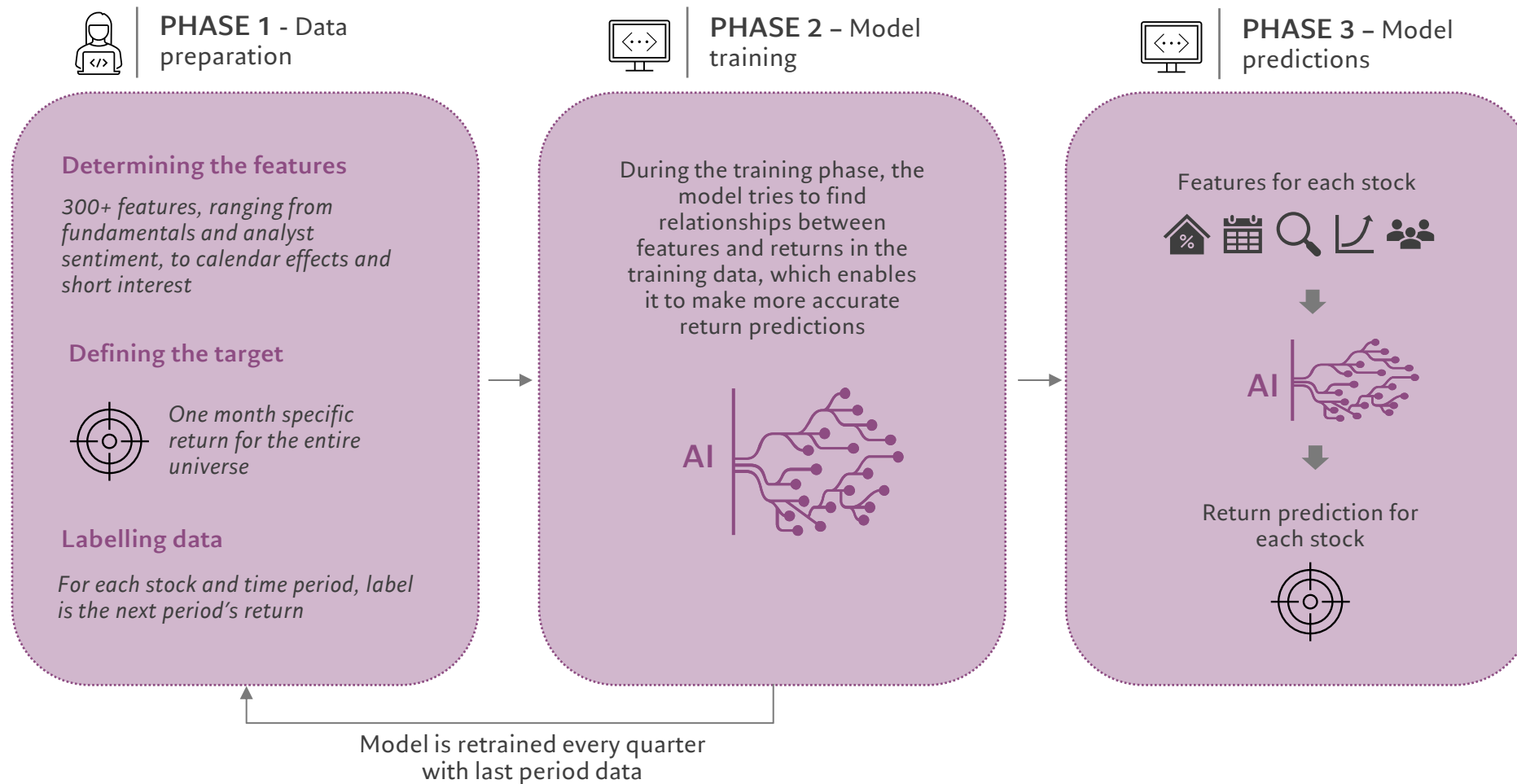
TYPE	ILLUSTRATION	NUMBER OF FEATURES
Fundamentals	Cash / Debt, R&D intensity, CAPEX, shareholder yield, inventory, tax rate, depreciation, interests coverage, extraordinary items, staff costs	71
Analysts' sentiments	Momentum in the earning predictions, predicted sales growth, number of analysts covering, average price target, disagreement in recommendations	130
Price-based	One week to 5 years Momentum, specific volatility, market capitalization, abnormal volume over the last month, market activity, technical indicators	69
Short interest	Lendable value, short interest, active utilization, variation in short interest over the last year	10
Calendar	Time to end of year, time to previous report, time to beginning of month	8

Source: Pictet AM Quest, as of 30.09.2024

Target return

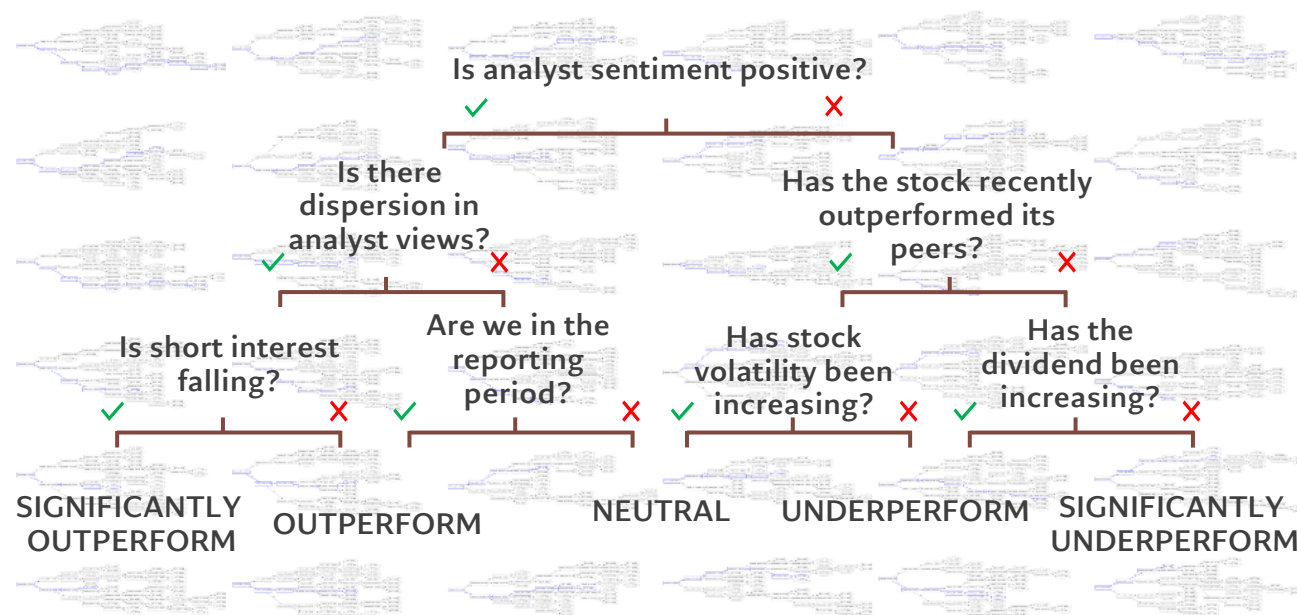
Idiosyncratic one month return = Stock return – Industry return – Country return – Style return

Using machine learning to forecast stock returns



Source: Pictet Asset Management, as of 30.04.2025.

50,000 boosted decision trees



Decision trees enable the model to capture non-linear relationships and complex feature interactions.

Boosted decision trees are trained sequentially. Each successive tree puts more weight on the previously most difficult-to-predict observations.

The final model aggregates the output of all 50,000 trees, delivering robust and accurate predictions.

Computational capacity commensurate with the stakes

Training models requires substantial computing power that combines CPU and GPU resources.

10 pétaFLOPs
= 10 million of billion operations / sec

15 servers exclusively dedicated to Quest
in our datacenter in Geneva

1 200 4 2
CPU_s + Nvidia L40 GPU_s + Nvidia T4 GPU_s

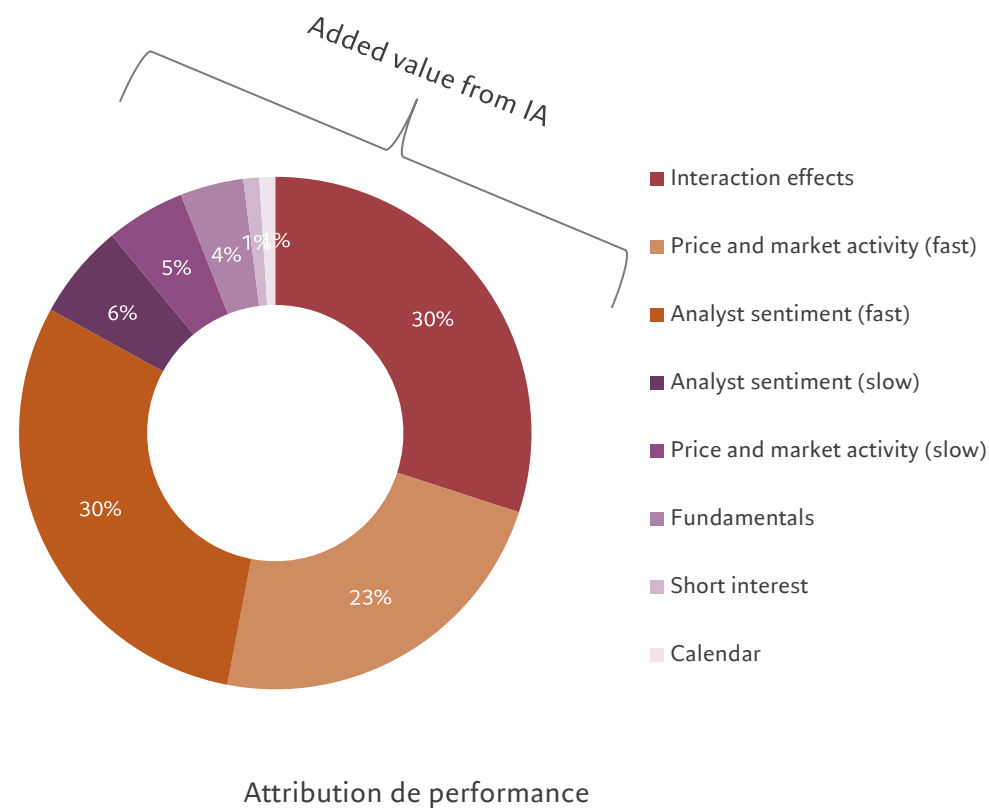
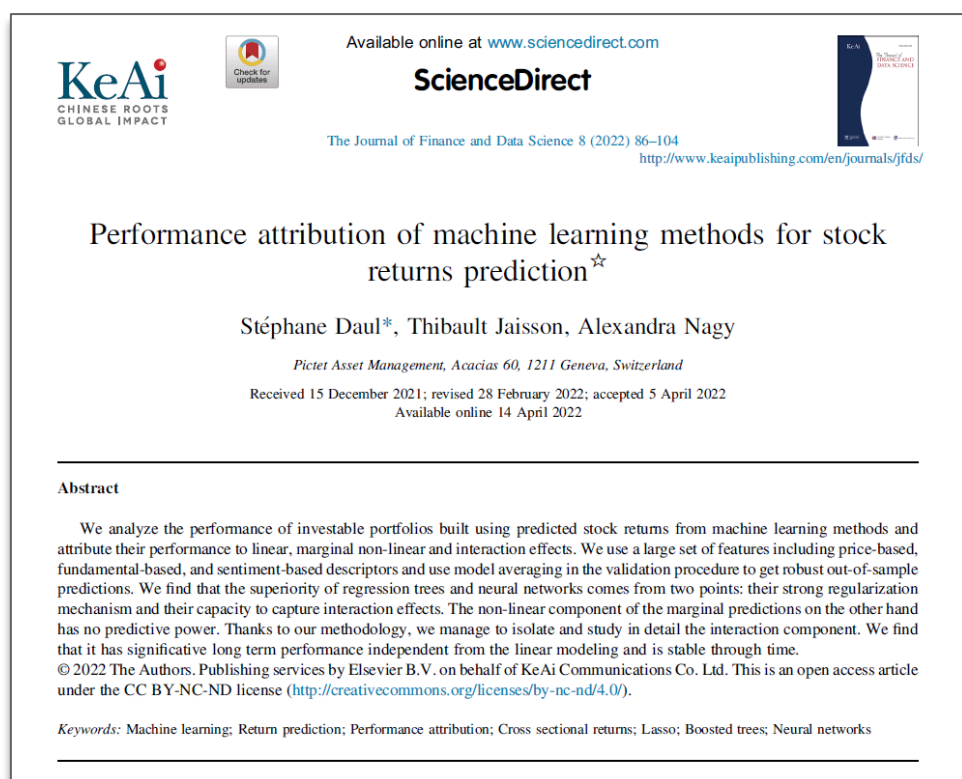
= 3200 last generation laptops



Source: Pictet Asset Management, au 31.07.2025.

Added value from IA

Efficient processing of a large number of weak signals and interactions among data.



Source : [Performance attribution of machine learning methods for stock returns prediction](#), Stéphane Daul, Thibault Jaisson and Alexandra Nagy, published in the Journal of Finance and Data Science April 2022. The attribution is based on a simulated portfolio managed relative to the MSCI World Index over the period from January 1, 1993 to March 31, 2023. It is for illustrative purposes only. Hypothetical performance IS NOT a reliable indicator of future results. Source : Pictet Asset Management.

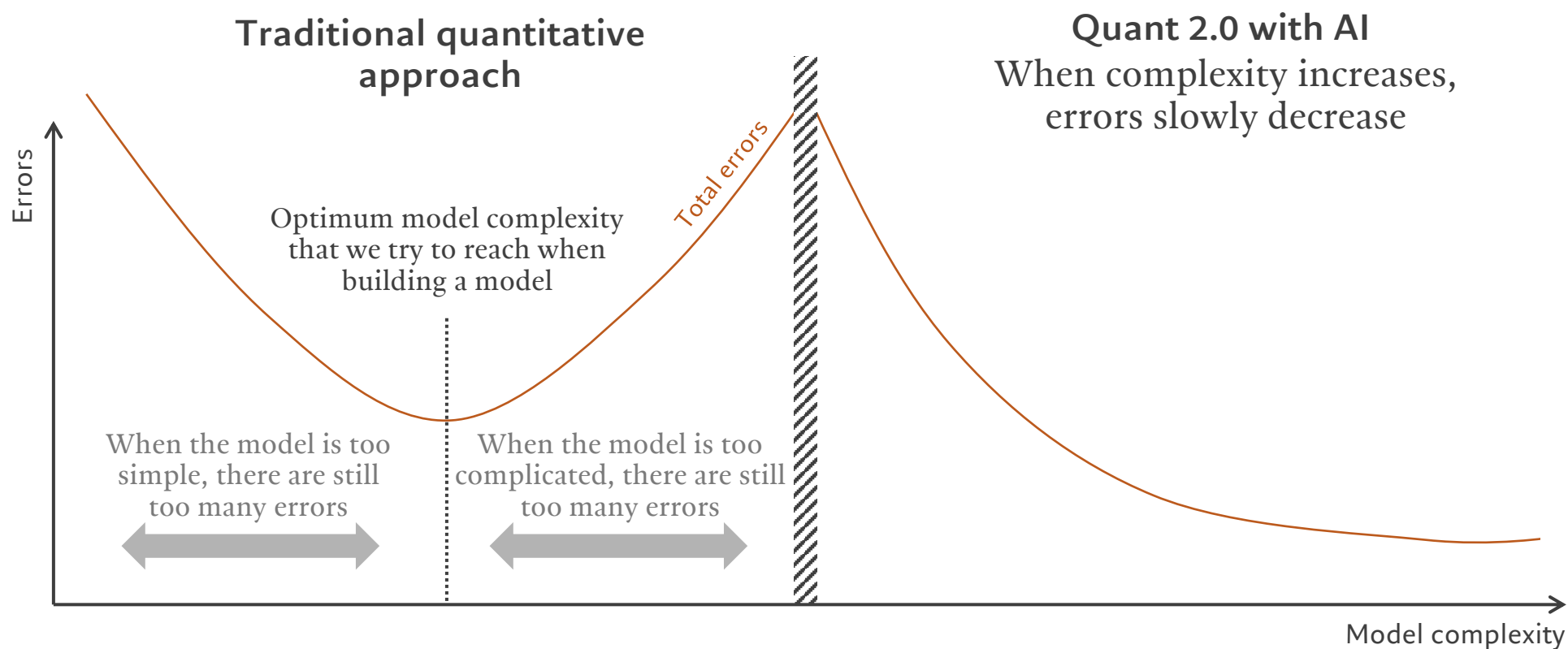
AI-driven approach implementable in different strategies

	QUEST AI-DRIVEN LONG ONLY	QUEST AI LONG/SHORT
Structure	Long only enhanced index	Long short market neutral
Vehicule	UCITs	UCITs
Launch	31.03.2024	01.04.2025*
Universe	MSCI World	MSCI World
Number of positions	c. 400-500	c. 700 (350 long/350 short)
Risk	Up to 2% tracking error	Up to 10% absolute volatility
Gross exposure	100%	Max 500%, usually 400-500%
Net exposure	100%	Max 10%
Beta	1	0
Factor exposure	In-line with index	Close to neutral**
Sustainability	Article 8 equivalent	Article 6 equivalent
Investment horizon	Short	Predominantly short, with some exposure to medium

Source: Pictet Asset Management, as of 31.07.2025. Characteristics can be open to change. *Strategy launched 31.07.2023. **minimal exposure to factors, countries, regions, industries, sub-industries.

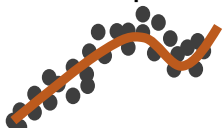
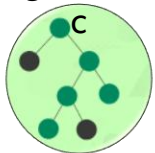
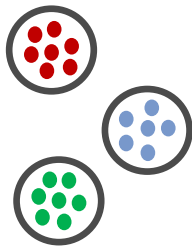
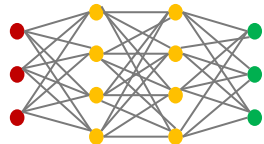
Appendix

We need to think differently with AI



Source: [Reconciling modern machine learning practice and the bias-variance trade-off](#), Mikhail Belkin, Daniel Hsu, Siyuan Ma, and Soumik Manda, September 2019.

The different types of machine learning

	SUPERVISED LEARNING	UNSUPERVISED LEARNING	REINFORCEMENT AND DEEP LEARNING
Objective	Predictive model based on labelled input / output data	Grouping data only on unlabelled input sets	The model learns from feedback
Data & Algorithm	 Regressions  Decision Trees	 Sets	 Neural Networks
Application	Spam filter or stock predictions	Streaming recommendations	Learning to play chess, GO, GPT

Which data?

Traditional

Fundamentals, market data, calendar effects, analyst forecasts, short interest, etc.

Alternative

Internet search, consumer transactions, smart phone locations, customer reviews, news flow, social media, etc.

Considerations when choosing data to use

PARAMETER	TRADITIONAL	ALTERNATIVE
Format	Structured	Unstructured
Length of history	Longer	Shorter
Company breadth	Higher	Lower
Economic rationale	Clear	Less clear
History of alpha	Evidence over many years	Often untested
Predictive power	Lower	Higher
Cost	Cheaper	More expensive
Adoption	Potentially crowded	Less crowded
Providers	Consolidated	Many but consolidating

Quest AI focuses on traditional data due to its longer history, wider breadth and strong economic rationale

Source: Pictet Asset Management. For illustrative purpose only.

Case study

Lilly

Classic factors suggest an unfavorable future performance:

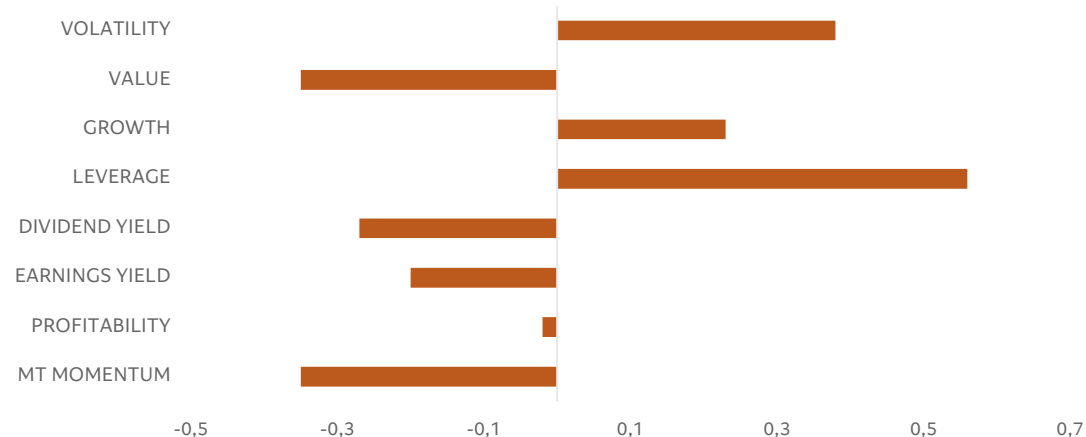
- Negative momentum
- High valuation
- Significant debt
- Low profitability

However, our model anticipates a positive **idiosyncratic return**. This forecast is mainly driven by **analysts' views** on the company and its recent price movement.

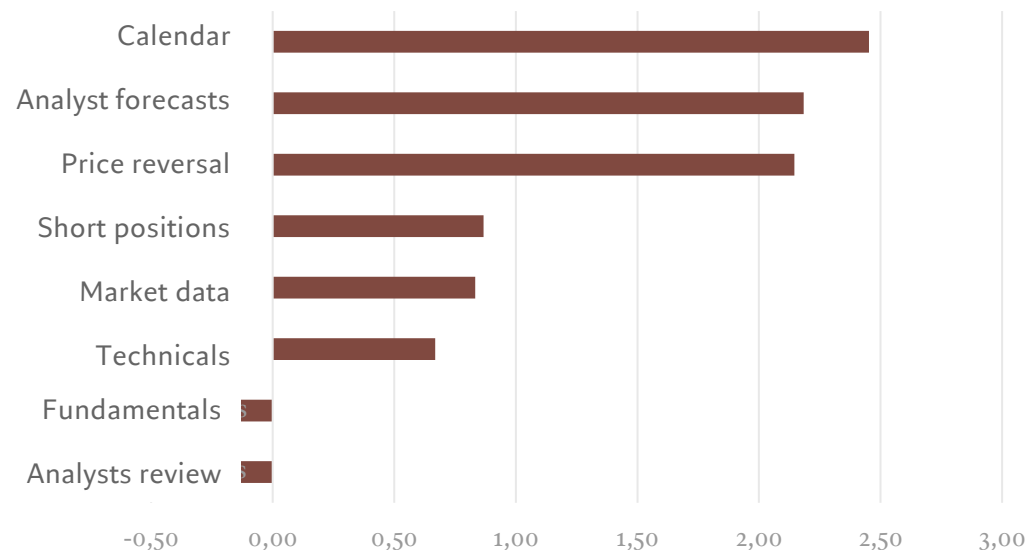
At the end of January 2025, we were overweight this security by **+65 basis points** relative to the benchmark.

We locally profited from this.

Classic factors



Breakdown of predictions



Source: Pictet Asset Management, 2024