

Equity Strategy

Market Data Monitor – Domestics Were The Main Laggards of The Past Week; Foreigners Increase Their Month-to-Date Flow to BRL 2 Billion

December 15, 2024

Our Take on the Data

- **Equity Flows.** Foreign investors were net buyers in the past five trading sessions, at BRL 1.0 billion, increasing their month-to-date inflow, now standing at BRL 2 billion. These investors now have a year-to-date outflow of BRL 31.8 billion. Institutional investors were net sellers in the recent trading sessions, for a cumulative month-to-date outflow of BRL 3.1 billion.
- **Sector Performance.** The Domestics category was the main laggard in the past week, while Commodities and Financials outperformed the IBOV broad index. In terms of sectors, Non-Bank Financials, Capital Goods, and Agribusiness were the top performers in the past week, while Food & Beverage, Consumer & Retail, and Homebuilders were the worst performers. In our thematic tracking, Exporters, SOEs, and Secular Calls were the best performers, while Low Vol Defensive Names, High Beta Domestics, and Quality Cyclical were the worst.
- **Factor Performance.** In our factor tracking, US Growth, Mexico Value, and US Momentum were the top-performing factors in the past week, while Brazil Value, LatAm Value, and US Small Caps were the worst performers.
- **Fund Industry.** According to Anbima's data, Hedge Funds registered BRL 13.2 billion in net redemptions month to date, adding up to BRL 336 billion in year-to-date. Active Equity Funds have also registered net redemptions in the same period, near BRL 1.3 billion, increasing the year-to-date outflow to BRL 27.8 billion.

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Valuation & Risk

Ibovespa P/E 12 Months Forward

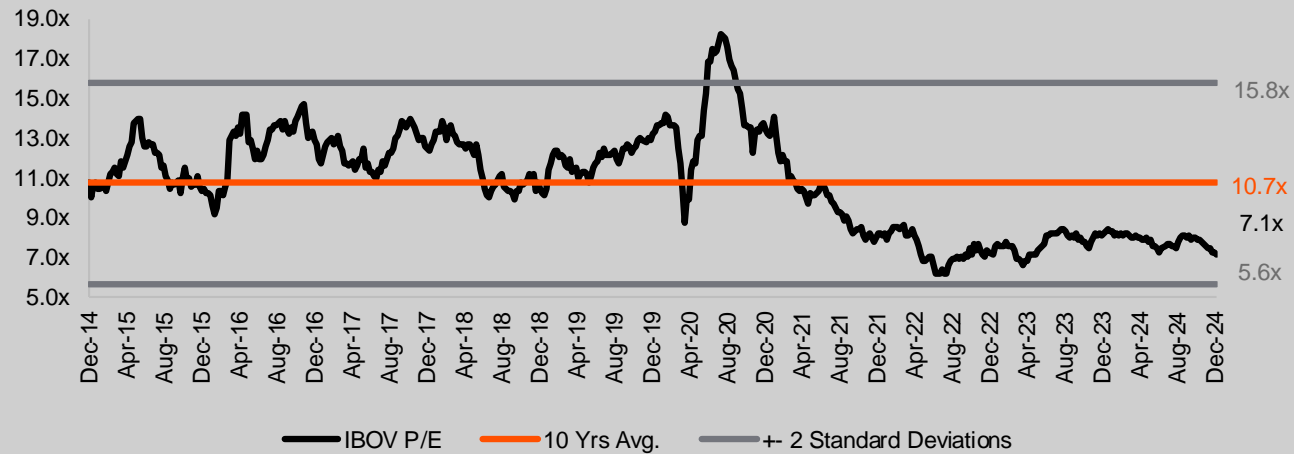


Chart Explained: Ibovespa P/E 12 Months Forward

- i) **Chart Elements:** IBOV P/E (current prices divided by next twelve months' earnings as expected by consensus), +/- 2 standard deviations (~95% of data should be located between these two boundaries), 10-Year Average.
- ii) **What This Chart Tells Us.** From this chart we can check if the index appears to be overvalued or undervalued. Strong deviations from the average should be further analyzed with other metrics.
- iii) **Data Availability:** Prices (Real Time), Earnings (Weekly).

Ibovespa P/E 12 Months Forward Excluding Petrobras and Vale

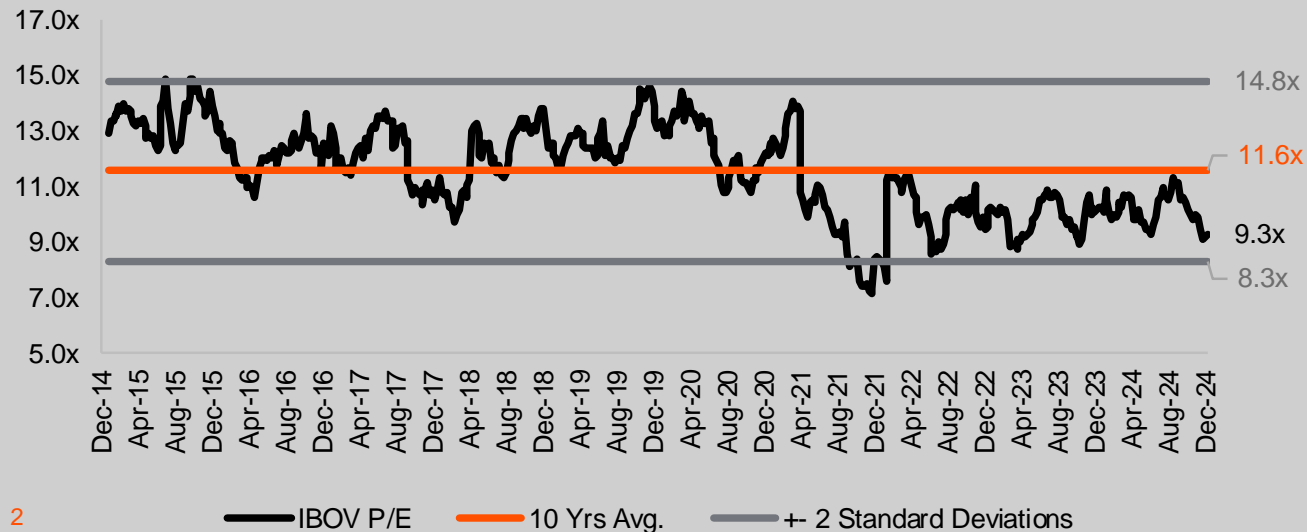


Chart Explained: Ibovespa P/E 12 Months Forward Excluding Petrobras and Vale

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Valuation & Risk

DI Contract Future Curve

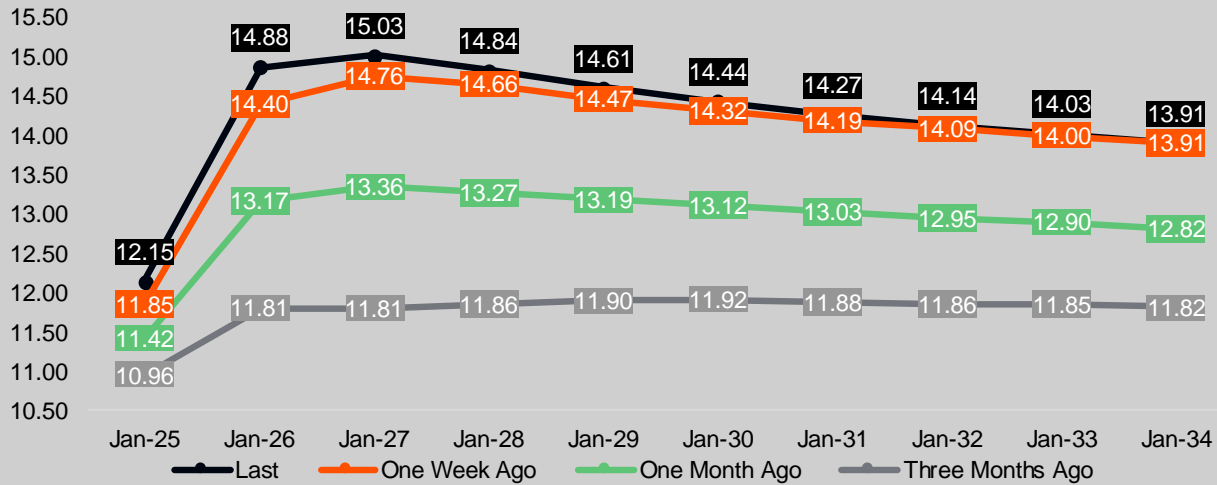


Chart Explained: DI Contract Future Curve

- i) **Chart Elements:** DI Contract Future Curve, built by different contract maturities, compared with the same curve from one week, one month and three months ago.
- ii) **What This Chart Tells Us.** From this chart we can see how interest rates expectations for medium and long term have been moving.
- iii) **Data Availability:** Daily

BRL/USD × Brazil 5-Year CDS

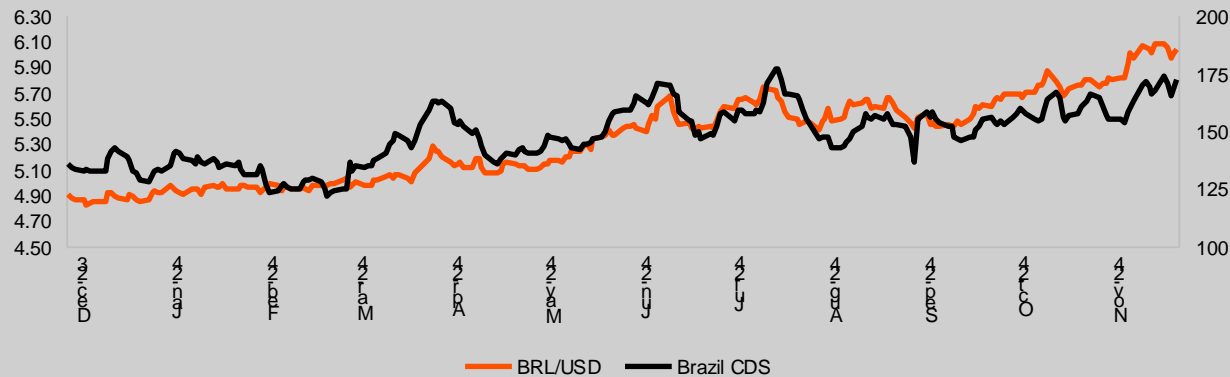


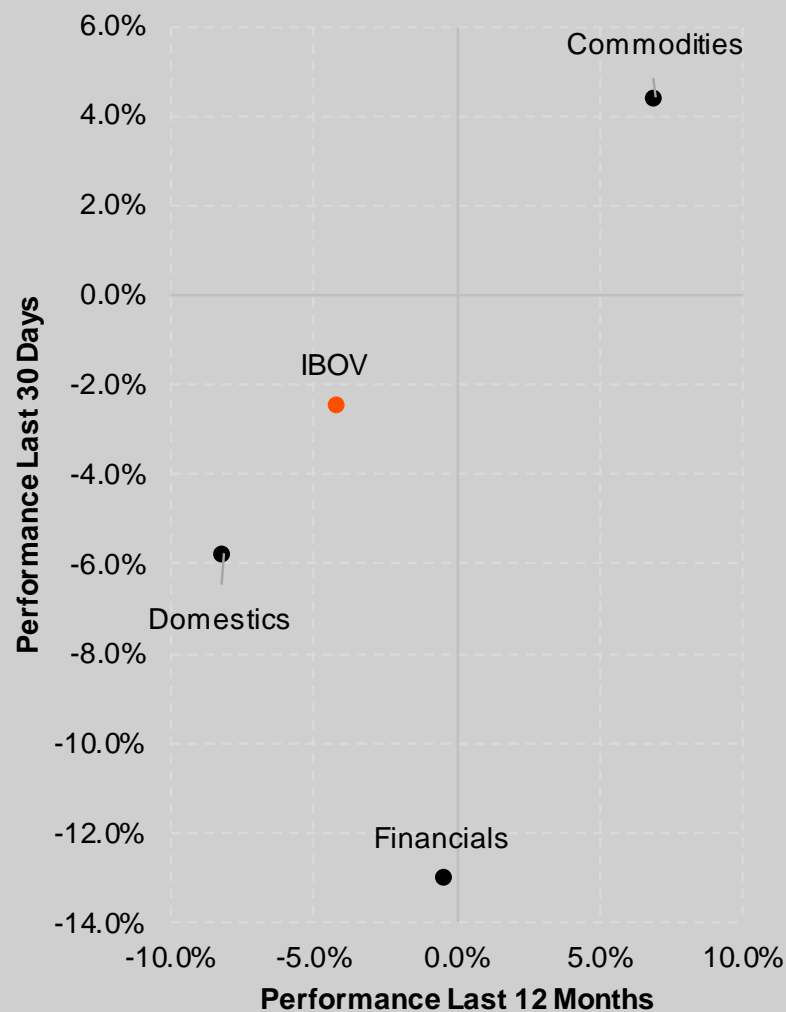
Chart Explained: BRL/USD × Brazil 5-Year CDS

- i) **Chart Elements:** BRL/USD (daily FX rates from the past 12 months), Brazil 5-Year Credit Default Swap daily data from the past 12 months.
- ii) **What This Chart Tells Us.** From this chart we can understand the current risk perception regarding Brazil.
- iii) **Data Availability:** Real Time.

Data	Latest	LTM Average	LTM Low	LTM High
Brazil CDS	173	148	122	177
BRL/USD	6.04	5.33	4.82	6.09

Performance by Cluster

Ibovespa Performance* by Major Groups



Ibovespa Performance* by Size

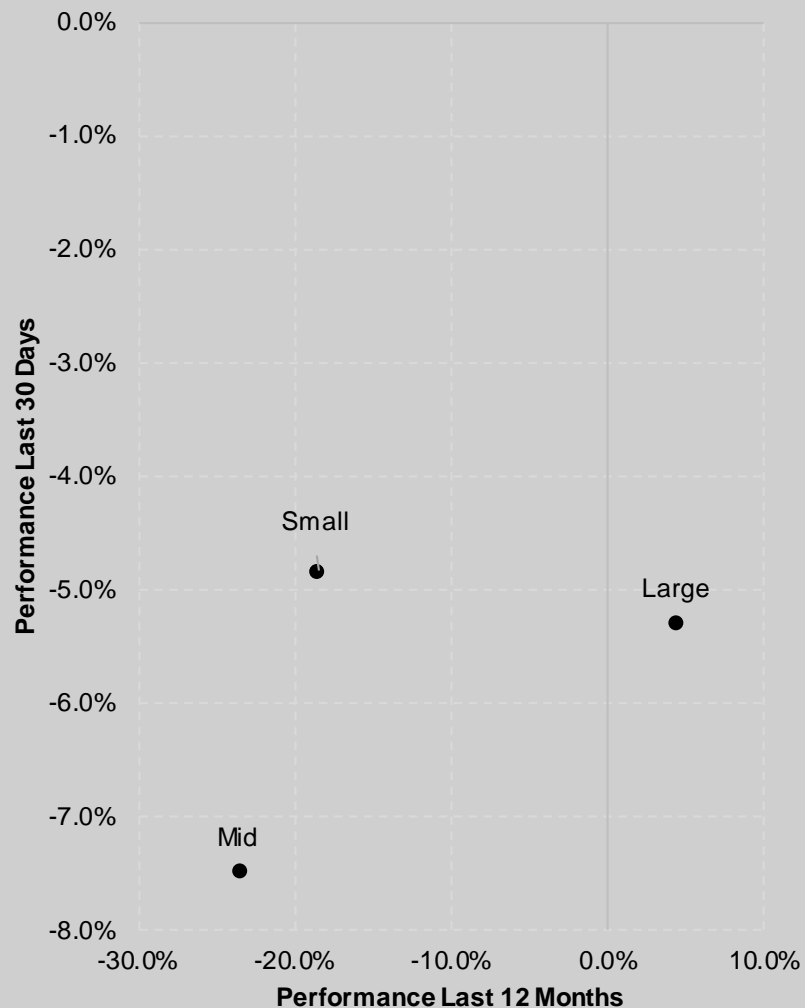


Chart Explained: Performance by Groups

i) **Chart Elements:** IBOV, Commodities, Domestic and Financials companies' price evolution.

ii) **What This Chart Tells Us.** From this chart we can check how sectors are performing compared to the index.

iii) **Data Availability:** Prices (Real Time).

Chart Explained: Performance by Size

i) **Chart Elements:** IBOV, Large, Mid and Small companies' price evolution.

ii) **What This Chart Tells Us.** From this chart we can check how companies with the same size are performing compared to the index.

iii) **Data Availability:** Prices (Real Time).

Class	1W	Size	1W
Commodities	-0.1%	Small	-0.3%
Financials	-0.3%	Large	-0.8%
Domestics	-1.7%	Mid	-1.7%

Performance by Sector

Performance* by Sector



Chart Explained: Performance by Sector

i) **Chart Elements:** IBOV, Agribusiness, Education, Financials, Food & Beverage, Healthcare, Industrials, Oil & Gas, Real Estate, Retail, Steel & Mining, TMT, Transportation, Utilities companies' price evolution.

ii) **What This Chart Tells Us.** From this chart we can check how sectors are performing compared with the index.

Sector	1W
Non-Bank Financials	1.4%
Capital Goods	1.3%
Agribusiness	1.0%
Oil & Gas	0.7%
Commodities	-0.1%
Small	-0.3%
Utilities	-0.3%
Healthcare	-0.3%
Financials	-0.3%
Steel & Mining	-0.9%
Banks	-0.9%
IBOV	-1.1%
TMT	-1.3%
Domestics	-1.7%
Malls & Properties	-2.2%
Education	-3.0%
Pulp & Paper	-3.2%
Transportation	-3.6%
Homebuilders	-3.9%
Consumer & Retail	-4.2%
Food & Beverage	-4.5%

Performance by Theme

Performance* by Theme

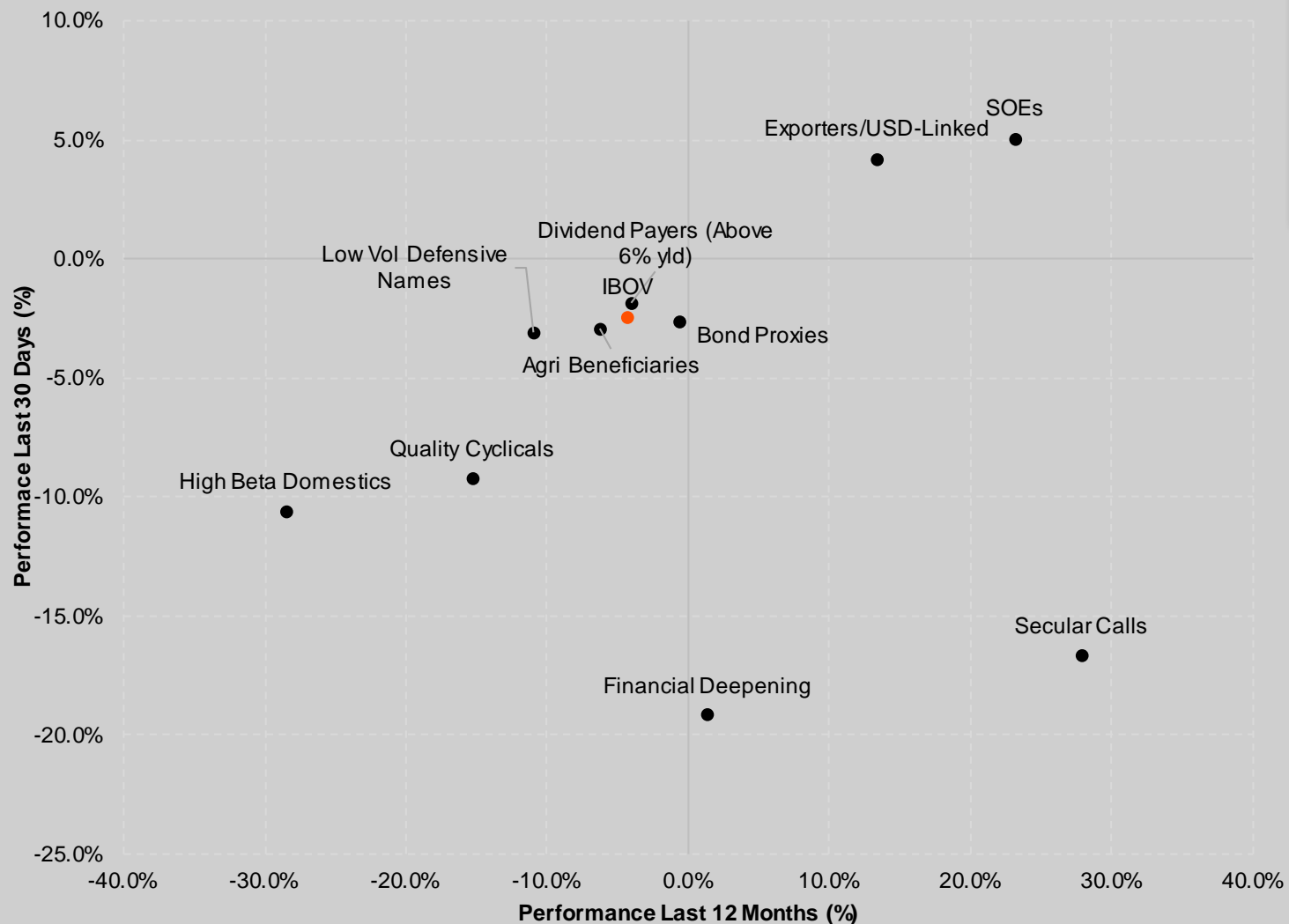


Chart Explained: Performance by Themes

i) **Chart Elements:** IBOV, Agri Beneficiaries, Bond Proxies, Exporters/USD-Linked, Financial Deepening, High Beta Domestics, Low Vol Defensives, Quality Cyclicals, SOEs, Secular Calls, and Dividend Payers price evolution.

ii) **What This Chart Tells Us.** From this chart we can check how themes are performing compared with the index.

Theme	1W
SOEs	1.1%
Secular Calls	0.4%
Exporters/USD-Linked	0.1%
Financial Deepening	0.0%
Agri Beneficiaries	-0.3%
Dividend Payers (Above 6% yld)	-0.3%
Bond Proxies	-0.6%
IBOV	-1.1%
Quality Cyclicals	-1.3%
High Beta Domestics	-2.5%
Low Vol Defensive Names	-3.2%

Global Performance Equity – EM/DM and Factor Performance

Emerging Markets

Country	1W	1M	6M	1YR	YTD
ARGENTINA	4.8%	16.3%	68.8%	117.1%	114.2%
KOREA	2.8%	2.5%	-13.9%	-6.2%	-10.1%
MEXICO	1.2%	3.7%	-6.9%	-22.3%	-23.9%
COLOMBIA	0.5%	2.8%	0.4%	8.9%	2.8%
SOUTH AFRICA	0.4%	3.6%	14.7%	14.0%	12.6%
INDIA	0.3%	6.1%	4.2%	21.4%	19.8%
EM EX CHINA	0.2%	2.2%	1.4%	10.8%	7.5%
EM	0.2%	2.0%	2.8%	10.6%	8.1%
MALAYSIA	0.2%	1.8%	1.4%	10.2%	10.8%
TAIWAN	-0.2%	1.8%	6.6%	43.5%	40.6%
SAUDI ARABIA	-0.3%	2.1%	4.7%	1.4%	-2.2%
LATAM	-0.5%	-4.2%	-8.3%	-22.6%	-25.3%
CHILE	-1.0%	2.2%	-2.7%	-6.7%	-7.2%
BRAZIL	-1.3%	-8.1%	-9.8%	-26.4%	-29.5%
INDONESIA	-1.4%	-0.1%	5.3%	-7.3%	-8.4%
THAILAND	-1.8%	-1.9%	9.3%	3.0%	1.2%
PERU	-2.4%	-0.1%	5.3%	23.4%	18.2%
CHINA	-2.6%	1.8%	9.2%	17.0%	16.3%

Developed Markets

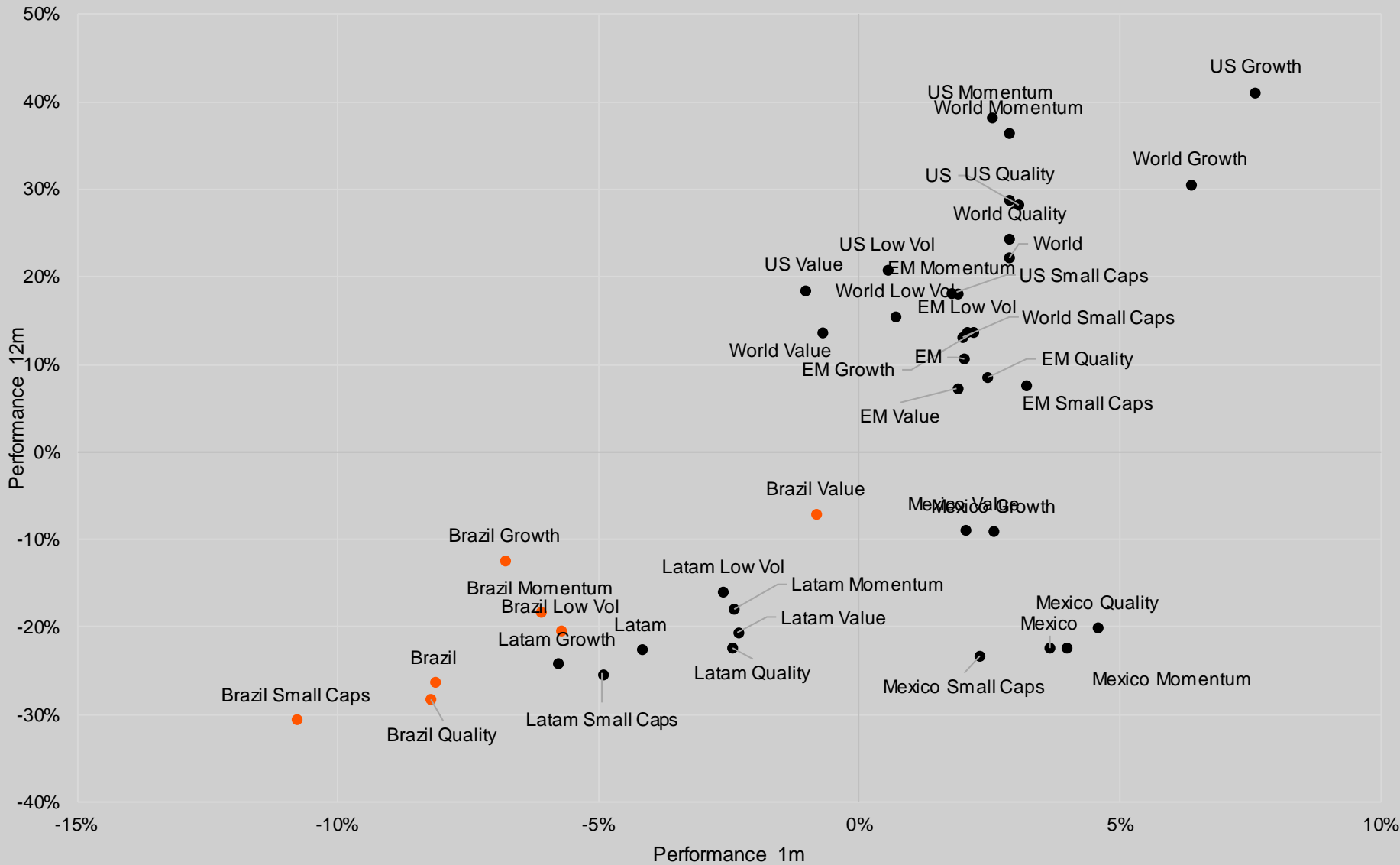
Index	Ticker	1W	1M	6M	1YR	YTD
Developed Markets	DM Index	-0.5%	2.9%	9.4%	22.3%	20.6%
NASDAQ	CCMP Index	0.3%	6.7%	12.7%	34.5%	32.7%
MSCI Italy ETF	EWI INDEX	-0.3%	3.0%	6.7%	12.0%	11.0%
S&P 500	SPX INDEX	-0.6%	3.1%	11.4%	28.2%	26.9%
MSCI Germany ETF	EWG INDEX	-0.8%	4.9%	10.4%	13.2%	11.6%
MSCI ACWI ETF	ACWI INDEX	-0.9%	2.9%	9.3%	20.9%	19.9%
MSCI France ETF	EWQ INDEX	-1.0%	1.6%	-2.1%	-5.4%	-5.9%
MSCI United Kingdom ETF	EWU INDEX	-1.1%	3.0%	1.7%	8.0%	7.4%
MSCI Canada ETF	EWC INDEX	-2.0%	0.7%	15.0%	16.9%	14.5%
MSCI Japan ETF	EWJ INDEX	-2.2%	3.0%	3.6%	10.1%	8.4%
MSCI Australia ETF	EWA INDEX	-2.3%	-1.8%	4.2%	5.3%	3.1%
Russell 2000	IWM INDEX	-2.5%	2.0%	17.3%	18.3%	16.1%

Chart Explained: Global Performance

- i) **Chart Elements:** Equity performance of major global emerging and developed markets and main factors in in the last week, last month, last six months, last twelve months and year-to-date.
- ii) **What This Chart Tells Us.** From this chart we can see which global markets are being favored by investors.
- iii) **Data Availability:** Prices (Real Time).

Global Performance Equity – EM/DM and Factor Performance

Factors: World, United States, LatAm, Brazil and EM



Country/Region/Factor	1W
US Growth	1.2%
Mexico Value	1.1%
US Momentum	0.7%
Mexico Small Caps	0.7%
Mexico Growth	0.5%
World Growth	0.4%
World Momentum	0.0%
EM Low Vol	-0.1%
EM Small Caps	-0.1%
EM Quality	-0.1%
Mexico Quality	-0.5%
Brazil Growth	-0.5%
EM Growth	-0.6%
US Quality	-0.6%
Latam Growth	-0.7%
EM Value	-0.7%
EM Momentum	-0.8%
Brazil Momentum	-0.8%
World Quality	-0.9%
Latam Quality	-1.0%
US Low Vol	-1.1%
Brazil Quality	-1.2%
World Low Vol	-1.3%
Latam Momentum	-1.4%
US Value	-1.5%
World Value	-1.6%
Latam Low Vol	-1.6%
World Small Caps	-1.7%
Latam Small Caps	-1.7%
Mexico Momentum	-1.7%
Brazil Low Vol	-2.1%
Brazil Small Caps	-2.3%
US Small Caps	-2.6%
Latam Value	-2.8%
Brazil Value	-4.2%

Global Performance Equity – EM/DM and Factor Performance

Factors: World, United States, LatAm, Brazil and EM

Brazil					
Country/Region	1W	1M	6M	1YR	YTD
Brazil Growth	-0.5%	-6.8%	0.8%	-12.4%	-14.4%
Brazil Momentum	-0.8%	-6.1%	-4.8%	-18.4%	-22.2%
Brazil Quality	-1.2%	-8.2%	-9.7%	-28.3%	-30.5%
Brazil Low Vol	-2.1%	-5.7%	-6.1%	-20.5%	-23.5%
Brazil Small Caps	-2.3%	-10.8%	-15.9%	-30.6%	-33.0%
Brazil Value	-4.2%	-0.8%	3.3%	-7.1%	-9.8%

US					
Country/Region	1W	1M	6M	1YR	YTD
US Growth	1.2%	7.6%	15.1%	41.1%	39.7%
US Momentum	0.7%	2.5%	8.0%	38.2%	35.9%
US Quality	-0.6%	2.9%	7.3%	28.8%	27.3%
US Low Vol	-1.1%	0.6%	11.2%	20.8%	19.2%
US Value	-1.5%	-1.1%	10.1%	18.6%	17.2%
US Small Caps	-2.6%	1.9%	17.0%	18.2%	15.8%

Latam					
Country/Region	1W	1M	6M	1YR	YTD
Latam Growth	-0.7%	-5.8%	-9.9%	-24.2%	-26.9%
Latam Quality	-1.0%	-2.4%	-7.0%	-22.4%	-24.7%
Latam Momentum	-1.4%	-2.4%	-2.8%	-18.0%	-21.0%
Latam Low Vol	-1.6%	-2.6%	-6.5%	-16.0%	-18.6%
Latam Small Caps	-1.7%	-4.9%	-12.1%	-25.3%	-27.7%
Latam Value	-2.8%	-2.3%	-6.2%	-20.6%	-23.3%

World					
Country/Region	1W	1M	6M	1YR	YTD
World Growth	0.4%	6.4%	10.9%	30.6%	28.9%
World Momentum	0.0%	2.9%	6.5%	36.4%	33.7%
World Quality	-0.9%	2.9%	3.7%	24.3%	22.3%
World Low Vol	-1.3%	0.7%	9.7%	15.5%	13.6%
World Value	-1.6%	-0.7%	7.7%	13.7%	12.1%
World Small Caps	-1.7%	2.0%	11.1%	13.2%	10.7%

Mexico					
Country/Region	1W	1M	6M	1YR	YTD
Mexico Value	1.1%	2.0%	4.9%	-8.8%	-8.4%
Mexico Small Caps	0.7%	2.3%	-11.7%	-23.3%	-25.8%
Mexico Growth	0.5%	2.6%	-1.6%	-9.1%	-10.3%
Mexico Quality	-0.5%	4.6%	-5.6%	-20.1%	-22.0%
Mexico Momentum	-1.7%	4.0%	-5.3%	-22.4%	-24.1%

EM					
Country/Region	1W	1M	6M	1YR	YTD
EM Low Vol	-0.1%	2.1%	7.2%	13.6%	10.6%
EM Small Caps	-0.1%	3.2%	0.0%	7.7%	5.4%
EM Quality	-0.1%	2.5%	2.6%	8.5%	6.0%
EM Growth	-0.6%	2.2%	4.6%	13.7%	12.0%
EM Value	-0.7%	1.9%	0.9%	7.3%	4.1%
EM Momentum	-0.8%	1.8%	1.0%	18.1%	16.0%

Market Capitalization and Investor Ownership

Brazil Market Cap (USD Billion), Brazil Market Cap (BRL Billion) and Float (BRL Billion)

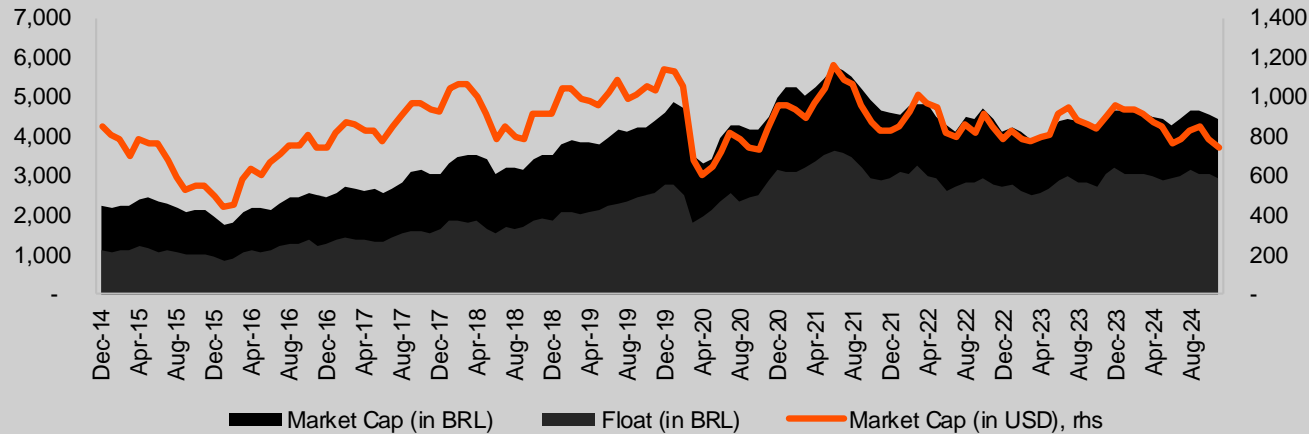


Chart Explained: Market Cap and Float

i) **Chart Elements:** Brazil total market capitalization and the total percentage that is in the hands of financial investors such as foreign investors, institutions and retail investors. The remainder relates to controlling positions.

ii) **What This Chart Tells Us.** Significant liquidity and market sentiment proxy.

iii) **Data Availability:** Monthly.

Data	Latest	Average (10 yrs)	Low (10yrs)	High (10yrs)
Market Cap (USD bln)	743	850	439	1,158
Market Cap (BRL bln)	4,436	3,716	1,755	5,756
Float (%)	65%	58%	45%	68%

Brazil Float Ownership by Investor (%)

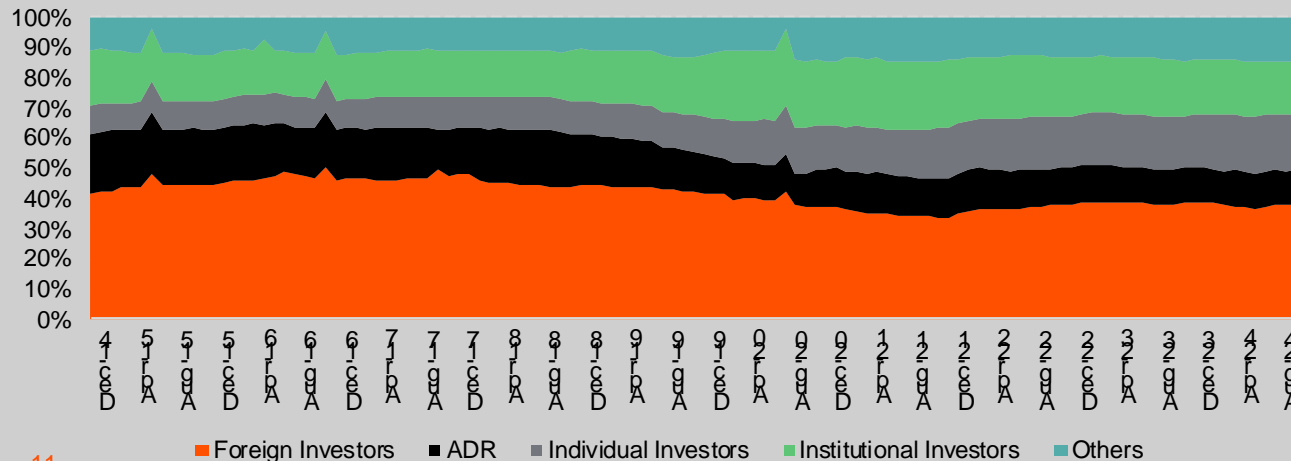


Chart Explained: Float Ownership

i) **Chart Elements:** Percentage of total tradeable stocks owned by each investor.

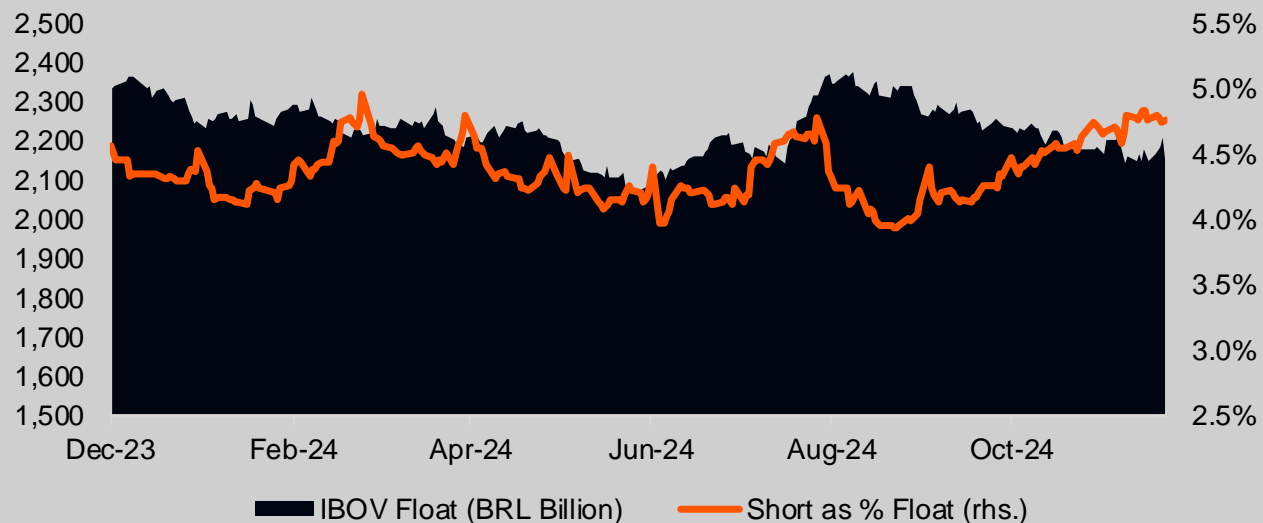
ii) **What This Chart Tells Us.** Helps us understand the shifting long-term trends that drive the market.

iii) **Data Availability:** Monthly.

Data	Latest	Average (10 yrs)	Low (10yrs)	High (10yrs)
Foreign Investors	37.1%	41.4%	33.8%	50.1%
ADR	12.1%	14.7%	10.6%	20.5%
Individual Investors	18.8%	13.4%	9.1%	18.9%
Institutional Investors	17.1%	18.3%	14.4%	25.1%
Others	14.8%	12.1%	3.5%	14.9%

Stock Lending Market

Open Short Position as % of Float



Open Short Position as % of Market Cap

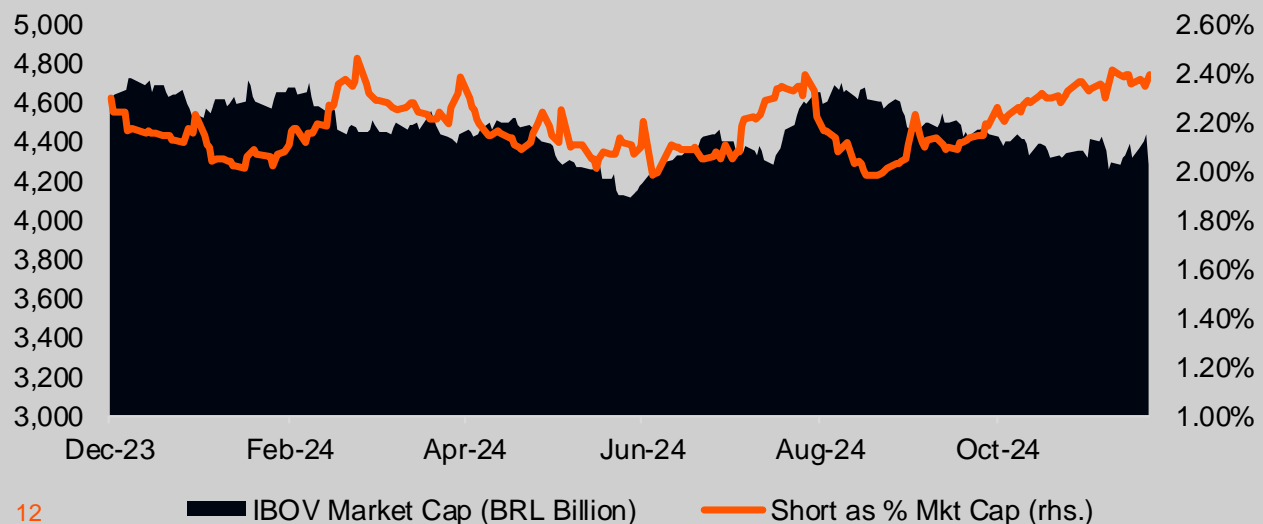


Chart Explained: Short Position as % of Float

- i) **Chart Elements:** Percentage of open position in stock lending contracts compared to float of IBOV components.
- ii) **What This Chart Tells Us.** Helps us understand the short-term technical position and mood from investors.
- iii) **Data Availability:** Daily, with a one-day lag.

Chart Explained: Short Position as % of Market Cap

- i) **Chart Elements:** Percentage of open position in stock lending contracts compared to total market cap of IBOV components.
- ii) **What This Chart Tells Us.** Helps us understand the short-term technical position and mood from investors.
- iii) **Data Availability:** Daily, with a one-day lag.

Stock Lending Market

Short as % of Float by Sector vs. 12m Average

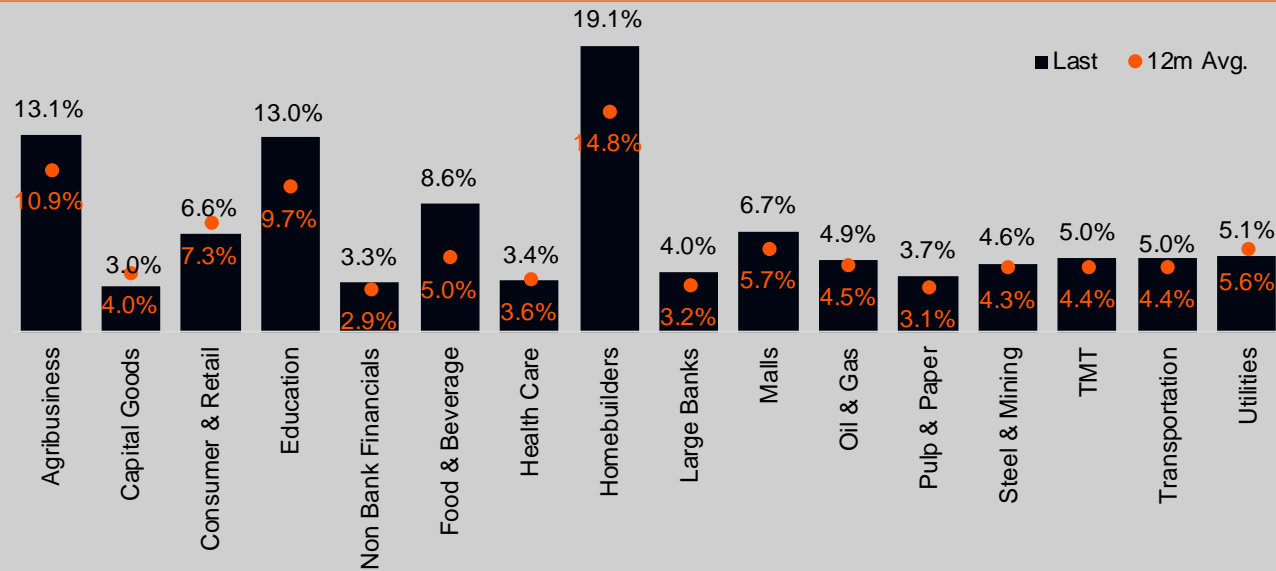
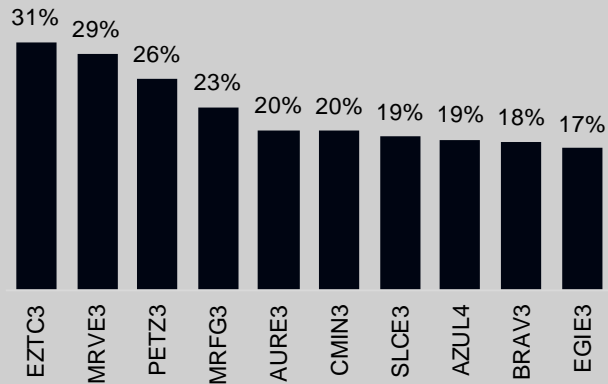


Chart Explained: Short as % of Float by Sector

- i) **Chart Elements:** Percentage of open position in stock lending contracts compared to float of IBOV components grouped by sectors, compared to its average.
- ii) **What This Chart Tells Us.** Helps us understand changes short-term technical position and mood from investors.
- iii) **Data Availability:** Daily with a one-day lag.

Highest Shorts as % of Float



Highest Increase in Shorted Shares (One Week)

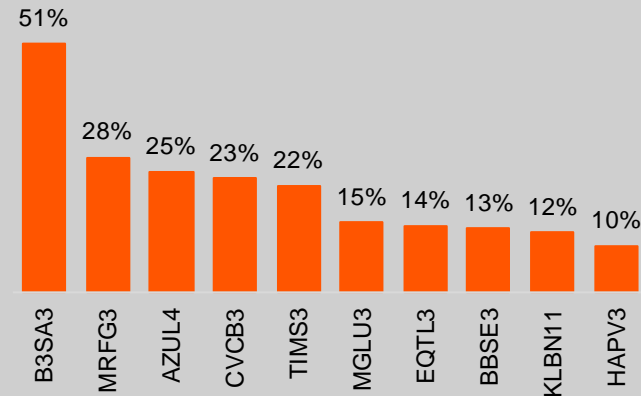


Chart Explained: Highest Shorts and Increase in Shorts

- i) **Chart Elements:** Stocks with highest shorts as % of float and stocks with highest increase in shorted shares in the past week (include only IBOV components).
- ii) **What This Chart Tells Us.** Helps us understand changes short-term technical position and mood from investors.
- iii) **Data Availability:** Daily with a one-day lag.

Investment Funds Segment Data

Brazil Hedge Fund Industry AUM (BRL Billion)

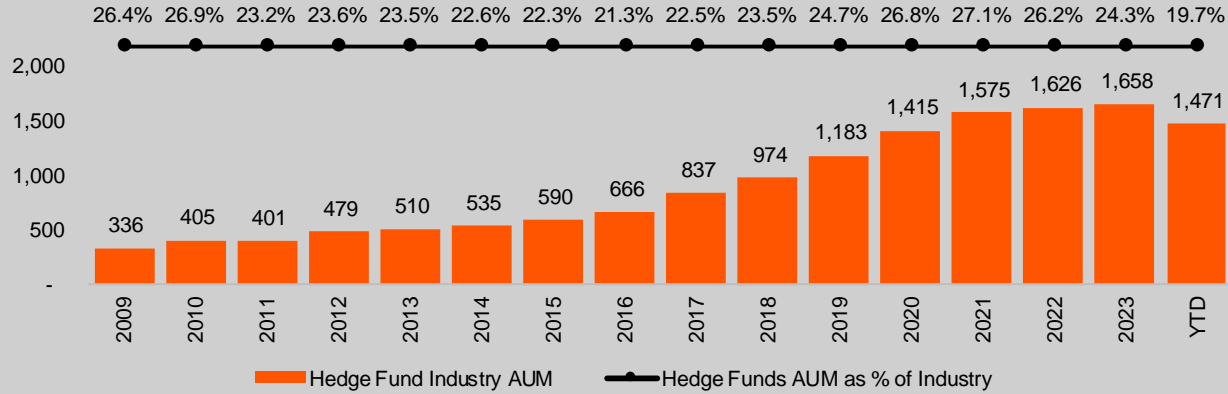


Chart Explained: Hedge Fund Industry AUM

- i) **Chart Elements:** Assets under management belonging to all funds registered as “Multimercado” under Anbima.
- ii) **What This Chart Tells Us.** Helps us understand the current size and health of the hedge fund industry.
- iii) **Data Availability:** Daily.

Brazil Equity Fund Industry AUM (BRL Billion)

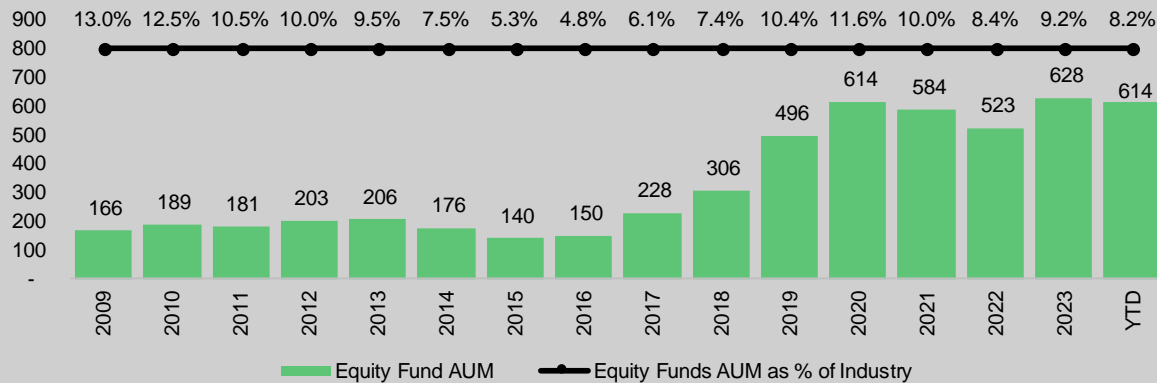
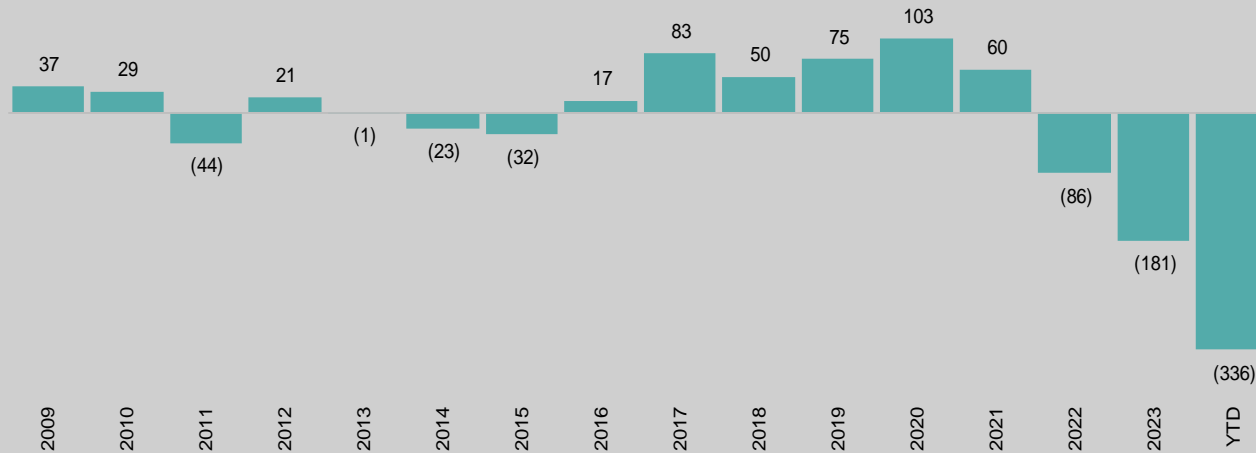


Chart Explained: Equity Fund Industry AUM

- i) **Chart Elements:** Assets under management belonging to all funds registered as “Ações” under Anbima.
- ii) **What This Chart Tells Us.** Helps us understand the current size and health of the equity fund industry.
- iii) **Data Availability:** Daily.

Investment Funds Segment Data

Brazil Hedge Fund Inflow (BRL Billion)



Brazil Equity Fund Inflow (BRL Billion)

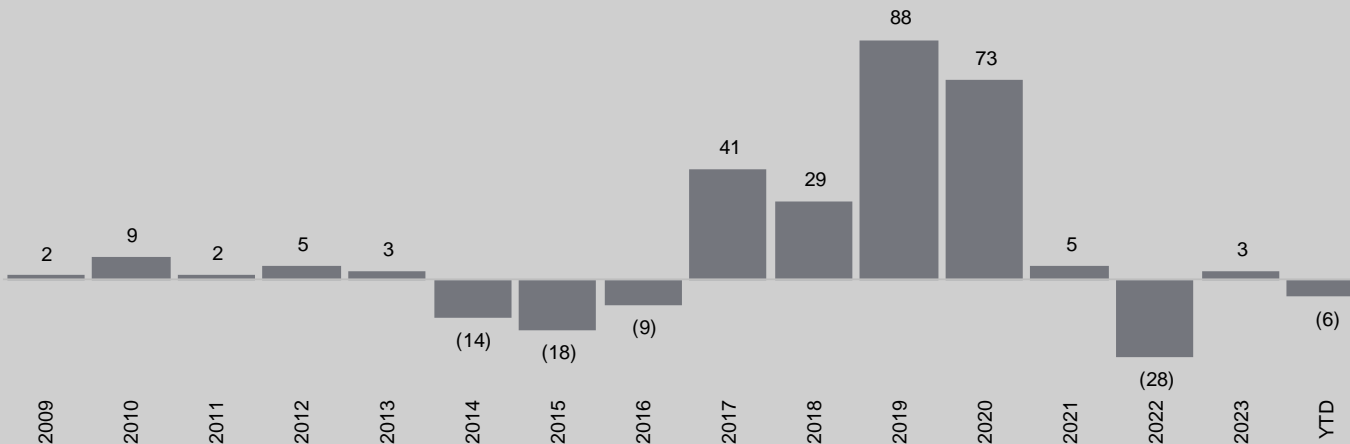


Chart Explained: Hedge Fund Inflow

- i) **Chart Elements:** Incoming capital into funds registered as “Multimercado” under Anbima.
- ii) **What This Chart Tells Us.** Helps us understand the long-term trend and health of the hedge fund industry.
- iii) **Data Availability:** Daily

Chart Explained: Equity Fund Inflow

- i) **Chart Elements:** Incoming capital into funds registered as “Ações” under Anbima.
- ii) **What This Chart Tells Us.** Helps us understand the long-term trend and health of the equity fund industry.
- iii) **Data Availability:** Daily

Investment Funds Segment Data

Brazil Hedge Fund Inflow (BRL Billion) – Last 12 months*

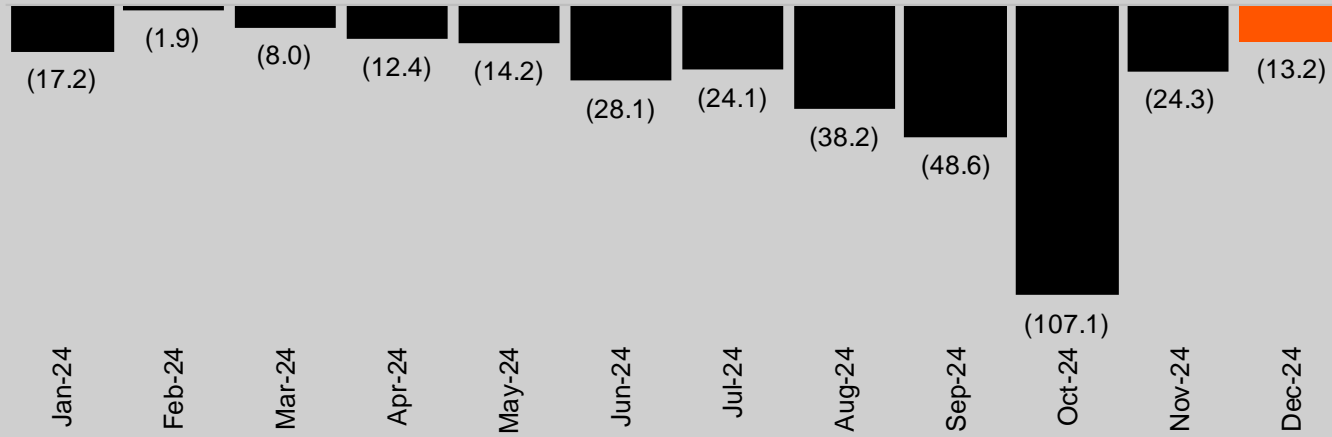


Chart Explained: Hedge Fund Inflow

- i) **Chart Elements:** Incoming capital into funds registered as “Multimercado” under Anbima.
- ii) **What This Chart Tells Us.** Helps us understand the short-term trend of the active equity fund industry.
- iii) **Data Availability:** Daily

Brazil Active Equity Fund Inflow (BRL Billion) – Last 12 months*

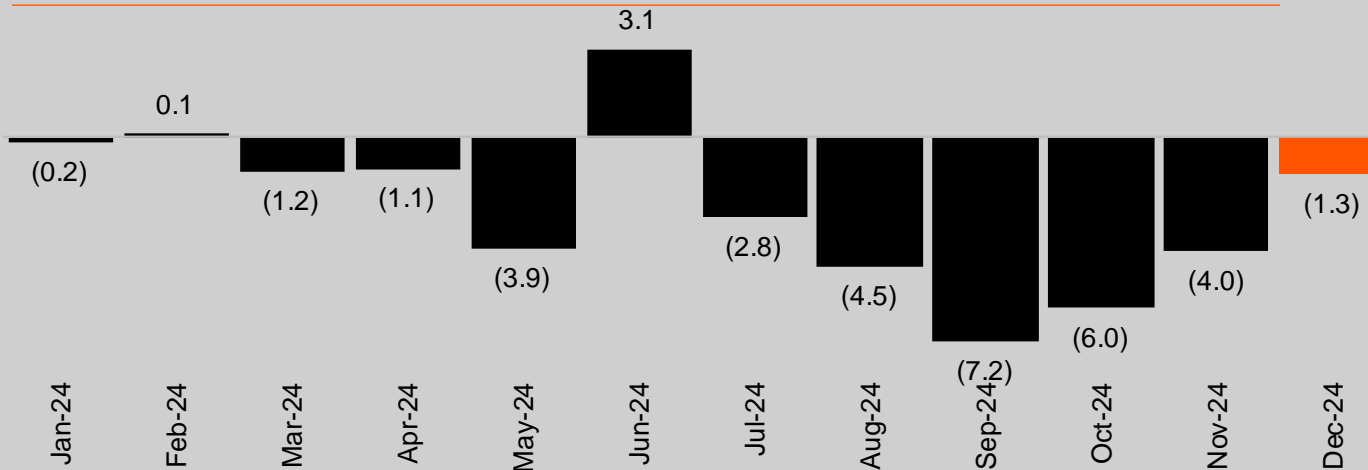


Chart Explained: Active Equity Fund Inflow

- i) **Chart Elements:** Incoming capital into funds registered as “Ações Ativos” under Anbima.
- ii) **What This Chart Tells Us.** Helps us understand the short-term trend of the active equity fund industry.
- iii) **Data Availability:** Daily

Investment Funds Segment Data

Brazil Fund Inflow (BRL Million)

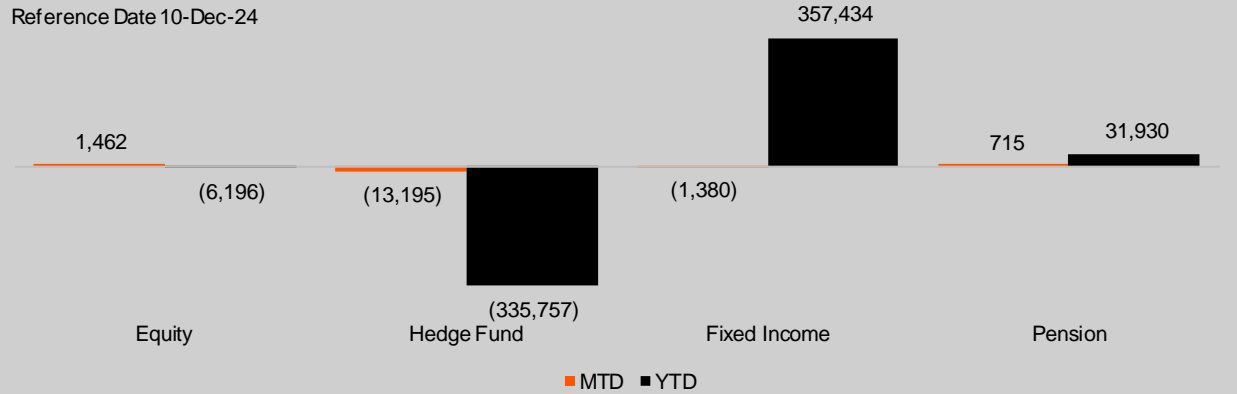


Chart Explained: Month-to-Date Inflow

- i) **Chart Elements:** Incoming capital into funds registered under Anbima.
- ii) **What This Chart Tells Us.** Helps us understand the short-term trend and health the fund industry.
- iii) **Data Availability:** Daily.

Brazil Equity Fund Inflow (BRL Million)

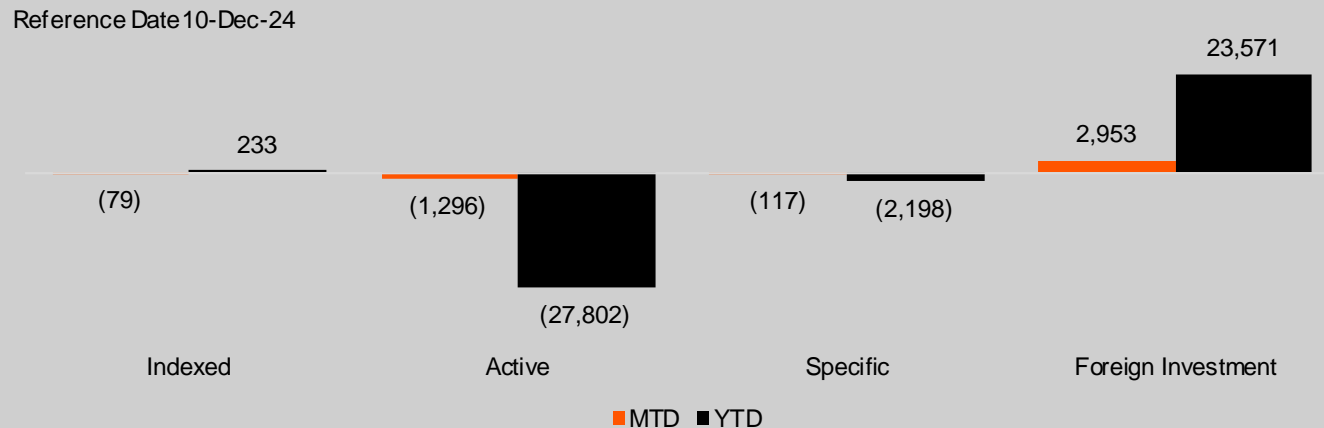
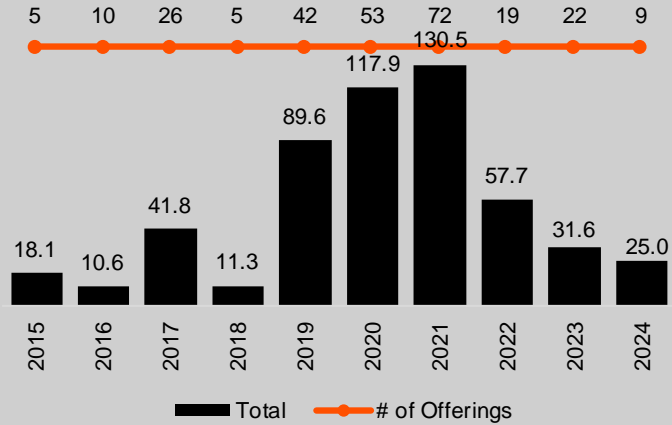


Chart Explained: Year-to-Date Inflow

- i) **Chart Elements:** Incoming capital into funds registered under Anbima.
- ii) **What This Chart Tells Us.** Helps us understand the medium-term trend and health of the fund industry.
- iii) **Data Availability:** Daily.

Equity Capital Market Activity

Total Capital Raised (BRL Billion)



IPO x Follow On

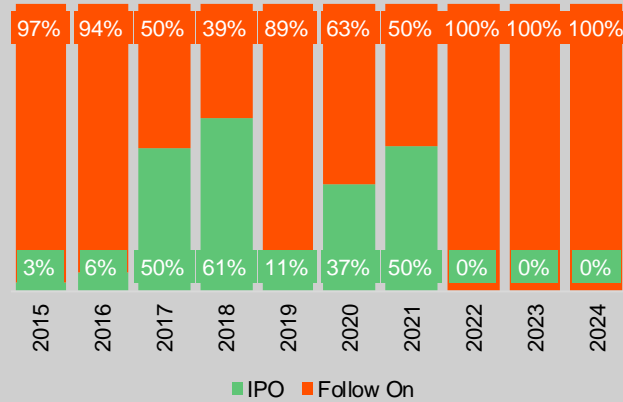
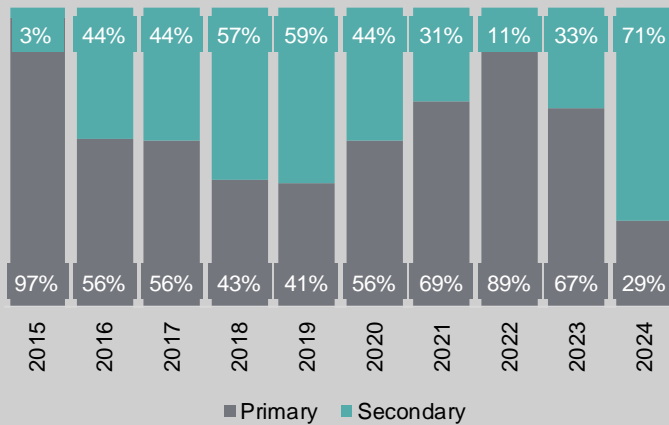


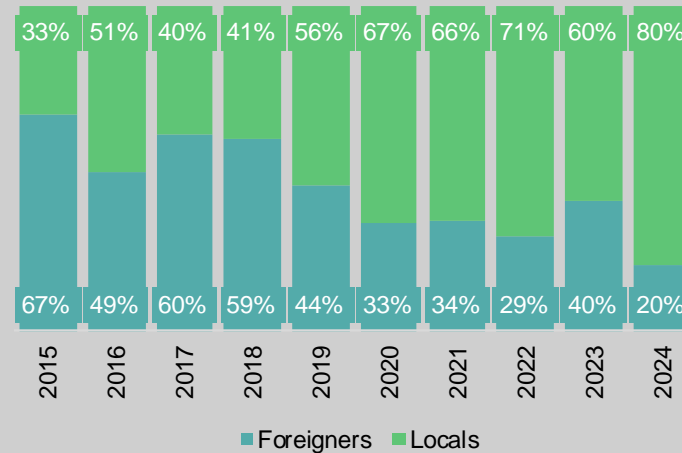
Chart Explained: ECM Activity

- i) **Chart Elements:** B3 data on the value generated through IPOs + follow-ons each month.
- ii) **What This Chart Tells Us.** Helps us understand the short- and long-term trends driving equity markets.
- iii) **Data Availability:** Updated usually with a 15- to 30-day delay. Data only available for deals carried out in B3.

Primary x Secondary

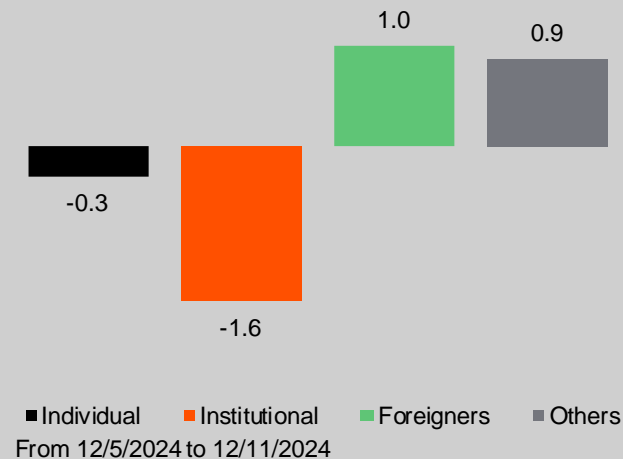


Foreigners x Locals (Allocation Breakdown)



Brazil Investor Flow - Cash

Last Week Investor Flow (BRL Billion)



Individual Investor Monthly Flow (BRL Billion)

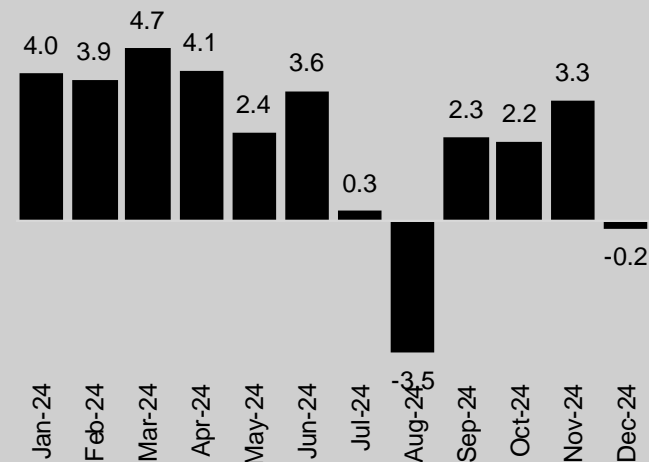
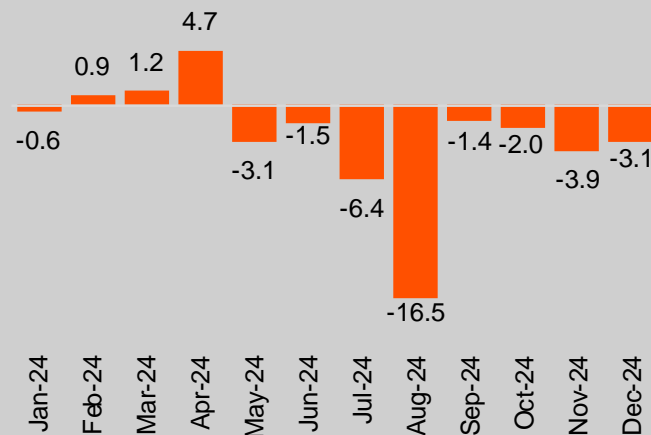


Chart Explained: Last Week Investor Flow

- i) **Chart Elements:** B3 flow broken down by major investor types (individual, institutional and foreign) and aggregated on a weekly basis.
- ii) **What This Chart Tells Us.** Significant liquidity and market sentiment proxy.
- iii) **Data Availability:** Daily with a two-day lag.

Institutional Investor Monthly Flow (BRL Billion)



Foreign Investor Monthly Flow (BRL Billion)

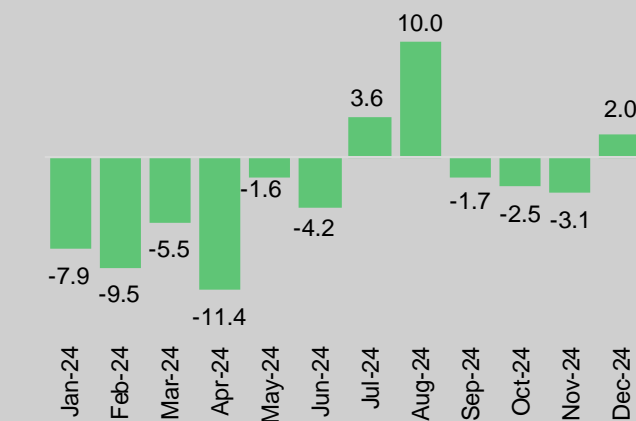


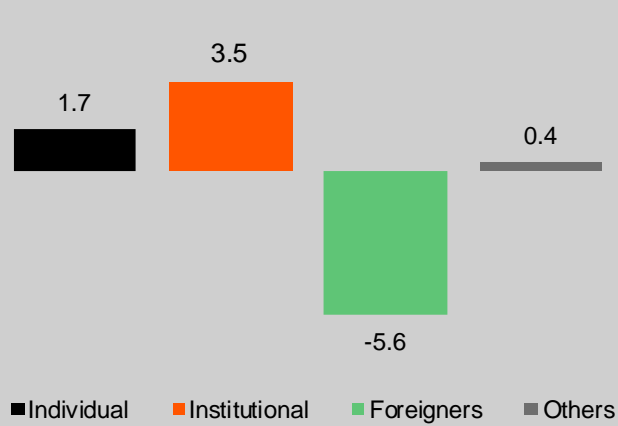
Chart Explained: Investor Monthly Flow

- i) **Chart Elements:** B3 flow broken down by major investor types (individual, institutional and foreign) and aggregated on a monthly basis
- ii) **What This Chart Tells Us.** Helps us understand the shifting long-term trends that drive the market.
- iii) **Data Availability:** Monthly.

Data (BRL Billion)	YTD	LTM
Foreign Investors	-31.8	-31.8
Individual Investors	27.1	27.1
Institutional Investors	-31.7	-31.7
Others	36.4	36.4

Brazil Investor Flow - Futures

Last Week Investor Flow (BRL Billion)*



From 12/5/2024 to 12/11/2024

Individual Investor Monthly Flow (BRL Billion)*

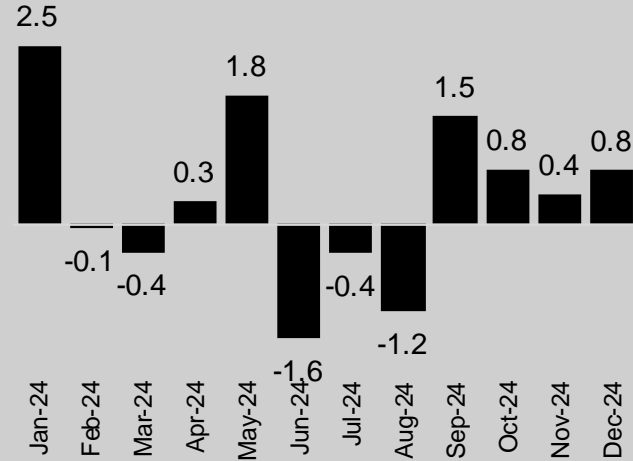
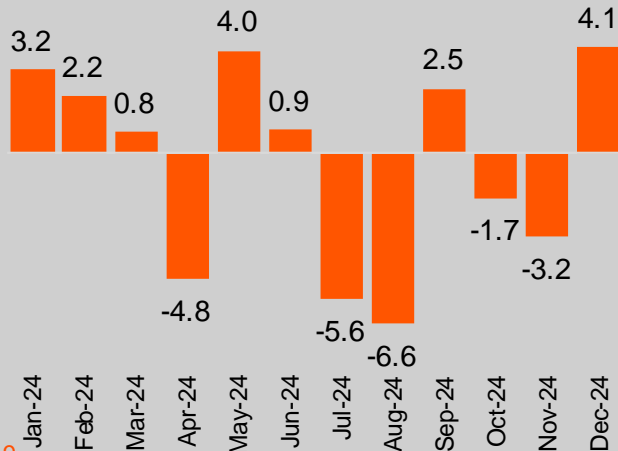


Chart Explained: Last Week Investor Flow

- i) **Chart Elements:** B3 flow broken down by major investor types (individual, institutional and foreign) and aggregated on a weekly basis.
- ii) **What This Chart Tells Us.** Significant liquidity and market sentiment proxy.
- iii) **Data Availability:** Daily with a two-day lag.

Institutional Investor Monthly Flow (BRL Billion)*



Foreign Investor Monthly Flow (BRL Billion)*

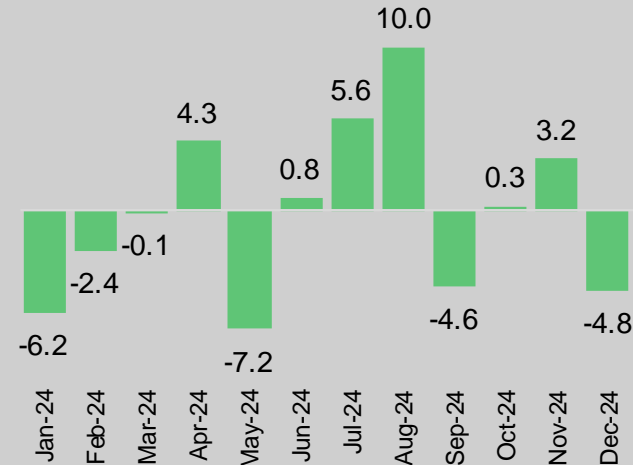


Chart Explained: Investor Monthly Flow

- i) **Chart Elements:** B3 flow broken down by major investor types (individual, institutional and foreign) and aggregated on a monthly basis
- ii) **What This Chart Tells Us.** Helps us understand the shifting long-term trends that drive the market.
- iii) **Data Availability:** Monthly.

Market Liquidity and Popularity

B3 – Average Daily Traded Value (BRL Billion)

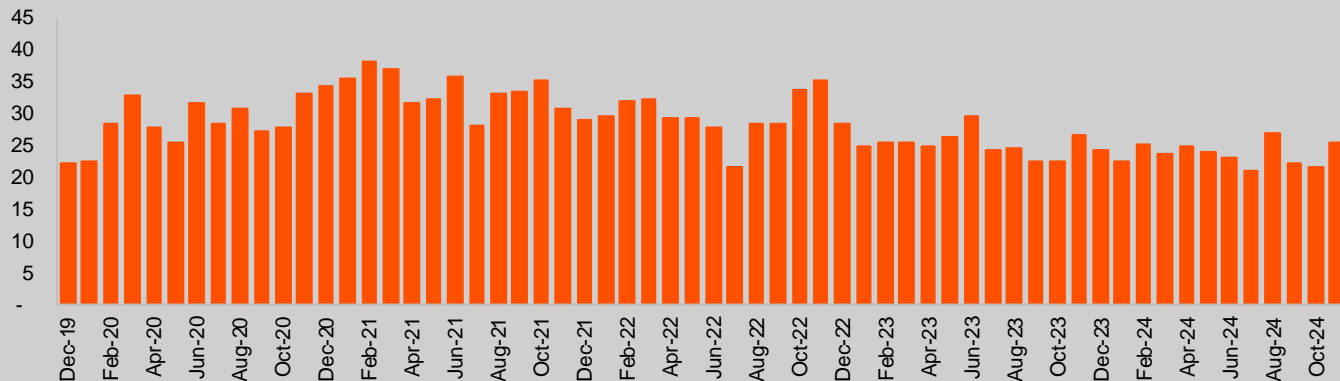


Chart Explained: Average Daily Traded Value

- i) **Chart Elements:** Monthly average of the total spot amount traded on B3.
- ii) **What This Chart Tells Us.** Significant liquidity and market sentiment proxy. Liquidity tends to increase both in rising markets and in highly volatile ones.
- iii) **Data Availability:** Monthly.

Data	Latest	Average (5yrs)	Low (5yrs)	High (5yrs)
ADTV (BRL Billion)	25.4	28.1	20.8	38.2

B3 – Number of Retail Accounts

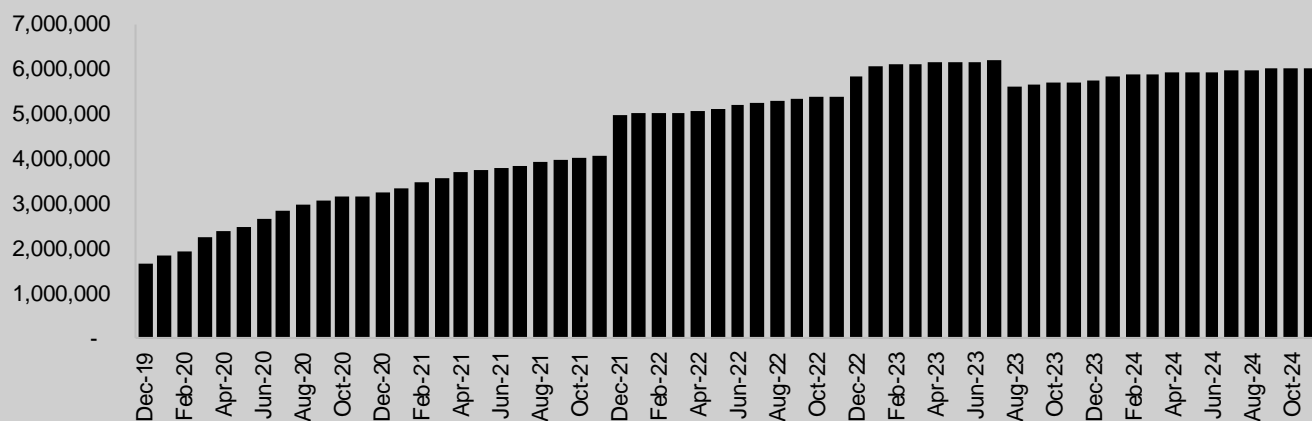


Chart Explained: Retail Accounts

- i) **Chart Elements:** Number of retail investor accounts registered with B3. This data might contain double-counting as investors registered with more than one broker are likely to be counted more than once.
- ii) **What This Chart Tells Us.** Helps us understand the shifting long-term trends that drive the market.
- iii) **Data Availability:** Monthly.

Data	Latest	Average (5yrs)	Low (5yrs)	High (5yrs)
Retail Accounts (000)	6,015	4,662	1,665	6,221

Crowdedness Index

Itaú BBA Crowdedness Index

Most Crowded

Ticker	Score
SUZB3	20
PSSA3	18
GOAU4	18
MRFG3	17
ELET3	17
CSMG3	17
TOTS3	16
SBSP3	16
RADL3	16
BEEF3	16
POMO4	16
KLBN11	16
CVCB3	16
BBSE3	16
WEGE3	15
TEND3	15
TAAE11	15
RAIL3	15
MGLU3	15
JBSS3	15
ENGI11	15
ELET6	15
DIRR3	15
BBDC3	15
B3SA3	15

Ticker	Score
TIMS3	14
SLCE3	14
SANB11	14
CPLE3	14
CMIG4	14
CCRO3	14
CXSE3	14
BPAC11	14
BRFS3	14
ASA13	14
ABEV3	14
USIM5	13
VIVT3	13
ITSA4	13
NTCO3	13
GMAT3	13
EMBR3	13
ECOR3	13
CYRE3	13
CPLE6	13
CRFB3	13
BBAS3	13
BRAP4	13
ALOS3	13
VBBR3	12

Ticker	Score
VAMO3	12
ISAE4	12
ITUB4	12
HYPE3	12
GGBR4	12
EZTC3	12
EQTL3	12
CURY3	12
CPFE3	12
BBDC4	12
AURE3	12
AMBP3	12
RDOR3	11
PRI03	11
PETR4	11
MULT3	11
MOVI3	11
LWSA3	11
HAPV3	11
EGIE3	11
ALPA4	11
VIVA3	10
VALE3	10
UGPA3	10
STBP3	10

Ticker	Score
RECV3	10
PCAR3	10
RENT3	10
FLRY3	10
ENEV3	10
CMIN3	10
COGN3	10
BRAV3	10
SMFT3	9
CSNA3	9
SMT03	9
PETZ3	9
PETR3	9
IGTI11	9
CSAN3	9
AZUL4	9
YDUQ3	8
RAIZ4	8
MRVE3	8
LREN3	8
GGPS3	8
BRKM5	8
AZZA3	8
IRBR3	7
DXCO3	7

Least Crowded

Table Explained: Crowdedness

i) **Table Elements:** The Crowdedness Index is based on five characteristics:

- i) outperformance of the Ibovespa;
- ii) short-interest ratio; iii) volatility;
- iv) volume gain vs. the Index's total gain; and
- v) number of positive days vs. the Ibovespa.

For each characteristic, we divide the companies into four quartiles. The allotment of points is defined by each company's position in the quartiles.

ii) **What the Table Tells Us.** From this table we can extrapolate the most and least consensual trades. The maximum score is 20, which represents the most crowded calls, and the minimum is 5, indicating the least preferred calls.

iii) **Data Availability:** Daily.

See the Appendix for details about our Methodology.

The Crowdedness Index Methodology

The Crowdedness Index is based on five characteristics: i) outperformance vs. the Ibovespa; ii) short interest ratio; iii) volatility; iv) volume increase vs. the index's total increase; and v) number of positive days vs. Ibovespa. For each characteristic, we divide the companies into four quartiles. The point allotment is defined according to companies' positions in the quartiles.

1

i) What do we compare? **The performance of the Ibovespa and of the companies over the last two months.**

ii) Rationale: companies with the best performance against the benchmark were considered more likely to be crowded.

iii) Point Allotment: we assigned four points to the companies positioned in the fourth quartile (best performers), three points to those positioned in the third quartile, two points for those in the second and one point to the companies positioned in the first quartile (worst performers).

2

i) What do we compare? **Short Interest Ratio.**

ii) Rationale: the time (in days) it will take short sellers to cover their positions is a good indicator to identify stocks on which investors are less constructive. Companies with the lowest short interest ratio were considered more likely to be crowded.

iii) Point Allotment: we assigned four points to the companies positioned in the first quartile (lowest short interest ratio), three points to those positioned in the second quartile, two points to those in the third and one point to companies positioned in the fourth quartile (highest short interest ratio).

3

i) What do we compare? **The standard deviation of the daily returns in the last two months.**

ii) Rationale: volatility data is analyzed to measure the degree of uncertainty.

iii) Point Allotment: we assigned four points to companies positioned in the first quartile (lowest volatility), three points to those positioned in the second quartile, two points to those in the third and one point to companies positioned in the fourth quartile (highest volatility).

4

i) What do we compare? **The increase in the average daily trading volume in a two-month period, in addition to the price growth effect.**

ii) Rationale: companies that presented higher increases in ADTV were considered more likely to be crowded.

iii) Point Allotment: we assigned four points to the companies positioned in the fourth quartile (highest volume increase), three points to those in the third, two points to stocks positioned in the second quartile and one point to those in the first quartile (weakest volume changes).

5

i) What do we compare? **Number of days that each stock rose more than 0.3% vs. the number of days that the Ibovespa rose more than 0.3%.**

ii) Rationale: companies with more rising days than the Ibovespa had a consistent ascending trajectory and were considered more likely to be crowded.

iii) Point Allotment: we assigned four points to the companies positioned in the fourth quartile (more days of rising), three points to those positioned in the third quartile, two points to those in the second and one point to companies positioned in the first quartile (fewer days of rising).

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