

# Brazil Equity Strategy

Introducing IQ – IBBA Quantitative Series: Does Value Portfolios Outperform The Market in Brazil? Seven Value Stocks We Like.

January 19<sup>th</sup>, 2025



**Key Message:** We evaluated the historical performance of value strategies in Brazil by backtesting various metrics such as Price to Earnings, Price to Book, Enterprise Value to EBITDA and Dividend Yield. All metrics were backtested using both trailing and forward indicators, and afterwards we developed our own proprietary "IBBA Value Score". 7 Key highlights:

- 1) Good News: Value outperforms in Brazil.** All metrics analyzed have outperformed the Ibov Index in the long term (from January 2011 to December 2024) with EV/EBITDA trailing showing the best result (return of 373.3%, while the Ibovespa was up 71.9%). The Dividend Yield Forward, and the P/E Trailing indicators had an accumulated return of 344.1% and 327.7% over the same period, respectively. The worst-performing metric was Price/Book, with the worst risk-premium, due to growth stocks in the fourth quartile such as WEG, MGLU and MELI.
- 2) Our Spice - IQV – IBBA Quant Value Proprietary score:** The downside of the best performing classic metric, EV/EBITDA, is the exclusion of the financial sector. Our proprietary value score managed to include them in the universe using a combination of EV/EBITDA, P/E and Dividend Yield. It achieved higher returns (439.4%) while lowering the volatility (pushed it's Sharpe ratio up).
- 3) Sector & Stocks: Allocation & Attribution - The Most Frequent & Excess Return Generating Assets.** Across first quartiles' portfolios the sectors with highest overweight were Utilities at 7.6%, Materials at 4.5% and Financials at 3.1%, while the most underweight sectors were Industrials at -5.8%, Health Care at -4.8% and Consumer Discretionary at -3.0%. Meanwhile, the most recurring value stocks were BBAS3, CSMG3, ABCB4, BRSR6 and PETR4.
- 4) Don't Look Back In Anger: Trailing Multiples Worked Better Than Forward.** Our research shows that, in general, trailing multiples outperform their forward counterparts on most timeframes, with the biggest difference being shown in EV/EBITDA at 135.3%. The exception being Dividend Yield where the forward metric outperformed by 105%.
- 5) No Pain, No Gain. Performance On Different Business Cycles: Accelerating GDP is value-best. Periods of Underperformance and volatility:** While value metrics outperformed in the long term, they do face periods of underperformance such as 2014-2015 where value metrics underperformed the Ibovespa by 10.9% and 2.7%. We believe that those periods are one of the reasons for value to work on the long term ("It only works in long-term, because it does not work all the time").
- 6) Avoiding Value Traps & Getting Exposed to Positive Externalities** To reduce the Value traps presence in the portfolios, we added a quality filter, which boosted the P/E Trailing portfolio's return from 327% to 359.8% alongside a reduced volatility. The first quartile of low P/E portfolios has an average dividend yield of 7.2% and a ROE of 21.3%.
- 7) Seven Value Stocks We Like. We further screen the long value recommendations (first quartile) from our proprietary screening, highlighting:** Banco do Brasil, Petrobras, Vale, Vibra, JBS, Vivo and Prio.

## Equity Strategy Team

Daniel Gewehr, CNPI

+55-11-3073-3004

daniel.gewehr@itaubba.com

Matheus Marques, CNPI

+55-11-3073-3255

matheus.marques@itaubba.com

Victor Cunha, CNPI

+55-11-3073-3359

victor.cunha@itaubba.com

Raphael Matutani, CNPI

+55-11-3073-3255

raphael.rosa@itaubba.com



# Index - Introducing IQ – IBBA Quantitative Series

## Does Value Portfolios Outperform The Market in Brazil? Seven Value Stocks We Like

- **Key Takeaways from the Study - If All you Have is 5 Minutes:** (Page 3)
  - **1) Does Value Work?** Good News: Value Outperforms in Brazil. EV/EBITDA & P/E Take The Lead (Page 4)
    - **Does Value work in Brazil?** Analysis of the first quartile's long only return (Page 5)
    - **Long and Short:** Enterprise Value To EBITDA Trailing's Risk Premium Outperform The Market (Page 6)
  - **2) Our Spice - IQV – IBBA Quant Value Proprietary Score & Study Method** (Page 7)
  - **3) Sector & Stocks: Sector Allocation & Attribution - The Most Frequent & Excess Return Generating Stocks & Sector** (Page 8)
    - What Are The Main Overweight Sectors? (Page 8)
    - Sector Exposure Through Time And Long And Short Net Exposure (Page 11)
  - **4) Don't Look Back In Anger:** Trailing Multiples Worked Better Than Forward (Page 12)
  - **5) No Pain, No Gain.** Performance On Different Business Cycles: Accelerating GDP is value-best (Page 13)
    - No Pain, No Gain. Drawdown & Volatility (Page 14)
  - **6) Avoiding Value Traps & Getting Exposed to Positive Externalities**
    - Removing Low ROE stocks Boost Returns (Page 15)
    - What Quality Do You Get For What You Pay? (Page 16)
  - **7) Seven Value Stocks We Like (Page 17)**
- **Deep dive into each metric:**
    - Itaú BBA Value Score (Page 20)
    - Price to Earnings Trailing (Page 24)
    - Price to Earnings Forward (Page 28)
    - Price to Book Trailing (Page 32)
    - Price to Book Forward (Page 36)
    - Enterprise Value to EBITDA Trailing (Page 40)
    - Enterprise Value to EBITDA Forward (Page 44)
    - Dividend Yield Trailing (Page 48)
    - Dividend Yield Forward (Page 52)

# Introducing IQ – IBBA Quant Series: Does Value Portfolios Outperform The Market in Brazil? Seven Value Stocks We Like – Key Takeaways

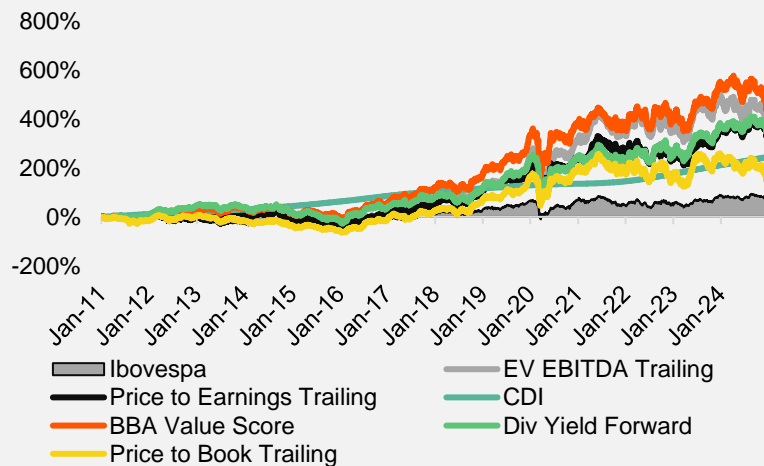


*If All you Have is 5 Minutes*

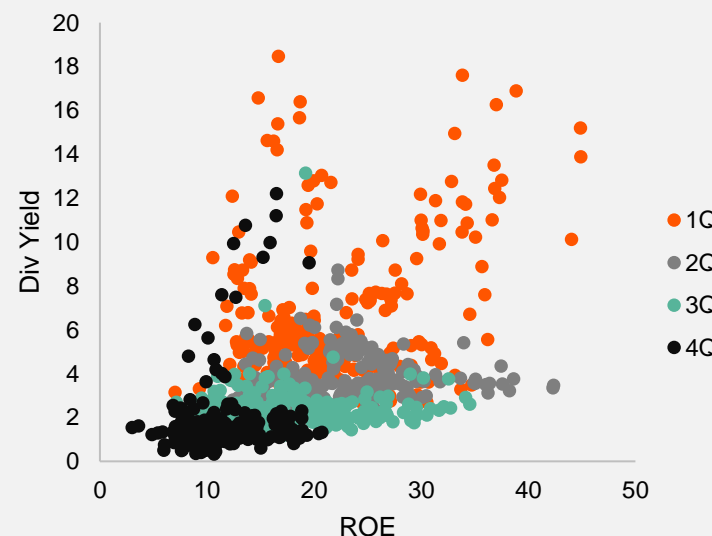
- Key message.** We evaluated the historical performance of value strategies in Brazil by backtesting metrics such as Price to Earnings, Price to Book, Enterprise Value to EBITDA and Dividend Yield. All metrics were backtested in quartiles, using both trailing and forward indicators, and afterwards we developed our own proprietary “IBBA Value Score”. The first quartile comprises companies with lower multiples, the “cheapest” stocks, while the fourth comprises the “most expensive”. **7 Key highlights:**
- 1) Does Value Work in Brazil? Good News: Value outperform:** All metrics analyzed have outperformed the Ibov Index in the long term (from January 2011 to December 2024) with EV/EBITDA trailing showing the best result with an accumulated return of 373.3%, while the Ibovespa was up 71.9%. We also found that the longer the investment period, the more likely the portfolio is to beat both the Ibovespa and the CDI. The Dividend Yield Forward and the P/E Trailing indicator had an accumulated return of 344.1% and 327.7% over the same period, respectively. The worst-performing metric was Price/Book, with the worst risk-premium, due to growth stocks in the fourth quartile such as WEG, MGLU and MELI. We also tested EV to EBIT but due to high correlation with EV EBITDA we kept the last metric. The Long 1st Quartile / Short 4th strategy worked for all metrics except for Price to Book.
- 2) Our Spice - IQV – IBBA Quant Value Proprietary score:** While EV/EBITDA showed the best returns (439.4%), it has the downside of excluding the Financial sector. To improve upon it, we built a value score which is composed of the winsorized z-score for EV/EBITDA Trailing, Dividend Yield Forward and P/E Trailing, with proportions of 50-25-25 except for the financials where we used 50% Div Yield and 50% P/E. We further refine the portfolio removing the worst quintiles of P/E Forward and ROE. This allowed us to outperform all other metrics, while maintaining the financials and lower risk.

- 3) Stocks & Sector Allocation & Attribution: The Most Frequent & Excess Return Generating Stocks & Sectors.** Across first quartiles’ portfolios the most overweight sectors were Utilities at 7.6%, Materials at 4.5% and Financials at 3.1%, while the most underweight sectors were Industrials at -5.8%, Health Care at -4.8% and Consumer Discretionary at -3.0%, while the sectors that most outperformed the universe were Utilities and Energy. The most present stocks were BBAS3, CSMG3, ABCB4, BRSR6 and PETR4.
- 4) Don’t Look Back In Anger: Trailing Multiples Worked Better Than Forward.** Our research shows that, in general, trailing multiples outperform their forward counterparts on most timeframes, with the biggest difference being shown in EV/EBITDA. The exception being Dividend Yield where the forward metric outperformed by 105%.
- 5) No Pain, No Gain.** While value outperformed in the long term, they do face periods of underperformance such as 2014-2015 where value metrics underperformed the Ibovespa by 10.9% and 2.7%. We believe that those periods are one of the reasons for value to work on the long term, since most institutional investors can’t afford the possibility of two/three consecutive years of losses. **Performance On Different Business Cycles: Accelerating GDP is value-best.**
- 6) Avoiding Value Traps & Getting Exposed to Positive Externalities** To reduce the Value traps presence in the portfolios, we added a quality filter, which boosted the P/E Trailing portfolio’s return from 308% to 327% alongside a reduced volatility. The first quartile of low P/E portfolios has an average dividend yield of 7.2% and a ROE of 21.3%.
- 7) Seven Value Stocks We Like.** We further screened our first quartile long portfolio to find 7 stocks we like: Banco do Brasil, Petrobras, Vale, Vibra, JBS, Vivo and Prio.

Value Factors x Ibovespa – Accumulated Returns (2011-2024)



P/E Trailing Quartiles Div.Yield X ROE (dispersion)



IQV’s Sector Under and Over Allocation Compared to it’s Universe

GICS Sector	Universe	O   W
Utilities	12.8%	9.6%
Financials	16.0%	7.0%
Communication Services	4.0%	1.9%
Energy	4.2%	0.8%
Materials	7.2%	0.6%
Real Estate	4.7%	-1.9%
Information Technology	2.3%	-1.7%
Consumer Staples	9.3%	-3.1%
Consumer Discretionary	21.0%	-3.3%
Health Care	5.9%	-4.2%
Industrials	12.6%	-5.8%

# 1) Does Value Work? Good News: Value Outperforms in Brazil. IBBA Value & EV/EBITDA Take The Lead

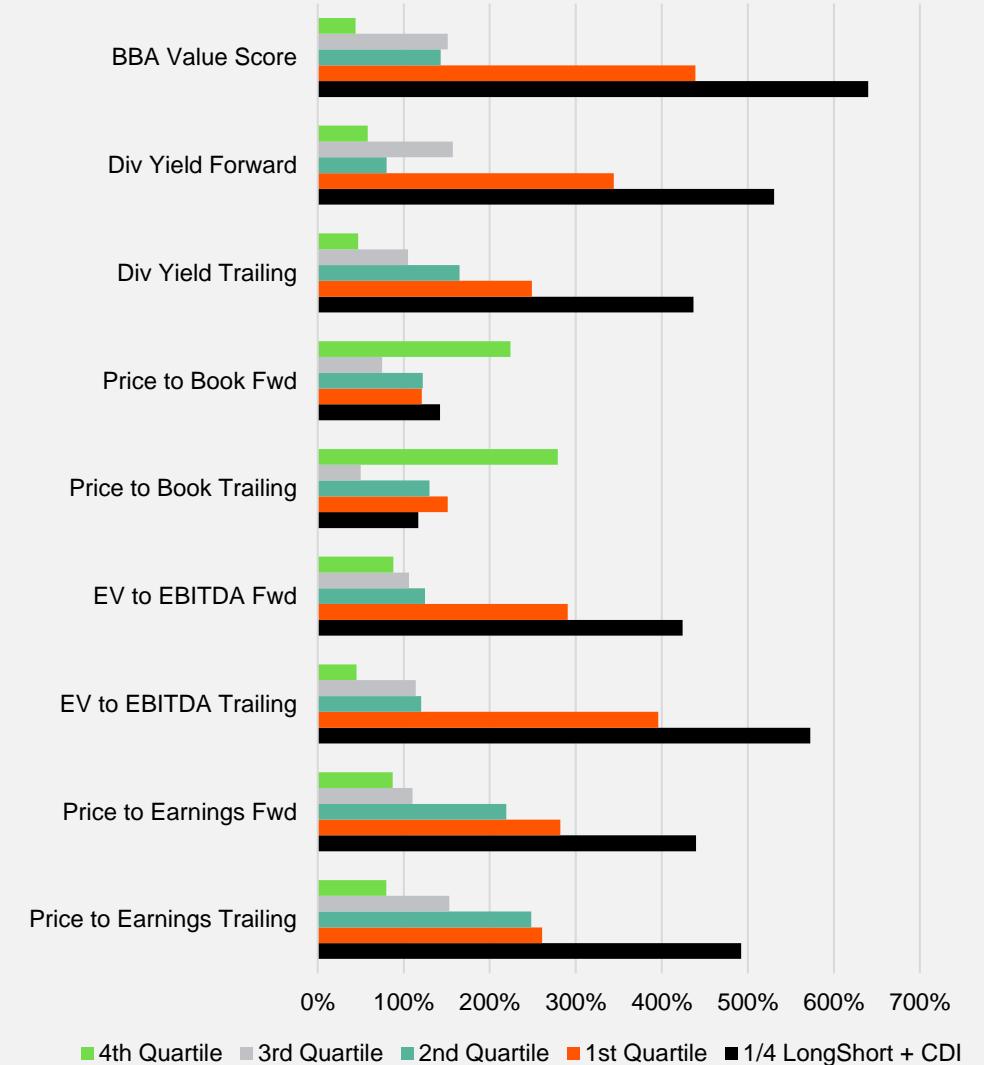
■ **IBBA Value Score** had the best accumulated return at 439.4%, followed by **EV/EBITDA Trailing**. The best performing Long & Short was also our proprietary score, with a return of 639.9%. We also had the highest Sharpe ratio at 0.46 among the Long-Only portfolios. The highest volatility and maximum drawdown both came from the **Price/Book** metric at 27.2% and 70.7% respectively.

■ **Dividend Yield** was the only metric where the forward outperformed it's trailing counterpart by 105%.  
 ■ **EV/EBITDA Trailing** had the second highest return at 373.3% and the second lowest volatility and drawdown at -22.5% and 52.4% respectively.

## Value Portfolios Analysis Comparison.

Portfolio	Performance		vs Ibov	vs CDI	Risk Measures			Performance Diffusion	
	Accumulated	Annualized	Excess Return	Excess Return	Sharpe*	Volatility	Maximum Drawdown	Positive	Negative
<b>BBA Value Score</b>									
1st Quartile	439.4%	13.0%	349.6%	189.2%	0.46	22.1%	-46.7%	53.5%	46.5%
2nd Quartile	142.8%	6.6%	53.0%	-107.4%	0.07	22.2%	-60.0%	51.4%	48.6%
3rd Quartile	149.3%	6.8%	59.5%	-100.9%	0.26	22.3%	-49.2%	52.9%	47.1%
4th Quartile	43.6%	2.7%	-46.2%	-206.6%	-0.02	25.1%	-56.4%	52.0%	48.0%
<b>Price to Earnings Trailing</b>									
1st Quartile	327.7%	11.1%	237.9%	77.5%	0.25	23.7%	-57.6%	50.7%	49.3%
2nd Quartile	264.4%	9.8%	174.6%	14.2%	0.31	21.5%	-54.9%	52.1%	47.9%
3rd Quartile	151.0%	6.9%	61.2%	-99.2%	0.18	21.3%	-47.2%	50.9%	49.1%
4th Quartile	78.8%	4.3%	-11.0%	-171.4%	0.06	23.0%	-58.5%	51.3%	48.8%
<b>Price to Earnings Forward</b>									
1st Quartile	282.7%	10.2%	192.9%	32.5%	0.26	25.0%	-54.4%	51.5%	48.5%
2nd Quartile	219.2%	8.8%	129.4%	-31.0%	0.21	21.3%	-48.2%	52.4%	47.6%
3rd Quartile	109.9%	5.5%	20.1%	-140.3%	0.16	21.3%	-50.3%	52.3%	47.7%
4th Quartile	83.7%	4.5%	-6.1%	-166.5%	0.01	23.3%	-63.7%	51.0%	49.1%
<b>EV/EBITDA Trailing</b>									
1st Quartile	373.3%	11.9%	283.5%	123.1%	0.36	22.5%	-52.4%	52.3%	47.7%
2nd Quartile	120.4%	5.9%	30.6%	-129.8%	0.18	22.7%	-45.7%	50.4%	49.6%
3rd Quartile	111.4%	5.6%	21.6%	-138.8%	0.15	22.5%	-45.3%	50.5%	49.5%
4th Quartile	43.7%	2.7%	-46.1%	-206.5%	-0.07	24.2%	-58.3%	50.5%	49.5%
<b>Price to Book Trailing</b>									
1st Quartile	151.6%	6.9%	61.8%	-98.6%	0.14	27.2%	-70.7%	49.8%	50.2%
2nd Quartile	130.8%	6.2%	41.0%	-119.4%	0.11	22.5%	-44.9%	51.1%	48.9%
3rd Quartile	50.9%	3.0%	-38.9%	-199.3%	0.02	21.9%	-52.3%	50.8%	49.3%
4th Quartile	272.7%	10.0%	182.9%	22.5%	0.22	21.0%	-48.5%	51.1%	48.9%
<b>Dividend Yield Forward</b>									
1st Quartile	344.1%	11.4%	254.3%	93.9%	0.32	22.2%	-53.6%	52.5%	47.5%
2nd Quartile	80.1%	4.4%	-9.7%	-170.1%	0.03	22.4%	-46.6%	51.9%	48.1%
3rd Quartile	158.2%	7.1%	68.4%	-92.0%	0.22	23.1%	-51.9%	53.2%	46.8%
4th Quartile	53.5%	3.2%	-36.3%	-196.7%	0.05	26.2%	-65.9%	51.2%	48.8%

## Value investing Analysis. Comparative Total Performance (2011-2024)

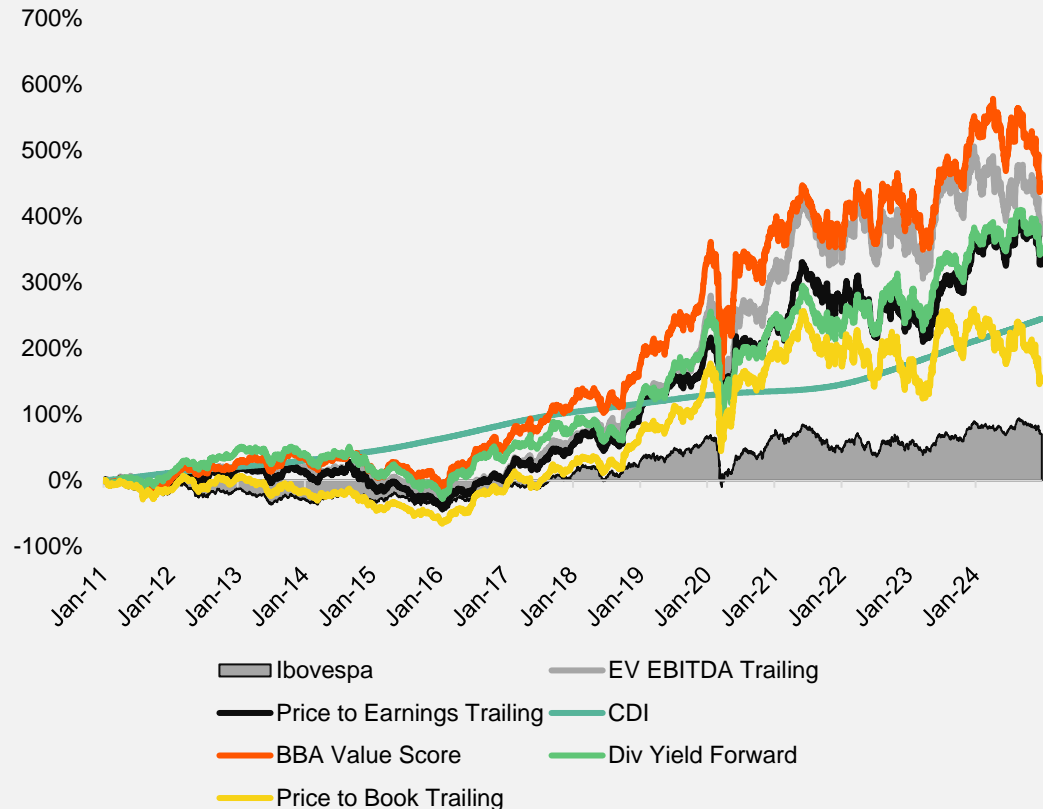


# 1) Does Value Work In Brazil? Good News: Value Outperforms in Brazil. A Long-only Analysis

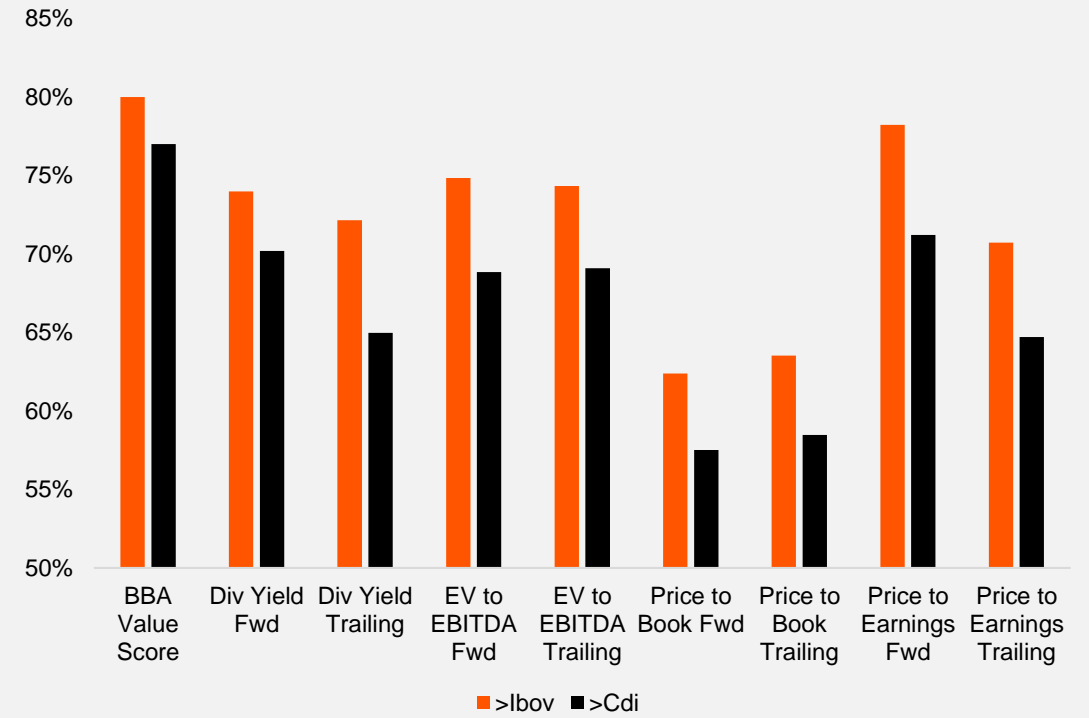
- Yes, Value Works Over Long-term Periods**, with more moving windows of outperformance the longer the investment time. All 9 indicators outperformed the Ibovespa from January 2011 up to December 2024.
- EV/EBITDA Trailing:** The best performing single factor metric, with a total return of 373.3% since January 2011, with a Sharpe ratio of 0.36. And a hit-ratio of 52.3%.
- Price to Earnings Trailing:** Has had a total return of 327.7% since January 2011, with Sharpe ratio of 0.25 and a maximum drawdown of 57.6%. It's hit-ratio was 50.66%, which is lower than many other metrics, but it had a higher average positive return.

- Price to Earnings Forward:** With a total return of 282.7%, it was outperformed by its trailing counterpart, but there were several time frames where it took the lead, indicating small differences in their capability to explain future returns.
- Price to Book Trailing:** Was the worst-performing value metric with a total return of 151.6% since January 2011. It also had the worst risk premium, with the fourth quartile returning 272.7%.
- IBBA Quant Value Score:** The best-performing portfolio achieved a total return of 439.4% and a Sharpe ratio of 0.46.

Accumulated Return Of 1st Quartile By Value Metric



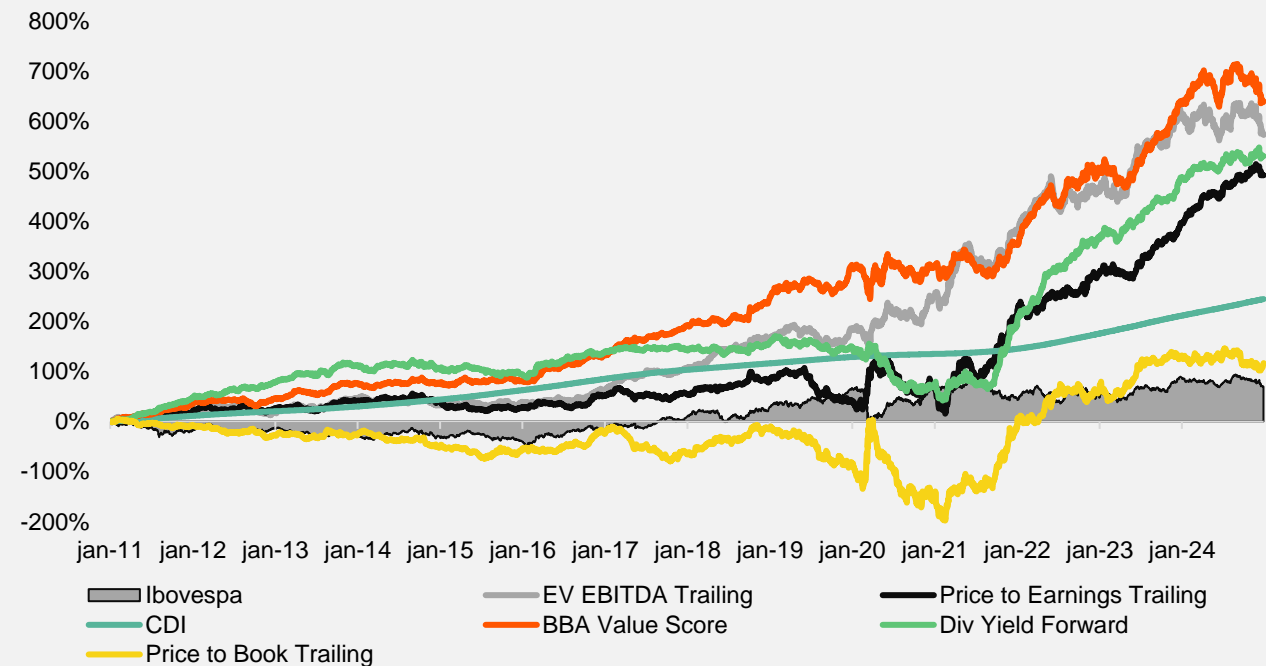
1y Rolling Outperform Of First Quartile's Portfolios.



# 1) Long and Short: Enterprise Value To EBITDA Trailing's Risk Premium Outperform The Market And Other Value Metrics.

- The Long and Short computed the CDI return and the net position was rebalanced to 0 alongside every portfolio rebalance. No leasing costs were considered.
- The long and short position performed in Div Yield Forward, EV/EBITDA Trailing, and our proprietary score. The best classic metric was the EV/EBITDA trailing, which had a return of 572.3% and lower drawdown compared to the analyzed portfolios.
- Price to book and Price to Earnings proved to be the worst Long and Short strategy with material drawdown. This can be attributed to high-growth stocks in the fourth quartile, such as MELI, WEG and MGLU.
- Our proprietary metric had a total return of 633.9% with a volatility of 10.0%, pushing it's Sharpe ratio to 0.85, being the best Long and Short performing metric.

Accumulated Return Of 1Q/4Q LongShort



Key Metrics for LongShort portfolios

Portfolio	Performance		vs Ibov	Vs Cdi	Risk Measures			Performance Diffusion	
	Accumulated	Annualized	Excess Return	Excess Return	Sharpe	Volatility	Maximum Drawdown	Positive	Negative
IQV	633.9%	15.5%	544.1%	383.7%	0.85	10.0%	-20.9%	54.5%	45.5%
PE Trailing	492.4%	13.8%	402.6%	242.2%	0.52	10.2%	-116.7%	50.3%	49.7%
EV/EBITDA Trailing	572.3%	14.8%	482.5%	322.1%	0.61	11.2%	-23.3%	53.3%	46.7%
Div Yield Fwd	530.6%	14.3%	440.8%	280.4%	0.6	10.8%	-22.8%	53.9%	46.1%
PB Trailing	116.9%	5.8%	27.1%	-133.3%	-0.34	12.2%	-149.9%	49.6%	50.5%

## 2) Our Spice - IQV – Itaú BBA Quant Value Proprietary Score And Study Method

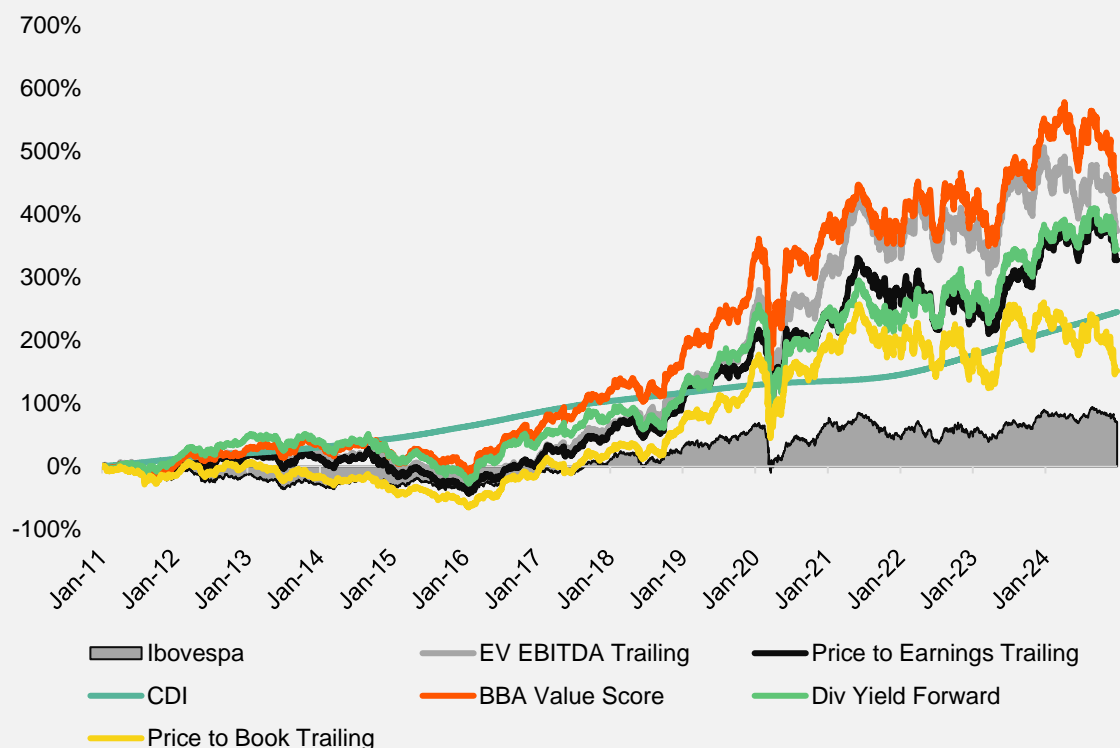
- The downside of the best performing classic metric, EV/EBITDA, is the exclusion of the financial sector. Our proprietary value score managed to include them in the universe and achieve higher returns while lowering the volatility, which pushed its Sharpe ratio up. This is a blend index that used a weight of EV/EBITDA Trailing, Price/Earnings Trailing and Dividend Yield Forward.
- All data collected was point-in-time information to avoid creating look-ahead bias and the investable universe consisted of IBRA Index members at the time of rebalance, with a liquidity filter of BRL 2 million traded daily. Afterwards all companies with more than one ticker were filtered to retain only the ticker with the highest liquidity.
- We filtered only companies that had the necessary relevant information available (metric, price and volume), which were then ranked and separated into quartiles.

- Each portfolio was rebalanced every 30 days (monthly basis). We also backtested other rebalance periods but none outperformed. In this study, no liquidity impact or transaction costs were considered.
- For the Itaú BBA Score, we calculated the winsorized z-score for EV/EBITDA Trailing, Dividend Yield Forward and P/E Trailing, and calculated the final score as:

$$\frac{1}{2} * \left( \frac{EV}{EBITDA \text{ Trailing}} Z \text{ Score} \right) + \frac{1}{4} * \left( \frac{Price}{Earnings \text{ Trailing}} Z \text{ Score} \right) + \frac{1}{4} * (Div \text{ Yield Fwd } Z \text{ Score})$$

- We further refine the portfolio by removing last quintile ROE to avoid value traps. We then normalize our score to base 100 (0 the worst ranked to 100 the best ranked).
- Utilities, Financials and Consumer Discretionary were the most common sectors.

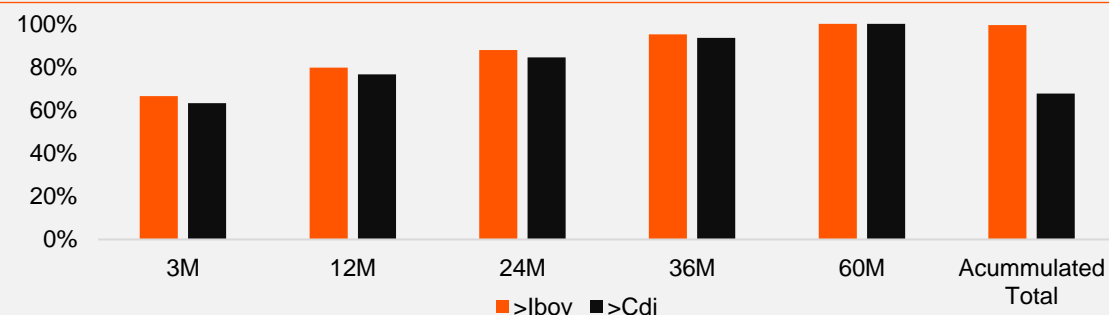
### Accumulated Performance Of ItaúBBA Value Score



### Sector Allocation – Inclusion Of Financials

Sector	1st Quartile	2nd Quartile	3rd Quartile	4th Quartile
Financials	23.0%	19.4%	8.5%	13.4%
Utilities	22.5%	10.6%	8.5%	8.3%
Consumer Discretionary	17.8%	20.1%	20.2%	25.1%
Materials	7.8%	8.7%	6.4%	10.1%
Industrials	6.9%	14.9%	16.8%	12.9%
Consumer Staples	6.2%	8.3%	12.7%	10.4%
Communication Services	5.9%	4.6%	2.8%	1.3%
Energy	5.0%	4.6%	3.5%	2.9%
Real Estate	2.8%	3.7%	7.0%	6.5%
Health Care	1.7%	4.7%	9.7%	5.8%
Information Technology	0.6%	0.4%	3.9%	3.4%

### Rolling Returns Win Ratio



### 3) Sector & Stocks: Allocation & Attribution - The Most Frequent & Excess Return Generating Stocks

- Overlap Of Stocks:** The most prominent stocks across the portfolios were BBAS3 at 75.4%, CSMG3 at 70.5%, ABCB4 at 68.3%, BRSR6 at 52.6% and PETR4 at 52.2%. Most trailing metrics showed overlapping portfolios. The forward portfolios contain more diverse names due to varying market expectations.
- Concentration Of Returns:** Approximately 30% of the total average return of the portfolios can be explained by the top 10 companies. The three stocks with the best returns were ENAT3 with 5.1% (of the accumulated return), PRIO3 with 3.6% and CSMG with 3.4%.
- Value Traps:** Many negative returns can be attributed to value trap stocks with deteriorating fundamentals and price momentum. This raises the possibility of further refining the portfolios by incorporating additional factors such as quality, price and earnings momentum.
- Turnover:** While there wasn't a correlation between the turnover of the portfolios of 1<sup>st</sup> quartiles, all trailing metrics have lower turnover than their forward counterparts, which is expected since the first one is subject to change only through daily prices and result releases, while the later depends on estimate revisions. The portfolio with the lowest turnover was Price to Book trailing at just 6.6% per month.
- Individual Stock Names:** The total universe consisted of 361 stocks with varying over time. Among these, the portfolio with the highest number of individual names in the analyzed period was Dividend Yield Forward Trailing with 209 names. The least diverse portfolio was Price to Book Forward with 169 names.
- Price To Book Leads To Growth?** The fourth quartile of Price to Book managed to outperform the first due to growth stocks such as MELI US, PAGES US, MGLU and WEGE.

Most Recurring Stocks In The 1st Quartile Of Value Portfolios

Company	Average*	BBA Value Score	EV/EBITDA Trailing	P/B Trailing	P/E Forward	P/E Trailing	Div Yield Forward
BBAS3	75.4%	76.5%	0.0%	68.3%	98.7%	96.6%	90.8%
CSMG3	70.5%	73.2%	77.4%	80.0%	77.4%	63.1%	51.0%
ABCB4	68.3%	61.0%	0.0%	74.9%	89.9%	76.5%	83.8%
BRSR6	52.6%	8.3%	0.0%	65.7%	94.6%	89.9%	41.0%
PETR4	52.2%	42.2%	53.1%	62.0%	70.3%	55.6%	48.1%
CPLE6	49.9%	17.2%	59.5%	73.7%	63.7%	64.5%	24.3%
LIGT3	48.6%	48.6%	55.3%	51.5%	62.0%	32.2%	42.3%
BRAP4	46.2%	10.4%	30.1%	61.0%	79.1%	70.7%	69.0%
ENAT3	45.4%	44.4%	60.7%	51.1%	49.8%	26.8%	23.0%
ITUB4	43.9%	69.1%	0.0%	0.0%	78.7%	69.1%	58.6%

Which Stocks Most Explained The Total Return Of 1st Quartile Value Portfolios

Company	Average*	BBA Value Score	EV/EBITDA Trailing	P/B Trailing	P/E Forward	P/E Trailing	Div Yield Forward
ENAT3	5.1%	4.0%	5.6%	5.4%	3.8%	3.2%	9.9%
PRIO3	3.6%	1.2%	7.1%	1.4%	6.4%	3.3%	2.2%
CSMG3	3.4%	6.0%	3.4%	2.7%	3.1%	2.4%	4.0%
PETR4	3.1%	5.6%	4.0%	2.4%	4.7%	4.1%	-1.2%
ELET3	2.6%	4.6%	1.5%	3.7%	3.0%	1.8%	2.0%
BBAS3	2.5%	2.4%	0.0%	3.3%	3.8%	3.7%	3.0%
ABCB4	2.4%	4.1%	0.0%	1.9%	2.6%	2.6%	0.1%
PCAR3	2.2%	4.5%	2.9%	2.3%	2.8%	3.3%	-0.3%
CPLE6	2.2%	0.9%	1.8%	2.4%	2.1%	2.4%	3.1%
CMIG4	2.0%	0.2%	2.5%	1.8%	2.5%	2.7%	0.7%
MLAS3	-0.3%	-2.1%	0.1%	0.4%	0.5%	-1.0%	-3.5%
NEXP3	-0.4%	-0.9%	0.1%	0.0%	0.1%	0.0%	-2.2%
TCSA3	-0.4%	0.1%	0.0%	0.9%	-1.3%	-0.1%	-3.9%
OIBR4	-0.4%	-0.7%	-0.6%	-0.5%	-0.2%	-0.1%	-1.0%
BISA3	-0.5%	-0.1%	0.0%	0.2%	-0.3%	-0.1%	-3.8%
BHIA3	-0.5%	-0.4%	-0.7%	-1.2%	0.1%	0.0%	-0.7%
DXCO3	-0.6%	-1.7%	-0.4%	0.1%	0.0%	-0.1%	-3.1%
IFCM3	-0.6%	0.0%	0.0%	-1.3%	0.0%	0.0%	0.0%
HBOR3	-0.7%	-0.6%	0.0%	-0.1%	-0.4%	0.1%	-4.9%
VVEO3	-1.3%	-0.4%	0.0%	-1.0%	-1.0%	-0.1%	-6.9%

\*The average is calculated basen on all 9 metrics, except for financials, where the P/; P/E and Div Yield are used.



### 3) Sector & Stocks: Allocation & Attribution - The Most Frequent & Excess Return Generating Sectors

- Contribution To Return:** Calculated as the percentage of the total return from that portfolio that can be attributed to the sector.
- Overlap Of Sectors:** Most value metrics converge in the same sector, with a focus on consumer discretionary, utilities and materials. The least purchased sectors were communication services, information technology and health care in absolute terms. The most invested sector within portfolios was Utilities, with an average allocation of 21.1% followed closely by Consumer Discretionary at 20.4%, while the least bought sectors were Information Technology and Health Care which add up to 2.2%. Notice that this is absolute allocation, not relative to the universe.
- Financial Sector Limitations:** One limitation of using the metric EV/EBITDA is that it excludes most of the financial sector and major Brazilian stocks such as ITUB4, BBDC4 and BBAS3. This results in an underrepresentation of this sector, which account for 25.16% of the Ibovespa.
- Return Drivers:** As expected, in total return, consumer discretionary, utilities and financials have a higher explained return, while real estate, information and technology and health care having the lowest contributions to return.

#### Most Recurring Sectors In The 1st Quartile Of Value Portfolios?

GICS Sector	Average*	BBA Value Score	EV/EBITDA Trailing	P/B Trailing	P/E Forward	P/E Trailing	Div Yield Forward
Utilities	21.1%	22.5%	24.0%	20.9%	18.0%	22.2%	21.8%
Consumer Discretionary	20.4%	17.8%	14.2%	23.4%	23.2%	20.6%	23.6%
Financials	19.6%	23.0%	2.0%	10.8%	24.0%	24.7%	20.6%
Materials	11.7%	7.8%	15.9%	13.2%	11.6%	12.5%	5.5%
Industrials	7.1%	6.9%	11.2%	5.0%	5.0%	5.2%	6.8%
Consumer Staples	6.7%	6.2%	10.4%	5.9%	5.5%	3.8%	5.5%
Energy	6.1%	5.0%	7.2%	6.8%	6.8%	4.5%	4.1%
Communication Services	5.1%	5.9%	10.4%	3.1%	1.3%	2.7%	6.3%
Real Estate	4.0%	2.8%	3.0%	8.5%	2.8%	2.7%	3.0%
Health Care	1.4%	1.7%	1.0%	1.5%	0.5%	0.3%	2.4%
Information Technology	0.8%	0.6%	0.9%	0.8%	1.1%	0.9%	0.3%

#### Which Sectors Most Explained The Total Return Of 1st Quartile Value Portfolios?

GICS Sector	Average*	BBA Value Score	EV/EBITDA Trailing	P/B Trailing	P/E Forward	P/E Trailing	Div Yield Forward
Consumer Discretionary	21.0%	20.3%	22.8%	23.4%	17.2%	18.5%	26.9%
Utilities	18.6%	20.3%	17.1%	18.7%	16.6%	18.6%	17.7%
Financials	17.6%	22.4%	5.2%	10.8%	19.8%	19.1%	20.8%
Energy	11.9%	9.2%	17.6%	8.8%	16.6%	11.4%	7.5%
Materials	9.6%	6.2%	9.5%	13.4%	11.0%	10.5%	4.3%
Consumer Staples	8.0%	7.1%	8.9%	5.8%	10.4%	7.8%	5.3%
Industrials	7.6%	6.9%	7.7%	9.6%	4.3%	8.5%	8.2%
Communication Services	3.5%	4.1%	5.4%	3.0%	0.4%	1.6%	4.0%
Real Estate	2.1%	1.9%	1.4%	4.3%	1.2%	2.0%	1.6%
Information Technology	1.9%	-0.2%	4.1%	1.0%	2.0%	1.3%	1.4%
Health Care	1.1%	2.0%	0.3%	1.2%	0.6%	0.6%	2.3%

\*The average is calculated basen on all 9 metrics, except for financials, where the P/; P/E and Div Yield are used.

### 3) Sector & Stocks: Allocation & Attribution - What Are The Main Overweight Sectors?

- The outperformance was calculated as the total return the sector had in the universe against the total return the sector had in the first quartile of each metric.
- **Underweight Sectors:** When analyzing the portfolios when compared to the universe, we see an underrepresentation in Industrials, Health Care and Consumer Discretionary, adding up to 13.6%
- **Overweight Sectors:** Meanwhile the sectors overbought were Utilities at 7.6%, Materials at 4.5% and Financials at 3.1%.
- **Outperformance By Sector:** The outperformance was calculated as exceeding returns that sector provided to the portfolio when compared to the universe. The sectors where value helped explain returns the most were Utilities, Energy and Financials.
- **Underperformance By Sector:** The only sectors that underperformed were Health Care, Industrials and Information Technology, as the higher returning companies were not acquired by the first quartile.
- **IBBA Value Score:** Our proprietary outperformed all metrics, delivering better returns mainly in Utilities, Financials and Consumer Discretionary. The only sectors that were detractors to the total return were Health Care and Information Technology.

#### Under and Over Allocation Compared to it's Universe

GICS Sector	Universe	BBA Value Score	Price to Earnings Trailing	Average
Utilities	12.8%	9.6%	9.4%	7.6%
Financials	16.0%	7.0%	8.7%	3.1%
Communication Services	4.0%	1.9%	-1.3%	1.3%
Energy	4.2%	0.8%	0.3%	2.1%
Materials	7.2%	0.6%	5.3%	4.5%
Real Estate	4.7%	-1.9%	-2.0%	-0.9%
Information Technology	2.3%	-1.7%	-1.5%	-1.4%
Consumer Staples	9.3%	-3.1%	-5.5%	-2.9%
Consumer Discretionary	21.0%	-3.3%	-0.4%	-3.0%
Health Care	5.9%	-4.2%	-5.5%	-4.8%
Industrials	12.6%	-5.8%	-7.5%	-5.8%

#### Outperformance Against Universe Broken Down By Sector

GICS Sector	Universe	BBA Value Score	Price to Earnings Trailing	Average
Utilities	24.1%	61.3%	30.0%	31.2%
Financials	29.1%	57.8%	24.8%	18.1%
Consumer Discretionary	38.1%	41.9%	10.4%	19.3%
Energy	14.9%	20.3%	19.2%	27.8%
Consumer Staples	16.7%	15.7%	8.5%	11.3%
Communication Services	4.2%	12.1%	-0.8%	6.1%
Materials	18.8%	10.8%	13.1%	11.6%
Real Estate	5.6%	4.6%	-0.2%	1.4%
Industrials	29.2%	2.0%	-6.0%	-5.3%
Health Care	8.1%	-3.7%	-7.5%	-5.8%
Information Technology	5.8%	-11.4%	-3.8%	-0.4%

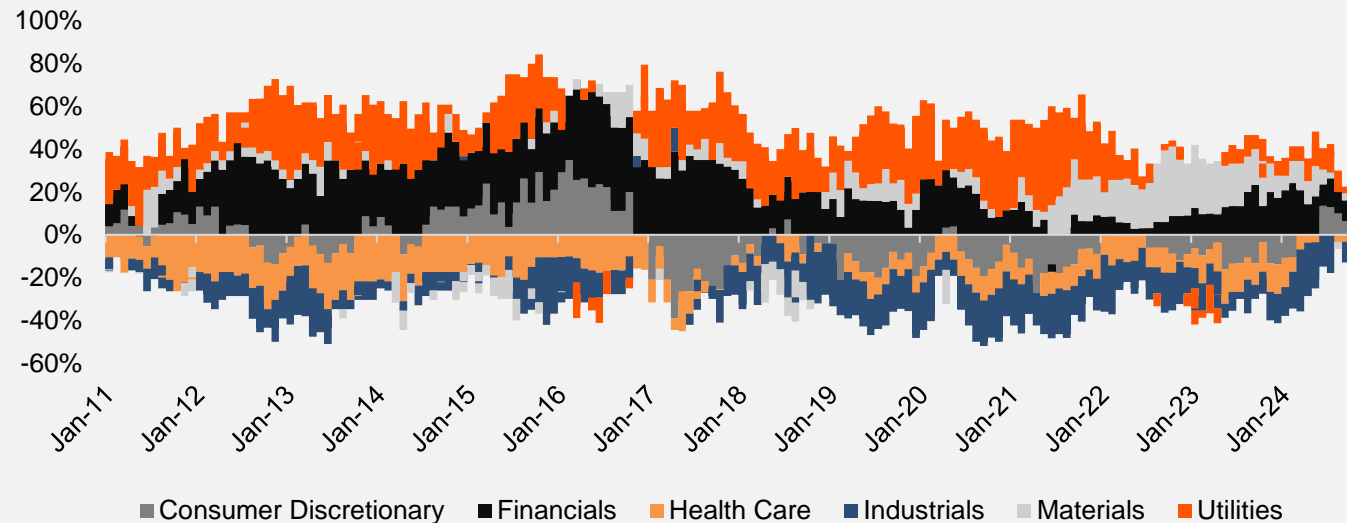
### 3) Sector Allocation & Attribution: Sector Exposure Through Time And Long And Short Net Exposure

- Net Exposure Sectors:** In the Long and Short portfolios, the largest net exposure was in Utilities, Financials and Communication Services, while the lowest were Consumer Discretionary, Industrials and Consumer Staples. The biggest difference regarding the averages was in Consumer discretionary where we were 7.3% under while the average of other metrics was -4.2%
- Sector Exposure:** Over time, there have been significant changes in allocations, with sectors such as Communication Services, Real Estate and Health Care experiencing long-periods of no allocation. As expected, utilities, financials and consumer discretionary were the most allocated sectors over time, but the latter had periods with small allocations in 2017 and 2018 and has since had a lower participation.

Net Exposure Of Long 1st Quartile – Short 4th Quartile

Sector	Itau BBA Value Score	Price to Earnings Trailing	Average
Utilities	14.2%	16.1%	12.6%
Financials	9.6%	21.2%	6.3%
Communication Services	4.6%	1.3%	3.0%
Energy	2.1%	0.3%	1.7%
Materials	-2.3%	6.4%	6.1%
Information Technology	-2.8%	-6.3%	-4.0%
Real Estate	-3.7%	-6.9%	-1.4%
Health Care	-4.1%	-12.0%	-7.6%
Consumer Staples	-4.1%	-7.9%	-3.9%
Industrials	-6.0%	-11.2%	-8.6%
Consumer Discretionary	-7.3%	-1.0%	-4.2%

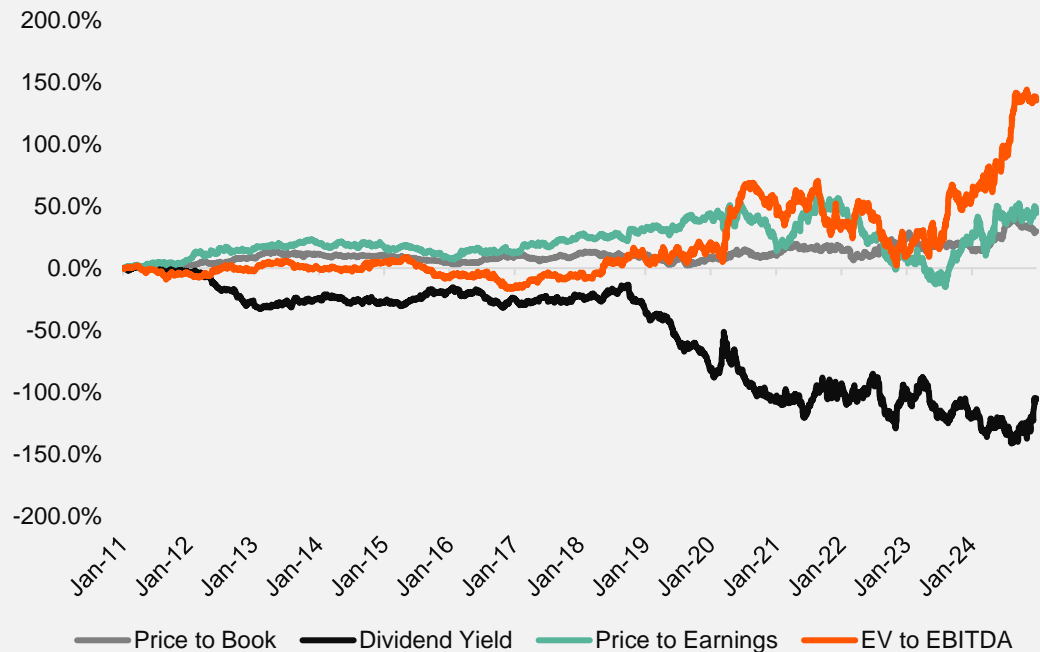
IQV's First Quartile's Portfolio's Three Sectors With Highest And Shortest Net Exposure



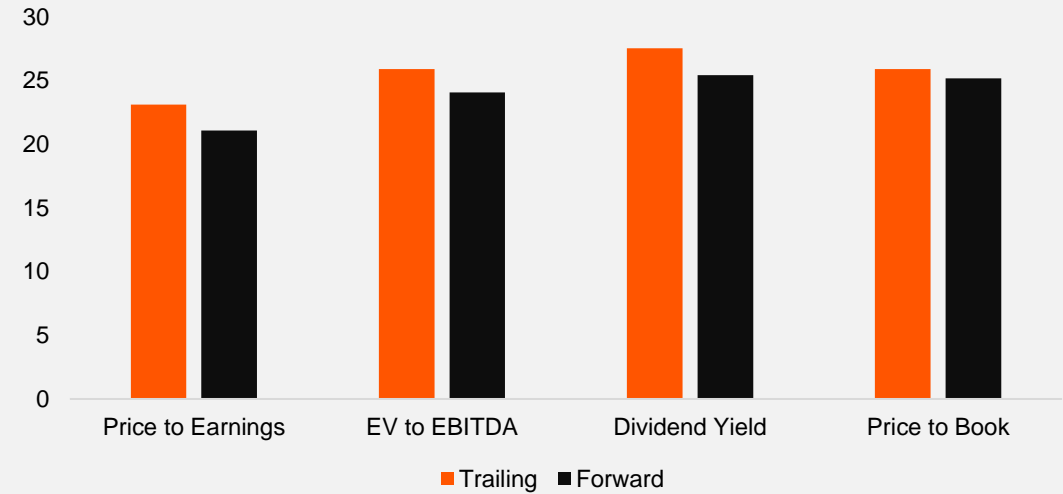
## 4) Don't Look Back In Anger: Trailing Multiples Worked Better Than Forward

- Trailing Leads The Charge:** Trailing indicators tend to outperform their forward counterparts. The annualized return for P/E trailing was 11.1%, while P/E forward was 10.2%. The only metric in which forward consistently outperformed was the Dividend Yield, which can be attributed to one-off payments that distort the trailing metric.
- Volatility And Portfolio Size:** We found that there is more available data for trailing information, given that there are companies with no sell-side coverage. Additionally, trailing metrics typically exhibit lower volatility on average.
- Risk Adjusted Return:** When comparing the Sharpe Ratio of 1<sup>st</sup> quartile portfolios, we can observe significant differences across all metrics. Additionally, upon further examination of the rolling 1-year Sharpe ratio, the trailing portfolios were in the lead for 77.2% of the time.

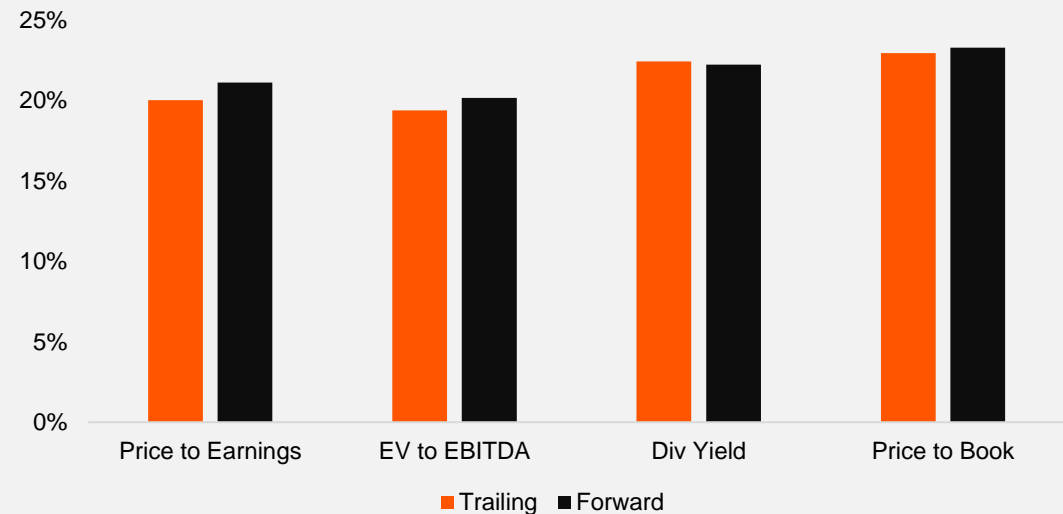
### Trailing To Forward Total Return Difference



### Average 1st Quartile's Portfolio Size



### Annualized Volatility

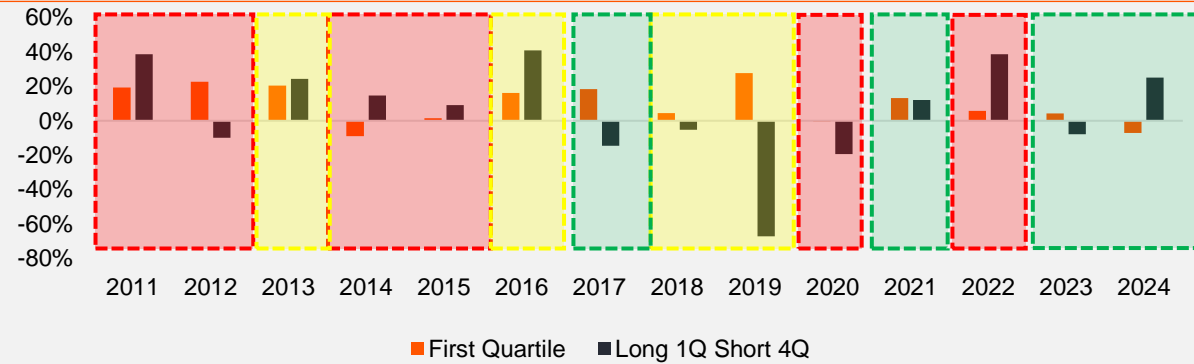


## 5) No Pain, No Gain. Performance On Different Business Cycles: Accelerating GDP is value-best

- Underperformance Periods:** there were years in which value severely underperformed: 2014 and 2015, which were recession periods with a GDP contraction higher than 2%. It is worth noting that despite this, there were recession periods where value still worked such as the 2011-2012 period.

- Not a High Diffusion Metric:** Although value outperforms on average in specific market cycles, our sample shows that within the same cycles, portfolios performed vastly differently.

### IBBA Value Score Performance Versus Ibovespa



### Performance By IBBA Value Score Quartiles Through Different Cycles

Quartile	Accelerating	Decelerating	Recession
First	26.7%	24.4%	3.3%
Second	15.0%	11.6%	0.4%
Third	15.4%	8.7%	7.2%
Fourth	3.5%	-15.8%	-5.4%

### BBA Value Score's 1st Quartile's Annual Return

Portfolio	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	Accumulated	Annualized
BBA Value Score	-1.6%	28.9%	9.0%	-11.8%	-16.0%	50.0%	42.7%	20.5%	61.7%	12.8%	-0.1%	7.1%	26.4%	-17.3%	439.4%	13.0%
Dividend Yield Forward	8.5%	34.2%	-2.8%	-14.7%	-28.4%	57.3%	32.9%	16.9%	57.8%	3.6%	-2.0%	8.5%	32.0%	-8.2%	344.1%	11.4%
Dividend Yield Trailing	5.6%	12.2%	-1.5%	-20.3%	-26.9%	63.5%	42.1%	13.1%	40.6%	-5.3%	0.0%	9.7%	38.7%	-6.4%	239.2%	9.3%
EV to EBITDA Forward	-2.5%	23.0%	0.8%	-17.2%	-18.7%	52.2%	37.3%	19.9%	60.7%	11.1%	18.3%	6.4%	19.8%	-38.5%	237.9%	9.2%
EV to EBITDA Trailing	-5.8%	26.0%	2.0%	-13.6%	-29.7%	46.6%	51.2%	31.0%	62.4%	20.8%	10.2%	1.3%	28.8%	-21.4%	373.3%	11.9%
Price to Book Forward	-18.9%	16.2%	-22.7%	-22.9%	-26.4%	86.5%	44.9%	34.9%	66.6%	13.4%	-0.3%	-14.3%	41.1%	-35.4%	121.9%	5.9%
Price to Book Trailing	-15.6%	21.7%	-18.0%	-21.0%	-30.9%	86.7%	44.2%	30.1%	60.8%	14.2%	2.0%	-11.1%	34.5%	-30.1%	151.6%	6.9%
Price to Earnings Forward	-15.3%	20.9%	-7.4%	-15.7%	-24.5%	50.7%	39.4%	28.8%	58.1%	24.7%	1.9%	3.8%	30.1%	-13.5%	282.7%	10.2%
Price to Earnings Trailing	-9.2%	30.2%	-2.6%	-15.0%	-30.2%	52.9%	46.8%	26.3%	56.0%	13.6%	10.3%	-7.9%	33.5%	-8.2%	327.7%	11.1%
Ibovespa	-18.9%	7.4%	-15.5%	-2.9%	-13.3%	38.9%	26.9%	15.0%	31.6%	2.9%	-11.9%	4.7%	22.3%	-10.4%	71.9%	4.0%
CDI	11.5%	8.4%	8.1%	10.8%	13.2%	14.0%	10.0%	6.4%	6.0%	2.8%	4.4%	12.4%	13.0%	7.9%	250.2%	9.5%
GDP	-3.6%	-2.1%	1.1%	-2.5%	-4.1%	0.3%	4.6%	0.5%	-0.6%	-4.5%	8.3%	-2.1%	2.9%	2.2%	-0.5%	-0.04%

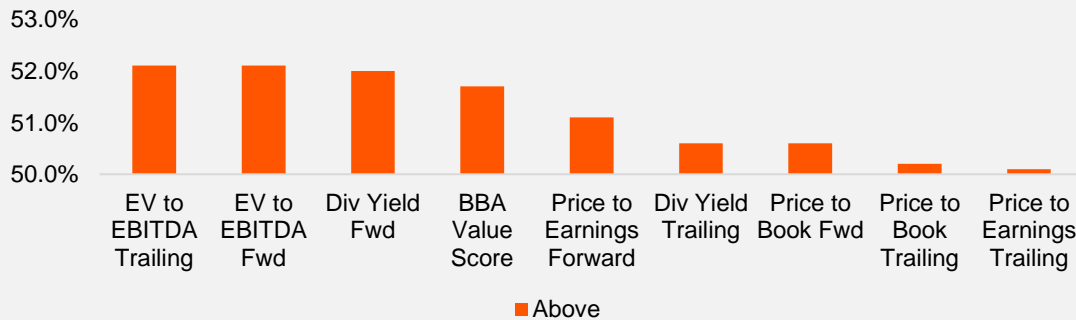
## 5) No Pain, No Gain. Drawdown & Volatility

- Drawdown:** The lowest drawdowns were from our proprietary score, EV/EBITDA Trailing and Dividend Yield Forward, with -46.7%, -52.4% and -53.6%, respectively. Except for the Price to Book metrics, the highest maximum drawdown was from Price to Earnings trailing at 57.6% indicating that there is not a significant difference between each portfolio. Price to Book trailing had the worst drawdown at -70.7%.
- Returns Daily Dispersion:** Itaú BBA Value Score had the best daily hit-ratio at 53.5% positive daily returns. The worst performing metric was Price to Book Trailing with a hit-ratio 49.7%.

### Maximum Drawdown

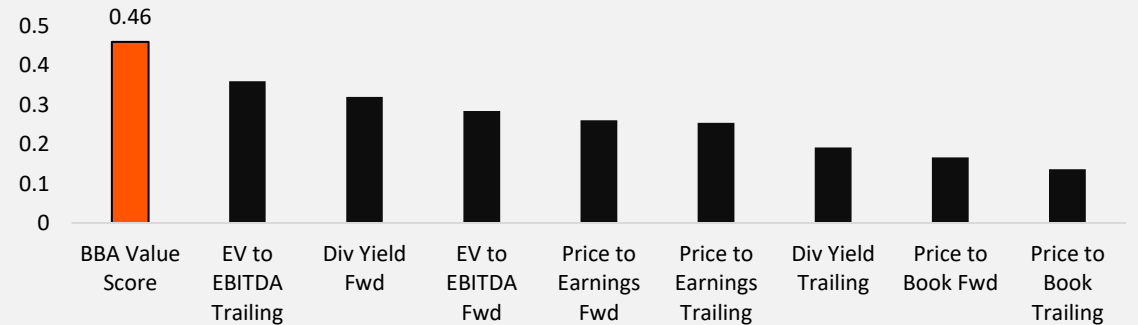


### Percentage of daily returns above Ibovespa.

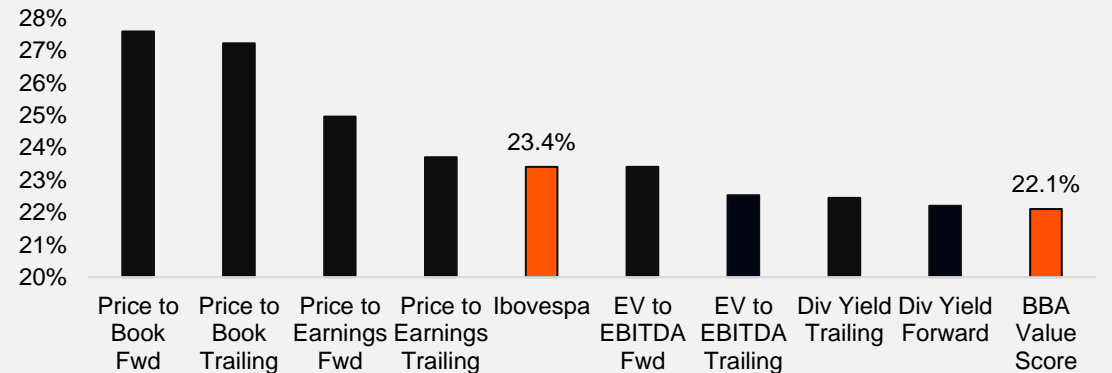


- Rolling Volatility And Sharpe:** The portfolios with the lowest volatility were in order: our proprietary "BBA Value Score", Dividend Yield Forward, Dividend Yield Trailing and EV/EBITDA Trailing while the highest were Price to Book Forward, Price to Book trailing and Price to Earnings forward. This metrics alongside the total return, resulted in the BBA Value Score and EV/EBITDA Trailing having the best 1y rolling average Sharpe ratio at 0.44 and 0.36 respectively.

### Average 1y Rolling Sharpe



### Average 1y Rolling Volatility

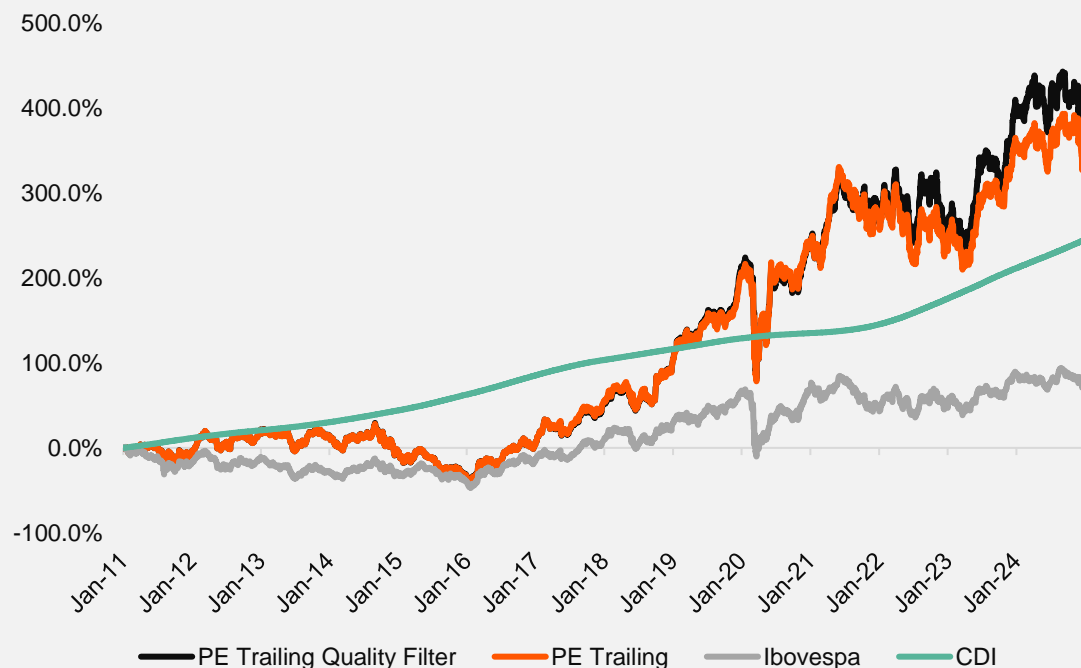


## 6) Avoiding Value Traps & Getting Exposed to Positive Externalities: Removing Low ROE stocks Boost Returns

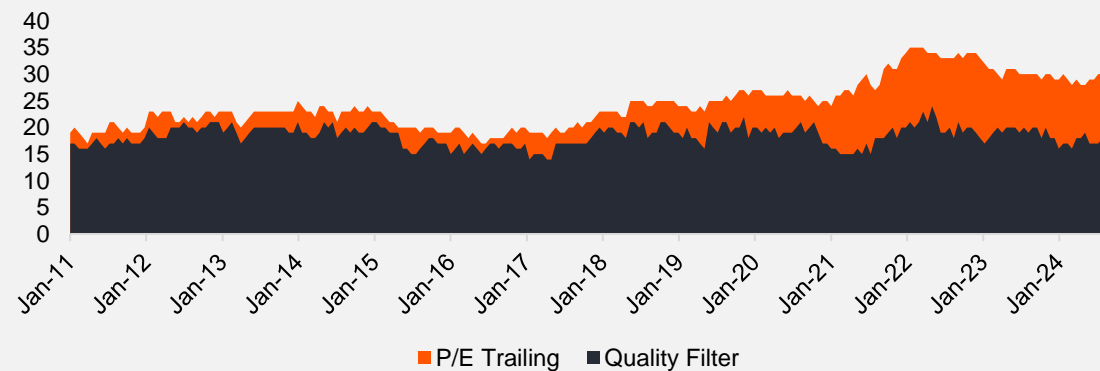
- Value Trap:** As observed in the company's return attribution, the biggest performance detractors were value traps. To identify and remove these companies without penalizing the true value companies, alongside the value ranking, we divided the universe into quintiles according to their ROE. Afterwards, if a company ranked in the first value quartile but in the last quintile of ROE (last filling), it was removed from the portfolio. This boosted the P/E Trailing return from 327% to 359.8% from January 2011 to December 2024.

- Portfolio Filtering:** By tracking the number of stocks in the portfolio and their performance, we can see that there is almost no change in the results from January 2011 up to January 2020. However, after January 2020, we began filtering a larger number of low-quality, cheap stocks, which contributed to the outperformance of the filtered portfolio.
- Furthermore, this filter can be further improved by identifying other factors such as price and earnings momentum.

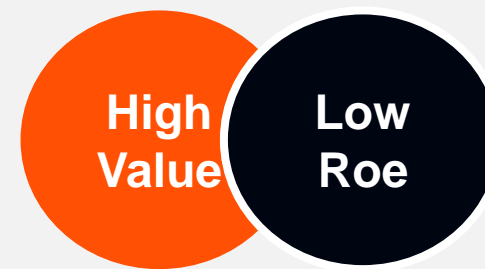
Accumulated Performance Of 1st Quartile's PE Trailing X Filtered PE Trailing



1st Quartiles Amount Of Companies



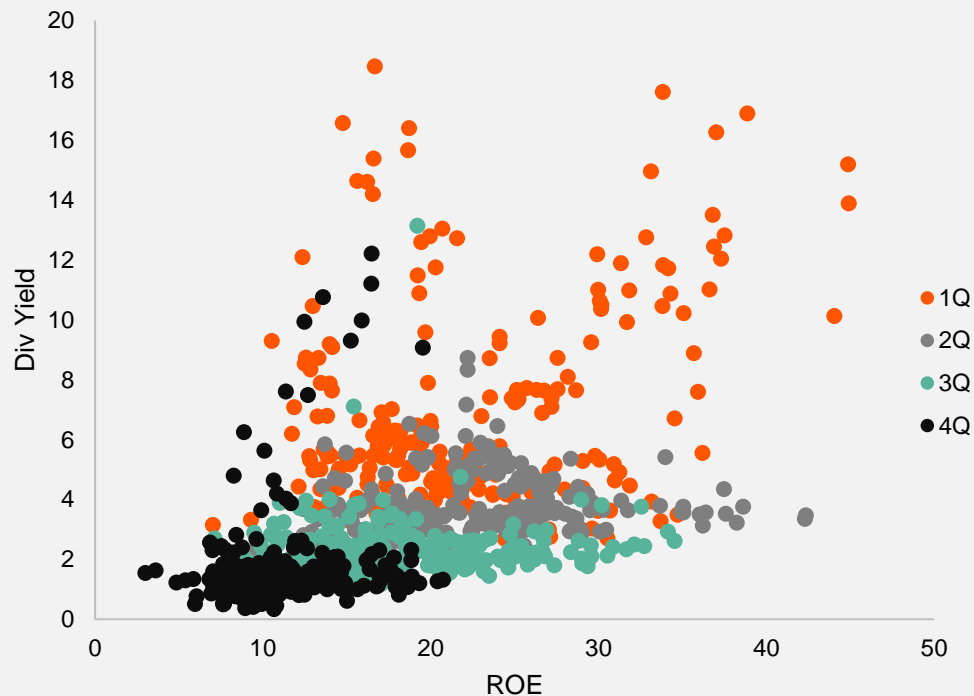
Portfolio Composition



## 6) Avoiding Value Traps & Getting Exposed to Positive Externalities: What Quality Do You Get For What You Pay?

- More For Less:** We have observed that P/E portfolios exhibit the highest dispersion in the metrics Dividend Yield and ROE. The first quartile of low P/E portfolios has an average dividend yield of 7.2% and a ROE of 20.5% while the last quartile has figures of 2.4% and 11.2%. This suggests that the advantage of low P/E extends beyond simply identifying cheap stocks, it allows us to identify quality companies that are overlooked by the market. It is important to note mentioning that both ROE and Dividend Yield are influenced by low liquidity stocks (those with a daily traded financial volume under BRL 5 million) which may not be suitable investments for large institutional investors.

Quartile Dispersion: P/E Trailing



- Average Metric for First Quartile Portfolios:** When analyzing the portfolio's average indicators since 2011, we see that Dividend Yield Forward and Price to Earnings trailing are the most adhesive to our proprietary score, as expected. However, the same cannot be said to EV to EBITDA trailing, due to the Financials sector exclusion. Furthermore, we can see that Price to Book – both forward and trailing – was the worst metric to indicate value in both returns and other value indicators, ranking last among Price to Earnings, EV to EBITDA, ROE, Dividend Yield and IQV.

Average indicator by portfolio (1st Quartiles)

Portfolio	PE Trailing	PB Trailing	EV EBITDA Trailing	ROE (%)	Div Yield Fwd (%)	IQV
IQV	10.7	2.2	6.7	19.2	8.2	87.1
P/E Trailing	7.3	1.5	6.7	20.5	7.2	71.6
P/E Fwd	12.7	1.5	7.3	15.0	8.8	70.6
EV/EBITDA Trailing	19.1	1.9	5.4	16.7	5.7	65.6
EV/EBITDA Fwd	29.0	2.1	6.0	10.7	9.1	63.4
P/B Trailing	23.6	0.7	16.6	3.0	6.4	53.7
P/B Fwd	32.8	0.8	16.5	4.0	6.5	55.6
Div Yield Trailing	13.9	2.3	8.9	18.7	7.6	70.2
Div Yield Fwd	13.9	2.7	9.5	18.2	11.6	78.6



## 7) Seven Value Stocks We Like & First Quartile Portfolio

- **Our Top Value Picks:** Within our current value portfolio, seven value stocks that we favor are: Banco do Brasil, Petrobras, Vale, Vibra, JBS, Vivo and Prio.
- **BBAS3:** The only bank in our selection, with an IQV of 100, has a ROE of 19.8%, a low Price to Earnings trailing of 4.2x, and a high Dividend Yield Forward of 10.4%. It was the most recurring company in the value portfolio and the sixth that contributed the most to returns since 2011.
- **PETR4:** With a proprietary score (IQV) of 98.8, Petrobras is considered a value company based on all metrics, from its 5.7x Price to Earnings Trailing, its 3.4x EV to EBITDA and notably the Dividend Yield Forward of 18.1%. It was the 5th most recurring stock in value portfolios since 2011.
- **VALE3:** Has an IQV of 95.2, due to its low Price to Earnings of 4.8, EV to EBITDA of 3.3 and a Dividend Yield forward of 10.7%.

- **VBBR3:** With an IQV of 93.5, Vibra has a high Dividend Yield Forward of 10.2%, low Price to Earnings at 2.1 but a EV to EBITDA Trailing of 5.0, which is high amongst the portfolio.
- **JBSS3:** JBS's IQV score is 84.5, attributed to its low EV to EBITDA trailing of 4.2x and forward Dividend Yield of 8.2%.
- **VIVT3:** Vivo's score is 81.5, pulled by na EV to EBITDA Trailing of 3.5 and a Dividend Yield Forward of 6.6%.
- **PRI03:** With an IQV of 79.2, PRIO has low Price to Earnings trailing, at 7.2, na EV to EBITDA of 2.9. However it is a poor dividend payer, with a forward yield of only 0.2%.

### Highlighted stocks value metrics

Ticker	Sector (GICS)	Price	1Y Return	BBA Score	Price to Earnings Trailing	Price to Earnings Forward	Price to Book Trailing	Price to Book Forward	EV to EBITDA Trailing	EV to EBITDA Forward	Dividend Yield Trailing	Dividend Yield Forward	ROE (%)	IBBA Rating	TP	Upside	Market Cap (USD bn)	EPS Growth 2025	EPS 2025 3M Revision	EBITDA Growth 2025	EBITDA 2025 3M Revision
BBAS3	Financials	25.31	-0.5%	100.0	4.2	3.8	0.4	0.8	n.a	n.a	10.3	10.4	19.8	MP	31.0	22%	24.0	7%	-1%	n.a	n.a.
PETR4	Energy	37.24	20.5%	98.8	5.7	5.3	1.2	0.8	3.4	3.1	16.3	18.1	21.7	OP	49.0	32%	85.8	-6%	6%	3%	-5%
VALE3	Materials	54.2	-14.7%	95.2	4.8	4.5	1.1	1.0	3.3	3.3	9.9	10.7	24.2	OP	74.0	37%	40.7	3%	-2%	5%	2%
VBBR3	Consumer Discretionary	17.25	-17.0%	93.5	2.1	3.2	0.9	1.0	5.0	4.0	9.1	10.2	53.9	OP	30.0	74%	3.2	21%	-13%	10%	0%
JBSS3	Consumer Staples	34.26	52.7%	84.5	10.5	7.3	1.6	1.5	4.2	4.5	8.8	8.2	16.4	OP	51.0	49%	12.6	-21%	28%	-5%	13%
VIVT3	Communication Services	48.93	1.7%	81.5	11.8	14.4	1.2	1.2	3.5	4.1	5.7	6.6	7.8	OP	61.0	25%	13.2	15%	-2%	5%	2%
PRI03	Energy	42.02	-6.7%	79.2	7.2	10.3	1.9	1.8	2.9	4.6	0.2	0.2	31.5	OP	70.0	67%	6.2	61%	-23%	30%	0%

# 7) Current ItaúBBA Value Score Portfolio (First Quartile)

■ **First Value Quartile Portfolio Outlook:** In the current portfolio the most present sectors are: Consumer Discretionary, Industrials and Utilities. The portfolio has an average Price to Earnings Trailing and Forward of 6.1 and 7.1 respectively. The portfolio is a dividend payer with a yield of 7.0%. The portfolio also has a high ROE of 17.7%.

Ticker	Sector (GICS)	Price	1Y Return	BBA Score	Price to Earnings Trailing	Price to Earnings Forward	Price to Book Trailing	Price to Book Forward	EV to EBITDA Trailing	EV to EBITDA Forward	Dividend Yield Trailing	Dividend Yield Forward	ROE	IBBA Rating	TP	Upside	Market Cap (USD bn)	EPS Growth 2025	EPS 2025 3M Revision	EBITDA Growth 2025	EBITDA 2025 3M Revision
BBAS3	Financials	25.31	-0.5%	100.0	4.2	3.8	0.4	0.8	n.a	n.a	10.3	10.4	19.8	MP	31.0	22%	24.0	7%	-1%	n.a	n.a.
PETR4	Energy	37.24	20.5%	98.8	5.7	5.3	1.2	0.8	3.4	3.1	16.3	18.1	21.7	OP	49.0	32%	85.8	-6%	6%	3%	-5%
ABCB4	Financials	19.71	-8.8%	98.2	4.7	4.7	0.7	0.7	n.a	n.a	8.3	7.4	15.9	MP	24.7	25%	0.8	10%	2%	n.a	n.a.
ANIM3	Consumer Discretionary	1.65	-58.0%	97.6	3.6	4.1	0.3	0.3	3.1	3.9	28.6	13.1	-2.1	OP	7.0	324%	0.1	-12%	-11%	4%	-1%
RECV3	Energy	16.62	-6.5%	97.0	8.3	7.5	1.1	1.1	2.6	3.3	16.6	15.6	13.1	OP	32.0	93%	0.8	9%	-4%	13%	-7%
BRAP4	Materials	16.63	-18.9%	96.4	1.8	2.4	0.7	0.8	4.2	3.6	13.8	20.7	43.8	0.0	0.0	-100%	1.1	-27%	-6%	23%	-6%
VALE3	Materials	54.2	-14.7%	95.2	4.8	4.5	1.1	1.0	3.3	3.3	9.9	10.7	24.2	OP	74.0	37%	40.7	3%	-2%	5%	2%
POSI3	Information Technology	5.46	-13.7%	94.0	2.9	3.7	0.5	0.4	3.0	3.5	7.7	8.1	16.8	MP	6.1	12%	0.1	54%	-7%	19%	5%
VBBR3	Consumer Discretionary	17.25	-17.0%	93.5	2.1	3.2	0.9	1.0	5.0	4.0	9.1	10.2	53.9	OP	30.0	74%	3.2	21%	-13%	10%	0%
PLPL3	Consumer Discretionary	8.76	-25.0%	92.9	5.2	4.9	2.1	2.1	2.6	3.7	5.8	8.4	47.2	OP	16.5	88%	0.3	10%	1%	9%	3%
BRSR6	Financials	9.77	-21.8%	92.3	4.1	4.6	0.4	0.4	n.a	n.a	10.2	8.9	9.8	MP	15.0	54%	0.7	14%	-11%	n.a	n.a.
JALL3	Consumer Staples	4.57	-38.2%	91.7	4.5	6.6	0.7	0.6	3.6	2.9	1.5	8.4	5.6	0.0	0.0	-100%	0.2	28%	10%	35%	2%
CMIG4	Utilities	10.56	30.6%	91.1	3.8	4.9	1.1	1.1	6.1	5.0	12.6	11.8	30.5	MP	11.4	7%	5.6	8%	-13%	10%	-7%
PAGS US	Financials	6.833	-46.5%	90.5	1.5	6.1	0.9	0.9	1.7	2.1	n.a	0.0	14.7	n.a	n.a	n.a	2.2	3%	-6%	22%	20%
CSMG3	Utilities	21.78	10.1%	89.9	5.9	6.0	1.0	1.0	4.9	4.6	12.7	10.0	17.8	MP	19.0	-13%	1.4	-11%	-8%	6%	1%
SMTO3	Consumer Staples	22.76	-10.1%	89.3	6.9	8.8	1.2	1.1	2.9	4.0	5.9	6.0	17.8	OP	37.0	63%	1.3	17%	-5%	6%	0%
ECOR3	Industrials	4.67	-46.7%	88.7	3.7	3.4	0.9	0.9	4.5	4.0	4.2	4.5	28.1	OP	9.0	93%	0.5	-11%	-13%	0%	7%
SAPR11	Utilities	25.66	-6.7%	88.1	6.8	5.8	0.7	0.7	4.8	4.3	6.0	8.0	14.9	MP	40.0	56%	1.3	-13%	-8%	1%	-2%
RAPT4	Industrials	8.26	-28.4%	87.5	7.8	6.7	0.9	0.9	4.0	4.9	4.4	7.1	11.5	OP	16.5	100%	0.4	25%	-10%	15%	6%
LEVE3	Consumer Discretionary	27.43	-15.2%	86.9	6.3	6.7	3.4	3.6	4.9	4.3	8.6	7.5	43.7	MP	35.0	28%	0.6	12%	7%	1%	13%
TIMS3	Communication Services	14.81	-8.9%	85.7	11.4	11.4	1.4	1.5	3.4	3.7	7.7	9.1	12.4	OP	22.0	49%	5.9	14%	-2%	5%	-1%
GGBR4	Materials	17.41	5.8%	85.1	8.2	6.4	0.7	0.6	3.3	3.6	4.5	4.9	9.1	OP	25.0	44%	5.8	-5%	-6%	4%	0%
JBSS3	Consumer Staples	34.26	52.7%	84.5	10.5	7.3	1.6	1.5	4.2	4.5	8.8	8.2	16.4	OP	51.0	49%	12.6	-21%	28%	-5%	13%
SIMH3	Industrials	3.36	-61.2%	83.9	6.6	13.5	0.9	0.4	3.5	4.5	n.a	2.2	-9.7	OP	7.5	123%	0.5	161%	-51%	10%	1%
GUAR3	Consumer Discretionary	5.9	5.2%	83.3	7.5	14.6	0.6	7.8	2.3	3.4	2.0	0.7	4.2	OP	9.0	53%	0.5	45%	-3%	7%	1%
JSLG3	Industrials	5.34	-53.1%	82.7	5.6	5.8	0.8	0.8	3.6	4.1	7.9	0.9	14.5	OP	12.0	125%	0.3	52%	-26%	9%	0%
SBFG3	Consumer Discretionary	11.15	-1.9%	82.1	6.6	6.7	0.9	0.9	3.3	4.5	1.6	1.0	n.a	OP	16.0	43%	0.4	27%	-4%	12%	0%
VIVT3	Communication Services	48.93	1.7%	81.5	11.8	14.4	1.2	1.2	3.5	4.1	5.7	6.6	7.8	OP	61.0	25%	13.2	15%	-2%	5%	2%
CRFB3	Consumer Staples	5.57	-52.6%	81.0	7.7	11.6	0.6	0.6	3.1	4.7	1.7	1.3	0.1	OP	13.0	133%	1.9	35%	-10%	10%	-2%
TUPY3	Industrials	21.94	-10.3%	80.4	9.2	11.8	0.8	0.9	3.4	4.3	8.2	3.4	9.8	MP	30.0	37%	0.5	23%	-11%	10%	-6%
CEAB3	Consumer Discretionary	7.95	12.2%	79.8	6.6	6.7	0.8	0.7	3.4	2.9	4.3	0.8	12.2	OP	15.0	89%	0.4	-3%	16%	6%	2%
PRIO3	Energy	42.02	-6.7%	79.2	7.2	10.3	1.9	1.8	2.9	4.6	0.2	0.2	31.5	OP	70.0	67%	6.2	61%	-23%	30%	0%
MILS3	Industrials	8.55	-31.0%	78.6	6.7	7.3	1.4	1.3	4.9	3.9	7.3	3.6	20.3	OP	18.0	111%	0.3	37%	-11%	13%	-5%
YDUQ3	Consumer Discretionary	8.64	-57.7%	78.0	12.3	6.0	0.8	0.8	3.1	3.8	3.2	4.8	6.4	OP	20.0	131%	0.4	27%	-18%	7%	0%
MYPK3	Consumer Discretionary	13.46	17.3%	77.4	10.7	7.6	0.5	0.5	3.4	4.2	4.5	0.9	4.7	MP	14.0	4%	0.3	19%	-1%	8%	2%
OPCT3	Industrials	5.05	-11.1%	76.8	11.0	49.5	1.1	n.a	3.8	3.8	n.a	1.1	3.2	OP	8.0	58%	0.2	-29%	-36%	17%	2%
SBSP3	Utilities	93.06	23.6%	76.2	6.8	8.2	1.7	1.7	7.2	5.3	1.5	3.0	27.6	OP	143.4	54%	10.5	15%	8%	18%	7%
PNVL3	Consumer Staples	8.37	-29.7%	75.6	12.0	9.7	1.0	1.0	4.8	7.6	4.0	3.1	8.9	OP	13.0	55%	0.2	29%	3%	19%	12%
IRBR3	Financials	52.33	34.5%	75.0	10.1	12.0	0.9	0.9	n.a	n.a	n.a	2.1	9.5	n.a	n.a	n.a	0.7	24%	4%	n.a	n.a.

# Deep Dive:

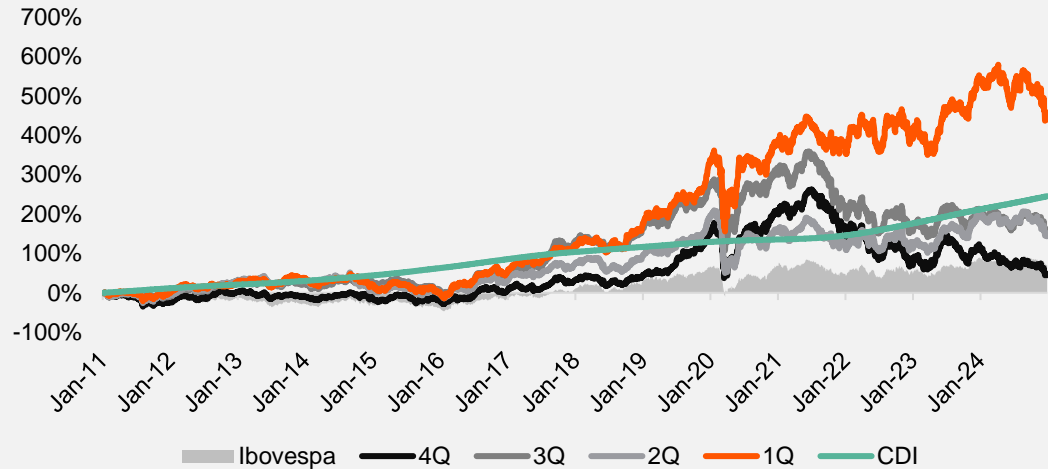
Key Metrics for each analyzed Value Metric

# Itaú BBA Value Score – Return Analysis

## Accumulated And Annual Performance

Date	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	Accumulated	Annualized
First Quartile	-1.6%	28.9%	9.0%	-11.8%	-16.0%	50.0%	42.7%	20.5%	61.7%	12.8%	-0.1%	7.1%	26.4%	-17.3%	439.4%	13.0%
Second Quartile	-7.0%	39.7%	2.3%	-16.8%	-10.8%	32.7%	31.0%	9.4%	53.5%	-9.6%	-12.3%	-0.8%	34.7%	-20.5%	142.8%	6.6%
Third Quartile	-10.0%	44.7%	-5.0%	4.5%	-16.6%	29.6%	63.6%	13.3%	41.9%	12.1%	-22.6%	-15.9%	15.3%	-19.5%	149.3%	6.8%
Fourth Quartile	-24.5%	33.4%	-10.0%	-3.0%	-5.9%	27.6%	23.8%	8.5%	76.6%	22.9%	-12.4%	-32.0%	21.1%	-35.4%	43.6%	2.7%
Long 1Q Short 4Q	22.9%	-4.5%	19.0%	-8.8%	-10.1%	22.4%	18.9%	11.9%	-14.9%	-10.1%	12.3%	39.1%	5.3%	18.1%	395.9%	12.3%
Long 2Q Short 3Q	3.0%	-5.0%	7.3%	-21.4%	5.8%	3.0%	-32.6%	-3.9%	11.6%	-21.7%	10.3%	15.1%	19.4%	-1.0%	-6.4%	-0.5%
Ibovespa	-18.9%	7.4%	-15.5%	-2.9%	-13.3%	38.9%	26.9%	15.0%	31.6%	2.9%	-11.9%	4.7%	22.3%	-10.4%	71.9%	4.0%
CDI	11.5%	8.4%	8.1%	10.8%	13.2%	14.0%	10.0%	6.4%	6.0%	2.8%	4.4%	12.4%	13.0%	10.9%	250.2%	9.5%
GDP	-3.6%	-2.1%	1.1%	-2.5%	-4.1%	0.3%	4.6%	0.5%	-0.6%	-4.5%	8.3%	-2.1%	2.9%	2.2%	-0.5%	-0.04%

## Accumulated Performance



## Key Metrics

Quartile	Performance		vs Ibov	Vs Cdi	Risk Measures			Hit Ratio	
	Accumulated	Annualized	Excess Return	Excess Return	Sharpe	Volatility	Maximum Drawdown	Positive	Negative
1st Quartile	439.4%	13.0%	368.5%	189.2%	0.46	22.1%	-49.8%	53.46%	46.54%
2nd Quartile	142.8%	6.6%	71.9%	-107.4%	0.07	22.2%	-60.0%	51.43%	48.57%
3rd Quartile	149.3%	6.8%	78.4%	-100.9%	0.26	22.3%	-49.2%	52.90%	47.10%
4th Quartile	43.6%	2.7%	-27.3%	-206.6%	-0.02	25.1%	-56.4%	51.96%	48.04%
LongShort	395.9%	12.3%	325.0%	145.7%	0.39	13.7%	-42.2%	52.10%	47.90%
LongShort CDI	639.9%	15.6%	569.0%	389.7%	0.85	10.0%	-20.9%	54.50%	45.50%

# Itaú BBA Value Score – What Did We Actually Buy?

## Companies Allocation (As Percentage Of Presence In Portfolios)

Company	First Quartile	Company	Fourth Quartile
BBAS3	76.5%	SANB11	100.0%
CSMG3	73.2%	KLBN11	59.8%
ITUB4	69.1%	AMER3	57.0%
ENBR3	66.2%	GOLL4	56.1%
ITSA4	63.2%	MGLU3	55.2%
ABCB4	61.0%	MRFG3	43.9%
EGIE3	59.5%	MELI US	43.6%
BBDC4	52.4%	RADL3	43.0%
TRPL4	50.7%	BEEF3	35.2%
LIGT3	48.6%	BRFS3	33.9%

## Companies Contribution To Return

First Quartile			Fourth Quartile		
Company	Contribution	Total Return	Company	Contribution	Total Return
CSMG3	6.0%	30.8%	MELI US	30.9%	13.9%
PETR4	5.6%	28.8%	BIDI4	27.8%	12.5%
ELET3	4.6%	23.8%	AMER3	27.4%	12.3%
PCAR3	4.5%	23.2%	WEGE3	27.3%	12.3%
SLCE3	4.3%	22.3%	PAGS US	22.7%	10.2%
ABCB4	4.1%	21.3%	GOLL4	20.0%	9.0%
ENAT3	4.0%	20.8%	OIBR3	19.3%	8.7%
BPAC11	3.9%	20.0%	BRFS3	17.0%	7.6%
CIEL3	3.2%	16.3%	SANB11	15.1%	6.8%
PSSA3	2.8%	14.4%	STNE US	14.2%	6.4%

## Sectors Allocation

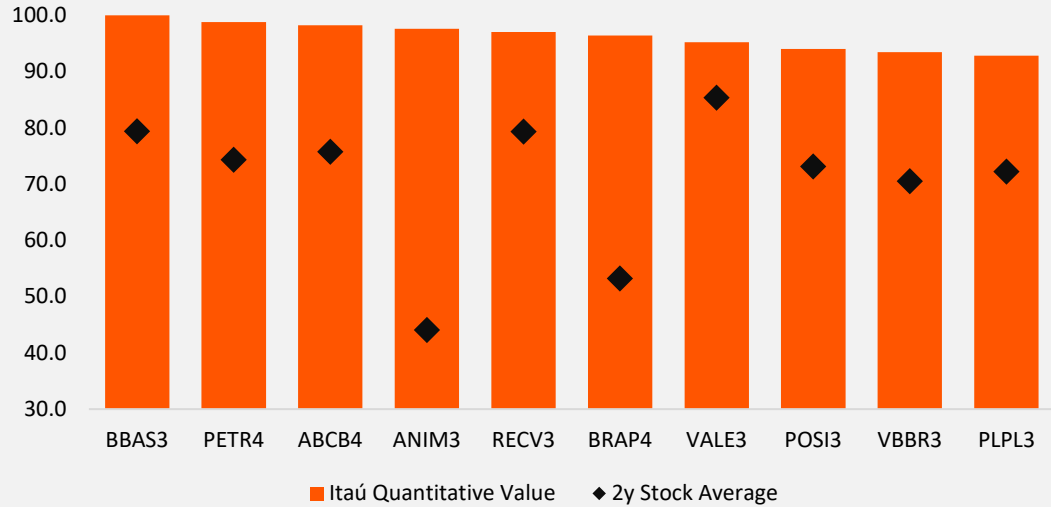
Sector	1st Quartile	2nd Quartile	3rd Quartile	4th Quartile
Financials	23.0%	19.4%	8.5%	13.4%
Utilities	22.5%	10.6%	8.5%	8.3%
Consumer Discretionary	17.8%	20.1%	20.2%	25.1%
Materials	7.8%	8.7%	6.4%	10.1%
Industrials	6.9%	14.9%	16.8%	12.9%
Consumer Staples	6.2%	8.3%	12.7%	10.4%
Communication Services	5.9%	4.6%	2.8%	1.3%
Energy	5.0%	4.6%	3.5%	2.9%
Real Estate	2.8%	3.7%	7.0%	6.5%
Health Care	1.7%	4.7%	9.7%	5.8%
Information Technology	0.6%	0.4%	3.9%	3.4%

## Sectors Contribution To Return

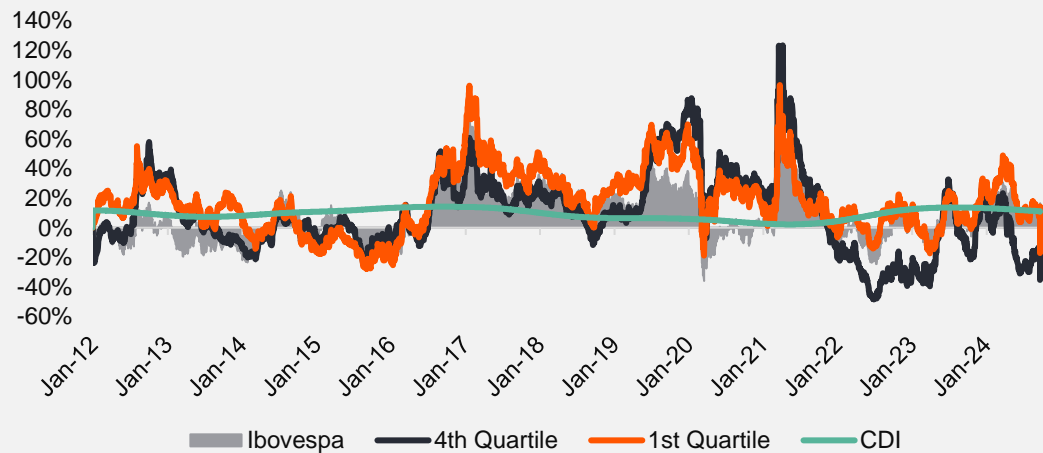
Sector	1st Quartile	2nd Quartile	3rd Quartile	4th Quartile
Financials	22.4%	24.1%	6.2%	16.4%
Consumer Discretionary	20.3%	22.4%	15.0%	25.9%
Utilities	20.3%	8.4%	11.0%	5.8%
Energy	9.2%	12.7%	7.9%	-0.6%
Consumer Staples	7.1%	6.2%	7.8%	5.7%
Industrials	6.9%	11.9%	18.7%	21.0%
Materials	6.2%	8.0%	11.0%	11.1%
Communication Services	4.1%	3.2%	1.5%	3.1%
Health Care	2.0%	5.4%	8.5%	1.5%
Real Estate	1.9%	-1.6%	4.3%	3.6%
Information Technology	-0.2%	-0.7%	8.2%	6.5%

# Itaú BBA Value Score– Key Graphs Takeaways

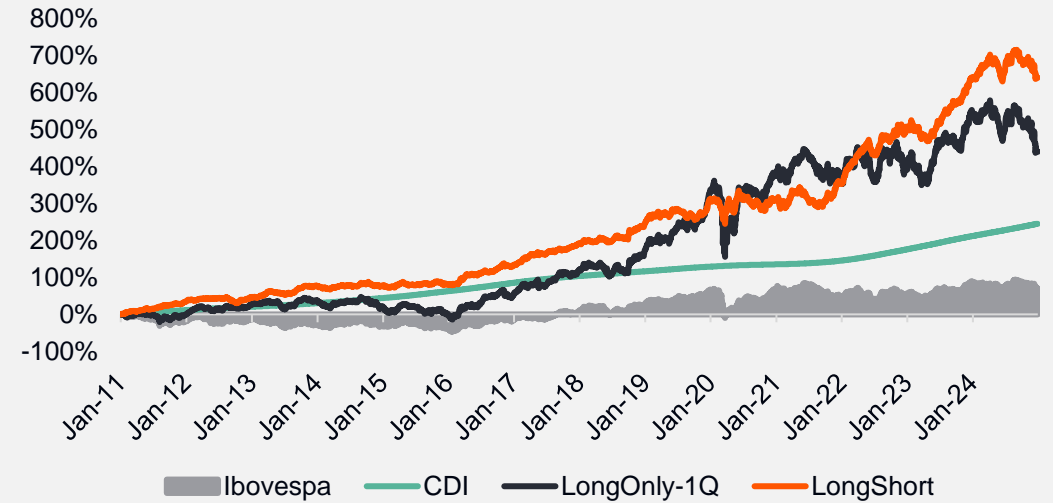
## 10 Most Discounted Stocks According To The IBBA Score



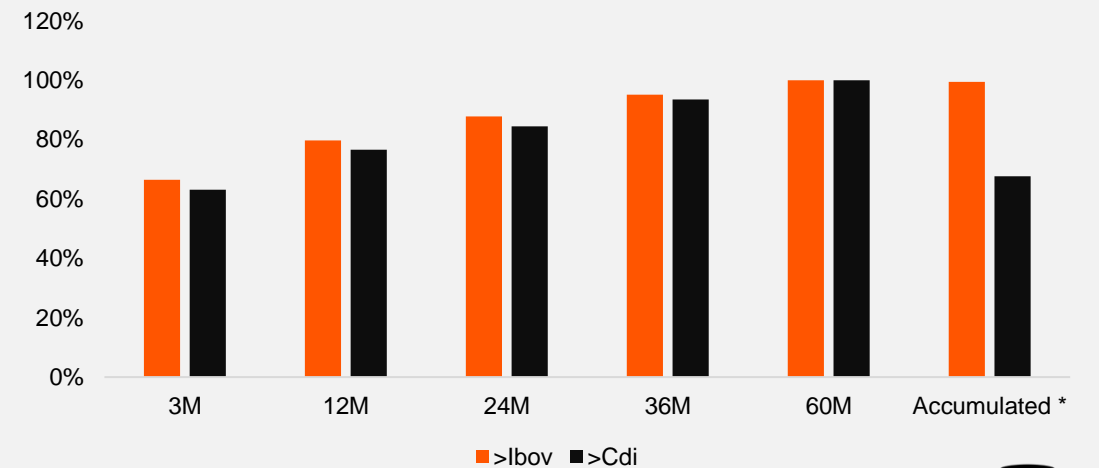
## Rolling 12 Months Return



## Long And Short + CDI Performance

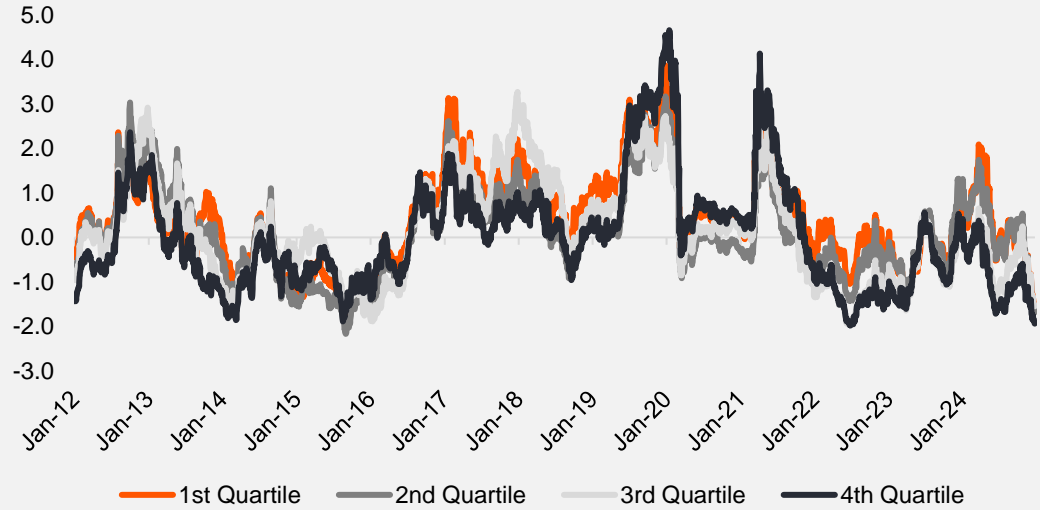


## 1st Quartiles Outperform As Percentage of Total Windows

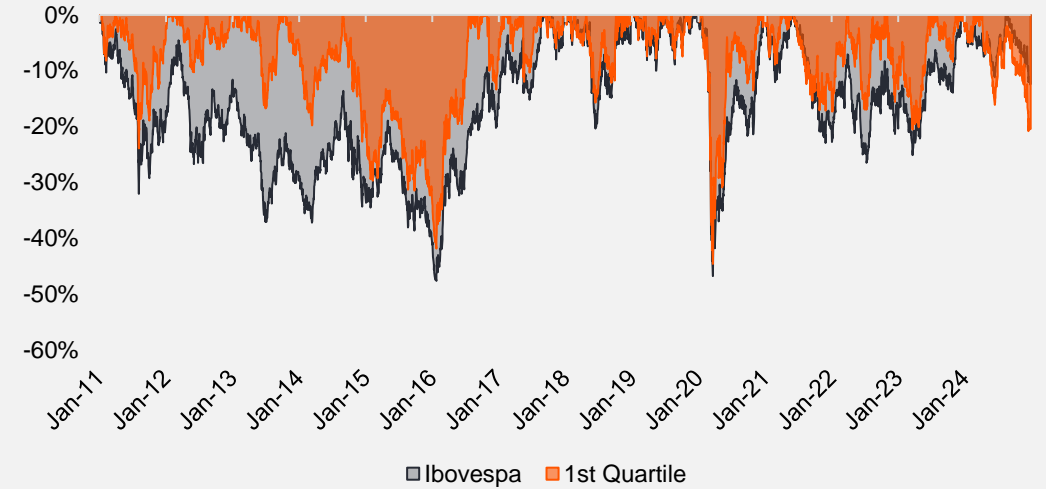


# Itaú BBA Value Score - Key Graphs Takeaways

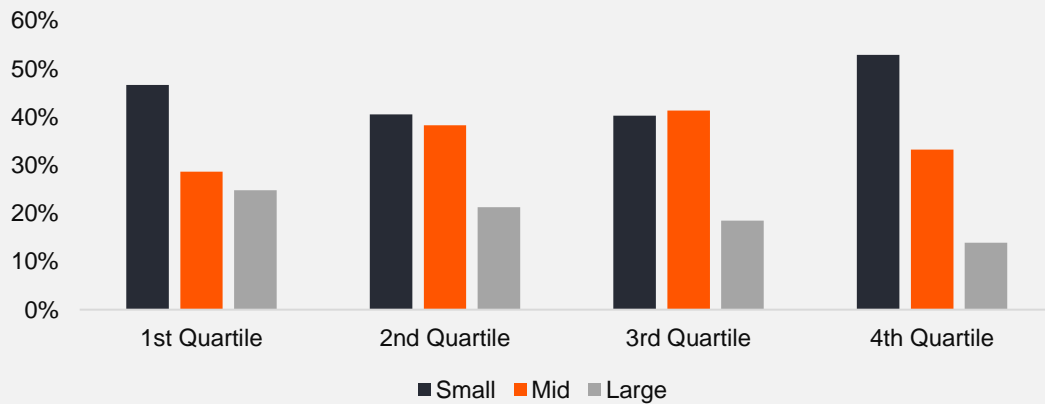
## Rolling Sharpe



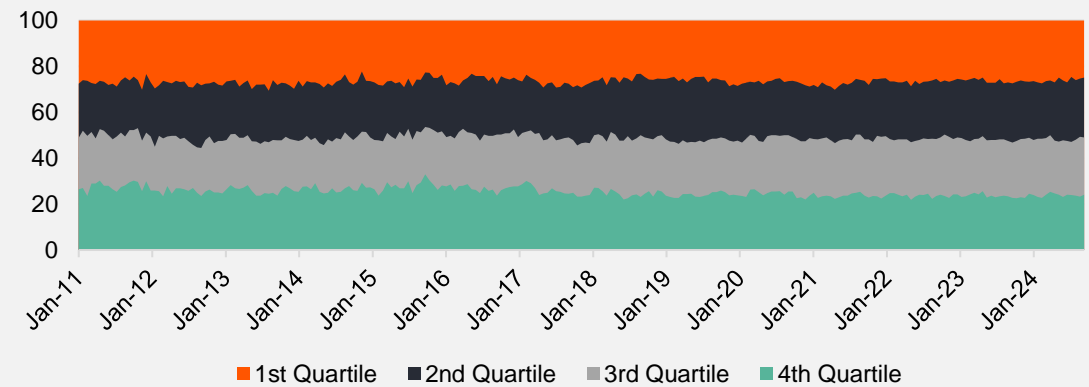
## Drawdown



## Marketcap Exposure



## Itaú BBA Score Frontier By Quartile

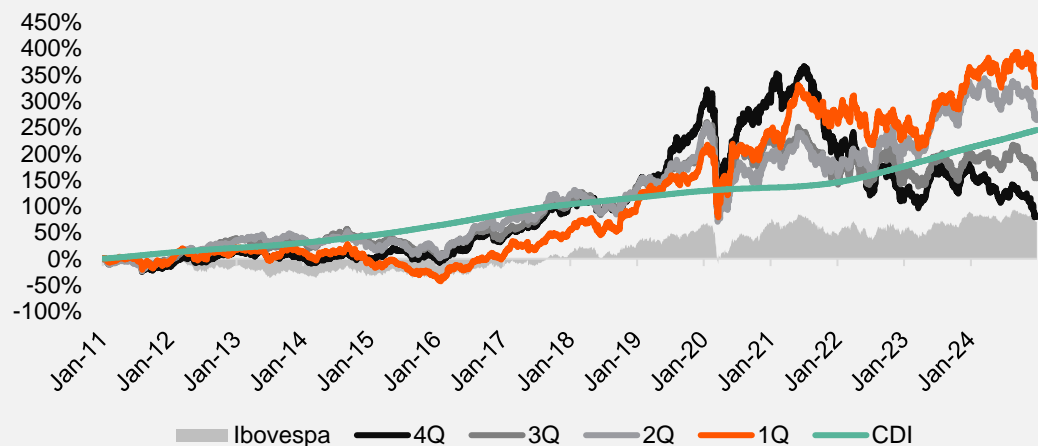


# Price To Earnings 12m Trailing – Return Analysis

## Accumulated And Annual Performance

Date	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	Accumulated	Annualized
First Quartile	-9.2%	30.2%	-2.6%	-15.0%	-30.2%	52.9%	46.8%	26.3%	56.0%	13.6%	10.3%	-7.9%	33.5%	-8.2%	327.7%	11.1%
Second Quartile	-2.5%	37.0%	5.0%	-7.7%	-8.3%	38.9%	32.6%	3.4%	47.7%	-10.7%	-5.8%	12.4%	38.7%	-16.9%	264.4%	9.8%
Third Quartile	-5.2%	45.6%	-3.4%	2.5%	-17.8%	28.1%	43.3%	11.0%	44.3%	-0.4%	-19.8%	-1.5%	16.6%	-17.3%	151.0%	6.9%
Fourth Quartile	-14.1%	31.8%	-7.8%	-2.2%	1.3%	32.9%	45.8%	15.7%	67.5%	5.6%	-22.7%	-27.9%	22.4%	-36.0%	78.8%	4.3%
Long 1Q Short 4Q	4.9%	-1.6%	5.2%	-12.7%	-31.5%	20.0%	1.0%	10.6%	-11.5%	8.0%	33.0%	20.1%	11.0%	27.8%	248.9%	9.5%
Long 2Q Short 3Q	2.7%	-8.6%	8.5%	-10.2%	9.4%	10.8%	-10.7%	-7.6%	3.4%	-10.3%	14.0%	13.9%	22.1%	0.5%	113.4%	5.6%
Ibovespa	-18.9%	7.4%	-15.5%	-2.9%	-13.3%	38.9%	26.9%	15.0%	31.6%	2.9%	-11.9%	4.7%	22.3%	-10.4%	71.9%	4.0%
CDI	11.5%	8.4%	8.1%	10.8%	13.2%	14.0%	10.0%	6.4%	6.0%	2.8%	4.4%	12.4%	13.0%	10.9%	250.2%	9.5%
GDP	-3.6%	-2.1%	1.1%	-2.5%	-4.1%	0.3%	4.6%	0.5%	-0.6%	-4.5%	8.3%	-2.1%	2.9%	2.2%	-0.5%	-0.04%

## Accumulated Performance



## Key Metrics

Quartile	Performance		vs Ibov	Vs Cdi	Risk Measures			Hit Ratio	
	Accumulated	Annualized	Excess Return	Excess Return	Sharpe	Volatility	Maximum Drawdown	Positive	Negative
1st Quartile	327.7%	11.1%	237.9%	77.5%	0.46	22.1%	-49.8%	53.46%	46.54%
2nd Quartile	264.4%	9.8%	174.6%	14.2%	0.07	22.2%	-60.0%	51.43%	48.57%
3rd Quartile	151.0%	6.9%	61.2%	-99.2%	0.26	22.3%	-49.2%	52.90%	47.10%
4th Quartile	78.8%	4.3%	-11.0%	-171.4%	-0.02	25.1%	-56.4%	51.96%	48.04%
LongShort	248.9%	9.5%	159.1%	-1.3%	0.02	13.7%	-147.7%	52.10%	47.90%
LongShort CDI	492.4%	13.8%	402.6%	242.2%	0.52	10.2%	-116.7%	54.50%	45.50%



# Price To Earnings 12m Trailing – What Did We Actually Buy?

## Companies Allocation (As Percentage Of Presence In Portfolios)

Company	First Quartile	Company	Fourth Quartile
BBAS3	96.6%	RADL3	95.8%
BRSR6	89.9%	TOTS3	78.6%
ABCB4	76.5%	MULT3	69.1%
ITSA4	71.2%	MELI US	62.8%
BRAP4	70.7%	WEGE3	53.5%
TRPL4	69.8%	MGLU3	47.3%
ITUB4	69.1%	LINX3	45.7%
CPLE6	64.5%	ODPV3	44.8%
CSMG3	63.1%	BRML3	40.2%
CMIG4	61.9%	FLRY3	39.8%

## Companies Contribution To Return

First Quartile			Fourth Quartile		
Company	Contribution	Total Return	Company	Contribution	Total Return
PETR4	4.1%	12.6%	MGLU3	7.6%	7.3%
BBAS3	3.7%	11.5%	WEGE3	5.8%	5.6%
PCAR3	3.3%	10.1%	TOTS3	4.9%	4.7%
PRI03	3.3%	10.1%	RADL3	4.8%	4.6%
ENAT3	3.2%	10.0%	MELI US	4.3%	4.2%
CMIG4	2.7%	8.3%	GNDI3	3.6%	3.4%
ABCB4	2.6%	8.2%	LINX3	3.4%	3.2%
CVCB3	2.6%	8.0%	DXCO3	3.3%	3.2%
VALE3	2.6%	7.9%	STNE US	3.0%	2.8%
GOAU4	2.5%	7.7%	SQIA3	2.6%	2.5%

## Sectors Allocation

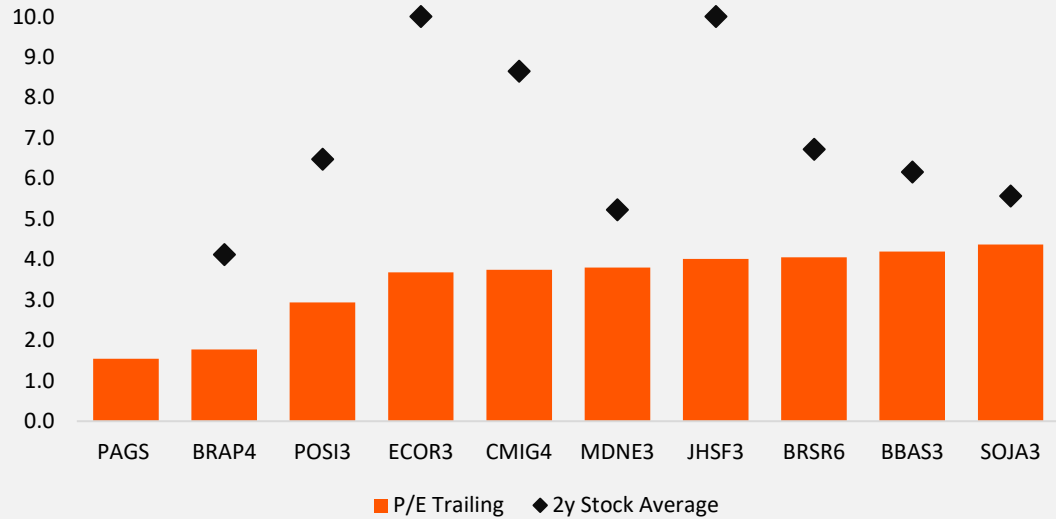
Sector	1st Quartile	2nd Quartile	3rd Quartile	4th Quartile
Financials	24.7%	14.3%	9.5%	3.5%
Utilities	22.2%	16.2%	7.5%	4.7%
Consumer Discretionary	20.6%	22.7%	17.4%	21.6%
Materials	12.5%	7.7%	4.9%	6.1%
Industrials	5.2%	13.3%	16.9%	16.3%
Energy	4.5%	3.9%	4.7%	4.1%
Consumer Staples	3.8%	7.3%	15.8%	11.7%
Communication Services	2.7%	6.0%	5.5%	1.4%
Real Estate	2.7%	3.7%	6.7%	9.6%
Information Technology	0.9%	0.5%	1.0%	7.2%
Health Care	0.3%	2.9%	8.2%	12.3%

## Sectors Contribution to Return

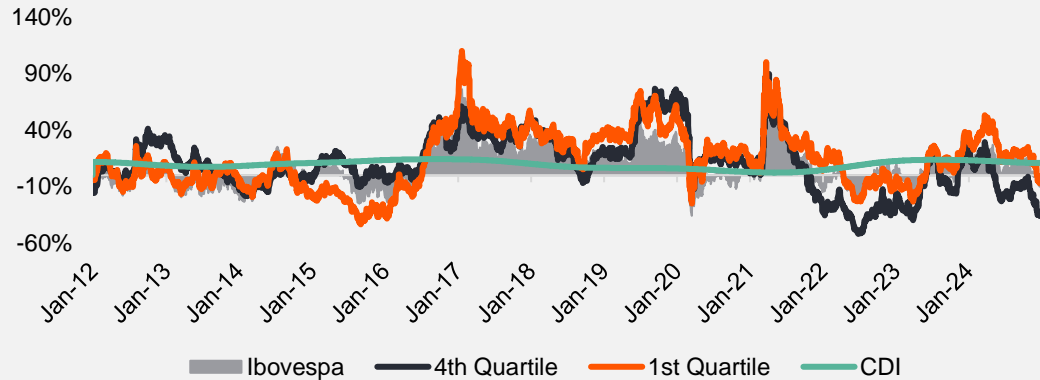
Sector	1st Quartile	2nd Quartile	3rd Quartile	4th Quartile
Financials	19.1%	18.7%	12.8%	7.3%
Utilities	18.6%	13.1%	6.6%	8.6%
Consumer Discretionary	18.6%	21.4%	20.7%	24.9%
Energy	11.4%	5.4%	6.6%	4.3%
Materials	10.5%	7.5%	6.6%	6.9%
Industrials	8.5%	18.6%	16.9%	15.0%
Consumer Staples	7.8%	4.8%	11.8%	3.1%
Real Estate	2.0%	0.7%	1.9%	8.1%
Communication Services	1.6%	4.0%	4.1%	0.5%
Information Technology	1.3%	1.6%	-0.1%	12.0%
Health Care	0.6%	2.7%	8.1%	7.9%

# Price To Earnings 12m Trailing – Key Graphs Takeaways

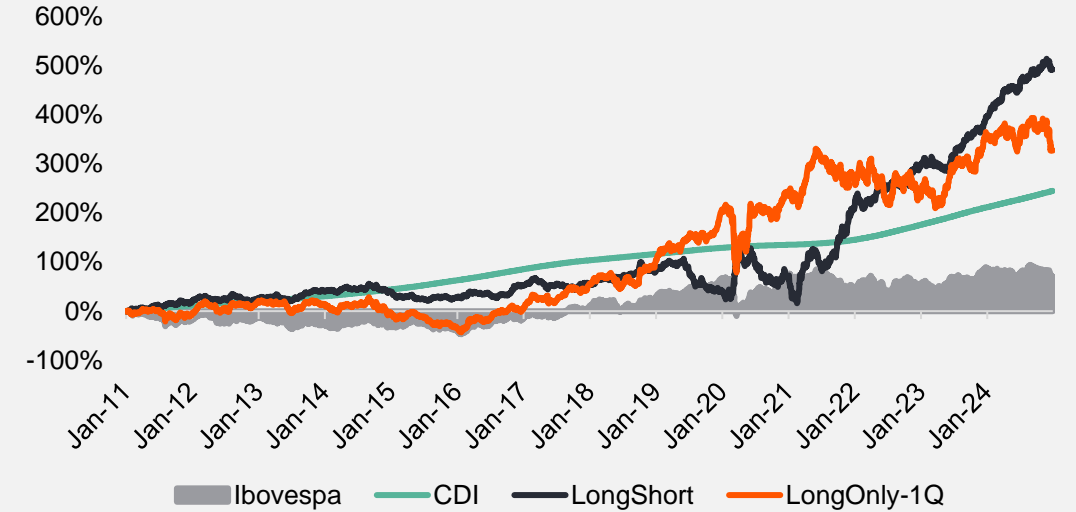
## 10 Stocks With Lowest Price To Earnings Trailing



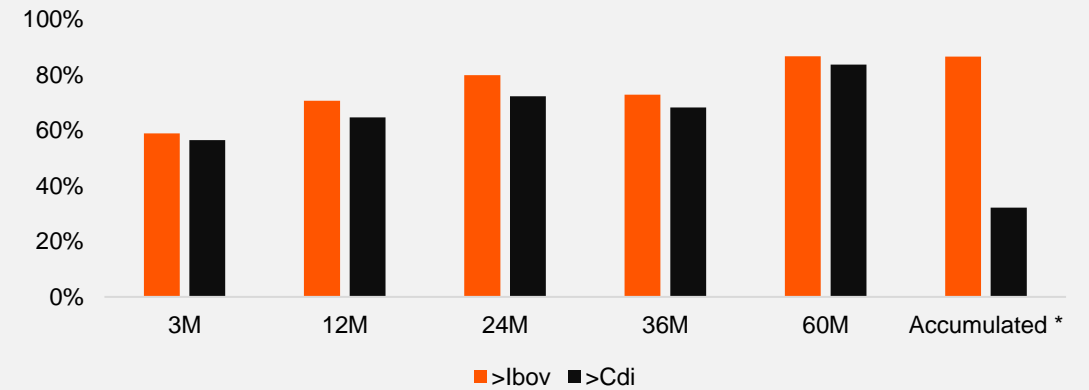
## Rolling 12 Months Return



## Long And Short + CDI Performance

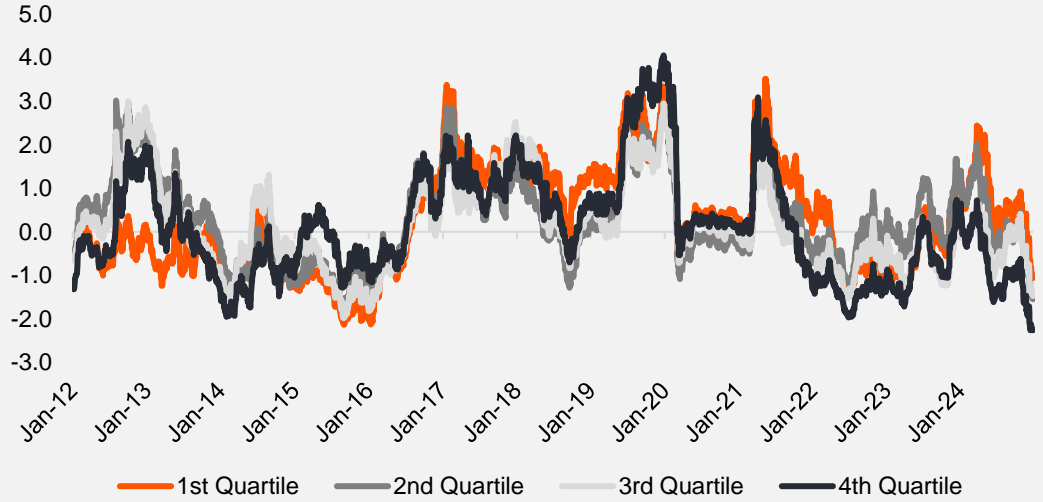


## 1st Quartiles Outperform As Percentage Of Total Windows

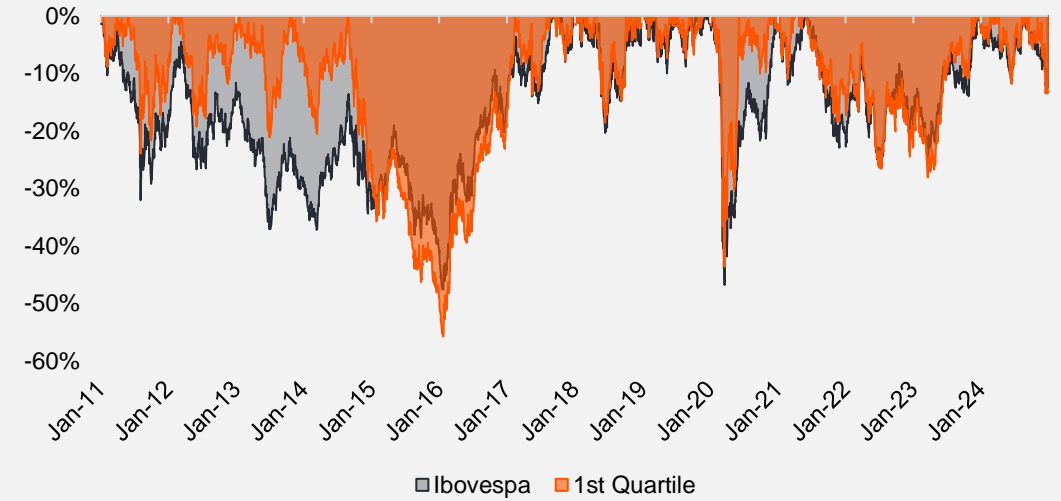


# Price To Earnings 12m Trailing - Key Graphs Takeaways

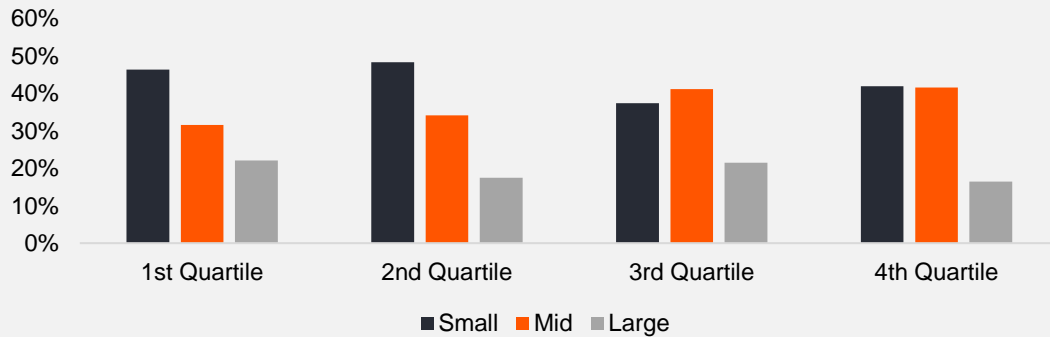
## Rolling Sharpe



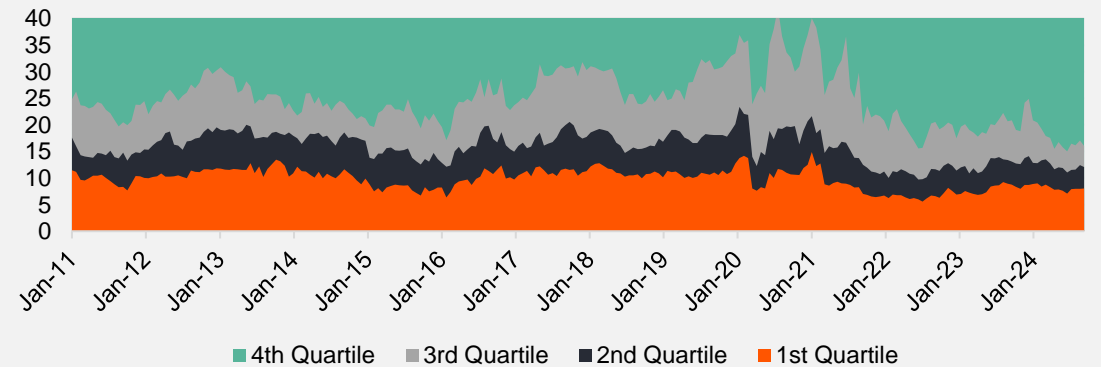
## Drawdown



## Marketcap Exposure



## Price To Earnings Trailing Frontier By Quartile

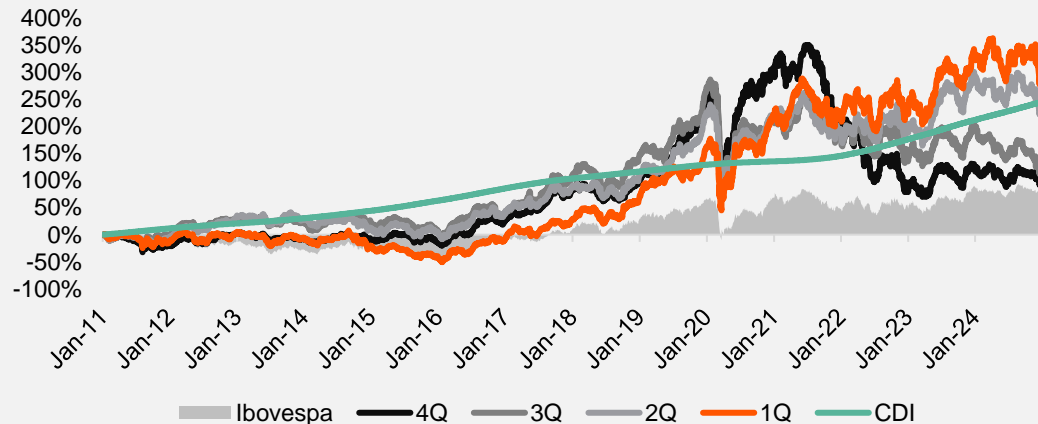


# Price To Earnings 12m Forward – Return Analysis

## Accumulated And Annual Performance

Date	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	Accumulated	Annualized
First Quartile	-15.3%	20.9%	-7.4%	-15.7%	-24.5%	50.7%	39.4%	28.8%	58.1%	24.7%	1.9%	3.8%	30.1%	-13.5%	282.7%	10.2%
Second Quartile	-6.0%	40.5%	-1.0%	-13.5%	-6.8%	32.8%	34.0%	8.4%	56.7%	0.4%	-7.7%	3.2%	31.5%	-20.3%	219.2%	8.8%
Third Quartile	-1.6%	32.5%	-5.0%	0.9%	-13.4%	28.8%	47.4%	17.5%	50.3%	-12.9%	-8.9%	-11.9%	19.4%	-30.8%	109.9%	5.5%
Fourth Quartile	-20.2%	26.9%	-7.4%	-1.7%	-5.5%	44.1%	44.1%	10.1%	69.5%	18.2%	-24.6%	-36.8%	18.4%	-18.3%	83.7%	4.5%
Long 1Q Short 4Q	4.9%	-6.0%	0.0%	-14.0%	-19.0%	6.6%	-4.7%	18.6%	-11.5%	6.5%	26.5%	40.7%	11.8%	4.8%	199.0%	5.7%
Long 1Q Short 4Q	-4.4%	8.0%	3.9%	-14.4%	6.6%	4.0%	-13.3%	-9.0%	6.4%	13.2%	1.2%	15.1%	12.1%	10.4%	109.3%	3.3%
Ibovespa	-18.9%	7.4%	-15.5%	-2.9%	-13.3%	38.9%	26.9%	15.0%	31.6%	2.9%	-11.9%	4.7%	22.3%	-10.4%	71.9%	4.0%
CDI	11.5%	8.4%	8.1%	10.8%	13.2%	14.0%	10.0%	6.4%	6.0%	2.8%	4.4%	12.4%	13.0%	10.9%	250.2%	9.5%
GDP	-3.6%	-2.1%	1.1%	-2.5%	-4.1%	0.3%	4.6%	0.5%	-0.6%	-4.5%	8.3%	-2.1%	2.9%	2.2%	-0.5%	-0.04%

## Accumulated Performance



## Key Metrics

Quartile	Performance		vs Ibov	Vs Cdi	Risk Measures			Performance Diffusion	
	Accumulated	Annualized	Excess Return	Excess Return	Sharpe	Volatility	Maximum Drawdown	Positive	Negative
1st Quartile	282.69%	10.21%	210.79%	32.49%	0.26	25.0%	-54.0%	51.48%	48.52%
2nd Quartile	219.24%	8.78%	147.34%	-30.96%	0.21	21.3%	-48.2%	52.36%	47.64%
3rd Quartile	109.92%	5.52%	38.02%	-140.28%	0.16	21.3%	-50.1%	52.30%	47.70%
4th Quartile	83.69%	4.50%	11.79%	-166.51%	0.01	23.3%	-62.4%	50.95%	49.05%
LongShort	199.01%	8.26%	127.11%	-51.19%	-0.21	14.3%	-44.4%	50.28%	49.72%
LongShort CDI	439.80%	13.00%	367.90%	189.60%	0.34	13.5%	-36.1%	52.10%	47.90%

# Price To Earnings 12m Forward – What Did We Actually Buy?

## Companies Allocation (As Percentage Of Presence In Portfolios)

Company	First Quartile	Company	Fourth Quartile
BBAS3	98.7%	RADL3	79.9%
BRSR6	94.6%	MELI US	74.1%
ABCB4	89.9%	TOTS3	71.1%
ITSA4	86.7%	MULT3	68.6%
BRAP4	79.1%	ABEV3	65.7%
ITUB4	78.7%	ODPV3	62.8%
CSMG3	77.4%	LREN3	62.7%
PETR4	70.3%	AZZA3	56.5%
CMIG4	68.7%	RAIL3	51.4%
MRVE3	66.1%	BRFS3	47.6%

## Companies Contribution To Return

First Quartile			Fourth Quartile		
Company	Contribution	Total Return	Company	Contribution	Total Return
PRI03	6.4%	18.9%	MELI US	7.5%	5.0%
PETR4	4.7%	13.8%	WEGE3	6.2%	4.2%
BBAS3	3.8%	11.3%	PAGS US	4.8%	3.2%
ENAT3	3.8%	11.1%	AMBP3	4.7%	3.1%
CSMG3	3.1%	9.0%	BHIA3	4.7%	3.1%
ELET3	3.0%	8.7%	STNE US	4.0%	2.7%
PCAR3	2.8%	8.2%	RADL3	3.9%	2.6%
VALE3	2.6%	7.7%	STBP3	3.3%	2.2%
ABCB4	2.6%	7.7%	LWSA3	3.3%	2.2%
LIGT3	2.5%	7.5%	MGLU3	3.2%	2.2%

## Sectors Allocation

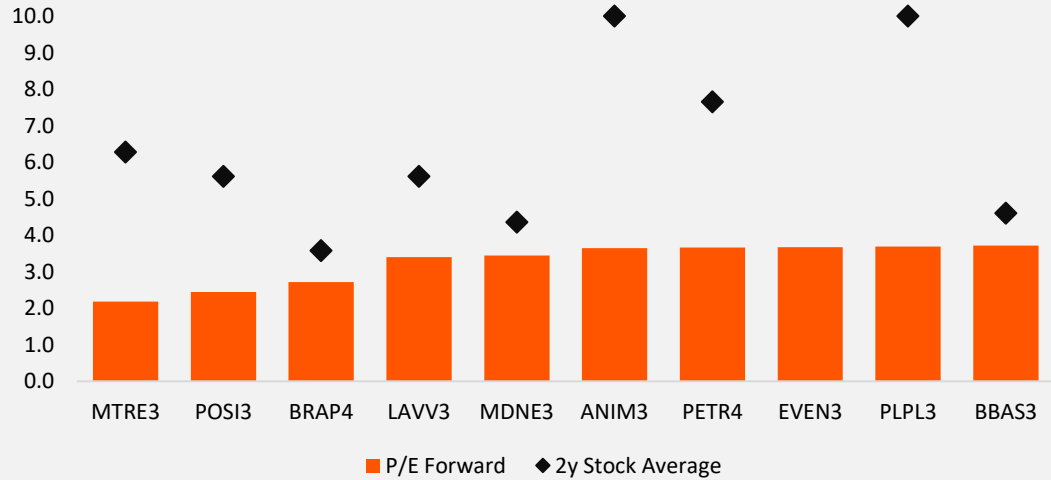
Sector	1st Quartile	2nd Quartile	3rd Quartile	4th Quartile
Financials	24.0%	14.3%	8.5%	4.3%
Consumer Discretionary	23.2%	20.3%	20.1%	23.0%
Utilities	18.0%	17.2%	9.8%	4.4%
Materials	11.6%	9.4%	5.8%	6.4%
Energy	6.8%	3.9%	3.7%	3.6%
Consumer Staples	5.5%	8.3%	12.4%	13.3%
Industrials	5.0%	13.8%	16.4%	14.9%
Real Estate	2.8%	3.7%	6.2%	8.8%
Communication Services	1.3%	4.3%	5.5%	2.8%
Information Technology	1.1%	0.3%	1.4%	6.6%
Health Care	0.5%	2.5%	8.4%	11.5%

## Sectors Contribution To Return

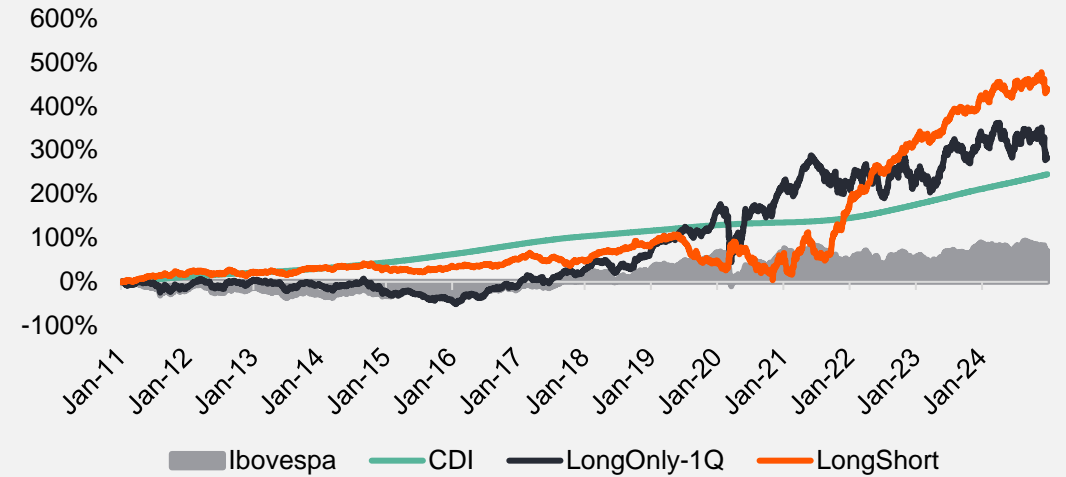
Sector	1st Quartile	2nd Quartile	3rd Quartile	4th Quartile
Financials	19.8%	15.0%	10.5%	12.3%
Consumer Discretionary	17.2%	16.4%	28.3%	18.5%
Utilities	16.6%	17.7%	9.6%	1.7%
Energy	16.6%	7.4%	1.6%	0.8%
Materials	11.0%	8.1%	7.1%	10.7%
Consumer Staples	10.4%	7.7%	7.0%	7.1%
Industrials	4.3%	16.7%	18.7%	21.2%
Information Technology	2.0%	0.3%	0.5%	10.0%
Real Estate	1.2%	1.1%	3.4%	6.7%
Health Care	0.6%	3.6%	5.2%	9.2%
Communication Services	0.4%	4.1%	4.3%	0.8%

# Price To Earnings 12m Forward – Key Graphs Takeaways

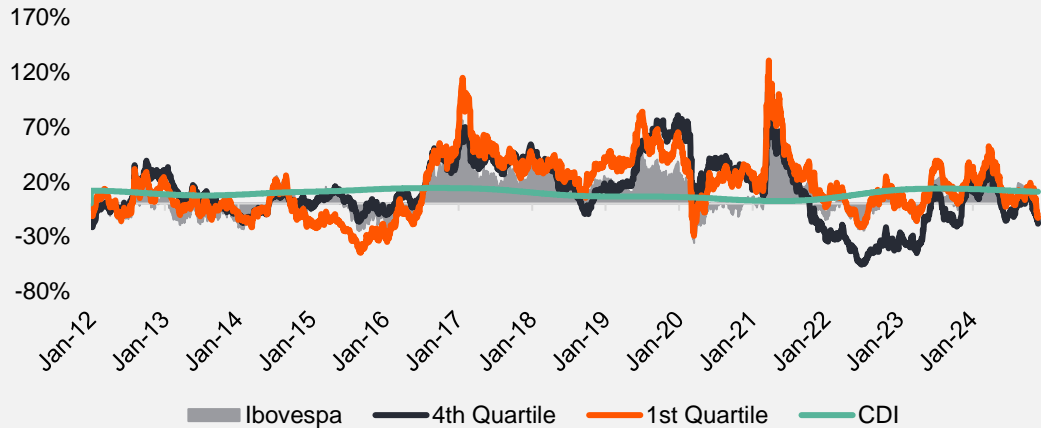
## 10 Stocks With Lowest Price To Earnings Forward



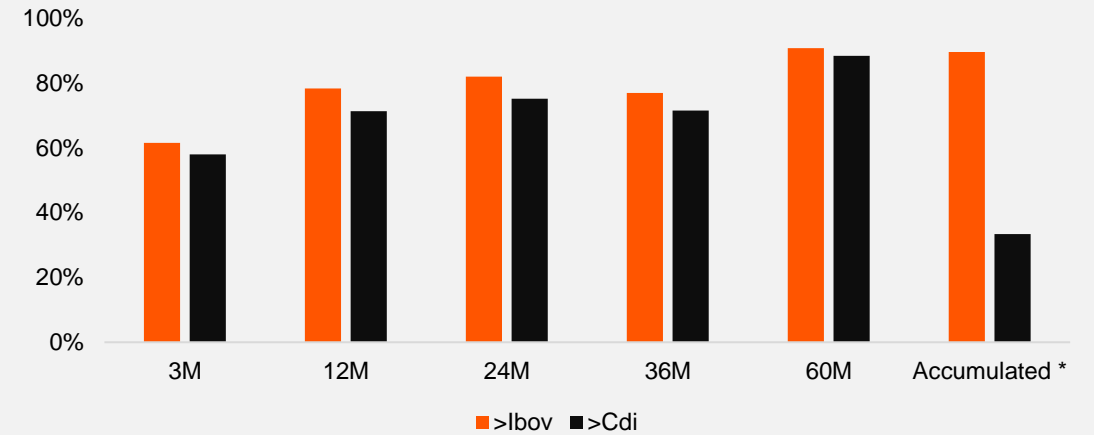
## Long And Short + CDI Performance



## Rolling 12 Months Return

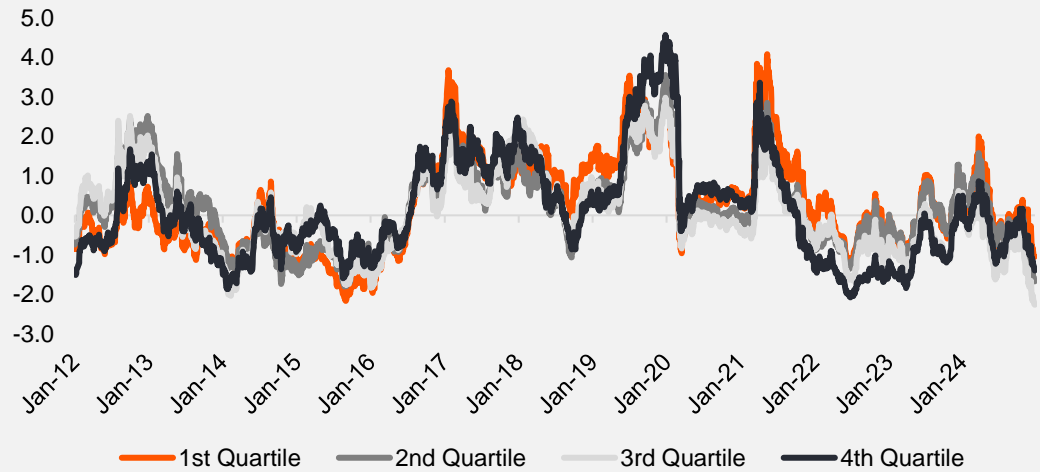


## 1st Quartiles Outperform As Percentage Of Total Windows

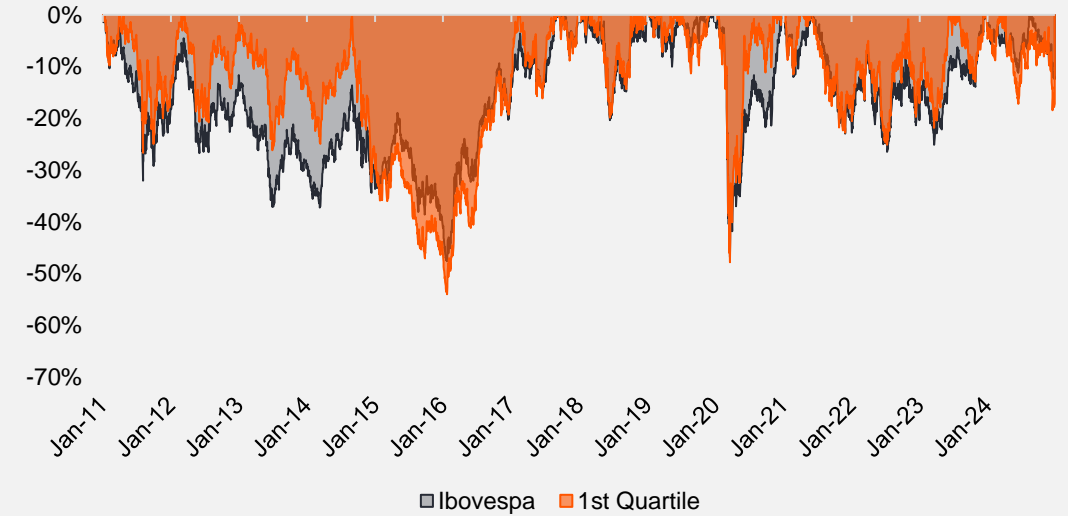


# Price To Earnings 12m Forward - Key Graphs Takeaways

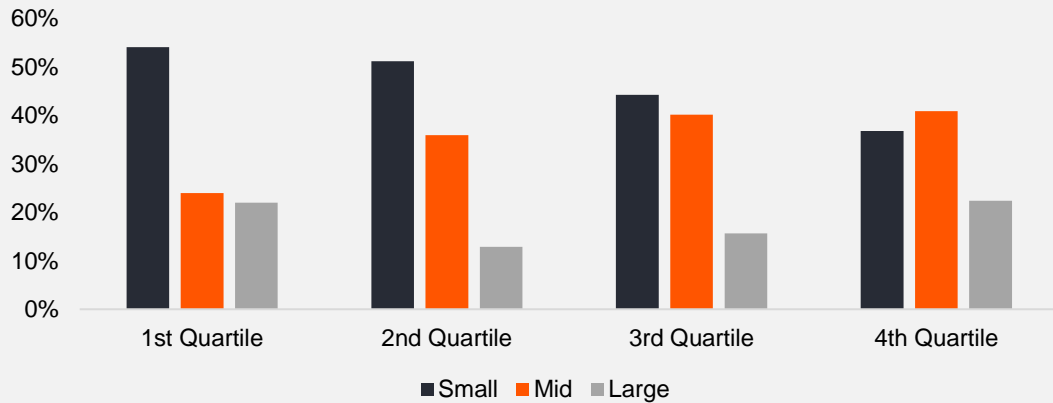
## Rolling Sharpe



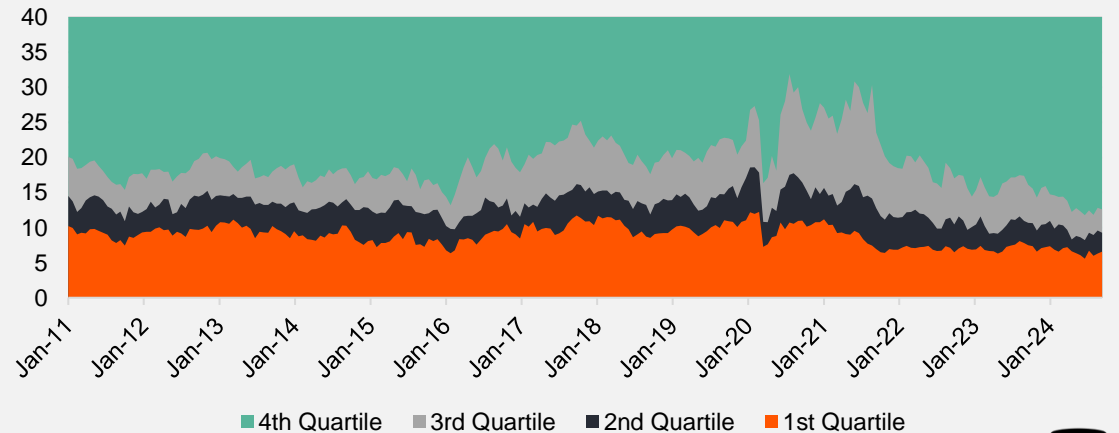
## Drawdown



## Marketcap Exposure



## P/E Forward Frontier By Quartile

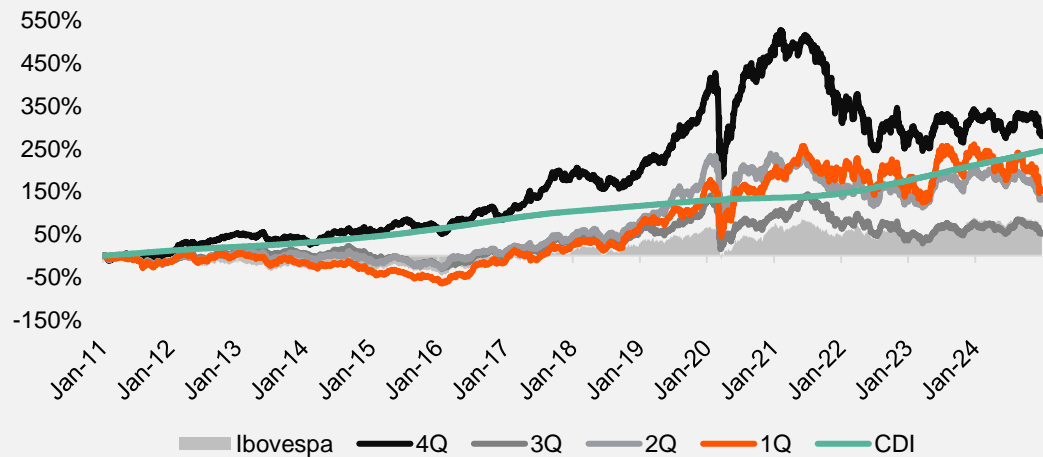


# Price To Book 12m Trailing – Return Analysis

## Accumulated And Annual Performance

Date	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	Accumulated	Annualized
First Quartile	-15.6%	21.7%	-18.0%	-21.0%	-30.9%	86.7%	44.2%	30.1%	60.8%	14.2%	2.0%	-11.1%	34.5%	-30.1%	151.6%	6.9%
Second Quartile	-13.7%	23.9%	-3.8%	-10.4%	-13.6%	35.4%	32.8%	20.6%	79.1%	6.8%	-21.3%	-7.6%	28.2%	-25.2%	130.8%	6.2%
Third Quartile	-14.5%	29.5%	-3.4%	-6.1%	-20.6%	30.5%	33.9%	10.4%	43.8%	-11.1%	-10.6%	-17.2%	22.6%	-15.6%	50.9%	3.0%
Fourth Quartile	4.2%	45.0%	-6.0%	14.2%	2.0%	17.5%	49.5%	1.5%	60.1%	22.6%	-21.1%	-17.3%	15.3%	-14.5%	272.7%	10.0%
Long 1Q Short 4Q	-19.9%	-23.3%	-12.1%	-35.2%	-32.8%	69.1%	-5.2%	28.6%	0.7%	-8.4%	23.1%	6.1%	19.2%	-15.7%	-121.1%	-5.9%
Long 2Q Short 3Q	0.8%	-5.6%	-0.3%	-4.3%	7.0%	4.9%	-1.1%	10.2%	35.2%	17.9%	-10.6%	9.7%	5.5%	-9.6%	79.9%	4.3%
Ibovespa	-18.9%	7.4%	-15.5%	-2.9%	-13.3%	38.9%	26.9%	15.0%	31.6%	2.9%	-11.9%	4.7%	22.3%	-10.4%	71.9%	4.0%
CDI	11.5%	8.4%	8.1%	10.8%	13.2%	14.0%	10.0%	6.4%	6.0%	2.8%	4.4%	12.4%	13.0%	10.9%	250.2%	9.5%
GDP	-3.6%	-2.1%	1.1%	-2.5%	-4.1%	0.3%	4.6%	0.5%	-0.6%	-4.5%	8.3%	-2.1%	2.9%	2.2%	-0.5%	-0.04%

## Accumulated Performance



## Key Metrics

Quartile	Performance		vs Ibov	Vs Cdi	Risk Measures			Performance Diffusion	
	Accumulated	Annualized	Excess Return	Excess Return	Sharpe	Volatility	Maximum Drawdown	Positive	Negative
1st Quartile	151.57%	6.91%	61.97%	-98.63%	0.14	27.2%	-67.7%	49.78%	50.22%
2nd Quartile	130.75%	6.25%	41.03%	-110.21%	0.11	22.5%	-45.1%	51.07%	48.93%
3rd Quartile	50.90%	3.03%	-38.82%	-190.06%	0.02	21.9%	-52.3%	50.75%	49.25%
4th Quartile	272.66%	10.00%	182.94%	31.70%	0.22	21.0%	-46.3%	51.07%	48.93%
LongShort	-121.10%	-5.92%	-210.82%	-362.06%	-0.52	23.1%	0.0%	50.75%	49.25%
LongShort CDI	116.90%	5.77%	27.18%	-124.06%	-0.34	12.2%	0.0%	51.07%	48.93%



# Price To Book 12m Trailing – What Did We Actually Buy?

## Companies Allocation (As Percentage of Presence In Portfolios)

Company	First Quartile	Company	Fourth Quartile
EVEN3	84.2%	ODPV3	92.5%
CSMG3	80.0%	ABEV3	85.4%
ABCB4	74.9%	AZZA3	78.7%
CPLE6	73.7%	RENT3	76.6%
BRPR3	69.5%	LREN3	73.7%
BBAS3	68.3%	WEGE3	73.2%
USIM5	67.0%	EGIE3	69.0%
BRSR6	65.7%	TOTS3	67.3%
ELET3	62.3%	MELI	61.6%
PETR4	62.0%	MPLU3	57.0%

## Companies Contribution To Return

First Quartile			Fourth Quartile		
Company	Contribution	Total Return	Company	Contribution	Total Return
ENAT3	5.4%	8.8%	MGLU3	7.6%	21.5%
EMBR3	3.8%	6.2%	WEGE3	5.8%	16.5%
ELET3	3.7%	6.0%	MELI	5.0%	14.2%
EVEN3	3.5%	5.7%	RENT3	4.4%	12.4%
BBAS3	3.3%	5.4%	PAGS	4.1%	11.5%
GGBR4	3.2%	5.2%	AZZA3	3.8%	10.9%
BRAP4	3.1%	5.0%	BHIA3	3.8%	10.7%
CEAB3	3.0%	4.9%	STNE	3.7%	10.3%
CSMG3	2.7%	4.4%	BRKM5	3.5%	10.0%
USIM5	2.6%	4.3%	RADL3	3.5%	10.0%

## Sectors Allocation

Sector	1st Quartile	2nd Quartile	3rd Quartile	4th Quartile
Consumer Discretionary	23.40%	18.30%	23.10%	23.10%
Utilities	20.90%	14.90%	12.30%	8.40%
Materials	13.20%	10.40%	5.20%	2.90%
Financials	10.80%	17.90%	9.60%	10.00%
Real Estate	8.50%	4.20%	4.20%	0.50%
Energy	6.80%	5.60%	4.40%	2.80%
Consumer Staples	5.90%	8.40%	14.90%	12.70%
Industrials	5.00%	10.10%	15.70%	19.60%
Communication Services	3.10%	5.90%	1.50%	4.30%
Health Care	1.50%	3.60%	7.10%	10.90%
Information Technology	0.80%	0.90%	2.00%	4.80%

## Sectors Contribution To Return

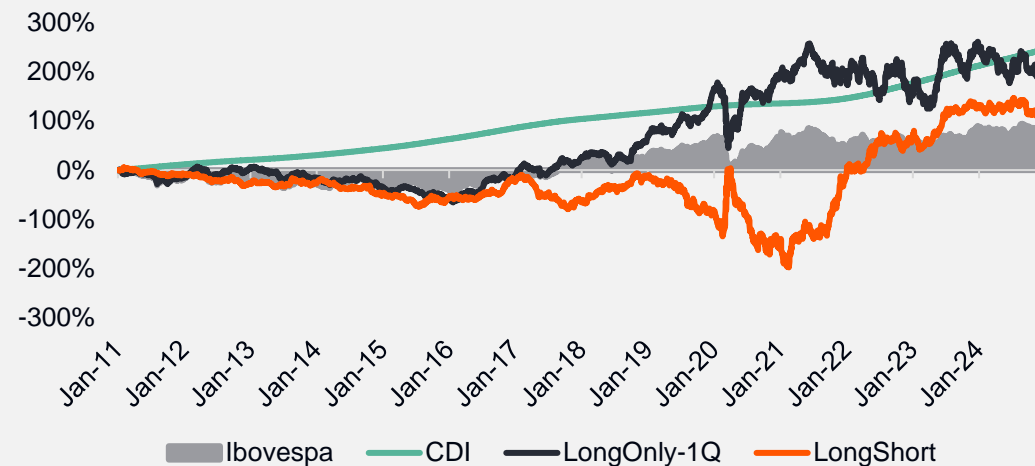
Sector	1st Quartile	2nd Quartile	3rd Quartile	4th Quartile
Consumer Discretionary	23.40%	20.60%	19.80%	36.30%
Utilities	18.70%	11.90%	15.80%	2.80%
Materials	13.40%	14.10%	3.00%	7.00%
Financials	10.80%	15.70%	11.40%	11.80%
Industrials	9.60%	12.40%	17.00%	18.20%
Energy	8.80%	8.80%	8.70%	-0.10%
Consumer Staples	5.80%	10.40%	11.60%	9.50%
Real Estate	4.30%	1.10%	1.70%	0.20%
Communication Services	3.00%	3.70%	-2.00%	1.60%
Health Care	1.20%	0.80%	9.90%	5.80%
Information Technology	1.00%	0.60%	3.10%	7.00%

# Price To Book 12m Trailing– Key Graphs Takeaways

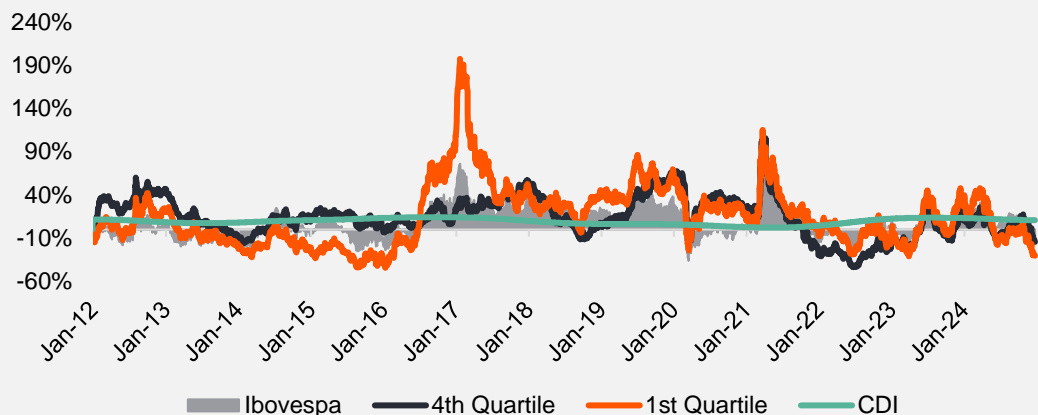
## 10 Stocks With Lowest Price To Book Trailing



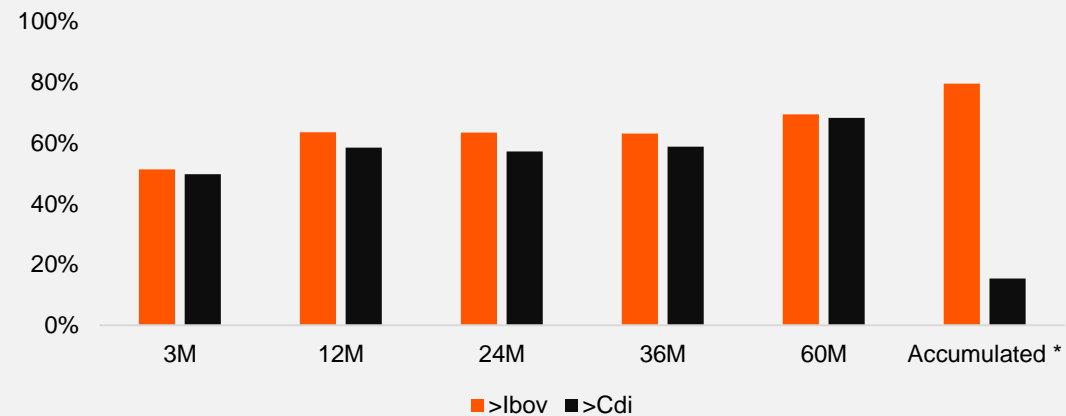
## Long And Short + CDI Performance



## Rolling 12 Months Return

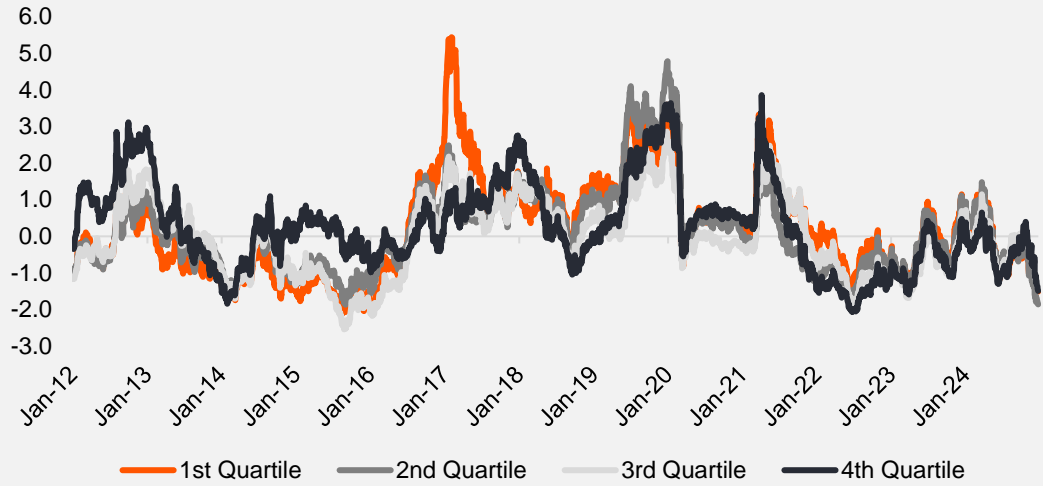


## 1st Quartiles Outperform As Percentage Of Total Windows

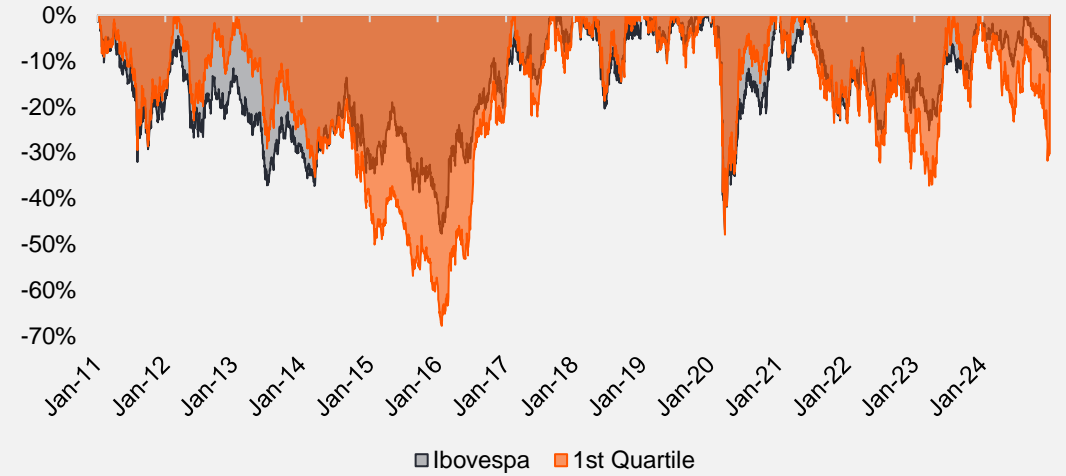


# Price To Book 12m Trailing - Key Graphs Takeaways

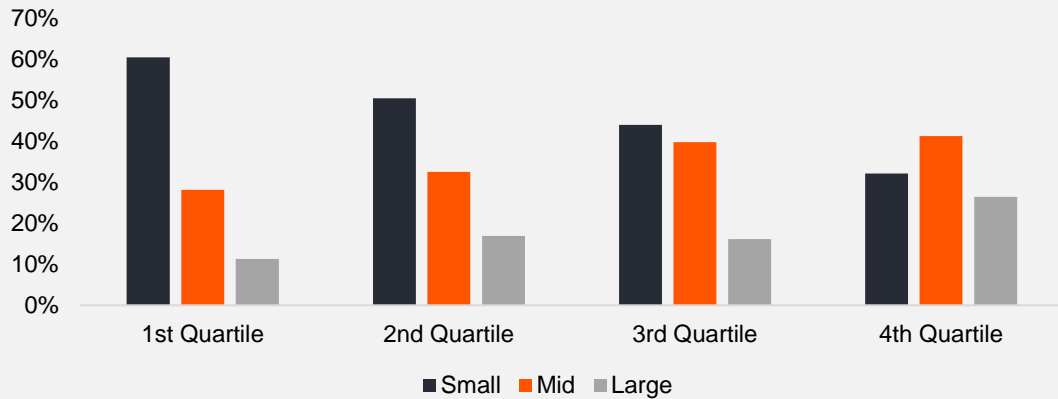
## Rolling Sharpe



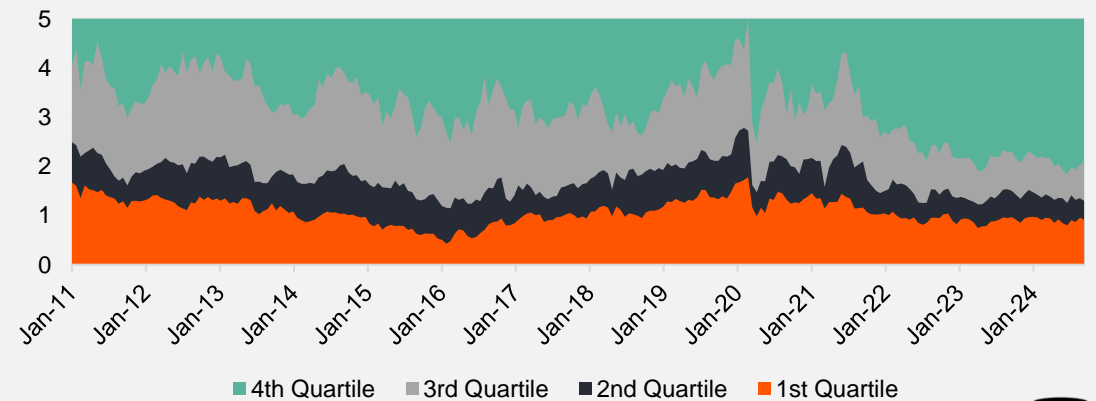
## Drawdown



## Marketcap Exposure



## Price To Book Trailing Frontier By Quartile

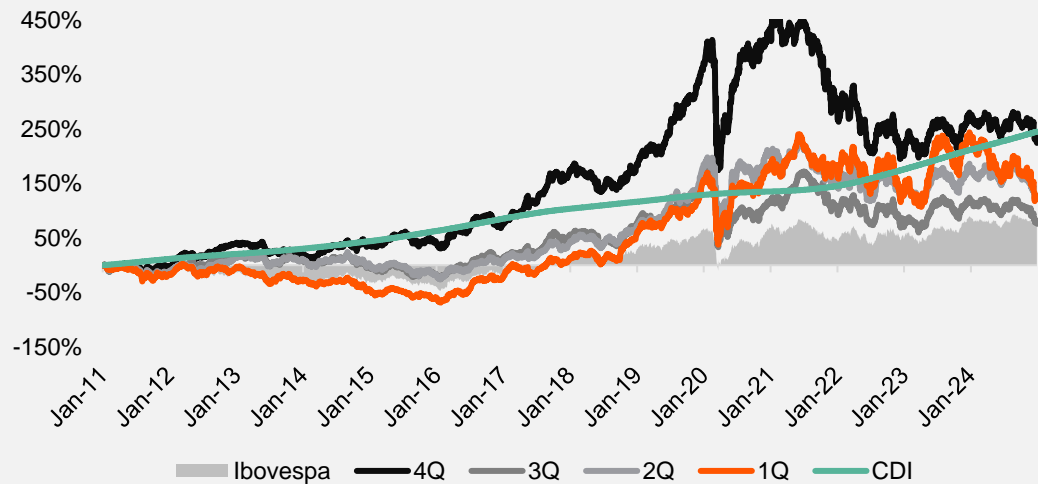


# Price To Book 12m Forward – Return Analysis

## Accumulated And Annual Performance

Date	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	Accumulated	Annualized
First Quartile	-18.9%	16.2%	-22.7%	-22.9%	-26.4%	86.5%	44.9%	34.9%	66.6%	13.4%	-0.3%	-14.3%	41.1%	-35.4%	121.9%	5.9%
Second Quartile	-12.4%	29.9%	-1.8%	-7.5%	-19.1%	29.0%	29.3%	19.4%	66.1%	11.3%	-15.0%	-7.5%	17.7%	-21.9%	122.5%	6.0%
Third Quartile	-13.6%	35.9%	-6.3%	-9.6%	-15.4%	34.2%	37.0%	11.8%	50.2%	-16.2%	-4.1%	-12.4%	22.0%	-21.4%	75.5%	4.2%
Fourth Quartile	-3.3%	44.5%	-11.9%	15.7%	1.0%	23.3%	52.5%	3.0%	64.9%	13.8%	-23.7%	-21.1%	18.3%	-14.8%	217.4%	8.7%
Long 1Q Short 4Q	-15.6%	-28.3%	-10.8%	-38.6%	-27.4%	63.2%	-7.7%	31.8%	1.7%	-0.3%	23.4%	6.8%	22.9%	-20.7%	-95.5%	-5.0%
Long 2Q Short 3Q	1.2%	-6.1%	4.5%	2.2%	-3.7%	-5.2%	-7.7%	7.6%	16.0%	27.5%	-11.0%	4.9%	-4.3%	-0.6%	47.0%	2.8%
Ibovespa	-18.9%	7.4%	-15.5%	-2.9%	-13.3%	38.9%	26.9%	15.0%	31.6%	2.9%	-11.9%	4.7%	22.3%	-10.4%	71.9%	4.0%
CDI	11.5%	8.4%	8.1%	10.8%	13.2%	14.0%	10.0%	6.4%	6.0%	2.8%	4.4%	12.4%	13.0%	10.9%	250.2%	9.5%
GDP	-3.6%	-2.1%	1.1%	-2.5%	-4.1%	0.3%	4.6%	0.5%	-0.6%	-4.5%	8.3%	-2.1%	2.9%	2.2%	-0.5%	-0.04%

## Accumulated Performance



## Key Metrics

Quartile	Performance		vs Ibov	Vs Cdi	Risk Measures			Performance Diffusion	
	Accumulated	Annualized	Excess Return	Excess Return	Sharpe	Volatility	Maximum Drawdown	Positive	Negative
1st Quartile	121.90%	5.95%	32.30%	-128.30%	0.17	27.6%	-69.2%	50.43%	49.57%
2nd Quartile	122.48%	5.97%	32.88%	-127.72%	0.04	22.5%	-44.8%	50.87%	49.13%
3rd Quartile	75.49%	4.16%	-14.11%	-174.71%	0.09	21.6%	-52.5%	51.10%	48.90%
4th Quartile	217.35%	8.73%	127.75%	-32.85%	0.19	21.1%	-48.2%	51.28%	48.72%
LongShort	-95.46%	-4.98%	-185.06%	-345.66%	-0.54	21.1%	0.0%	51.10%	48.90%
LongShort CDI	142.20%	6.62%	52.60%	-108.00%	-0.28	19.1%	0.0%	50.87%	49.13%

# Price To Book 12m Forward– What Did We Actually Buy?

## Companies Allocation (As Percentage Of Presence In Portfolios)

Company	First Quartile	Company	Fourth Quartile
EVEN3	85.9%	ODPV3	100.0%
CSMG3	85.4%	RENT3	83.3%
ABCB4	84.5%	ABEV3	82.1%
BRPR3	75.4%	WEGE3	82.0%
USIM5	72.9%	EGIE3	81.2%
CPLE6	72.0%	AZZA3	78.3%
BBAS3	70.7%	LREN3	77.9%
BRSR6	68.6%	TOTS3	76.1%
GGBR4	67.0%	WEGE3	73.2%
ENAT3	60.7%	MELI US	69.9%

## Companies Contribution To Return

First Quartile			Fourth Quartile		
Company	Contribution	Total Return	Company	Contribution	Total Return
ENAT3	5.2%	7.8%	MGLU3	7.0%	15.9%
GGBR4	4.1%	6.1%	WEGE3	6.8%	15.5%
EVEN3	3.9%	5.7%	MELI US	5.5%	12.5%
ELET3	3.5%	5.2%	RENT3	5.3%	12.0%
BBAS3	3.3%	5.0%	AZZA3	4.2%	9.7%
CEAB3	3.3%	5.0%	BRKM5	4.1%	9.3%
BRAP4	2.9%	4.3%	BHIA3	4.0%	9.1%
CSMG3	2.8%	4.2%	MRFG3	3.4%	7.8%
EMBR3	2.8%	4.2%	RADL3	3.3%	7.6%
CPLE6	2.8%	4.1%	GNDI3	3.2%	7.3%

## Sectors Allocation

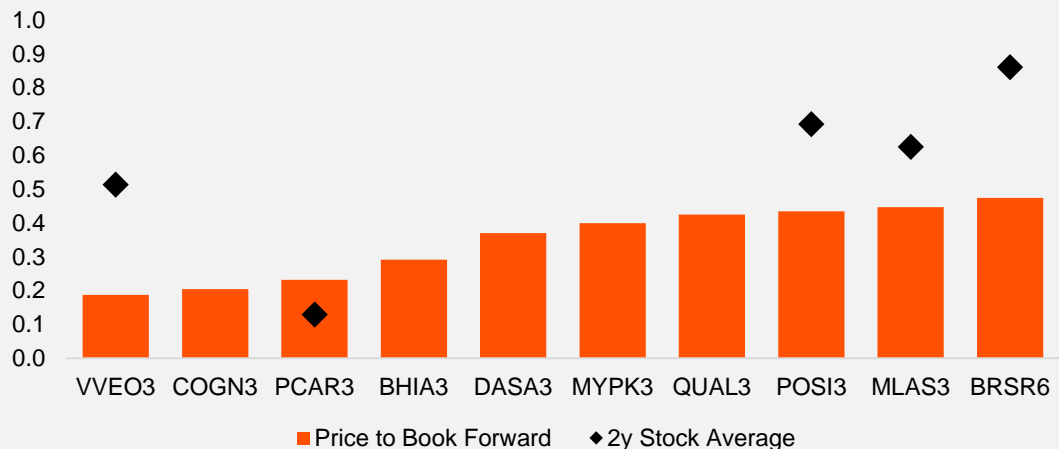
Sector	1st Quartile	2nd Quartile	3rd Quartile	4th Quartile
Consumer Discretionary	24.2%	18.6%	22.7%	23.3%
Utilities	20.0%	15.4%	12.2%	8.5%
Materials	13.5%	9.7%	5.7%	2.9%
Financials	11.7%	16.6%	8.4%	9.4%
Real Estate	8.5%	5.9%	5.6%	1.0%
Energy	7.1%	5.3%	4.3%	2.7%
Consumer Staples	5.8%	8.0%	15.4%	12.4%
Industrials	3.9%	10.8%	15.0%	19.4%
Communication Services	2.9%	5.6%	2.0%	3.9%
Health Care	1.4%	3.4%	7.3%	11.4%
Information Technology	1.0%	0.8%	1.6%	5.3%

## Sectors Contribution To Return

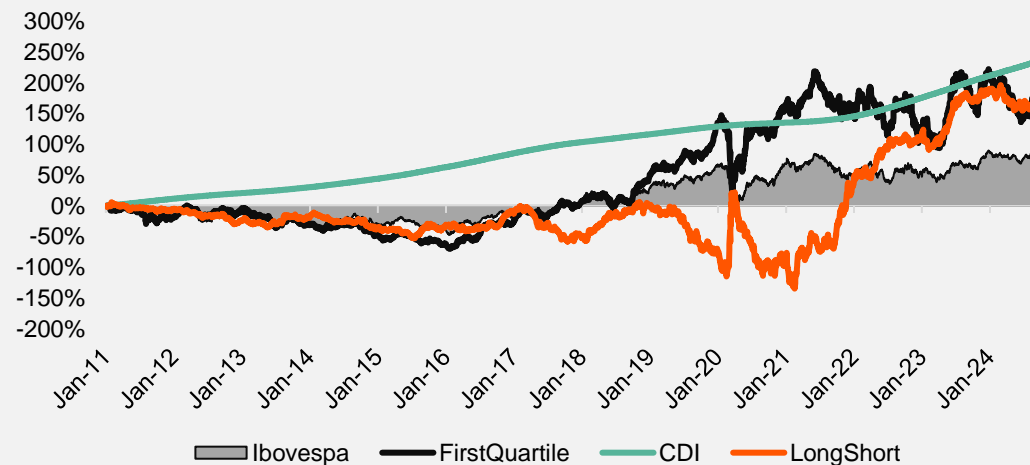
Sector	1st Quartile	2nd Quartile	3rd Quartile	4th Quartile
Consumer Discretionary	20.7%	16.1%	25.8%	33.6%
Utilities	19.9%	11.6%	13.0%	5.9%
Financials	12.3%	12.6%	12.3%	10.7%
Materials	12.1%	13.5%	4.5%	7.6%
Energy	8.8%	11.9%	4.5%	-1.6%
Industrials	8.1%	14.5%	15.6%	14.6%
Consumer Staples	7.5%	10.3%	9.9%	13.5%
Real Estate	5.3%	2.5%	4.2%	0.6%
Communication Services	3.8%	4.8%	-1.8%	0.6%
Information Technology	1.3%	1.5%	1.2%	7.5%
Health Care	0.2%	0.7%	10.9%	7.0%

# Price To Book 12m Forward– Key Graphs Takeaways

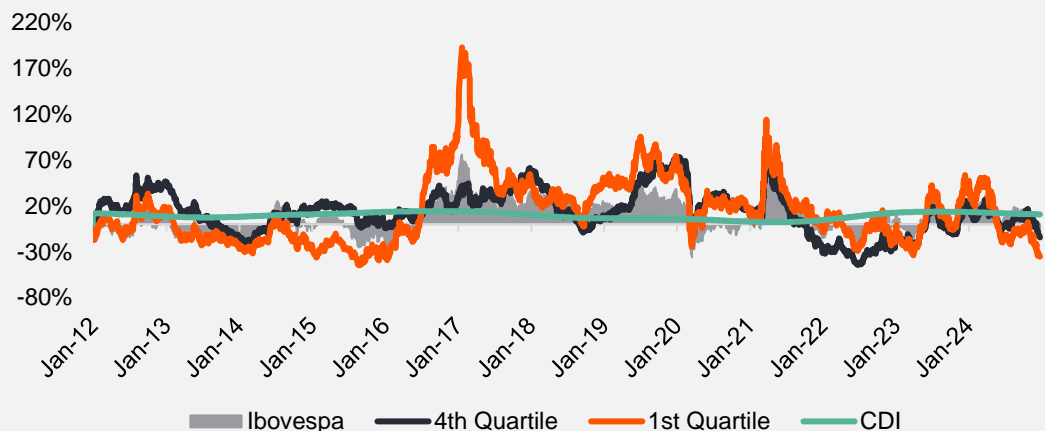
## 10 Stocks With Lowest Price To Book Forward



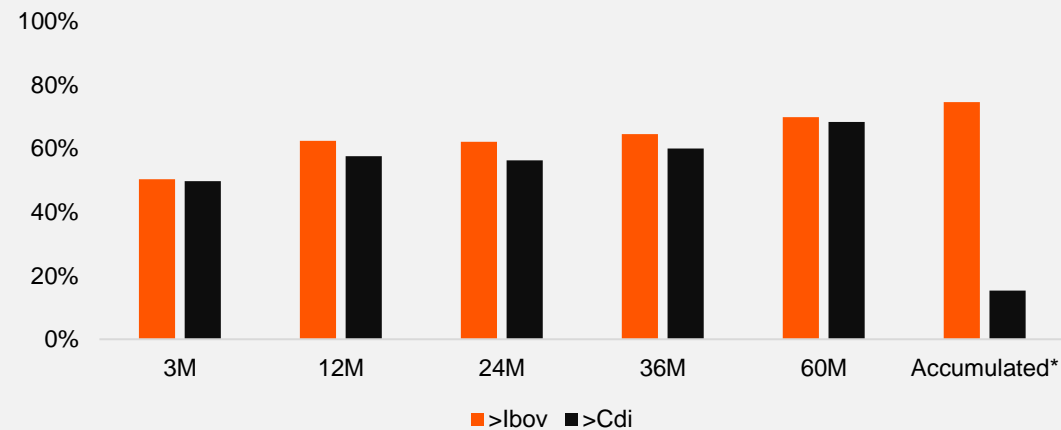
## Long And Short + CDI Performance



## Rolling 12 Months Return

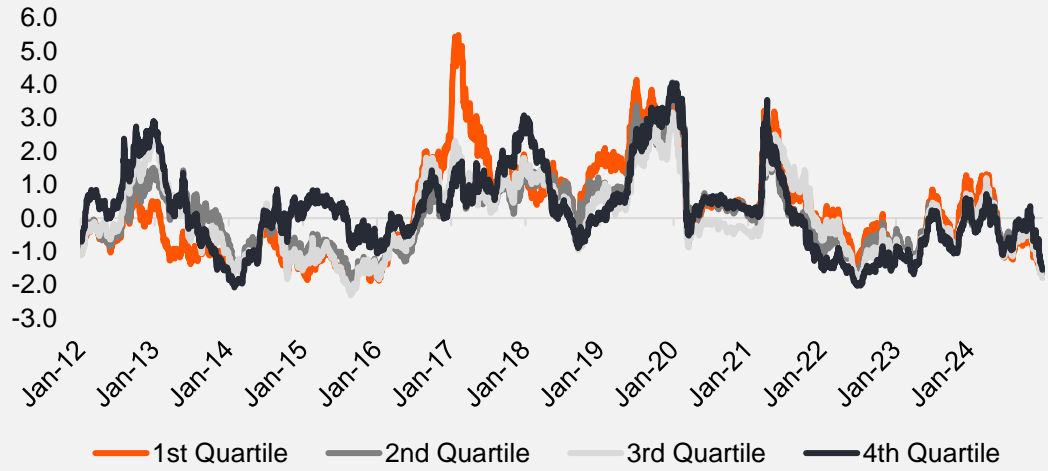


## 1st Quartiles Outperform As Percentage Of Total Windows

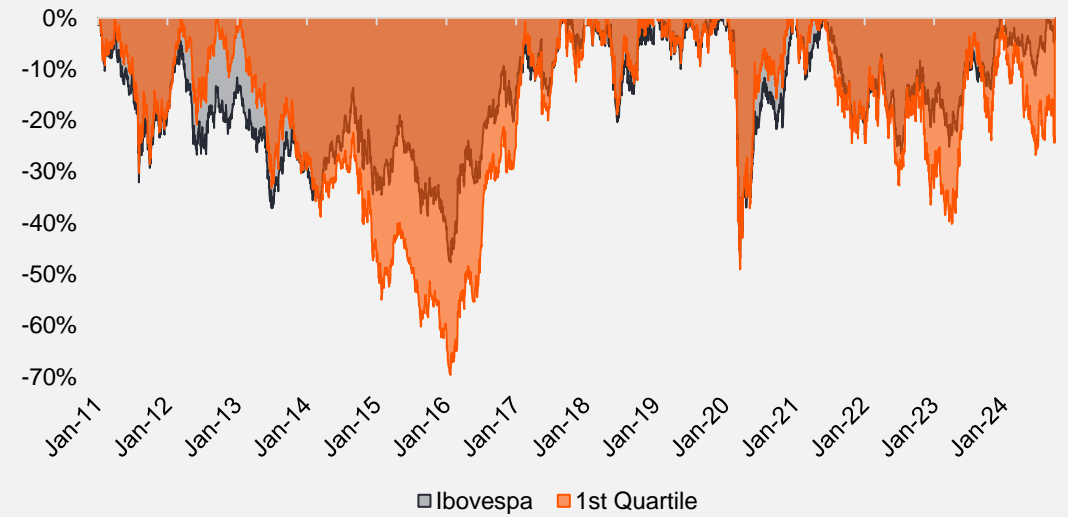


# Price To Book 12m Forward - Key Graphs Takeaways

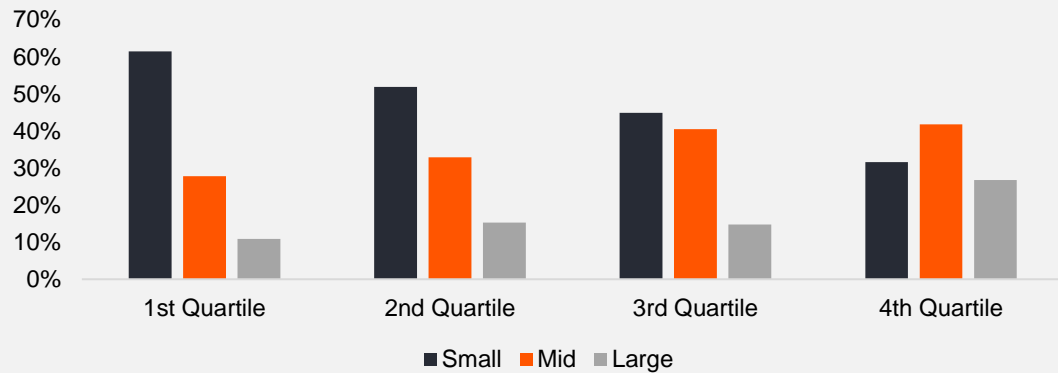
## Rolling Sharpe



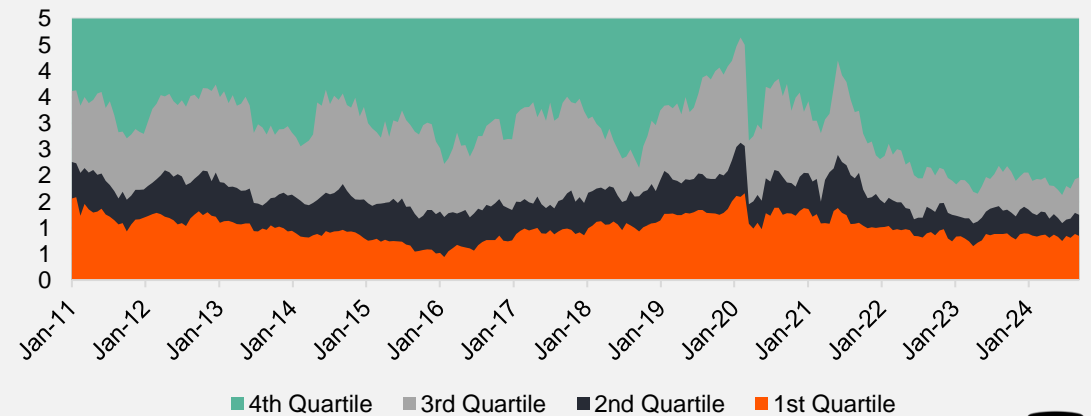
## Drawdown



## Marketcap Exposure



## Price To Book Forward Frontier By Quartile

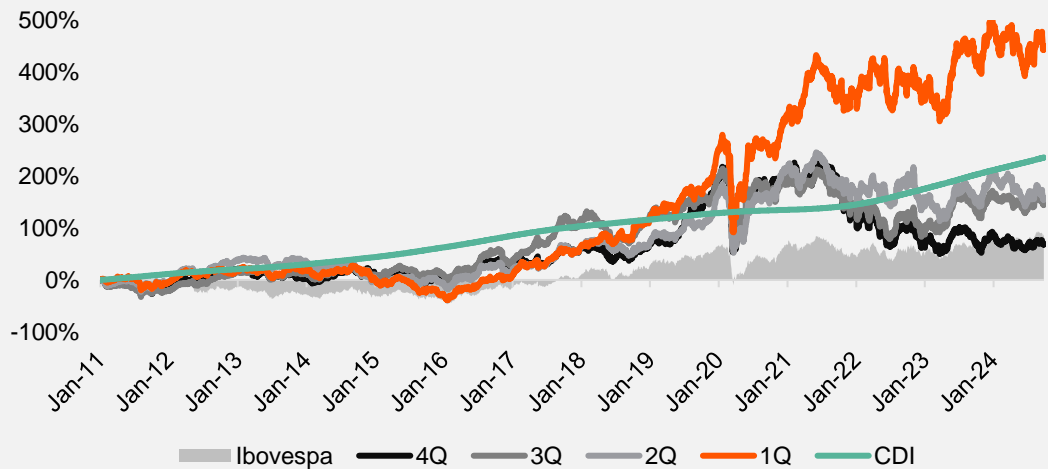


# EV/EBITDA 12m Trailing – Return Analysis

## Accumulated And Annual Performance

Date	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	Accumulated	Annualized
First Quartile	-5.8%	26.0%	2.0%	-13.6%	-29.7%	46.6%	51.2%	31.0%	62.4%	20.8%	10.2%	1.3%	28.8%	-21.4%	373.3%	11.9%
Second Quartile	-5.1%	45.7%	-0.6%	-24.4%	-8.7%	24.6%	36.6%	3.8%	55.9%	20.8%	-13.7%	-5.0%	19.8%	-28.9%	120.4%	5.9%
Third Quartile	-20.9%	46.3%	-1.2%	-3.6%	1.4%	19.8%	60.8%	0.5%	35.9%	0.0%	-17.1%	-17.5%	35.2%	-22.3%	111.4%	5.6%
Fourth Quartile	-17.5%	44.4%	-13.0%	9.6%	-14.6%	33.3%	24.5%	5.1%	72.1%	3.8%	-25.8%	-22.2%	9.6%	-24.8%	43.7%	2.7%
Long 1Q Short 4Q	11.6%	-18.4%	15.0%	-23.2%	-15.0%	13.3%	26.8%	25.8%	-9.7%	17.0%	36.1%	23.5%	19.2%	3.3%	329.6%	11.1%
Long 2Q Short 3Q	15.8%	-0.6%	0.6%	-20.8%	-10.1%	4.8%	-24.2%	3.3%	20.0%	20.8%	3.4%	12.5%	-15.4%	-6.6%	8.9%	0.6%
Ibovespa	-18.9%	7.4%	-15.5%	-2.9%	-13.3%	38.9%	26.9%	15.0%	31.6%	2.9%	-11.9%	4.7%	22.3%	-10.4%	71.9%	4.0%
CDI	11.5%	8.4%	8.1%	10.8%	13.2%	14.0%	10.0%	6.4%	6.0%	2.8%	4.4%	12.4%	13.0%	10.9%	250.2%	9.5%
GDP	-3.6%	-2.1%	1.1%	-2.5%	-4.1%	0.3%	4.6%	0.5%	-0.6%	-4.5%	8.3%	-2.1%	2.9%	2.2%	-0.5%	-0.04%

## Accumulated Performance



## Key Metrics

Quartile	Performance		vs Ibov	Vs Cdi	Risk Measures			Performance Diffusion	
	Accumulated	Annualized	Excess Return	Excess Return	Sharpe	Volatility	Maximum Drawdown	Positive	Negative
1st Quartile	373.33%	11.92%	283.73%	123.13%	0.36	22.5%	-52.4%	52.30%	47.70%
2nd Quartile	120.37%	5.89%	30.77%	-129.83%	0.18	22.7%	-46.4%	50.40%	49.60%
3rd Quartile	111.44%	5.58%	21.84%	-138.76%	0.15	22.5%	-44.2%	50.54%	49.46%
4th Quartile	43.71%	2.66%	-45.89%	-206.49%	-0.07	24.2%	-54.4%	50.48%	49.52%
LongShort	329.62%	11.14%	240.02%	79.42%	0.53	17.3%	-33.1%	50.54%	49.46%
LongShort + CDI	572.70%	14.81%	483.10%	322.50%	0.61	11.2%	-23.3%	55.40%	49.60%



# EV/EBITDA 12m Trailing – What Did We Actually Buy?

## Companies Allocation (As Percentage Of Presence In Portfolios)

Company	First Quartile	Company	Fourth Quartile
CSMG3	77.4%	WEGE3	82.0%
BRKM5	63.7%	RADL3	75.3%
VIVT4	63.2%	HYPE3	63.1%
ENAT3	60.7%	B3SA3	62.7%
SMT03	60.6%	AZZA3	57.3%
CPLE6	59.5%	ODPV3	56.5%
LIGT3	55.3%	MULT3	48.1%
BEEF3	54.4%	EZTC3	45.6%
MYPK3	53.9%	MELI US	45.2%
PETR4	53.1%	MGLU3	43.5%

## Companies Contribution To Return

First Quartile			Fourth Quartile		
Company	Contribution	Total Return	Company	Contribution	Total Return
PRI03	7.1%	32.1%	WEGE3	8.8%	3.0%
ENAT3	5.6%	25.2%	MELI US	6.5%	2.2%
POS13	4.1%	18.7%	MGLU3	6.2%	2.1%
PETR4	4.0%	17.8%	AMER3	5.0%	1.7%
CEAB3	3.6%	16.4%	RADL3	4.6%	1.5%
CSMG3	3.4%	15.5%	PAGS US	4.3%	1.4%
VALE3	3.2%	14.3%	BHIA3	4.0%	1.3%
PCAR3	2.9%	12.9%	LOGG3	3.6%	1.2%
SMT03	2.6%	11.9%	GNDI3	3.5%	1.2%
CVCB3	2.6%	11.7%	GOLL4	3.5%	1.2%

## Sectors Allocation

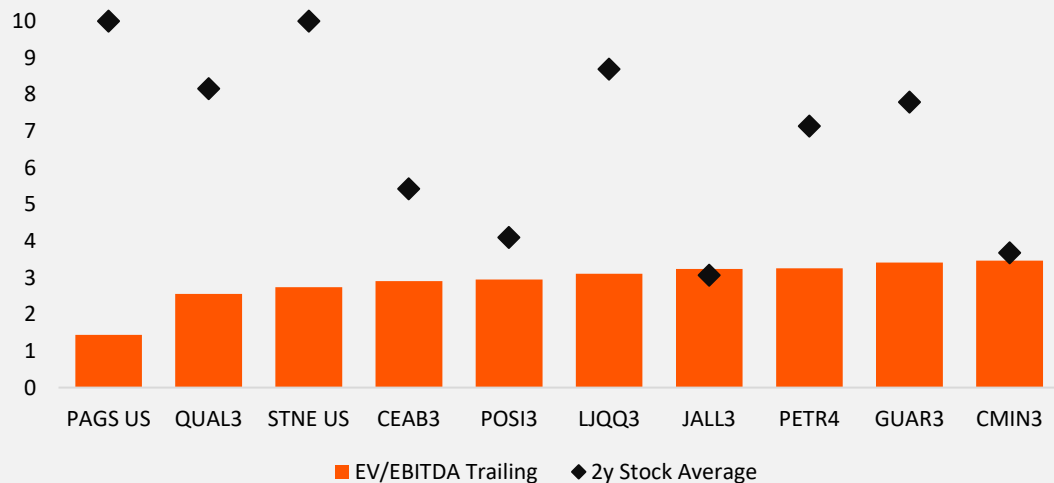
Sector	1st Quartile	2nd Quartile	3rd Quartile	4th Quartile
Utilities	24.0%	19.1%	14.0%	3.9%
Materials	15.9%	12.7%	5.8%	2.7%
Consumer Discretionary	14.0%	24.4%	25.4%	29.3%
Industrials	11.2%	18.1%	16.0%	11.9%
Communication Services	10.4%	1.7%	2.1%	1.9%
Consumer Staples	10.4%	10.3%	10.9%	11.3%
Energy	7.2%	4.1%	4.4%	2.5%
Real Estate	3.0%	4.1%	7.0%	9.4%
Financials	2.0%	2.1%	4.5%	8.3%
Health Care	1.0%	3.2%	9.1%	11.7%
Information Technology	0.9%	0.3%	1.0%	7.1%

## Sectors Contribution To Return

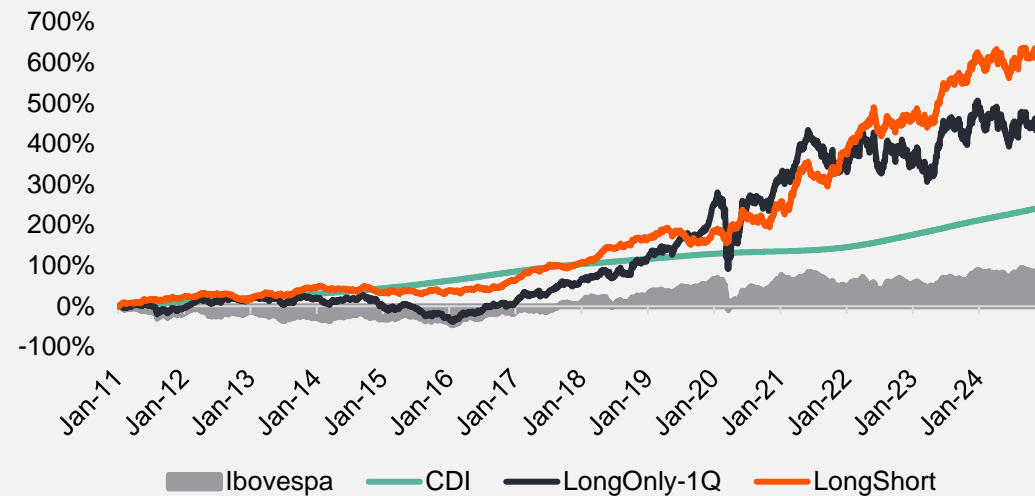
Sector	1st Quartile	2nd Quartile	3rd Quartile	4th Quartile
Consumer Discretionary	22.2%	25.2%	19.0%	36.7%
Utilities	17.7%	17.9%	17.3%	0.2%
Energy	17.6%	10.0%	1.8%	-1.4%
Materials	9.5%	16.9%	7.8%	1.5%
Consumer Staples	8.9%	8.9%	7.5%	8.2%
Industrials	7.7%	12.0%	27.8%	16.1%
Communication Services	5.4%	3.2%	2.2%	1.3%
Financials	5.2%	0.2%	5.8%	10.7%
Information Technology	4.1%	-0.5%	2.6%	9.8%
Real Estate	1.4%	1.9%	-1.2%	7.5%
Health Care	0.3%	4.3%	9.3%	9.5%

# EV/EBITDA 12m Trailing – Key Graphs Takeaways

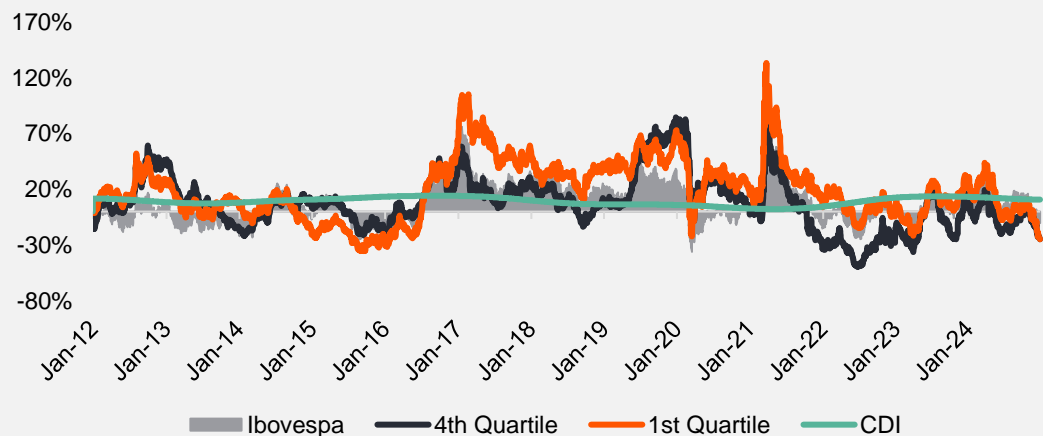
## 10 Stocks With Lowest Enterprise Value To EBITDA Trailing



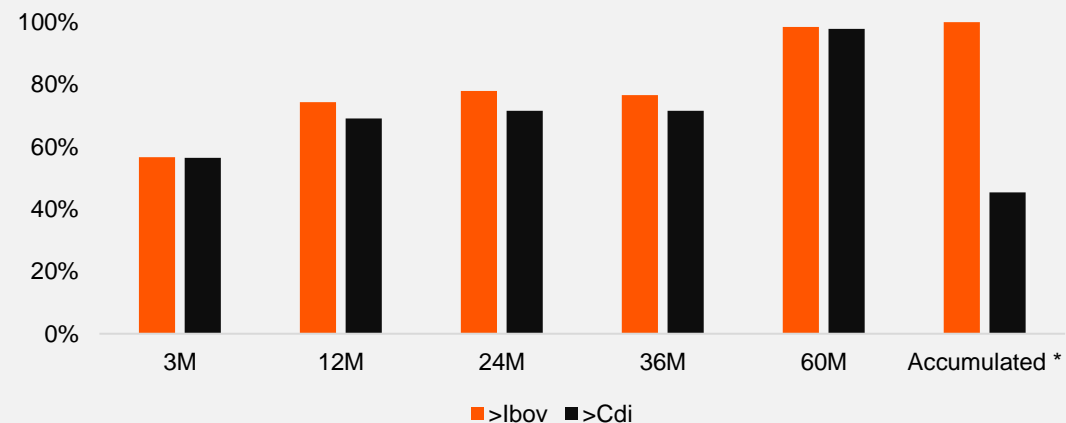
## Long And Short + CDI Performance



## Rolling 12 Months Return



## 1st Quartiles Outperform As Percentage Of Total Windows

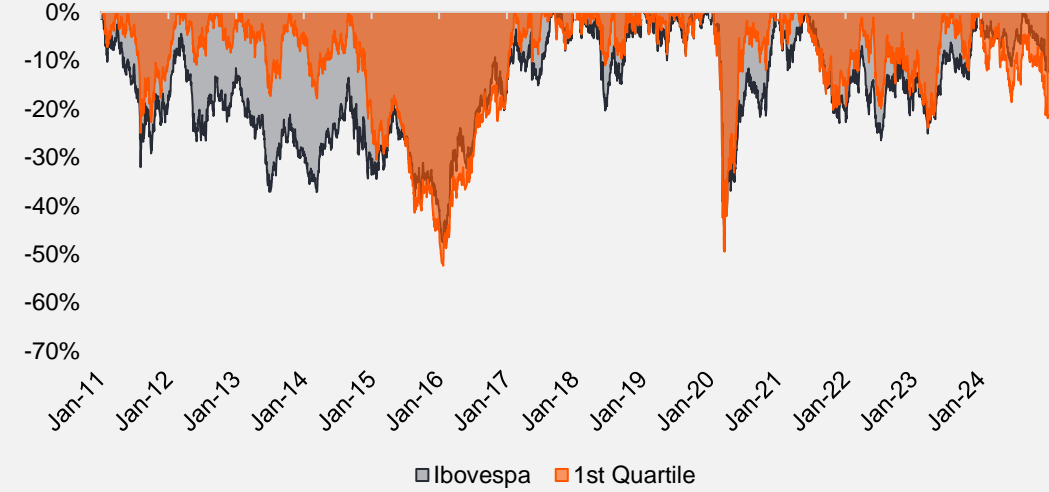


# EV/EBITDA 12m Trailing - Key Graphs Takeaways

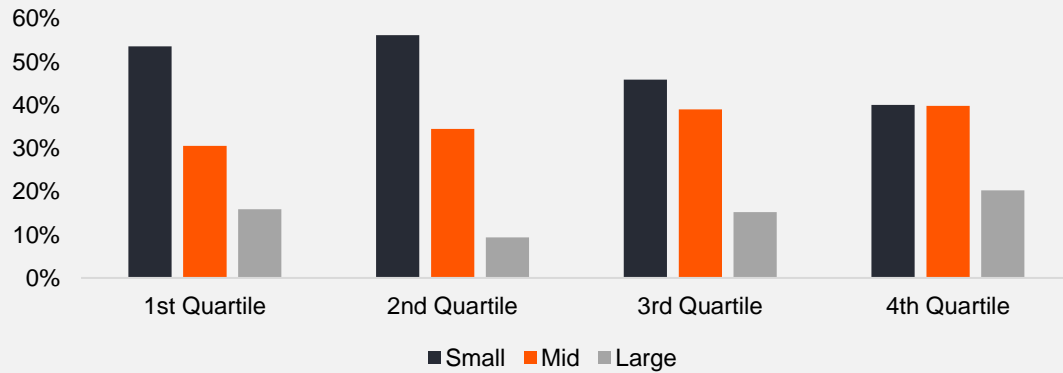
## Rolling Sharpe



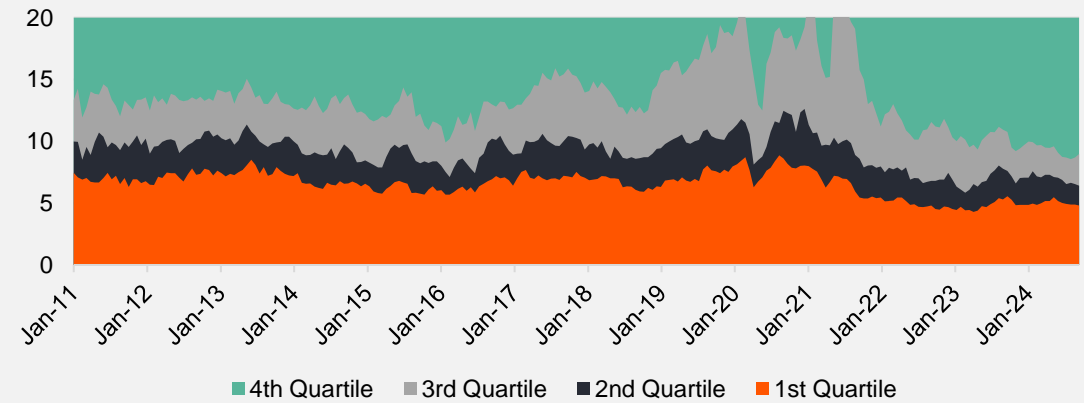
## Drawdown



## Marketcap Exposure



## Enterprise Value To EBITDA Trailing Frontier By Quartile

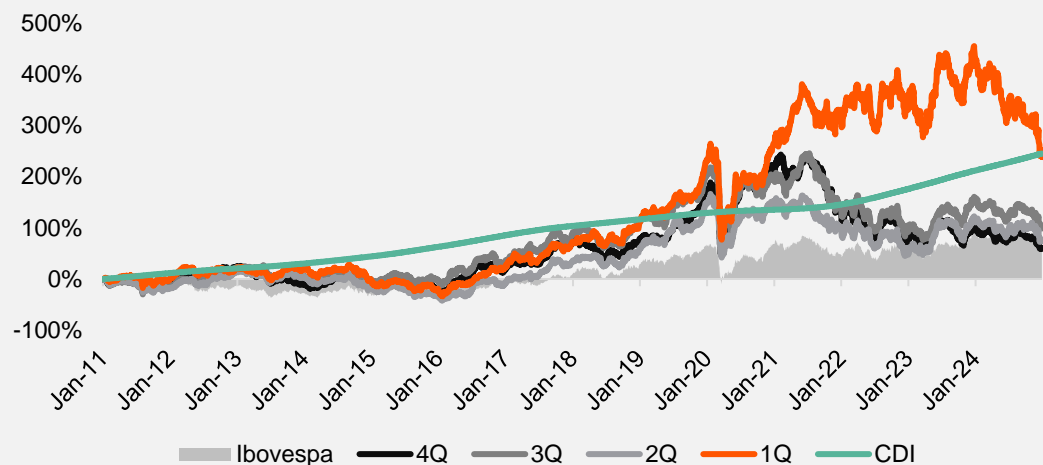


# EV/EBITDA 12m Forward – Return Analysis

## Accumulated and Annual Performance

Date	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	Acummulated	Annualized
First Quartile	-2.5%	23.0%	0.8%	-17.2%	-18.7%	52.2%	37.3%	19.9%	60.7%	11.1%	18.3%	6.4%	19.8%	-38.5%	237.9%	9.2%
Second Quartile	-17.8%	39.3%	-7.7%	-19.4%	-20.3%	35.2%	45.0%	16.3%	58.4%	2.5%	-19.7%	-21.7%	40.4%	-21.8%	73.6%	4.1%
Third Quartile	-16.3%	46.6%	-12.9%	-8.0%	0.1%	35.2%	39.9%	12.3%	43.5%	-0.6%	-17.8%	-16.9%	27.5%	-23.8%	97.7%	5.1%
Fourth Quartile	-9.3%	33.9%	-25.4%	9.5%	-19.5%	48.4%	43.1%	2.8%	51.3%	20.1%	-26.5%	-21.9%	10.9%	-22.8%	55.7%	3.3%
Long 1Q Short 4Q	6.8%	-10.9%	26.2%	-26.7%	0.8%	3.8%	-5.8%	17.2%	9.4%	-9.0%	44.8%	28.4%	8.9%	-15.6%	182.2%	7.8%
Long 2Q Short 3Q	-1.5%	-7.3%	5.2%	-11.4%	-20.4%	0.0%	5.1%	4.0%	14.9%	3.2%	-1.9%	-4.8%	12.9%	2.0%	-24.1%	-1.6%
Ibovespa	-18.9%	7.4%	-15.5%	-2.9%	-13.3%	38.9%	26.9%	15.0%	31.6%	2.9%	-11.9%	4.7%	22.3%	-10.4%	71.9%	4.0%
CDI	11.5%	8.4%	8.1%	10.8%	13.2%	14.0%	10.0%	6.4%	6.0%	2.8%	4.4%	12.4%	13.0%	10.9%	250.2%	9.5%
GDP	-3.6%	-2.1%	1.1%	-2.5%	-4.1%	0.3%	4.6%	0.5%	-0.6%	-4.5%	8.3%	-2.1%	2.9%	2.2%	-0.5%	-0.04%

## Accumulated Performance



## Key Metrics

Quartile	Performance		vs Ibov	Vs Cdi	Risk Measures			Performance Diffusion	
	Accummulated	Annualized	Excess Return	Excess Return	Sharpe	Volatility	Maximum Drawdown	Positive	Negative
1st Quartile	237.87%	9.22%	148.15%	-3.09%	0.28	23.4%	-51.4%	52.27%	47.73%
2nd Quartile	73.61%	4.08%	-16.11%	-167.35%	0.09	23.7%	-50.1%	49.10%	50.90%
3rd Quartile	97.72%	5.06%	8.00%	-143.24%	0.06	22.4%	-49.1%	50.48%	49.52%
4th Quartile	55.67%	3.26%	-34.05%	-185.29%	-0.05	23.9%	-53.0%	49.40%	50.60%
LongShort	182.19%	7.81%	92.47%	-58.77%	0.14	16.9%	-39.2%	50.48%	49.52%
LongShort + CDI	424.30%	12.76%	334.58%	183.34%	0.46	11.9%	-31.6%	49.10%	50.90%

# EV/EBITDA 12m Forward – What Did We Actually Buy?

## Companies Allocation (As Percentage Of Presence In Portfolios)

Company	First Quartile	Company	Fourth Quartile
CSMG3	88.7%	RADL3	88.7%
TIMS3	74.0%	WEGE3	75.3%
SMT03	73.6%	B3SA3	69.0%
BRKM5	72.5%	HYPE3	67.3%
ENAT3	67.4%	MULT3	64.8%
CPLE6	64.1%	ODPV3	63.7%
MRFG3	63.7%	TOTS3	58.5%
BEEF3	62.0%	ABEV3	50.3%
VIVT4	60.7%	IGTA3	46.5%
PETR4	56.0%	LINX3	44.4%

## Companies Contribution To Return

First Quartile			Fourth Quartile		
Company	Contribution	Total Return	Company	Contribution	Total Return
PRI03	8.1%	23.9%	MELI US	7.8%	4.7%
ENAT3	5.9%	17.3%	WEGE3	6.4%	3.9%
SMT03	4.0%	11.7%	RADL3	4.6%	2.8%
CVCB3	3.6%	10.7%	MGLU3	4.5%	2.7%
PETR4	3.4%	10.2%	PAGS US	4.2%	2.6%
CSMG3	3.2%	9.4%	AZZA3	4.1%	2.5%
VALE3	3.0%	8.8%	BHIA3	4.0%	2.4%
BRKM5	3.0%	8.7%	RENT3	4.0%	2.4%
CEAB3	2.8%	8.4%	B3SA3	3.7%	2.2%
TUPY3	2.7%	7.8%	GNDI3	3.2%	1.9%

## Sectors Allocation

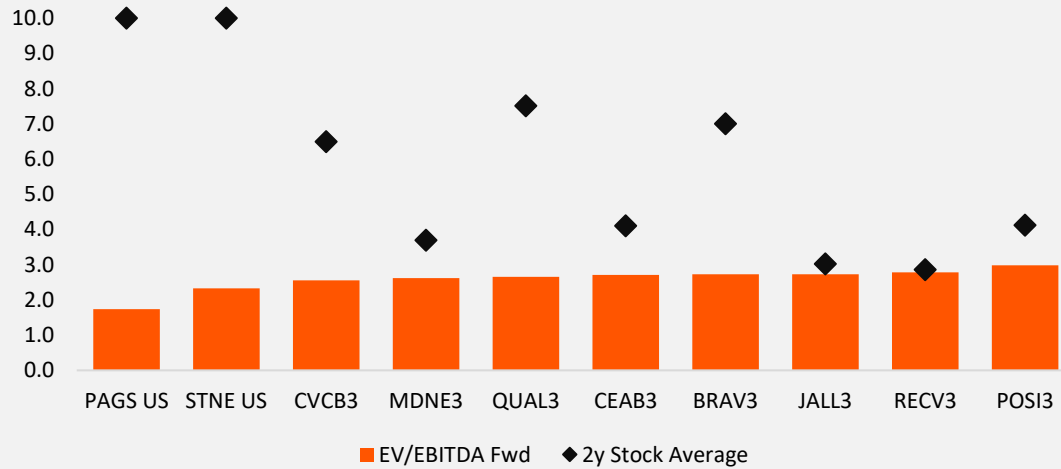
Sector	1st Quartile	2nd Quartile	3rd Quartile	4th Quartile
Utilities	18.4%	19.5%	16.9%	5.8%
Consumer Discretionary	17.1%	28.8%	24.9%	27.7%
Materials	14.5%	12.4%	8.3%	2.3%
Consumer Staples	12.7%	9.8%	10.4%	10.6%
Industrials	12.5%	15.8%	14.3%	9.4%
Energy	9.5%	3.4%	3.4%	2.8%
Communication Services	9.1%	1.8%	1.7%	2.2%
Real Estate	2.1%	2.7%	6.5%	13.3%
Financials	1.8%	1.6%	3.5%	7.9%
Health Care	1.3%	3.6%	8.9%	11.0%
Information Technology	0.9%	0.7%	1.1%	6.9%

## Sectors Contribution to Return

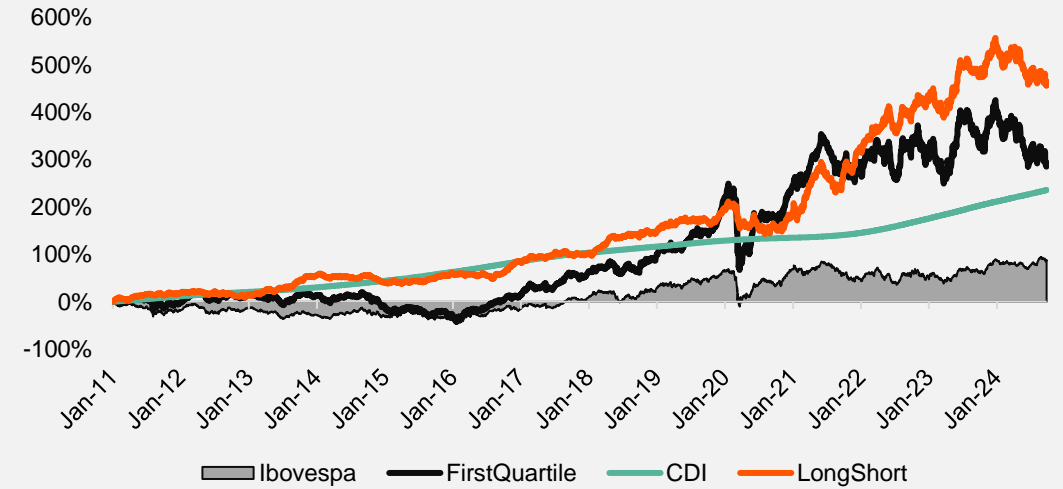
Sector	1st Quartile	2nd Quartile	3rd Quartile	4th Quartile
Consumer Discretionary	21.7%	27.8%	23.6%	33.5%
Energy	20.5%	2.3%	1.8%	-3.4%
Utilities	16.2%	18.5%	17.3%	3.9%
Consumer Staples	13.4%	9.8%	10.0%	5.9%
Materials	9.6%	14.2%	12.4%	4.8%
Communication Services	5.5%	3.1%	2.1%	0.7%
Industrials	4.1%	18.9%	21.6%	10.4%
Financials	3.8%	1.7%	2.8%	12.9%
Information Technology	3.3%	-0.6%	2.1%	8.2%
Real Estate	1.5%	0.7%	1.7%	12.9%
Health Care	0.5%	3.7%	4.5%	10.1%

# EV/EBITDA 12m Forward – Key Graphs Takeaways

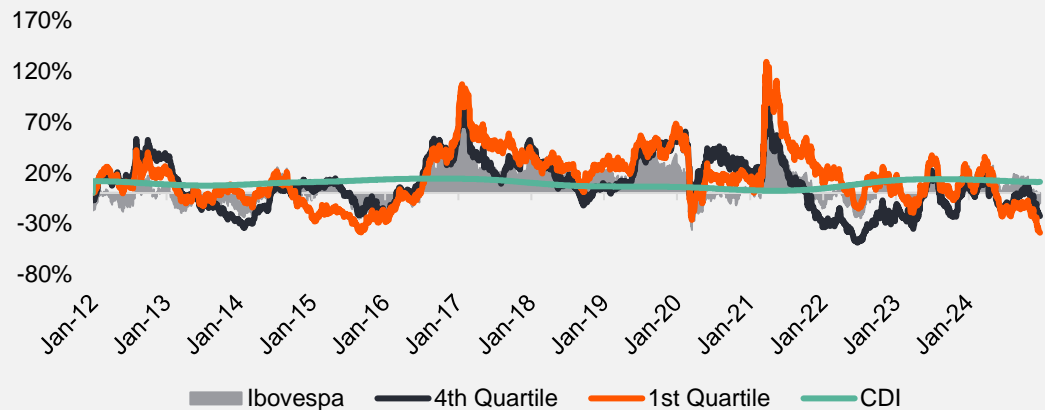
## 10 Stocks With Lowest Enterprise Value to EBITDA Forward



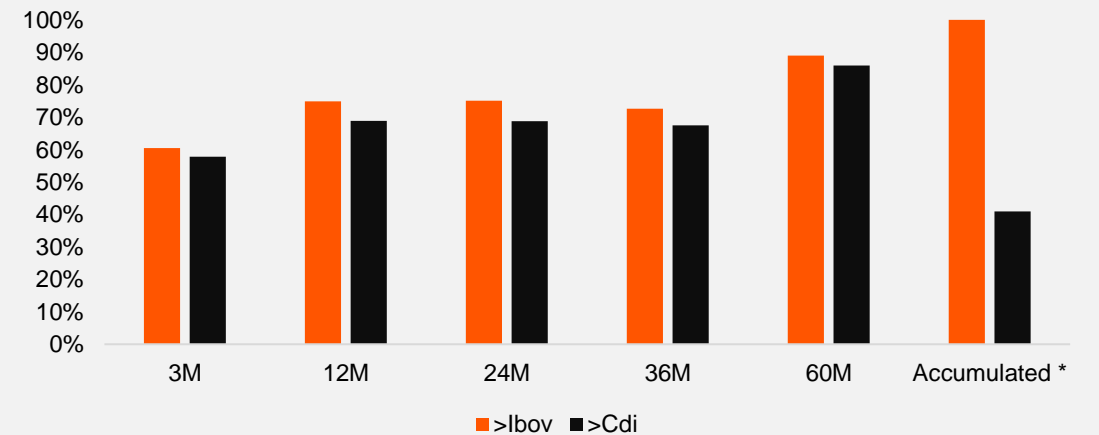
## Long And Short + CDI Performance



## Rolling 12 Months Return

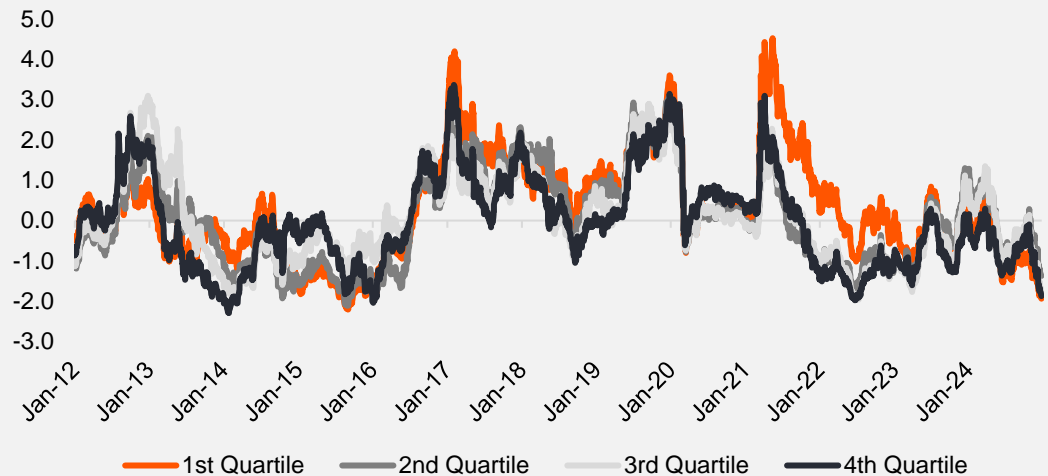


## 1st Quartiles Outperform As Percentage of Total Windows

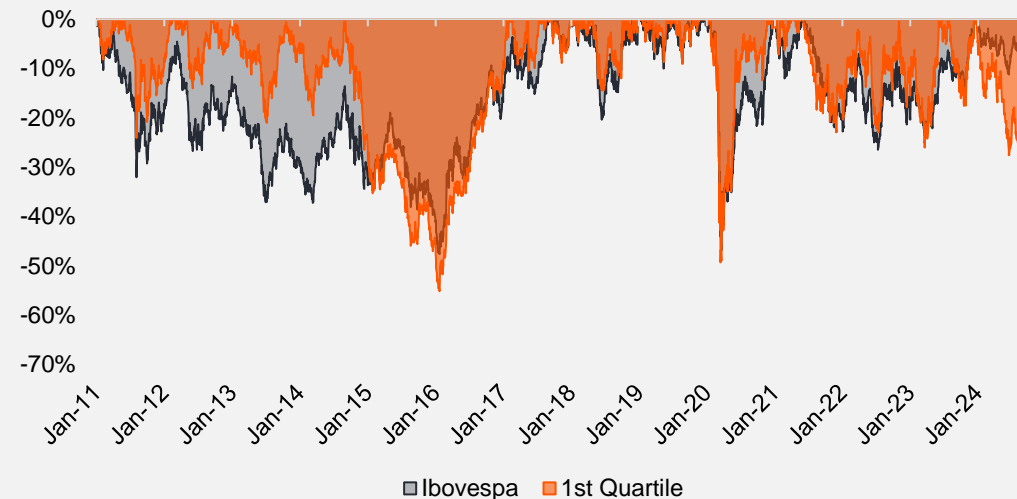


# EV/EBITDA 12m Forward - Key Graphs Takeaways

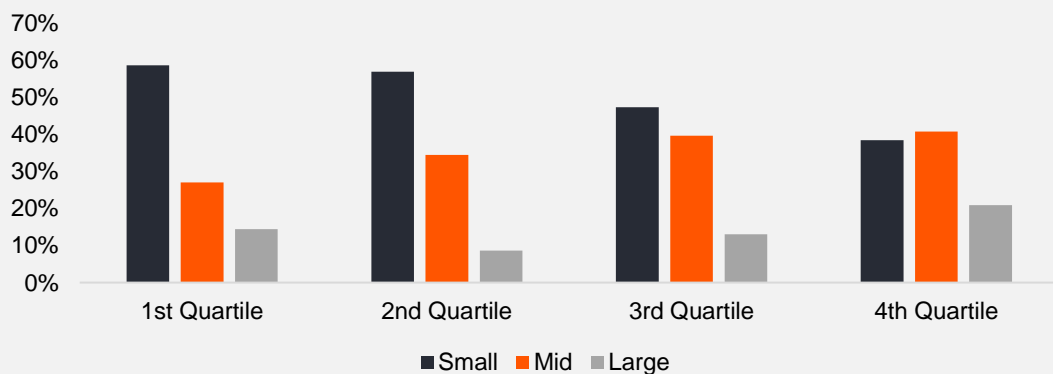
## Rolling Sharpe



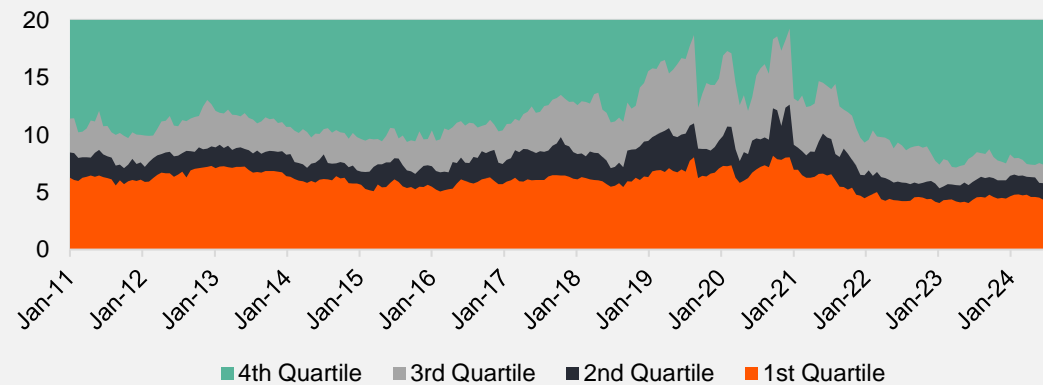
## Drawdown



## Marketcap Exposure



## Enterprise Value To EBITDA Forward Frontier By Quartile

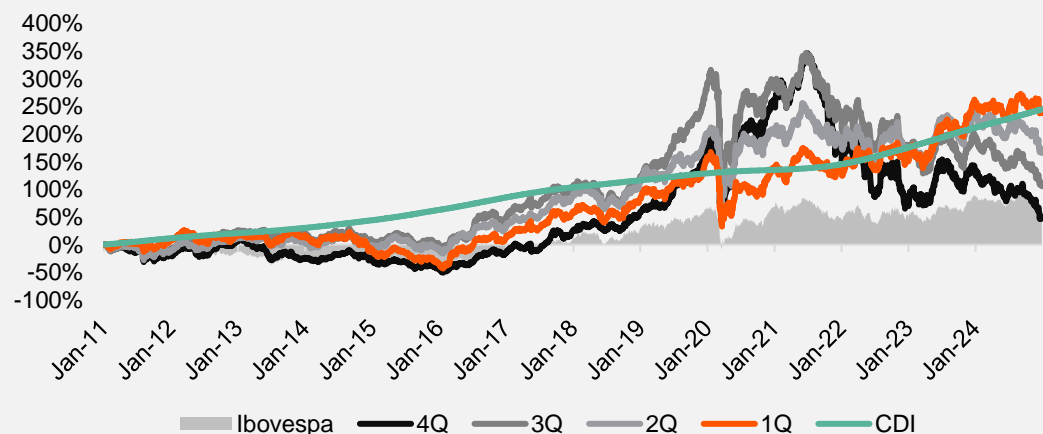


# Dividend Yield 12m Trailing – Return Analysis

## Accumulated And Annual Performance

Date	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	Accumulated	Annualized
First Quartile	5.6%	12.2%	-1.5%	-20.3%	-26.9%	63.5%	42.1%	13.1%	40.6%	-5.3%	0.0%	9.7%	38.7%	-6.4%	239.2%	9.3%
Second Quartile	-13.5%	29.2%	-4.4%	-7.1%	-4.7%	39.3%	42.5%	10.2%	43.6%	3.8%	-4.8%	-6.5%	25.6%	-22.9%	165.9%	7.3%
Third Quartile	-9.8%	37.8%	-2.5%	-10.1%	-5.6%	42.9%	38.9%	5.1%	77.2%	3.6%	-13.2%	-18.1%	7.1%	-31.8%	104.5%	5.3%
Fourth Quartile	-20.0%	32.1%	-28.1%	-0.3%	-23.6%	46.3%	46.0%	25.8%	74.9%	30.6%	-21.8%	-34.4%	30.4%	-39.4%	43.7%	2.7%
Long 1Q Short 4Q	25.6%	-19.9%	26.6%	-20.0%	-3.3%	17.2%	-3.9%	-12.7%	-34.3%	-35.8%	21.8%	44.1%	8.3%	33.1%	195.4%	8.2%
Long 2Q Short 3Q	-3.7%	-8.6%	-1.9%	3.1%	0.9%	-3.6%	3.6%	5.1%	-33.6%	0.2%	8.4%	11.6%	18.5%	8.9%	61.3%	3.5%
Ibovespa	-18.9%	7.4%	-15.5%	-2.9%	-13.3%	38.9%	26.9%	15.0%	31.6%	2.9%	-11.9%	4.7%	22.3%	-10.4%	71.9%	4.0%
CDI	11.5%	8.4%	8.1%	10.8%	13.2%	14.0%	10.0%	6.4%	6.0%	2.8%	4.4%	12.4%	13.0%	10.9%	250.2%	9.5%
GDP	-3.6%	-2.1%	1.1%	-2.5%	-4.1%	0.3%	4.6%	0.5%	-0.6%	-4.5%	8.3%	-2.1%	2.9%	2.2%	-0.5%	-0.04%

## Accumulated Performance



## Key Metrics

Quartile	Performance		vs Ibov	Vs Cdi	Risk Measures			Hit Ratio	
	Accumulated	Annualized	Excess Return	Excess Return	Sharpe	Volatility	Maximum Drawdown	Positive	Negative
1st Quartile	247.5%	9.4%	157.7%	6.5%	0.19	22.4%	-54.1%	50.75%	49.25%
2nd Quartile	193.5%	8.1%	103.8%	-47.5%	0.19	21.9%	-42.8%	51.66%	48.34%
3rd Quartile	124.2%	6.0%	34.5%	-116.8%	0.09	22.3%	-50.1%	50.95%	49.05%
4th Quartile	46.1%	2.8%	-43.6%	-194.8%	0.04	26.8%	-63.1%	50.22%	49.78%
LongShort	105.7%	5.4%	15.9%	-135.3%	-0.25	14.9%	-65.7%	49.60%	50.40%
LongShort CDI	406.05%	12.47%	316.33%	165.09%	0.33	13.9%	-69.6%	52.83%	47.17%



# Dividend Yield 12m Trailing – What Did We Actually Buy?

## Companies Allocation (As Percentage Of Presence In Portfolios)

Company	First Quartile	Company	Fourth Quartile
BBAS3	90.8%	GOLL4	89.2%
ABCB4	83.8%	MELI Equity	77.5%
EGIE3	82.1%	AMER3	72.9%
BRAP4	69.0%	MGLU3	68.7%
TRPL4	66.2%	ENEV3	62.3%
LEVE3	65.8%	EMBR3	54.4%
CPFE3	59.8%	MRFG3	53.6%
ITUB4	58.6%	BRFS3	53.1%
CSMG3	51.0%	PRI03	51.1%
CMIG4	48.2%	RAIL3	42.7%

## Companies Contribution to Return

First Quartile			Fourth Quartile		
Company	Contribution	Total Return	Company	Contribution	Total Return
PETR4	4.2%	19.2%	MELI US	6.0%	0.9%
BBAS3	3.3%	14.9%	MGLU3	5.7%	0.8%
CSMG3	3.2%	14.9%	GOLL4	5.3%	0.8%
ABCB4	2.8%	12.9%	AZUL4	3.7%	0.5%
ENAT3	2.7%	12.2%	PAGS US	2.9%	0.4%
CMIG4	2.5%	11.6%	ENEV3	2.7%	0.4%
WIZC3	2.5%	11.4%	EMBR3	2.7%	0.4%
LEVE3	2.4%	11.1%	TEND3	2.7%	0.4%
LIGT3	2.2%	10.3%	USIM5	2.4%	0.4%
DIRR3	2.0%	8.9%	XP US	2.0%	0.3%

## Sectors Allocation

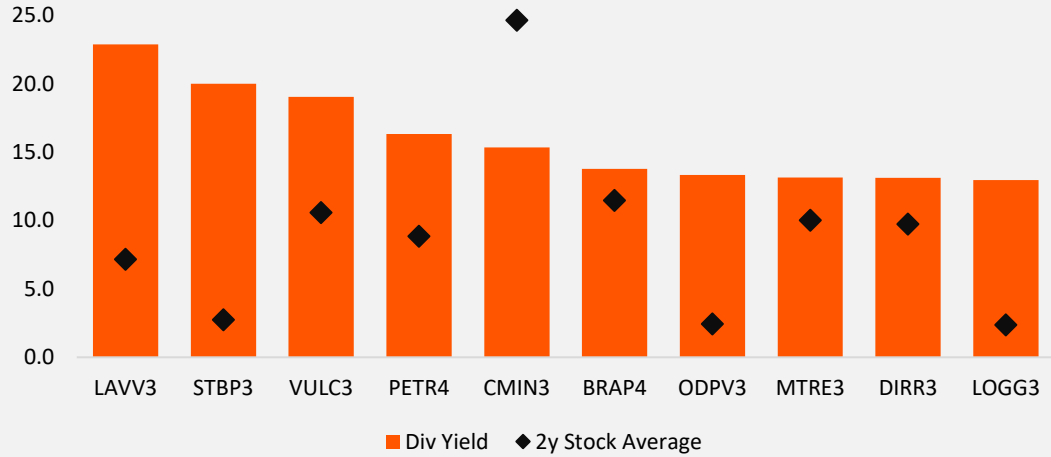
Sector	1st Quartile	2nd Quartile	3rd Quartile	4th Quartile
Financials	22.2%	16.4%	5.7%	3.6%
Utilities	21.8%	12.6%	9.6%	6.6%
Consumer Discretionary	19.2%	22.0%	21.6%	27.4%
Materials	11.0%	8.0%	7.8%	8.7%
Industrials	7.5%	10.3%	13.7%	16.9%
Consumer Staples	4.7%	9.1%	12.1%	13.2%
Communication Services	4.3%	3.9%	2.1%	1.6%
Energy	3.5%	4.7%	4.4%	6.2%
Real Estate	3.0%	5.7%	10.2%	5.4%
Health Care	2.0%	6.3%	8.4%	6.6%
Information Technology	0.4%	1.1%	4.4%	3.9%

## Sectors Contribution to Return

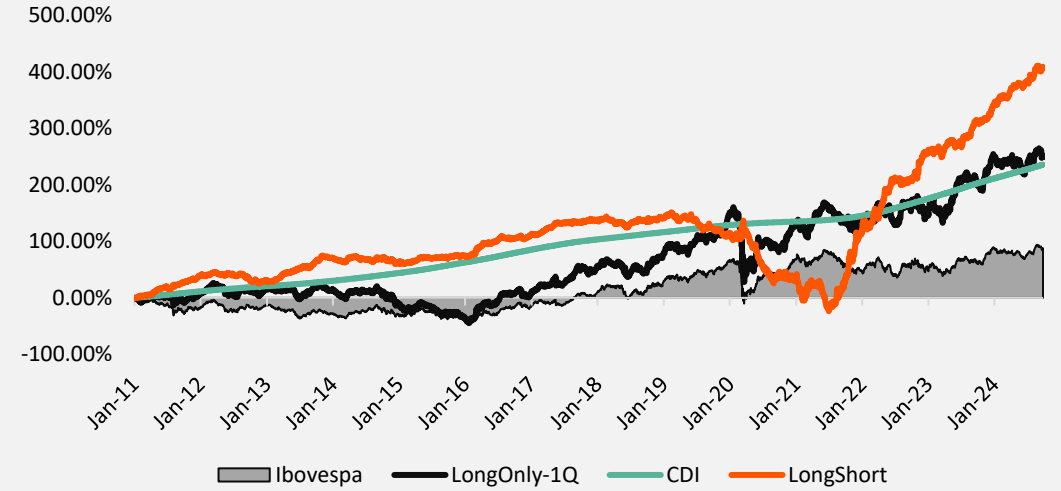
Sector	1st Quartile	2nd Quartile	3rd Quartile	4th Quartile
Utilities	21.8%	11.5%	9.5%	7.2%
Consumer Discretionary	18.1%	24.6%	15.8%	34.6%
Financials	17.8%	17.6%	7.8%	9.8%
Industrials	11.3%	7.6%	16.1%	16.1%
Materials	9.9%	13.6%	11.0%	8.7%
Energy	6.7%	3.8%	6.7%	2.0%
Consumer Staples	6.2%	9.2%	11.8%	8.7%
Communication Services	3.2%	4.1%	2.8%	1.4%
Information Technology	2.7%	2.4%	6.9%	2.9%
Health Care	2.4%	1.3%	5.3%	4.3%
Real Estate	-0.2%	4.2%	6.4%	4.4%

# Dividend Yield 12m Trailing – Key Graphs Takeaways

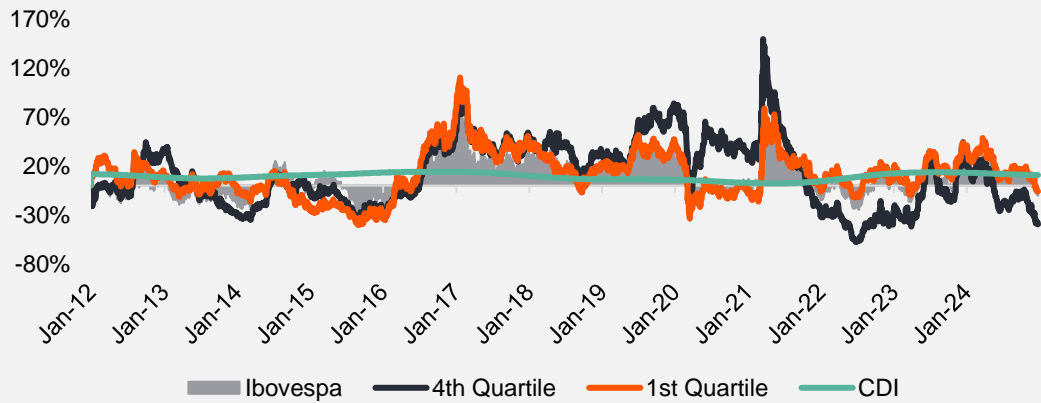
## 10 Stocks With Highest Dividend Yield Trailing



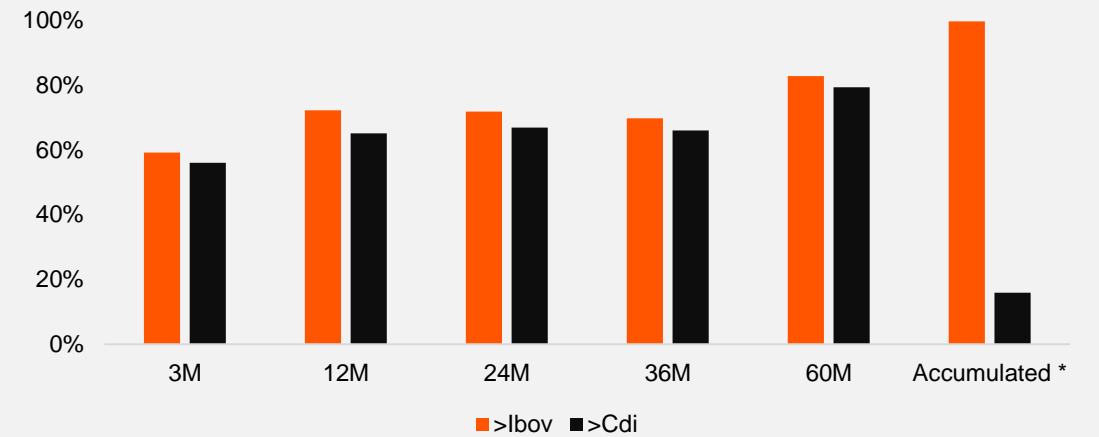
## Long And Short + CDI Performance



## Rolling 12 Months Return

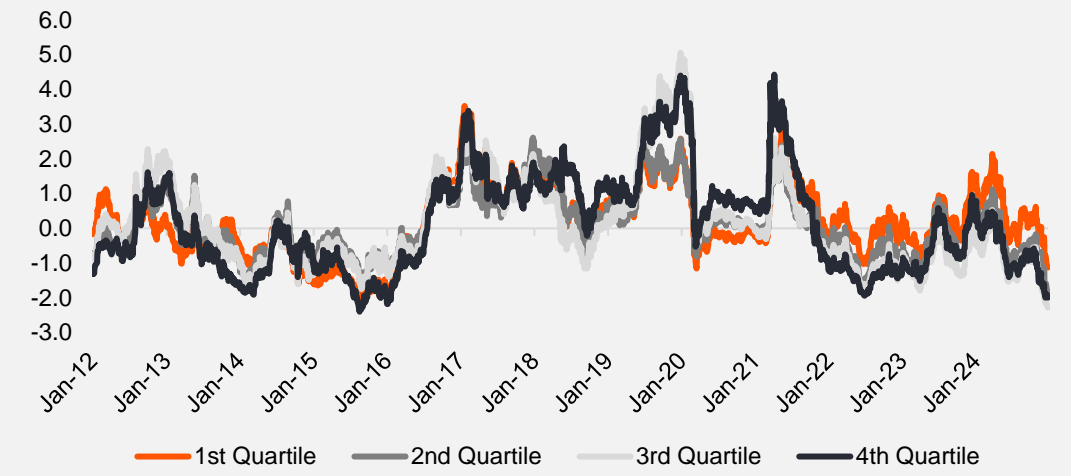


## 1st Quartiles Outperform As Percentage Of Total Windows

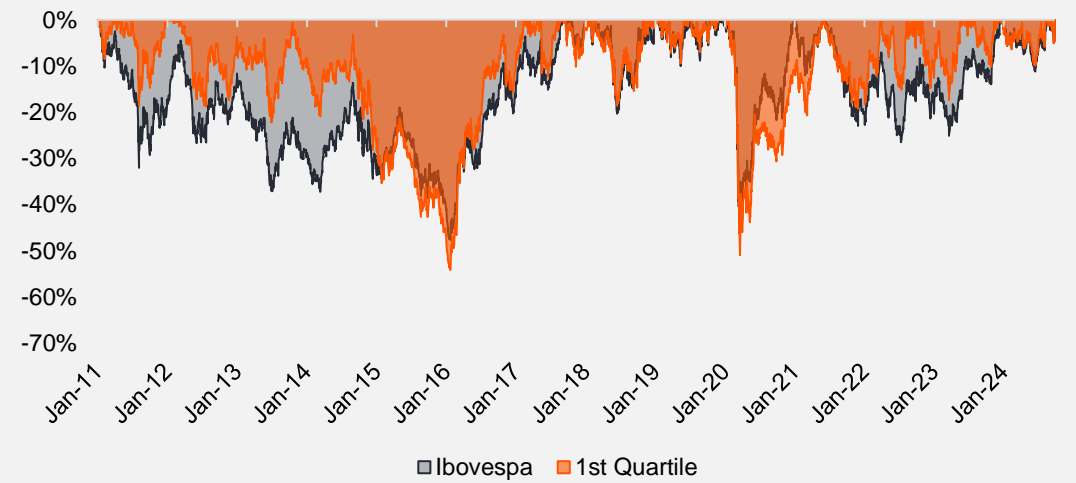


# Dividend Yield 12m Trailing - Key Graphs Takeaways

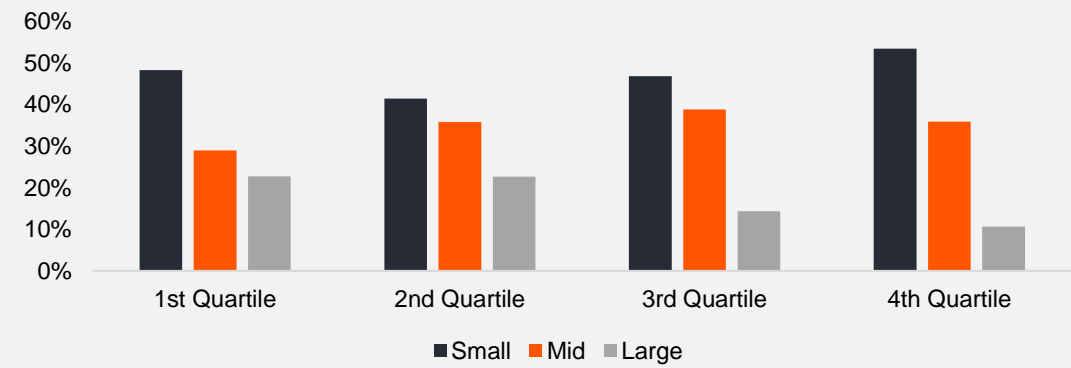
## Rolling Sharpe



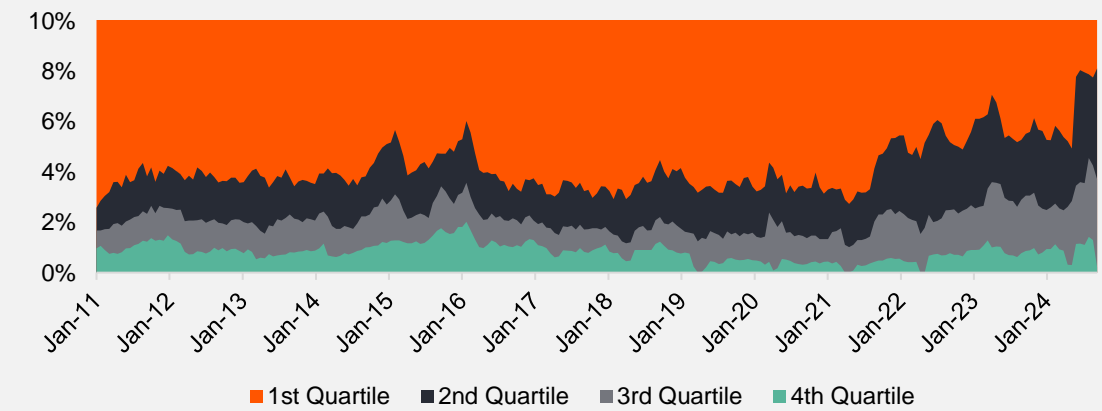
## Drawdown



## Marketcap Exposure



## Dividend Yield Trailing Frontier By Quartile

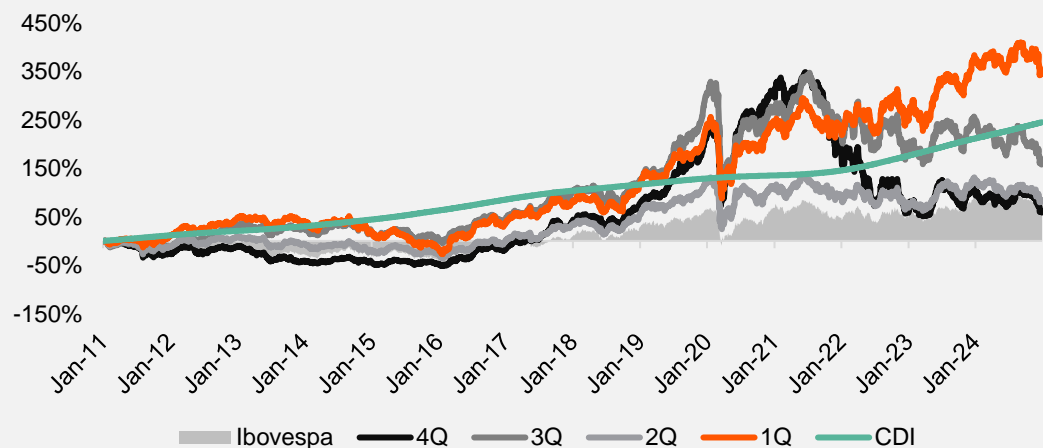


# Dividend Yield 12m Forward – Return Analysis

## Accumulated And Annual Performance

Date	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	Acummulated	Annualized
First Quartile	8.5%	34.2%	-2.8%	-14.7%	-28.4%	57.3%	32.9%	16.9%	57.8%	3.6%	-2.0%	8.5%	32.0%	-8.2%	344.1%	11.4%
Second Quartile	-12.7%	24.1%	-12.7%	-14.2%	-5.9%	30.1%	34.4%	11.1%	46.6%	-2.8%	-7.2%	-9.2%	29.8%	-22.1%	80.1%	4.4%
Third Quartile	-12.5%	51.3%	-4.2%	-3.2%	-12.7%	34.6%	38.3%	10.1%	81.5%	-5.5%	-8.3%	-13.6%	19.0%	-27.4%	158.2%	7.1%
Fourth Quartile	-26.3%	18.3%	-32.5%	-1.2%	-7.2%	53.7%	67.5%	24.9%	79.5%	28.0%	-28.7%	-40.8%	19.8%	-23.9%	53.5%	3.2%
Long 1Q Short 4Q	34.8%	15.8%	29.7%	-13.5%	-21.3%	3.6%	-34.6%	-8.1%	-21.8%	-24.4%	26.6%	49.3%	12.2%	15.7%	290.7%	10.4%
Long 2Q Short 3Q	-0.2%	-27.2%	-8.5%	-11.0%	6.8%	-4.6%	-3.9%	1.0%	-34.9%	2.7%	1.1%	4.4%	10.8%	5.3%	-78.1%	-4.3%
Ibovespa	-18.9%	7.4%	-15.5%	-2.9%	-13.3%	38.9%	26.9%	15.0%	31.6%	2.9%	-11.9%	4.7%	22.3%	-10.4%	71.9%	4.0%
CDI	11.5%	8.4%	8.1%	10.8%	13.2%	14.0%	10.0%	6.4%	6.0%	2.8%	4.4%	12.4%	13.0%	10.9%	250.2%	9.5%
GDP	-3.6%	-2.1%	1.1%	-2.5%	-4.1%	0.3%	4.6%	0.5%	-0.6%	-4.5%	8.3%	-2.1%	2.9%	2.2%	-0.5%	-0.04%

## Accumulated Performance



## Key Metrics

Quartile	Performance		vs Ibov	Vs Cdi	Risk Measures			Hit-Ratio	
	Acummulated	Annualized	Excess Return	Excess Return	Sharpe	Volatility	Maximum Drawdown	Positive	Negative
1st Quartile	402.11%	12.40%	312.39%	161.15%	0.32	22.2%	-53.6%	52.50%	47.50%
2nd Quartile	105.61%	5.36%	15.89%	-135.35%	0.03	22.4%	-46.6%	51.94%	48.06%
3rd Quartile	193.78%	8.12%	104.06%	-47.18%	0.22	23.1%	-51.9%	53.20%	46.80%
4th Quartile	65.84%	3.73%	-23.88%	-175.12%	0.05	26.2%	-65.9%	51.17%	48.83%
LongShort	331.79%	11.18%	242.07%	90.83%	0.29	15.8%	-51.4%	51.75%	48.25%
LongShort CDI	567.71%	14.75%	477.99%	326.75%	0.60	10.8%	-22.8%	53.83%	46.17%

# Dividend Yield 12m Forward – What Did We Actually Buy?

## Companies Allocation (As Percentage Of Presence In Portfolios)

Company	First Quartile	Company	Fourth Quartile
EGIE3	84.2%	RADL3	89.9%
CPFE3	78.6%	AMER3	78.3%
ABCB4	74.0%	MELI Equity	74.6%
LEVE3	69.0%	GOLL4	62.8%
TRPL4	67.9%	MGLU3	62.7%
BBAS3	67.8%	EMBR3	58.5%
ITUB4	67.8%	ENEV3	54.8%
ITSA4	57.3%	MRFG3	51.4%
ENBR3	55.7%	BRFS3	46.1%
CSMG3	54.4%	HAPV3	41.8%

## Companies Contribution to Return

First Quartile			Fourth Quartile		
Company	Contribution	Total Return	Company	Contribution	Total Return
PETR4	6.8%	31.1%	MELI US	34.2%	5.0%
LEVE3	5.6%	25.6%	ENEV3	24.3%	3.6%
ELET3	4.8%	22.1%	STNE US	22.4%	3.3%
SLCE3	4.1%	18.8%	MGLU3	20.9%	3.1%
GOAU4	3.9%	18.0%	EMBR3	20.2%	3.0%
TEND3	3.9%	17.9%	RADL3	19.1%	2.8%
ABCB4	3.8%	17.4%	AMBP3	16.9%	2.5%
WIZC3	3.7%	17.0%	STBP3	14.4%	2.1%
DIRR3	3.7%	16.8%	EVEN3	13.5%	2.0%
TRPL4	3.4%	15.4%	HAPV3	13.2%	1.9%

## Sectors Allocation

Sector	1st Quartile	2nd Quartile	3rd Quartile	4th Quartile
Consumer Discretionary	23.6%	21.6%	25.2%	28.0%
Utilities	21.8%	13.7%	5.6%	5.4%
Financials	20.6%	21.0%	4.8%	2.7%
Industrials	6.8%	10.5%	15.1%	16.5%
Communication Services	6.3%	1.9%	1.5%	1.6%
Materials	5.5%	6.2%	10.0%	8.3%
Consumer Staples	5.5%	7.9%	9.4%	15.0%
Energy	4.1%	5.2%	5.3%	4.9%
Real Estate	3.0%	3.5%	12.3%	5.6%
Health Care	2.4%	7.1%	6.2%	8.0%
Information Technology	0.3%	1.3%	4.5%	4.1%

## Sectors Contribution to Return

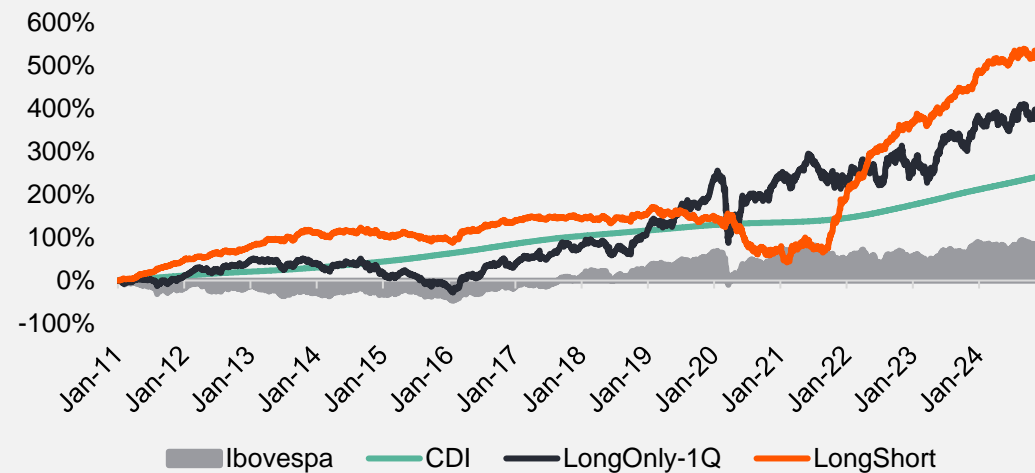
Sector	1st Quartile	2nd Quartile	3rd Quartile	4th Quartile
Consumer Discretionary	26.9%	19.6%	30.9%	23.9%
Financials	20.8%	23.4%	5.0%	8.7%
Utilities	17.7%	15.0%	4.6%	8.3%
Industrials	8.2%	16.6%	17.8%	24.4%
Energy	7.5%	7.8%	3.7%	0.5%
Consumer Staples	5.3%	9.1%	8.0%	8.8%
Materials	4.3%	3.2%	14.5%	6.7%
Communication Services	4.0%	2.3%	0.4%	1.1%
Health Care	2.3%	4.8%	2.4%	6.3%
Real Estate	1.6%	-1.6%	10.7%	5.5%
Information Technology	1.4%	-0.3%	2.0%	5.9%

# Dividend Yield 12m Forward – Key Graphs Takeaways

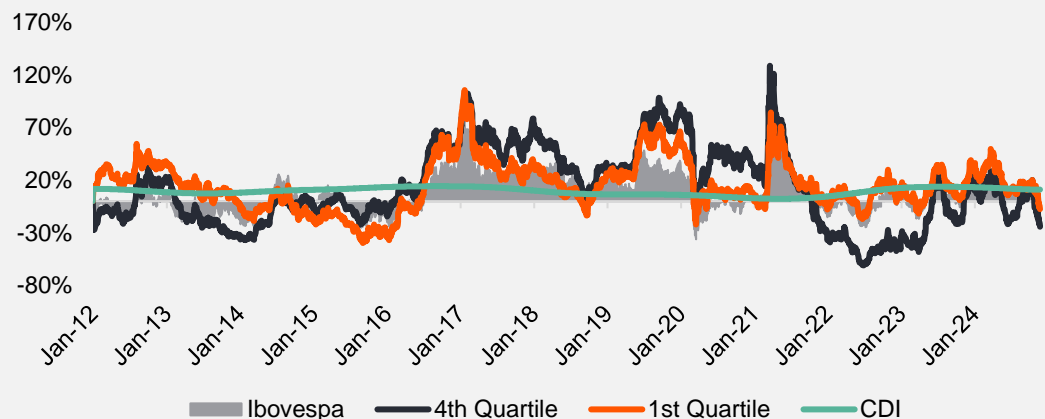
## 10 Stocks With Highest Dividend Yield Forward



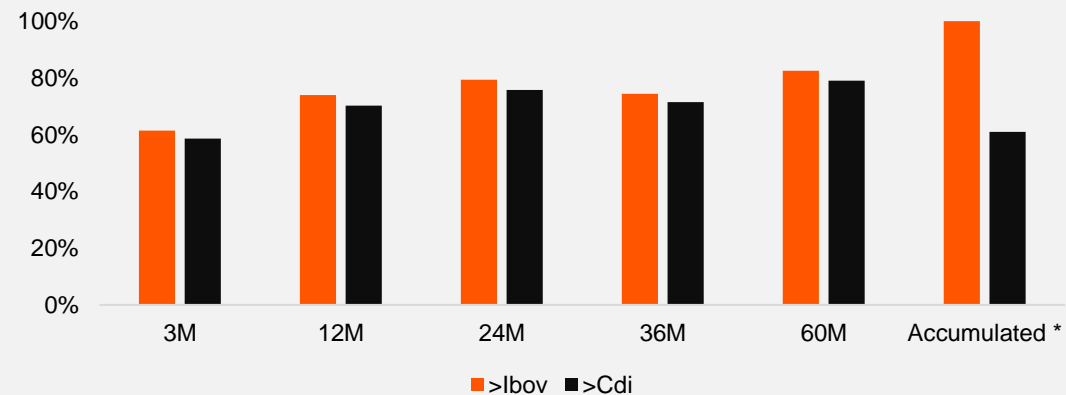
## Long And Short + CDI Performance



## Rolling 12 Months Return

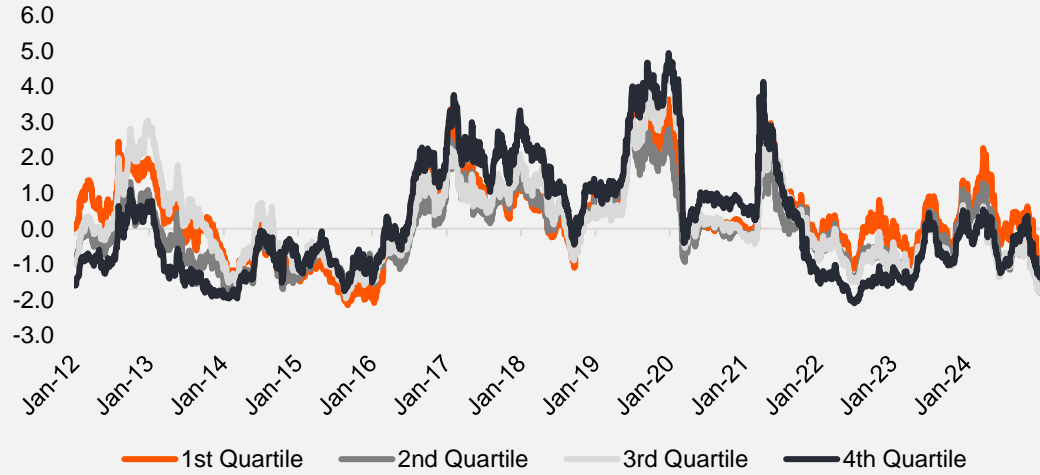


## 1st Quartiles Outperform As Percentage Of Total Windows

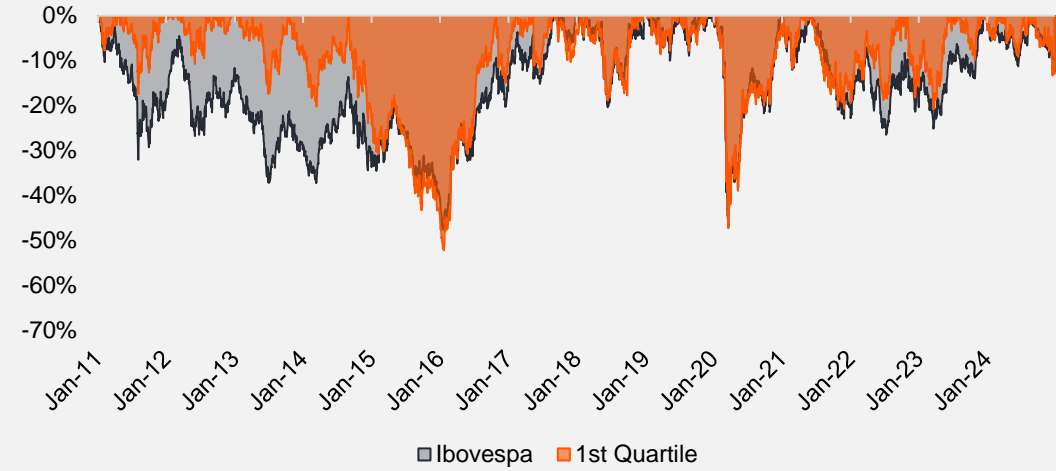


# Dividend Yield 12m Forward - Key Graphs Takeaways

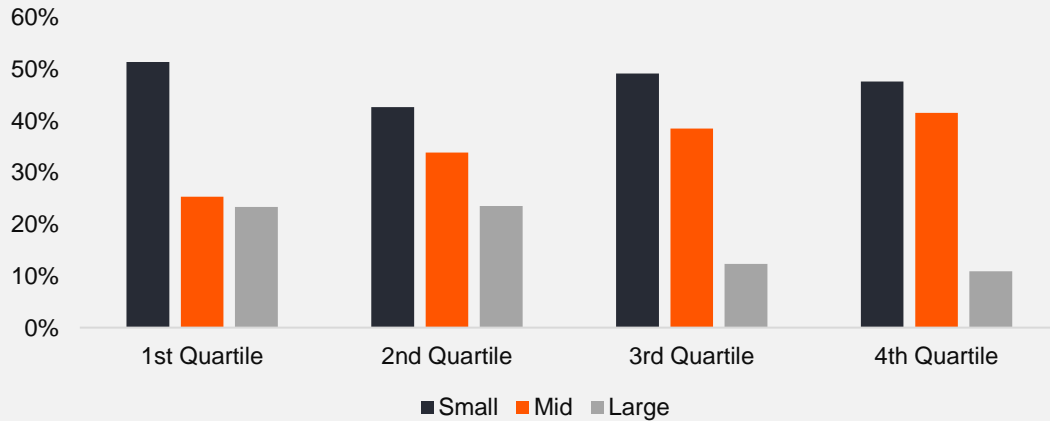
## Rolling Sharpe



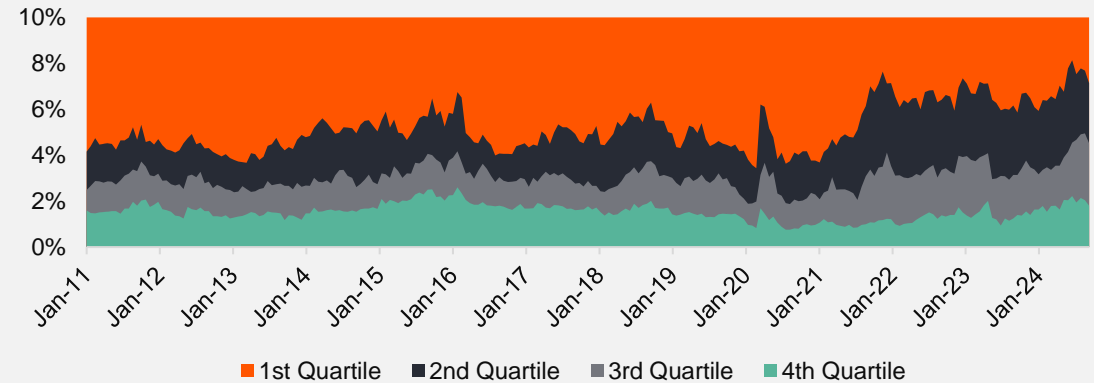
## Drawdown



## Marketcap Exposure



## Dividend Yield Forward Frontier By Quartile



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