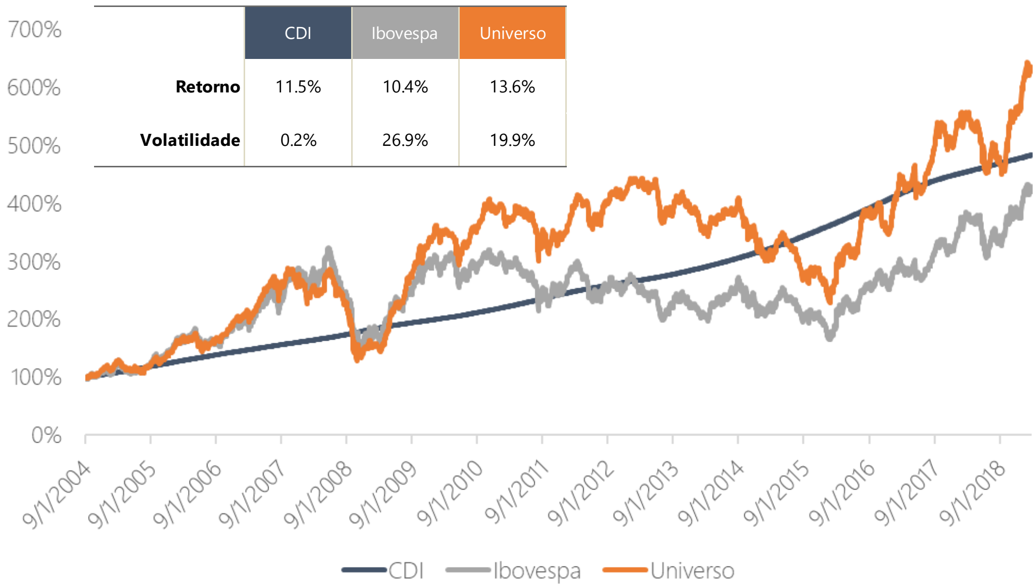
1. Constância Universe vs Bovespa Index

The Bovespa index is comprised of just over 60 shares of high capitalization companies and rebalanced every 3 months. It's construction assigns weights to each component that is related to the total market value, which implies high levels of concentration in relatively few names. In the current composition, only 5 companies represent approximately 50% of the index.

On the other hand, the Constância Universe is a much broader index of the Brazilian stock market developed for internal use by Constância Investimentos. It is comprised of approximately 200 shares currently, selected by minimum liquidity and financial reporting criteria, rebalanced monthly. Its construction assigns equal financial weights to each component share ("equal weight").

The chart below shows the cumulative returns of both indices since the beginning of our back-tests (July /2004). The data show that the universe produced substantially higher returns than Ibovespa with lower risk levels (return volatility).



	CDI	Ibovespa	Universo
Retorno	11.5%	10.4%	13.6%
Volatilidade	0.2%	26.9%	19.9%

Approximately 1/3 of the Constância Universe's historical excess return over the Bovespa index can be attributed to the difference between equal weight and free float market-cap weigthed constructions. The remaining 2/3 is due to the broader opportunity set offered by the Constância Universe.

Over 90% of the stocks in the Bovespa index are considered large cap. This suggests that the most relevant differences in return and performance in favor of Constância Universe is explained by the larger concentration in mid caps (approximately 50%) and small caps (approximately 25%).

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2. What is Factor Investing?

Risk indicators are desirable characteristics that can help explain the performance of a stocks. For example, Price /Book and ROE are two well known examples of risk indicators. *Ceteris paribus*, a stock with a better indicator should be considered more attractive.

At Constância Investimentos, we produce several dozens risk indicators, which we group into families that we call risk factors. We currently have 5 families. Below is a few indicators:

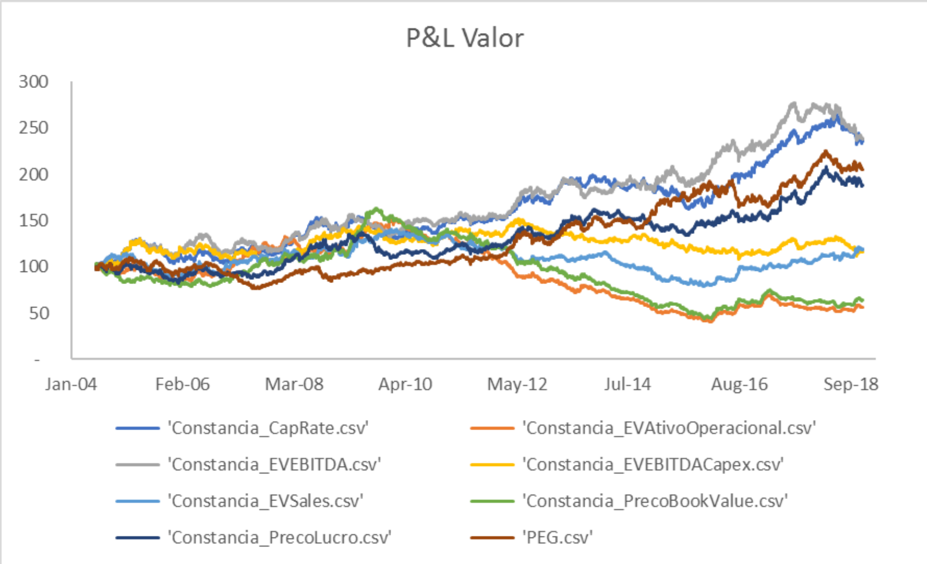
- Value: Price/Book, Price/Earnings, EV/Ebitida, EV/Sales, etc
- Quality: ROE. ROIC, NetDebt/Ebitida, Dividends, Leverage, etc.
- Growth: Trend or delta of Quality indicators
- Low Risk: Volatility, dowside volatility, beta, etc.
- Technical: Price moment, RSI, account return, Money flow, etc.

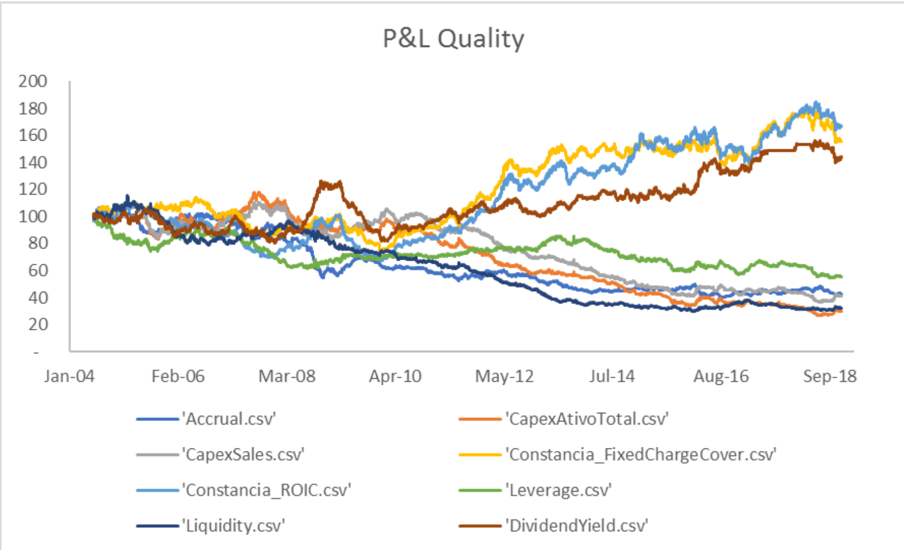
We have a manual with a detailed description of all dozens of indicators we produce daily from historical prices or company balance sheets.

How do we use the Risk Indicators and Factors?

For each risk indicator, we build one long / short theoretical portfolio (called indicator portfolio) with long equal weights exposure on the 40% "best" stocks (according to that indicator) and short equal weights exposures on the 40% "worst" stocks.

Indicator portfolios are kept constant throughout the month and only rebalanced at the last business day of each month. We only select indicators that have Accumulated P&L> 0 by the end of the previous month. The plot below shows the performance and efficiency of some of the indicator portfólios





Indicator portfolios are aggregated (by simple average) into factor portfolios, which in turn are aggregated (simple average once again) into our final systematic portfolio. This multifactor portfolio is highly diversified with the “best” stocks, the ones that score positive on almost all indicators, typically having weighs between 3% and 4%.

3. Performance by Risk Fator. Smart Beta Funds.

The performance of each factor portfolio in our back-test is detailed below:

Performance Long Short

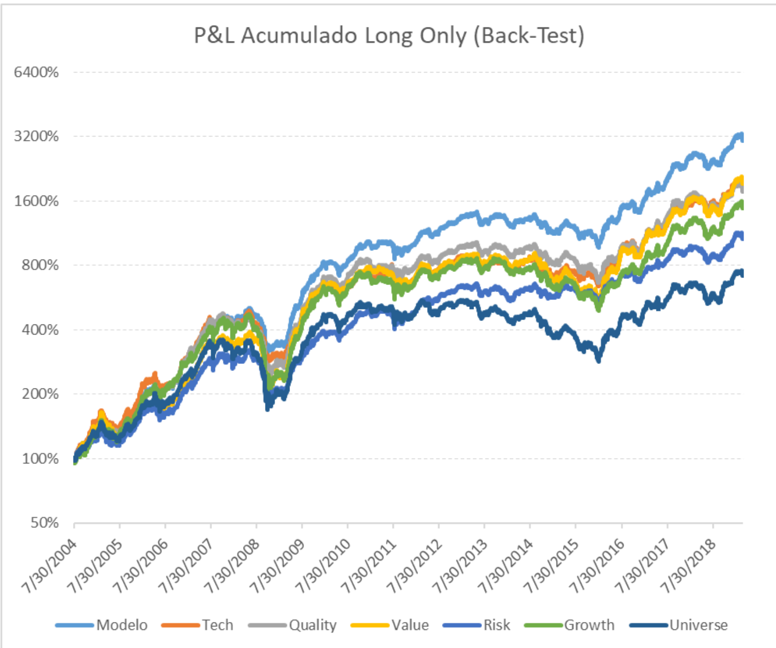
	Tech	Quality	Value	Risk	Growth
Annualized Return	8.18%	9.56%	8.09%	8.68%	9.96%
Annualized Volatility	12.30%	12.12%	11.32%	7.99%	10.69%
Sharp Ratio	0.67	0.79	0.71	1.09	0.93
Hit Ratio	52.52%	52.80%	51.45%	52.83%	52.55%
Max Loss	-4.90%	-4.30%	-3.89%	-2.51%	-3.27%
Max Drawdown	38.51%	20.07%	29.19%	12.17%	19.46%

Correlation

	Tech	Quality	Value	Risk	Growth
Tech		0.31	-0.02	0.24	0.20
Quality			0.28	0.24	0.53
Value				0.03	0.08
Risk					0.09
Growth					

Performance Long Only

	Tech	Quality	Value	Risk	Growth
Annualized Return	22.68%	22.25%	22.90%	18.00%	20.67%
Annualized Volatility	17.77%	17.17%	18.16%	14.46%	18.93%
Sharp Ratio	1.28	1.30	1.26	1.24	1.09
Hit Ratio	55.85%	55.16%	54.88%	54.69%	54.47%
Max Loss	-9.59%	-8.12%	-8.60%	-6.91%	-10.12%
Max Drawdown	46.17%	50.90%	47.05%	42.43%	56.31%

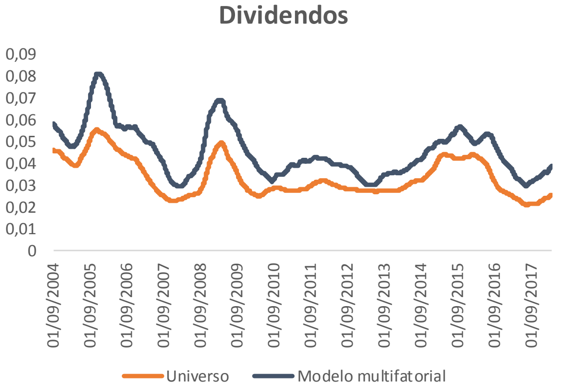


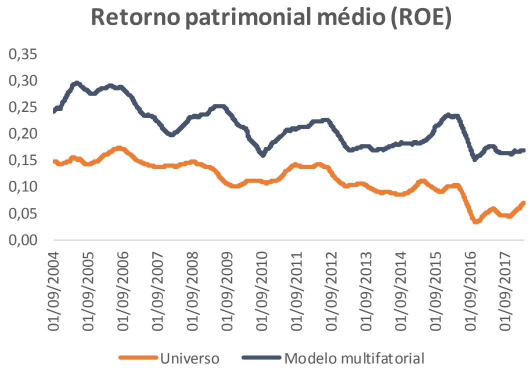
Smart Betas ETFs that benefit from risk factors are quite common in USA and Europe. Classic examples managed by MSCI are VLUE, QUAL and MTUM. Other firms with similar ETFs are BlackRock, WisdomTree, Invesco S & P500, etc.

In Brazil, the CVM only allows ETFs on indexes acknowledged by the CVM, making them very bureaucratic to be issued.

4. Advantages of Systematic vs Traditional Approach

Our multifactori model generates an extremely diversified systematic portfolio with many desired metrics and properties, generally higher than market average. For example, our systematic portfolio has higher ROE and Dividends than the average stock in the Constância Universe.





Another obvious advantage of this methodology is the breadth and speed. We are connected with CVM's RAD (automatic receipt of documents) system and whenever a balance sheet of any company is published, the new information and how that impacts that the risk indicators and ranking of that stock is reflected in our model the next day.

Furthermore, the risk factor methodology allows for an investment style that is very different from most managers. Instead of relying on hitting a few "homeruns" by selecting stocks that sky rock, which is typical of "star" managers, the systematic model's return is explained by a large number of small wins.

We often have relevant stock exposures (between 3% and 4%) that benefit tremendously from favorable corporate events (acquisition, merger, buy-backs, etc.). Unsurprisingly, if a stock is cheap, has good quality, growth and low risk, it will rank well in our model and should also attract attention from strategic investors.

The model replaces approximately 20 good analysts, which would be needed to cover about 200 stocks. A team of 20 great analysts would have a very high monetary cost and an even greater cost of managing and harmonizing egos, passions, and partial market views focused only on their industry coverage. Even excellent analysts often keep "buy" recommendation too long and change their minds late. On the other hand, the systematic model sees all sectors simultaneously and is disciplined, reducing the ranking of a company whose fundamentals started to decline the day after the publication of its balance sheet.

5. Performance of the Multifactor Model.

Our historical performance back tests show that most indicator portfolios add value, some with very satisfactory risk-return metrics. All factor portfolios offer great statistics.

The aggregation of indicator portfolios, including 2-by-2 intersections, tremendously diversifies the risk associated with each indicator and generates a final systematic portfolio that consistently performs (Sharpe Ratio 1.5) far, far above the Bovespa Index (Sharpe Ratio 0.5).

The stock ranking generated by the model is the backbone of Constância Investimentos' allocation decision.

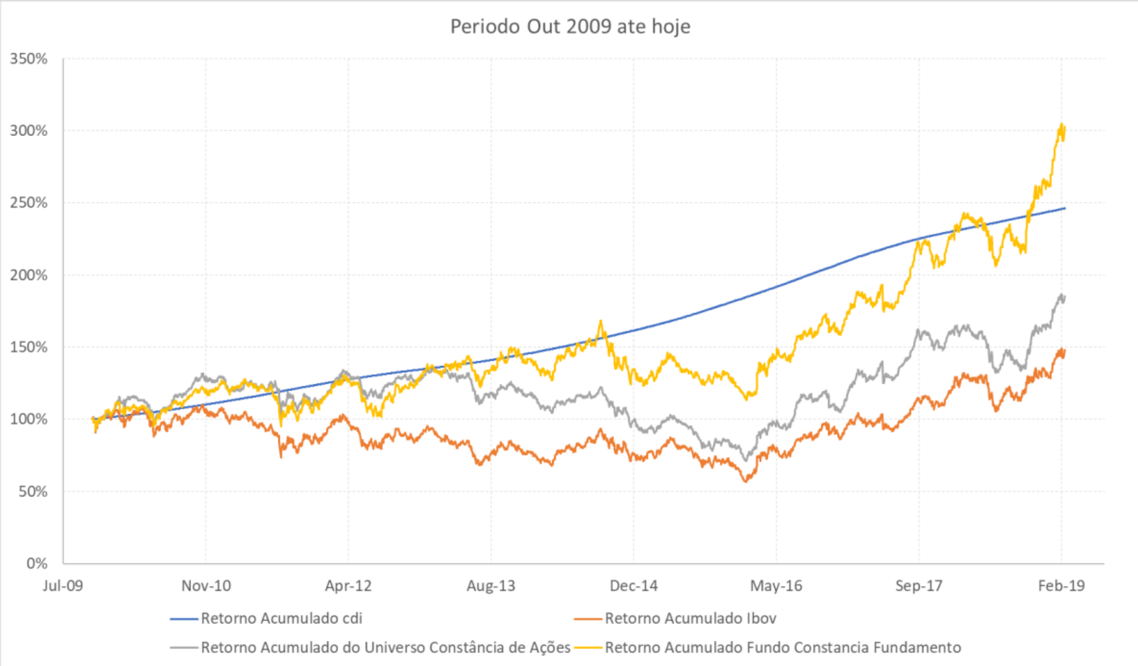
	Modelo	Tech	Quality	Value	Risk	Growth	Mixed
TRPL4	4.83%	0.24%	1.29%	0.42%	0.63%	0.76%	1.49%
ENBR3	2.86%	0.16%	0.96%	0.95%	0.07%	0.57%	0.14%
ENGI11	2.82%	0.34%	0.47%	0.16%	0.57%	0.21%	1.06%
SHUL4	2.49%	0.39%	-0.17%	0.95%	0.26%	0.10%	0.96%
VALE3	2.30%	0.41%	1.29%	0.38%	-0.50%	0.72%	-0.01%
CESP6	2.26%	0.87%	0.58%	-0.32%	0.29%	0.35%	0.49%
SAPR11	2.24%	0.12%	0.14%	0.49%	0.36%	0.18%	0.96%
KEPL3	2.23%	0.63%	0.29%	0.05%	0.46%	0.28%	0.52%
GGBR4	2.20%	-0.18%	0.01%	0.95%	0.02%	1.39%	0.03%
CPLE6	2.19%	0.63%	0.57%	0.95%	0.02%	0.00%	0.03%
FRAS3	2.17%	-0.06%	0.08%	0.95%	0.50%	-0.22%	0.93%
POSI3	2.14%	0.00%	0.51%	0.27%	0.29%	0.79%	0.28%
TRIS3	2.03%	0.17%	0.31%	0.74%	0.18%	0.14%	0.49%
AGRO3	2.01%	-0.66%	0.44%	0.31%	0.66%	0.27%	0.98%
SSBR3	1.96%	0.00%	0.25%	0.42%	0.54%	0.05%	0.69%
GUAR3	1.92%	-0.32%	0.42%	0.41%	0.40%	0.90%	0.10%
PRIO3	1.88%	0.87%	0.24%	0.16%	-0.34%	0.89%	0.05%
MTSA4	1.86%	0.10%	0.45%	0.41%	0.29%	0.18%	0.42%
COCE5	1.75%	-0.07%	0.05%	0.95%	0.42%	0.02%	0.39%

	Modelo	Tech	Quality	Value	Risk	Growth	Mixed
VVAR3	-4.99%	-1.14%	-1.12%	-0.15%	-0.47%	-1.09%	-1.03%
BSEV3	-4.37%	-0.55%	-1.96%	-0.57%	-0.18%	-0.70%	-0.41%
BRFS3	-3.54%	-0.26%	-0.50%	-0.57%	-0.31%	-0.79%	-1.12%
SUZB3	-3.02%	-0.12%	-0.63%	-0.86%	-0.64%	-0.10%	-0.68%
CIEL3	-3.01%	-0.84%	0.26%	0.20%	-0.65%	-1.43%	-0.55%
ETER3	-2.78%	-0.84%	-0.14%	-0.47%	-0.43%	0.33%	-1.23%
LINX3	-2.76%	0.50%	-0.54%	-1.44%	-0.41%	-0.45%	-0.42%
EMBR3	-2.68%	-0.84%	-0.97%	-0.03%	0.10%	-0.70%	-0.24%
STBP3	-2.66%	-0.30%	-0.91%	-0.58%	-0.18%	-0.23%	-0.46%
SMTO3	-2.42%	-0.37%	-0.91%	-0.35%	0.53%	-1.43%	0.10%
CVCB3	-2.28%	-0.97%	0.28%	-1.44%	0.05%	-0.29%	0.09%
SCAR3	-2.19%	-0.30%	-0.97%	-0.32%	0.05%	-1.12%	0.47%
AZUL4	-2.12%	0.70%	-1.73%	-0.32%	-0.29%	-0.40%	-0.08%
MILS3	-2.08%	-0.28%	-0.12%	-0.72%	-0.50%	0.13%	-0.61%
CARD3	-1.85%	-0.84%	0.08%	0.95%	-0.27%	-1.43%	-0.34%
SHOW3	-1.80%	-1.03%	0.13%	0.08%	0.18%	-1.63%	0.47%
ECOR3	-1.80%	-0.19%	0.10%	-0.31%	-0.03%	-0.89%	-0.48%
MRFG3	-1.73%	-0.19%	-1.49%	0.08%	-0.29%	0.03%	0.12%
MGLU3	-1.72%	0.07%	0.23%	-0.77%	-0.62%	-0.08%	-0.55%

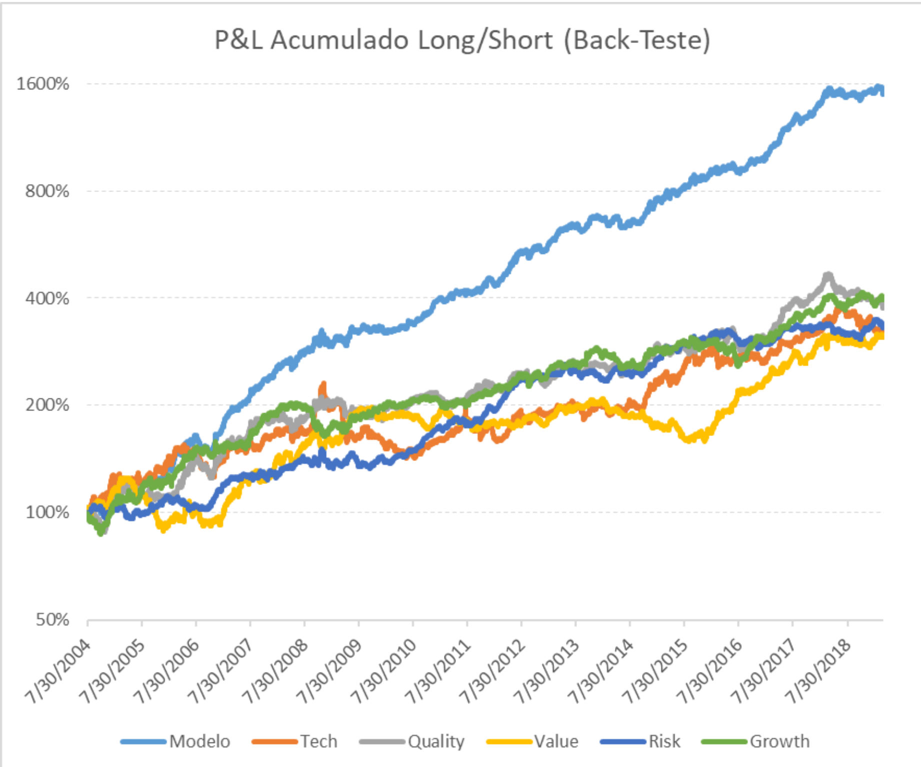
An increasing percentage (approximately 1/3 today) of our open-ended equity portfolio portfolios is exactly as prescribed by this systematic multi-factorial model. For the remaining 2/3, deviations from the model occur but should be debated and fully justified in the internal investment committees.

Compared to the ranking, we typically reduce exposures to companies subject to risks not captured by the model, such as reputational risk. On the other hand, companies with little coverage by sell-side research, where our analysts have done a more insightful analysis and observed an excellent opportunity, may have deserve exposures modestly higher than our multi-factorial model.

The cumulative return and risk / return results of our Constância Fundamento fund speak for themselves. In recent years we have consistently outperformed Bovespa and the vast majority of our competitors.



Regarding the Long / Short portfolio generated by the Multifactorial model, it is implemented in our Constância Absoluto FIM Multi-Market fund, which we opened in April 2018 and has performed quite well so far: 160% CDI performance with 5.5% volatility. The simulated Sharpe Ratio of the model's long / short portfolio is greater than 2.0 in the 15 years of back testing and approximately 1.0 in the last 12 months.



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