

ECONOMIC REPORT

Year 11 | Volume nº 98 | 2023 Q2

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Data as good as of 30/06/2023.

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The background features a dark teal color with faint, semi-transparent charts and data points. On the left, there are several diamond-shaped outlines. In the upper right, a bar chart shows values of 90, 87, 88, and 91. In the lower right, a bar chart shows a value of 19%.

MARKET SCENARIO

1. Market scenario - Highlights

- In the first half of 2023, a total of R\$ 263.6 bi in securities were issued (3.1.4), related to 1409 offerings, which represents a 7.5% decrease compared to the same period of the previous year (3.2.1). Regarding CVM Rule nº 160, it is noted that it already accounts for 62% of the total number of offerings recorded in the year, amounting to R\$ 193.1 billion, 73% of the total issued.
- While the issuance of equity instruments by publicly held companies were stagnated (3.3.2), decreasing from a total of R\$ 57.4 bi in 2022 to short of R\$ 15.4 bi in the first half of 2023, the issuance of private equity funds, equity instruments of closely held companies, remained active in 2023 (R\$ 47.8 bi), having already surpassed the total of 2022 year.
- Despite the decrease in the value issued for corporate debt securities such as corporate bonds and commercial papers, compared to the first half of the previous year, there was growth in the issuance of CDOs and REITs, with an increase of 75% and 89% in that same period, respectively.
- The registered set of participants (2.1) increased 3.6% when compared to the end of 2022, now encompassing a total of 83.380 participants. Within the subset with a count higher than 100 participants, the growth rates of consultants (13.8%) and independent investment agents (7.3%) remains as highlights.
- The estimated total value of the regulated market (2.2.1) was R\$46.86 tri, about 32% higher than that observed in the first quarter of 2023 (R\$ 28.02 tri). Such difference can be specially explained by the derivatives markets, those always more susceptible to large variations (2.5). Excluding this category, we would still observe a growth of 5.3%, driven especially by the listed companies market cap and investment funds (2.3).
- Still regarding corporate bonds, it is possible to highlight the increase in the average daily volume in the secondary market (4.1.2). Finally, we emphasize that the YTD cumulative number of derivative contracts traded ended higher than the previous year for the DI futures contracts (4.2.2), in line with the increase in the total notional value of derivatives mentioned earlier.

2. Regulated markets

* Estimates. Securitization companies had their records segregated from other companies in 2022. There are entities holding more than one register (double counting).

| 2.1. Number of participants* | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 |
|--|---------------|---------------|---------------|---------------|---------------|---------------|
| Registered Non-Resident Investors | 19.293 | 18.244 | 18.705 | 19.220 | 19.282 | 19.458 |
| Registered Investment Funds | 17.718 | 19.427 | 22.295 | 26.445 | 29.072 | 29.732 |
| Registered Asset Managers | 3.452 | 3.560 | 3.786 | 4.185 | 4.557 | 4.704 |
| Legal persons | 2.512 | 2.603 | 2.774 | 3.036 | 3.294 | 3.396 |
| Firms | 940 | 957 | 1.012 | 1.149 | 1.263 | 1.308 |
| Registered Research Analysts | 662 | 698 | 923 | 1.269 | 1.412 | 1.319 |
| Legal persons | 615 | 629 | 840 | 1.161 | 1.283 | 1.193 |
| Firms | 47 | 69 | 83 | 108 | 129 | 126 |
| Registered Investment Consultants | 659 | 694 | 790 | 1.018 | 1.329 | 1.513 |
| Legal persons | 498 | 547 | 632 | 815 | 1.076 | 1.235 |
| Firms | 161 | 147 | 158 | 203 | 253 | 278 |
| Registered Brokerage Firms (trading) | 74 | 74 | 69 | 70 | 63 | 63 |
| Registered Brokerage Firms (distribution) | 101 | 100 | 102 | 106 | 101 | 101 |
| Registered Brokers (sum) | 7.778 | 10.798 | 13.881 | 18.141 | 23.294 | 25.005 |
| Legal persons | 6.619 | 9.608 | 12.275 | 16.969 | 22.033 | 23.737 |
| Firms | 1.159 | 1.190 | 1.156 | 1.172 | 1.261 | 1.268 |
| Registered Custodians | 139 | 146 | 146 | 156 | 155 | 157 |
| Registered Bookkeepers | 59 | 61 | 63 | 72 | 74 | 75 |
| Registered Organized Market Administrators | 1 | 1 | 3 | 3 | 4 | 4 |
| Registered CSDs | 1 | 1 | 1 | 2 | 2 | 2 |
| Registered Crowdfunding Platforms | 14 | 26 | 32 | 54 | 57 | 63 |
| Registered public, foreign and subsidized companies (active) | 666 | 656 | 675 | 765 | 745 | 742 |
| Securitization companies | - | - | - | - | 79 | 80 |
| Registered Independent Auditors | 375 | 528 | 354 | 346 | 349 | 355 |
| Registered Rating Agencies | 7 | 7 | 6 | 6 | 7 | 7 |
| TOTAL | 50.999 | 55.021 | 61.831 | 71.858 | 80.582 | 83.380 |

Source: CVM, APIMEC

2. Regulated markets

2.2.1. Total regulated markets (US\$ tri)*

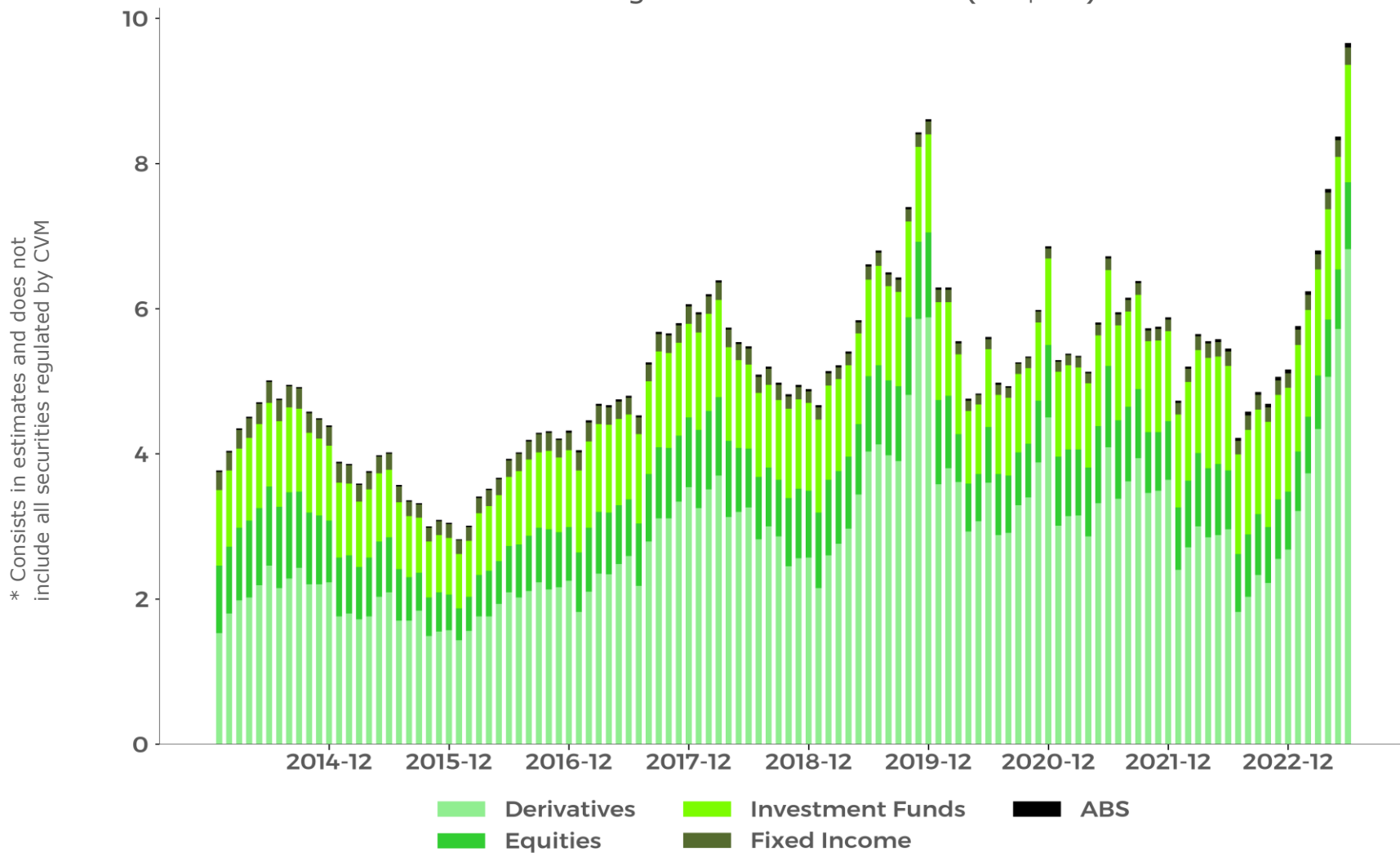
| CATEGORY | ASSET | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 |
|------------------|-----------------------|------|------|------|------|------|------|
| Fixed Income | Corporate Bonds | 0.15 | 0.17 | 0.13 | 0.15 | 0.19 | 0.22 |
| | Commercial Paper | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.02 |
| Securitization | MBS | 0.02 | 0.02 | 0.02 | 0.02 | 0.03 | 0.04 |
| | Agrobusiness | 0.01 | 0.01 | 0.01 | 0.01 | 0.02 | 0.02 |
| Variable Income | Equities – Market Cap | 0.92 | 1.17 | 1.00 | 0.81 | 0.80 | 0.92 |
| Derivatives | Notional outstanding | 2.56 | 5.88 | 4.50 | 3.63 | 2.67 | 6.81 |
| | Structured Notes | 0.01 | 0.00 | 0.00 | 0.01 | 0.01 | 0.01 |
| Investment Funds | Rule-555 | 1.08 | 1.18 | 1.03 | 1.04 | 1.18 | 1.35 |
| | Structured Funds | 0.13 | 0.17 | 0.16 | 0.20 | 0.25 | 0.27 |
| TOTAL | | 4.89 | 8.61 | 6.86 | 5.88 | 5.16 | 9.66 |

* Consists in estimates and does not include all securities regulated by CVM. For prior years it represents end of year data.

Source: CVM and Organized Market Administrators

2. Regulated markets

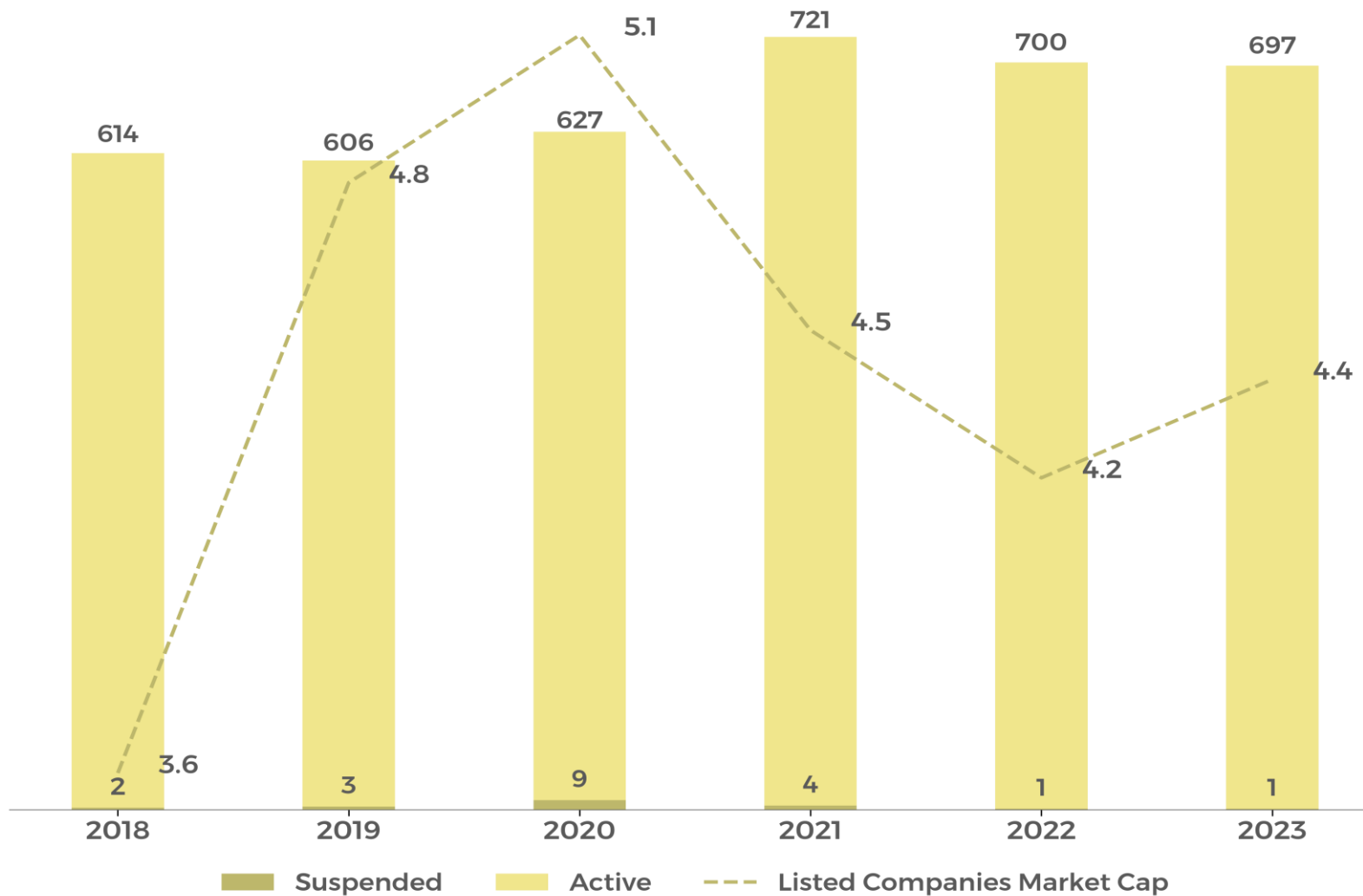
2.2.2. Regulated market value (US\$ tri)*



Source: CVM and Organized Market Administrators

2. Regulated markets

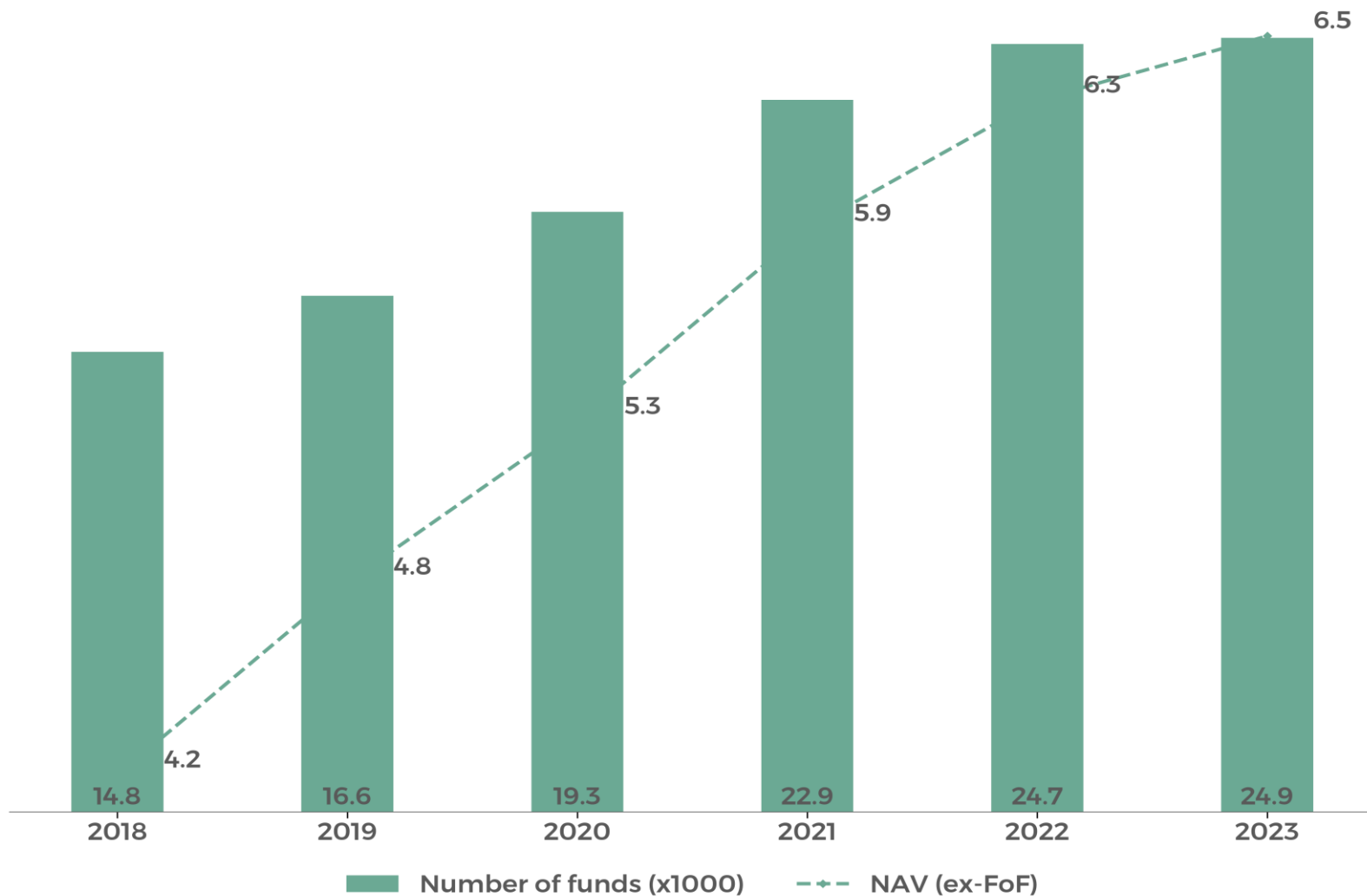
2.3. Registered companies and listed companies market cap (R\$ tri)



Source: CVM, B3

2. Regulated markets

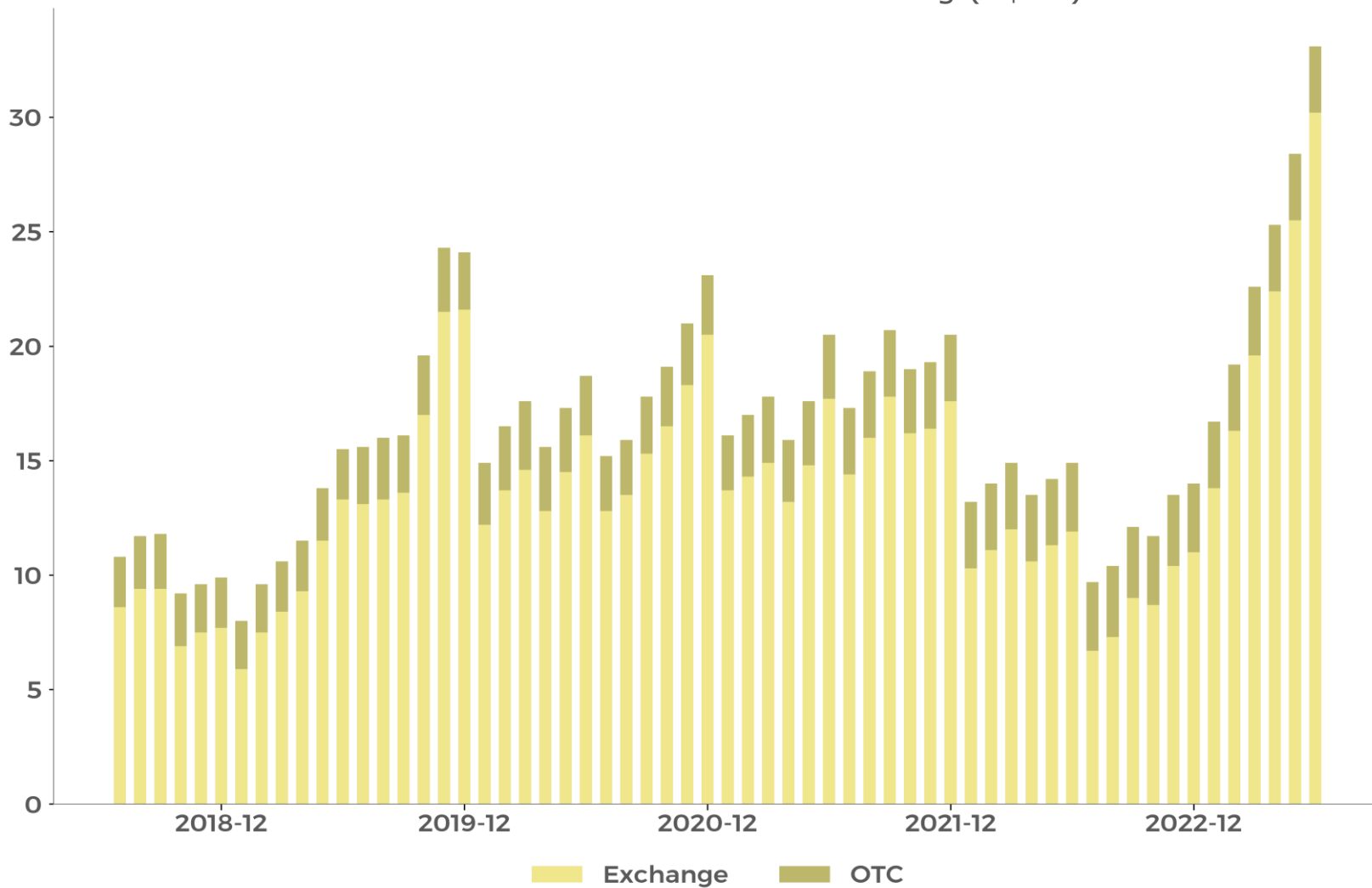
2.4. ICVM 555 Funds (ex-FoF) – quantity and NAV (R\$ tri)



Source: CVM

2. Regulated markets

2.5. Derivatives – notional outstanding (R\$ tri)



Source: Organized Markets Administrators

3. Primary markets

3.1. Annual totals by rule – before Rule CVM n° 160/22

| 3.1.1. Annual totals (quantity and value)* | 2018 | | 2019 | | 2020 | | 2021 | | 2022 | | 2023 | |
|--|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|------------|-------------|
| | qty | R\$ bi | qty | R\$ bi | qty | R\$ bi | qty | R\$ bi | qty | R\$ bi | qty | R\$ bi |
| ICVM 400 | 76 | 33.5 | 125 | 89.5 | 134 | 120.1 | 164 | 129.0 | 146 | 107.7 | 10 | 6.8 |
| ICVM 400 (exemptions) | - | - | - | - | 2 | 5.0 | 1 | 0.1 | - | - | - | - |
| ICVM 476 | 1.040 | 253.9 | 1.322 | 386.5 | 1.394 | 318.4 | 2.711 | 608.2 | 2.072 | 467.4 | 458 | 63.6 |
| TOTAL | 1.116 | 287.3 | 1.447 | 476.0 | 1.530 | 443.5 | 2.876 | 737.3 | 2.218 | 575.1 | 468 | 70.4 |

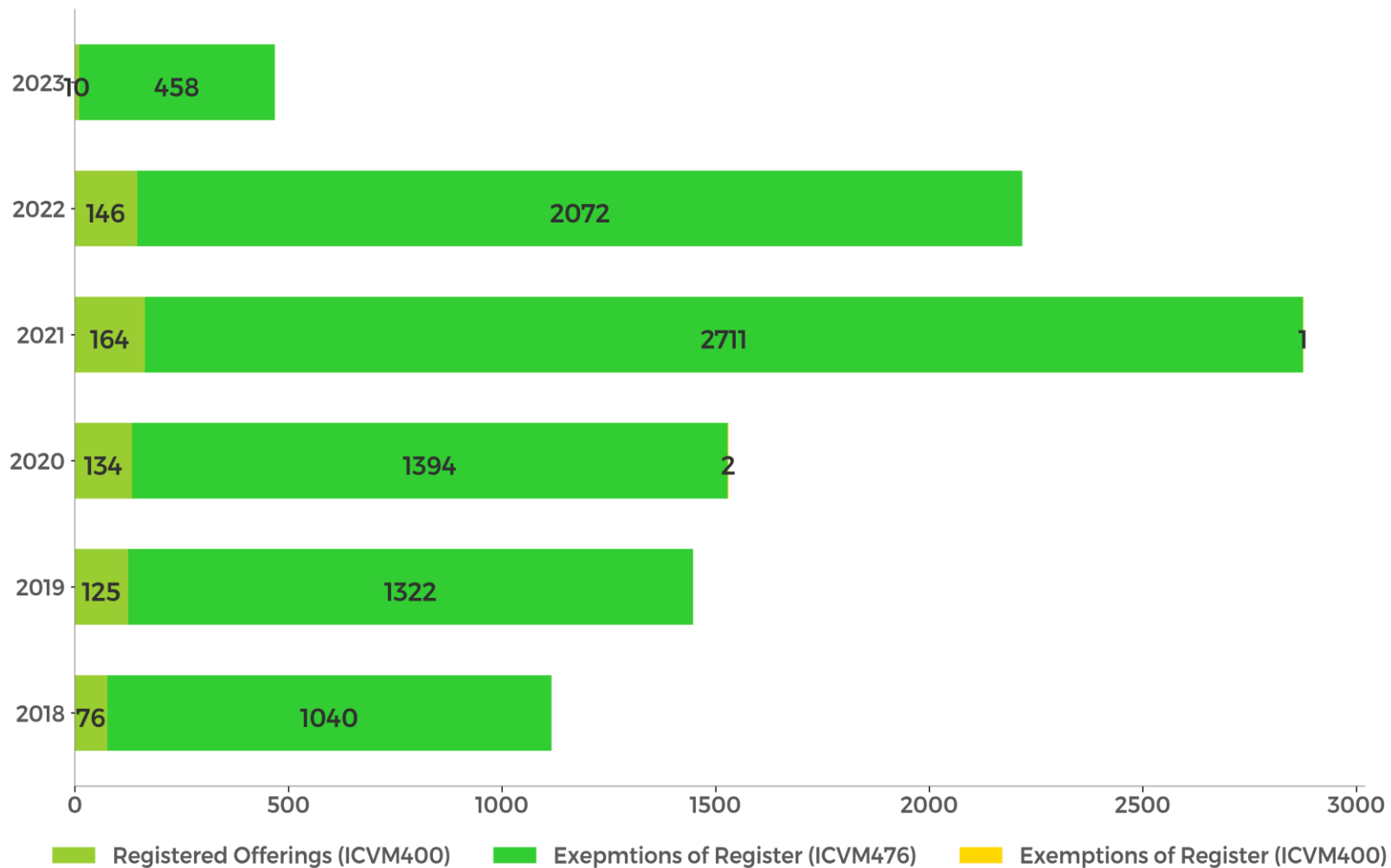
* Consists in estimates and does not include all securities regulated by CVM. Includes stocks+DR, MBS, Agrobusiness ABS, CDOs, REITs, Private Equity, CP, bank bonds and corporate bonds (ex-leasing). ICVM 476 offers exclude ongoing efforts. ICVM 400 exclude single indivisible batch exemptions.

Source: CVM

3. Primary markets

3.1. Annual totals by rule – before Rule CVM n° 160/22

3.1.2. Total YTD offerings, by rule – quantity*

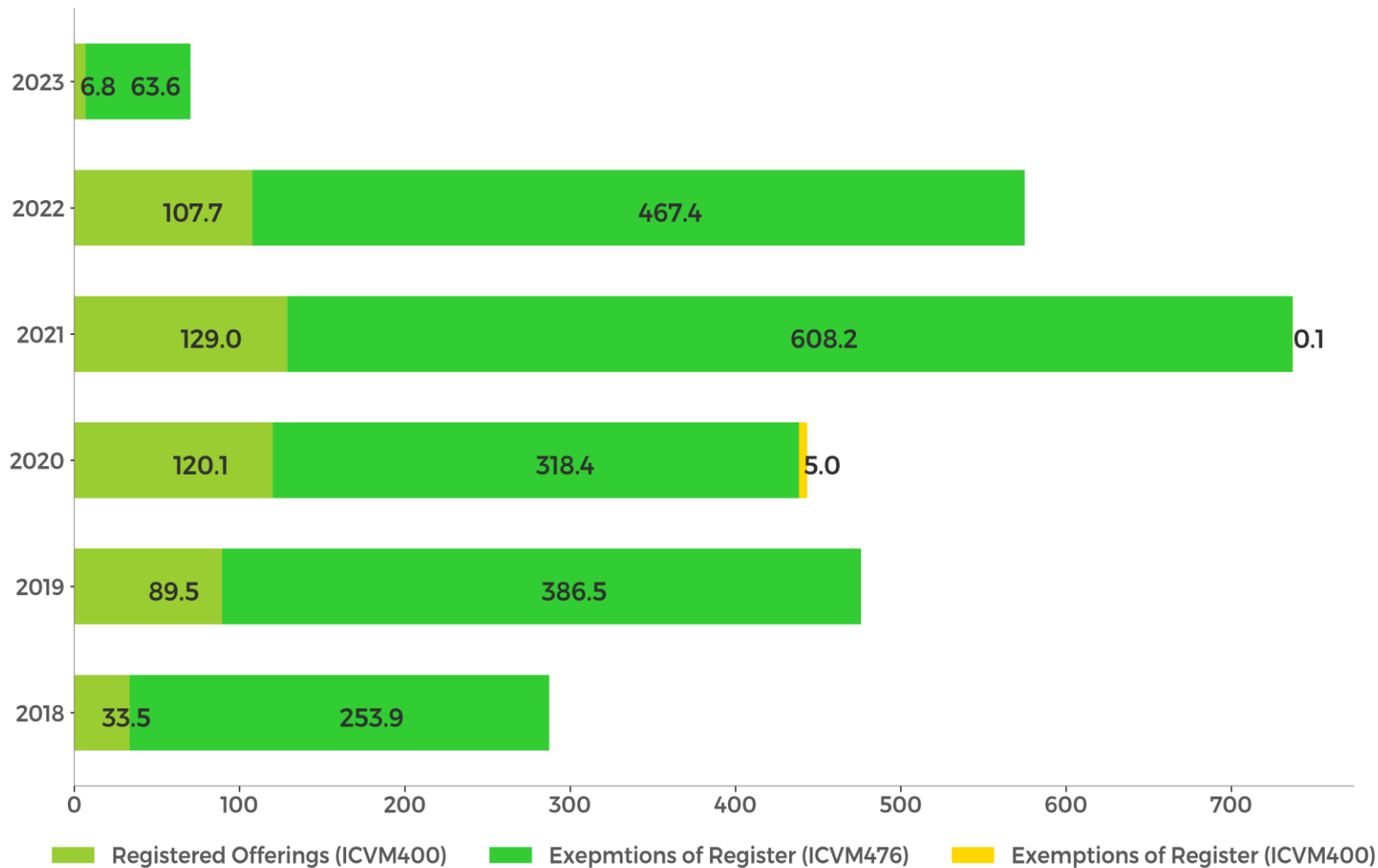


* Consists in estimates and does not include all securities regulated by CVM. Includes stocks+DR, MBS, Agrobusiness ABS, CDOs, REITs, Private Equity, CP, bank bonds and corporate bonds (ex-leasing). ICVM 476 offers exclude ongoing efforts.

3. Primary markets

3.1. Annual totals by rule – before Rule CVM n° 160/22

3.1.3. Total YTD offerings, by rule – (values in R\$ bi)*



* Consists in estimates and does not include all securities regulated by CVM. Includes stocks+DR, MBS, Agrobusiness ABS, CDOs, REITs, Private Equity, CP, bank bonds and corporate bonds (ex-leasing). ICVM 476 offers exclude ongoing efforts.

3. Primary markets

3.1. Accumulated totals by rule – with Rule CVM n° 160/22

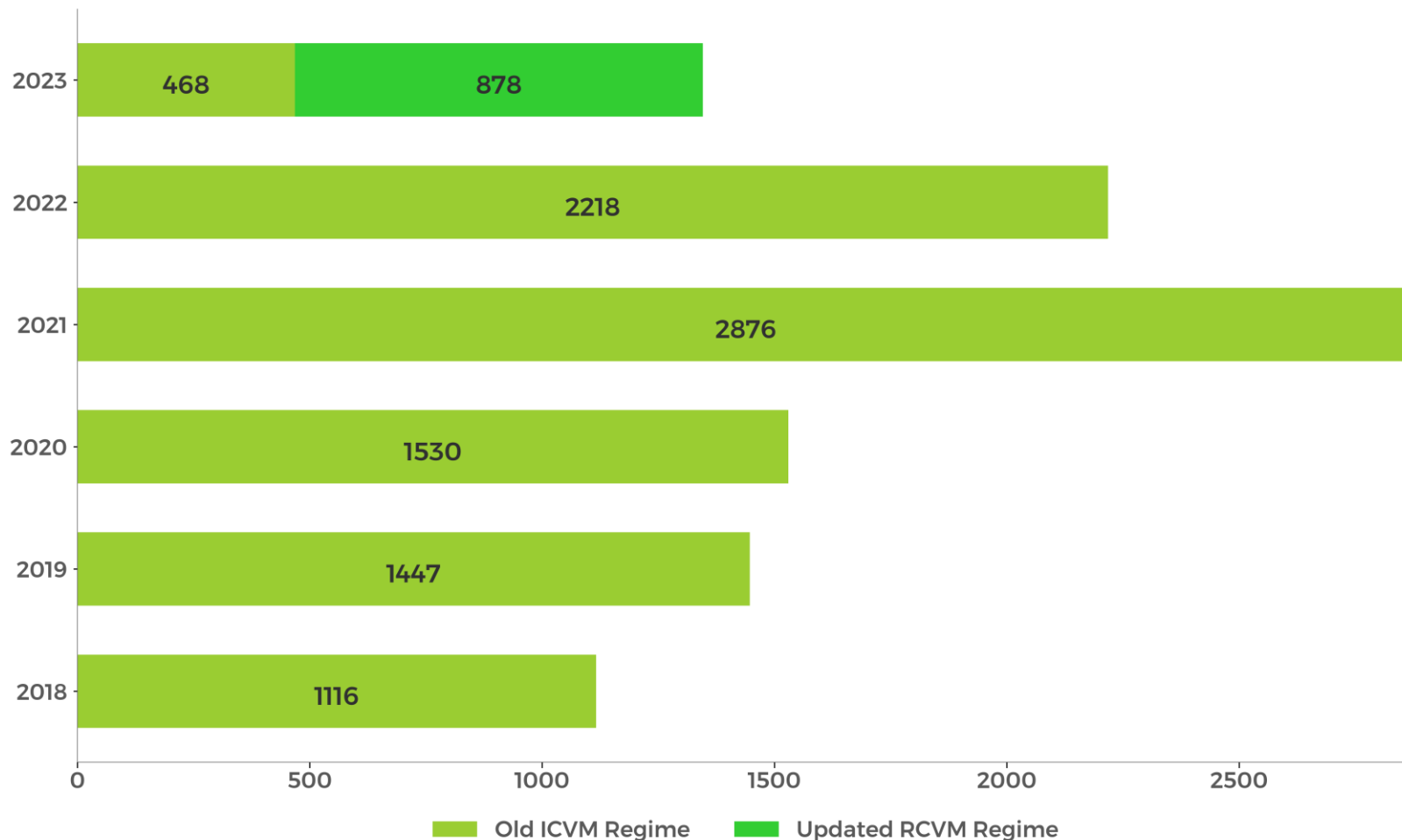
| 3.1.4. Annual totals (quantity and value)* | 2018 | | 2019 | | 2020 | | 2021 | | 2022 | | 2023 | |
|--|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|
| | qty | R\$ bi | qty | R\$ bi | qty | R\$ bi | qty | R\$ bi | qty | R\$ bi | qty | R\$ bi |
| "Old" (ICVM 400 + ICVM 476 + Exemptions) | 1.116 | 287.3 | 1.447 | 476.0 | 1.530 | 443.5 | 2.876 | 737.3 | 2.218 | 575.1 | 468 | 70.4 |
| RCVM 160 (automatic) | - | - | - | - | - | - | - | - | - | - | 869 | 190.6 |
| RCVM 160 (ordinary) | - | - | - | - | - | - | - | - | - | - | 9 | 2.5 |
| RCVM 88 ("crowdfunding") | - | - | 86 | 0.10 | 96 | 0.14 | 76 | 0.13 | 122 | 0.24 | 63 | 0.12 |
| TOTAL | 1.116 | 287.3 | 1.533 | 476.1 | 1.626 | 443.6 | 2.952 | 737.4 | 2.340 | 575.3 | 1.409 | 263.6 |

* Consists in estimates and does not include all securities regulated by CVM. Includes stocks+DR, MBS, Agrobusiness ABS, CDOs, REITs, Private Equity, CP, bank bonds and corporate bonds (ex-leasing). ICVM 476 offers exclude ongoing efforts. Does not include "unique lot" exemptions.

3. Primary markets

3.1. Annual totals by rule – with Rule CVM n° 160/22

3.1.5. Total YTD offerings, by rule – quantity*



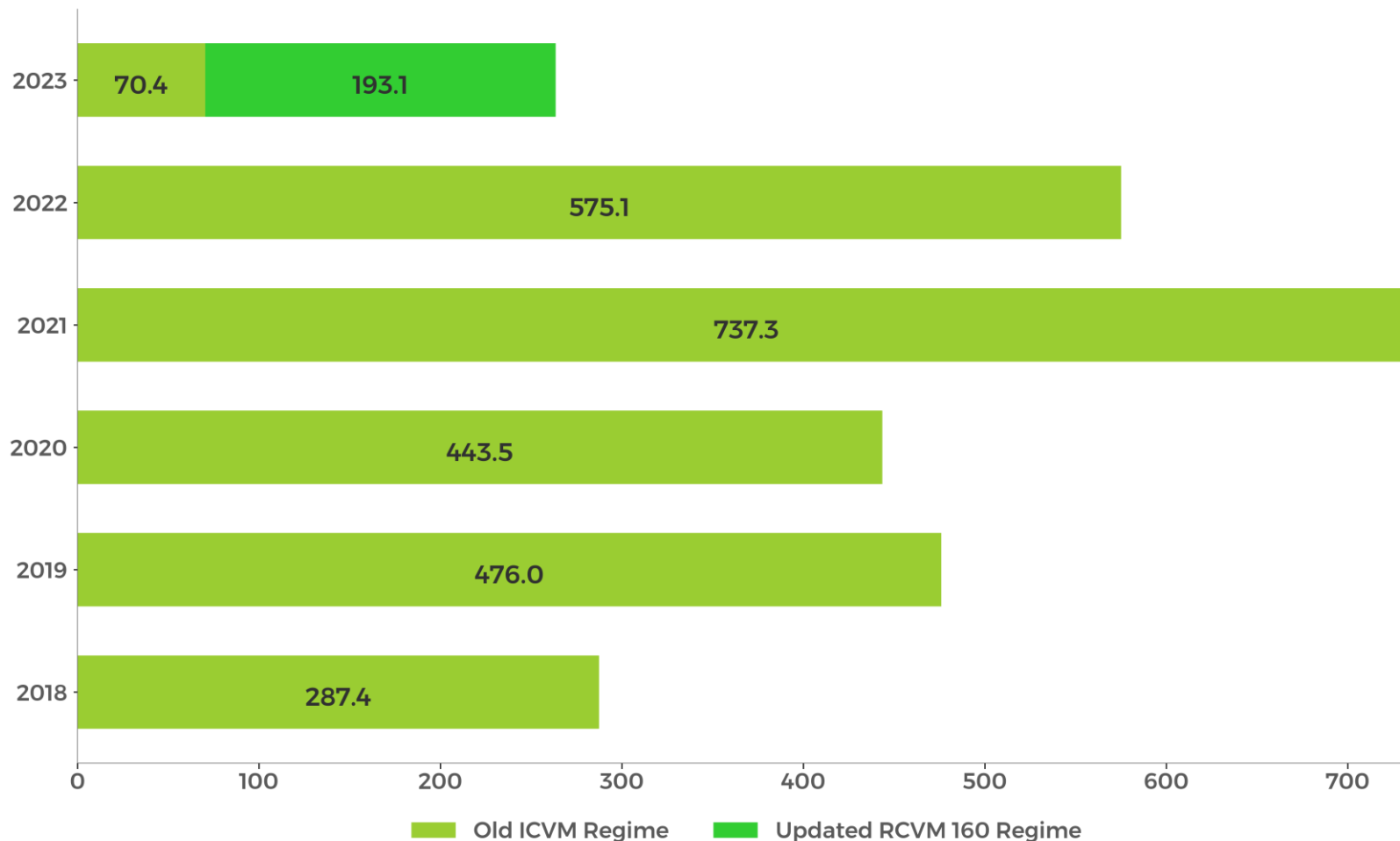
* Consists in estimates and does not include all securities regulated by CVM. Includes stocks+DR, MBS, Agrobusiness ABS, CDOs, REITs, Private Equity, CP, bank bonds and corporate bonds (ex-leasing). ICVM 476 offers exclude ongoing efforts.

Source: CVM

3. Primary markets

3.1. Annual totals by rule – with Rule CVM n° 160/22

3.1.6. Total YTD offerings, by rule – (values in R\$ bi)*



* Consists in estimates and does not include all securities regulated by CVM. Includes stocks+DR, MBS, Agrobusiness ABS, CDOs, REITs, Private Equity, CP, bank bonds and corporate bonds (ex-leasing). ICVM 476 offers exclude ongoing efforts.

Source: CVM

3. Primary markets

3.2. Accumulated totals by rule – with Rule CVM n° 160/22

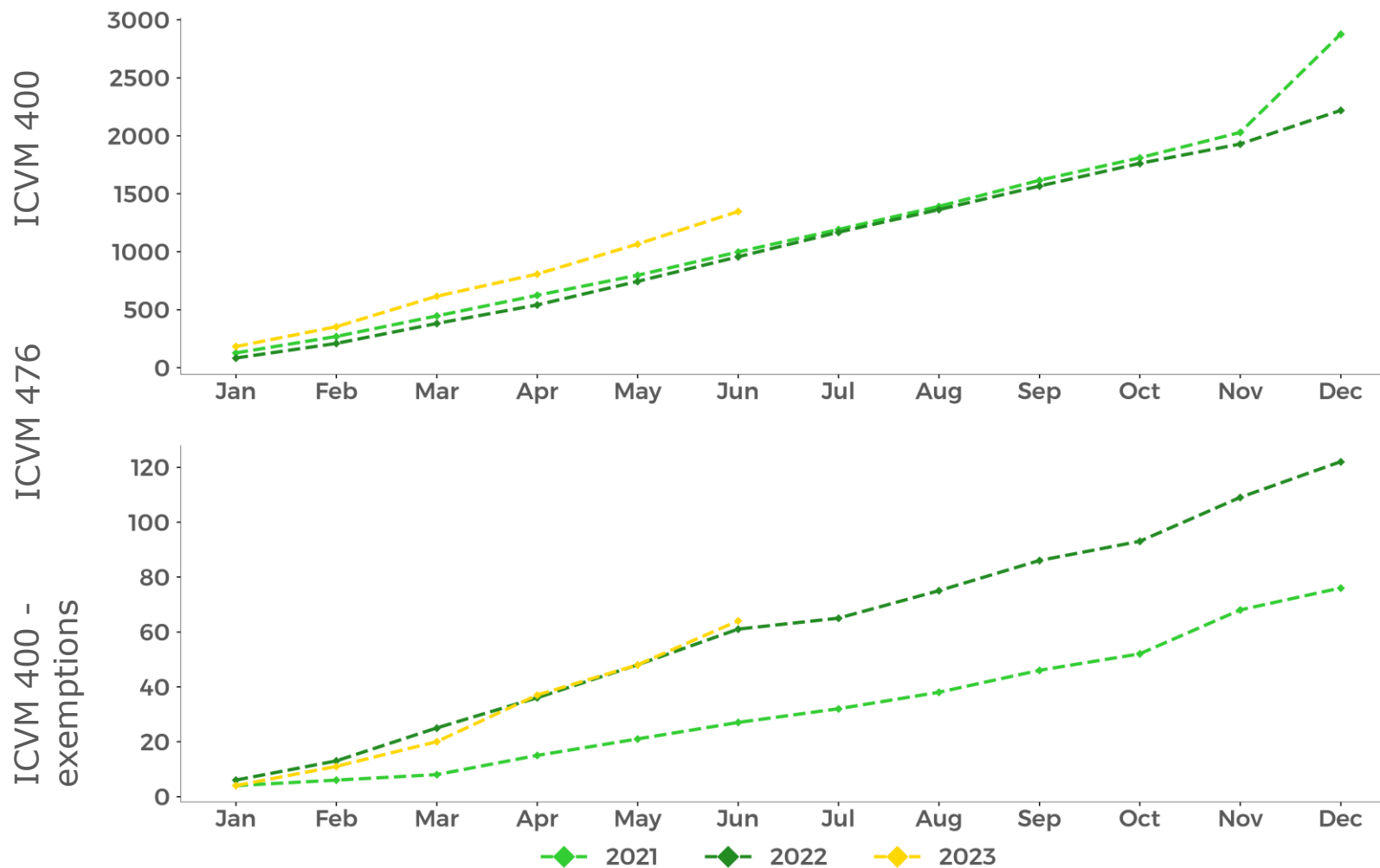
| 3.2.1. Quarterly cumulative totals (quantity and value)* | 2018 | | 2019 | | 2020 | | 2021 | | 2022 | | 2023 | |
|--|------------|--------------|------------|--------------|------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| | qty | R\$ bi | qty | R\$ bi | qty | R\$ bi | qty | R\$ bi | qty | R\$ bi | qty | R\$ bi |
| "Old" (ICVM 400 + ICVM 476 + Exemptions) | 509 | 142.6 | 594 | 204 | 662 | 182.1 | 997 | 294.3 | 955 | 285.0 | 468 | 70.4 |
| RCVM 160 (automatic) | - | - | - | - | - | - | - | - | - | - | 869 | 190.6 |
| RCVM 160 (ordinary) | - | - | - | - | - | - | - | - | - | - | 9 | 2.5 |
| RCVM 88 ("crowdfunding") | - | - | 34 | 0.04 | 60 | 0.06 | 27 | 0.03 | 61 | 0.11 | 63 | 0.12 |
| TOTAL | 509 | 142.6 | 628 | 204.4 | 722 | 182.1 | 1.024 | 294.3 | 1.016 | 285.1 | 1.409 | 263.6 |

* Consists in estimates and does not include all securities regulated by CVM. Includes stocks+DR, MBS, Agrobusiness ABS, CDOs, REITs, Private Equity, CP, bank bonds and corporate bonds (ex-leasing). ICVM 476 offers exclude ongoing efforts. Does not include "unique lot" exemptions.

3. Primary markets

3.2. Accumulated totals by rule – with Rule CVM n° 160/22

3.2.2. Accumulated totals for the current month, by rule (quantity)

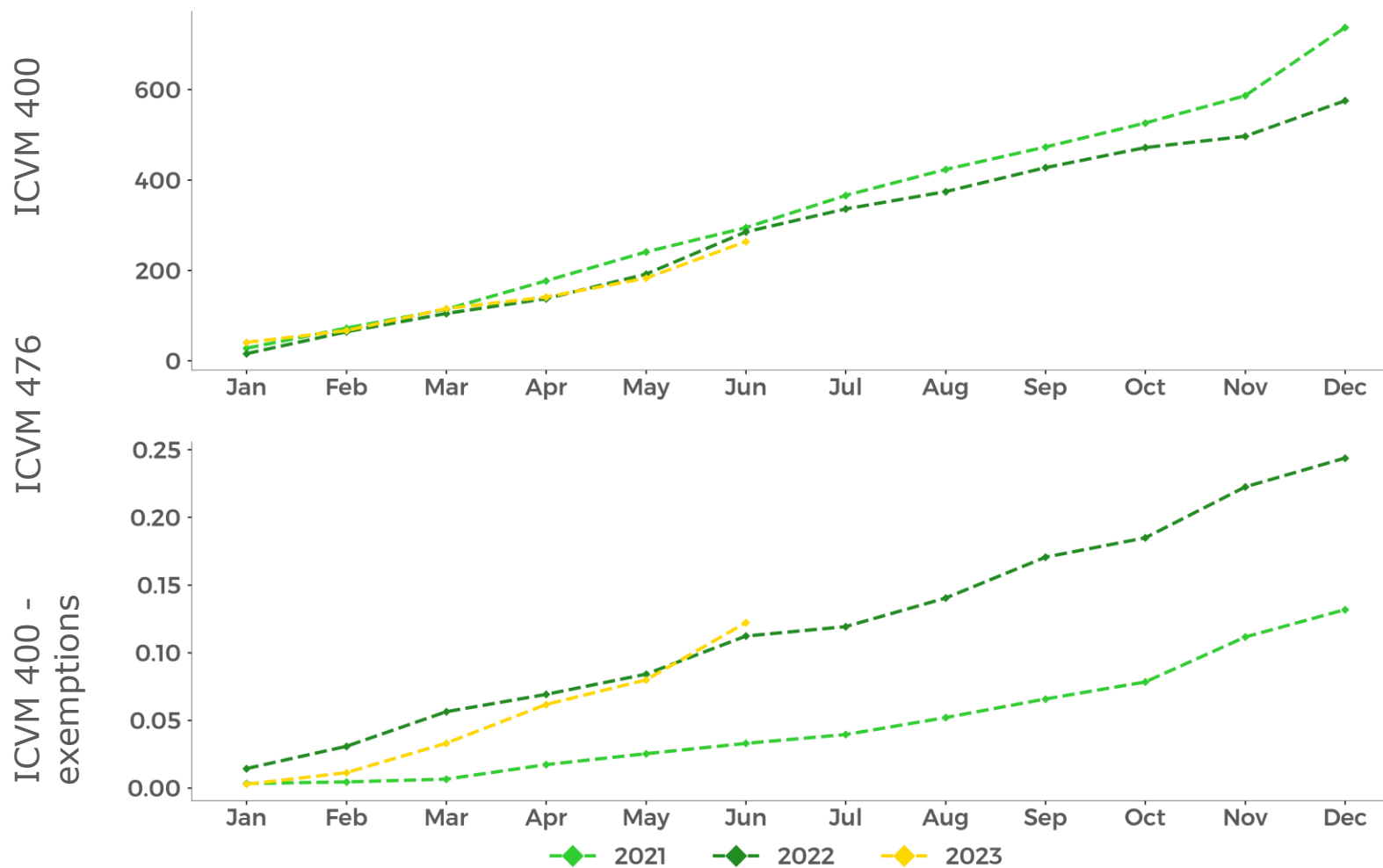


Source: CVM

3. Primary markets

3.2. Accumulated totals by rule – with Rule CVM n° 160/22

3.2.3. Accumulated totals for the current month, by rule (values in R\$ bi)



Source: CVM

3. Primary markets

3.3. Annual totals by instrument

* Consists in estimates and does not include all securities regulated by CVM. Includes stocks+DR, MBS, Agribusiness ABS, CDOs, REITs, Private Equity, CP, bank bonds and corporate bonds (ex-leasing). ICVM 476 offers exclude ongoing efforts.

| 3.3.1. Annual totals (quantity and values)* | 2018 | | 2019 | | 2020 | | 2021 | | 2022 | | 2023 | |
|---|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| INSTRUMENT | qty | R\$ bi | qty | R\$ bi | qty | R\$ bi | qty | R\$ bi | qty | R\$ bi | Qty | R\$ bi |
| Equities | 5 | 11.2 | 42 | 90.2 | 51 | 117.6 | 70 | 130.4 | 18 | 57.4 | 10 | 15.4 |
| Corporate Bonds | 351 | 149.2 | 379 | 185.7 | 276 | 121.2 | 502 | 251.0 | 477 | 269.7 | 177 | 93.1 |
| Bank Bonds | 14 | 6.0 | 21 | 10.0 | 2 | 1.0 | - | - | - | - | - | - |
| Commercial Paper | 84 | 29.0 | 94 | 36.6 | 71 | 21.9 | 82 | 27.0 | 144 | 48.4 | 70 | 12.5 |
| MBS | 101 | 8.2 | 188 | 17.6 | 230 | 14.3 | 430 | 33.8 | 424 | 48.5 | 190 | 18.1 |
| Agribusiness ABS | 52 | 6.1 | 69 | 14.3 | 56 | 13.3 | 125 | 25.0 | 214 | 43.8 | 88 | 18.8 |
| CDOs | 198 | 21.7 | 269 | 37.9 | 305 | 48.6 | 692 | 89.0 | 462 | 40.5 | 438 | 27.5 |
| REITs | 107 | 17.7 | 198 | 42.4 | 264 | 49.2 | 389 | 62.6 | 255 | 36.5 | 177 | 30.3 |
| Private Equity | 204 | 38.4 | 187 | 41.4 | 275 | 56.3 | 586 | 118.4 | 224 | 30.3 | 196 | 47.8 |
| TOTAL | 1.116 | 287.3 | 1.447 | 476.0 | 1.530 | 443.5 | 2.876 | 737.3 | 2.218 | 575.1 | 1.346 | 263.5 |

Source: CVM

3. Primary markets

3.3. Annual totals by instrument

* Consists in estimates and does not include all securities regulated by CVM. Includes stocks+DR, MBS, Agribusiness ABS, CDOs, REITs, Private Equity, CP, bank bonds and corporate bonds (ex-leasing). ICVM 476 offers exclude ongoing efforts.

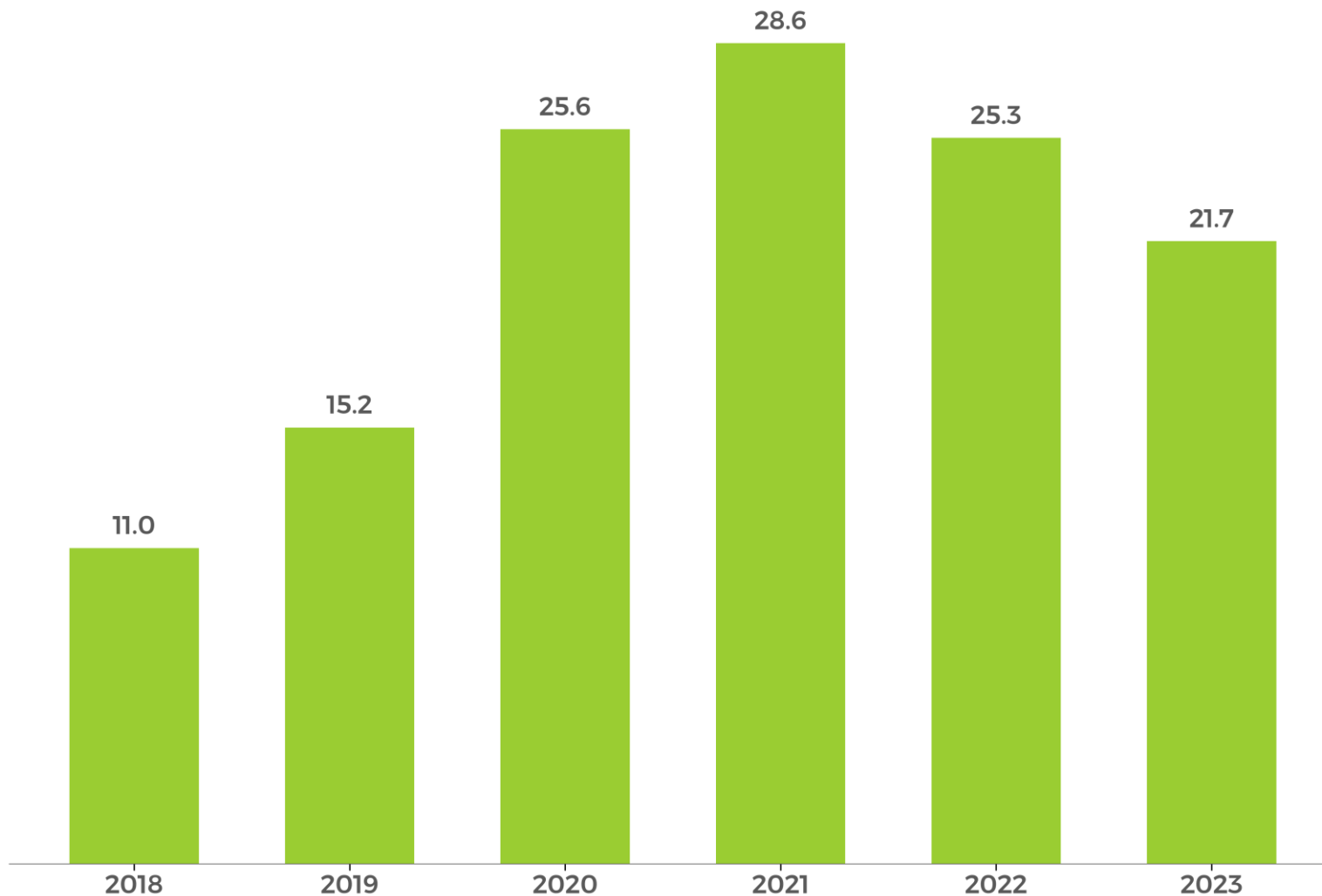
| 3.3.2. Accumulated totals for the current month (quantity and value)* | 2018 | | 2019 | | 2020 | | 2021 | | 2022 | | 2023 | |
|--|------------|--------------|------------|--------------|------------|--------------|------------|--------------|------------|--------------|--------------|--------------|
| | qty | R\$ bi | qty | R\$ bi | qty | R\$ bi | qty | R\$ bi | qty | R\$ bi | qty | R\$ bi |
| INSTRUMENT | | | | | | | | | | | | |
| Equities | 3 | 6.8 | 12 | 29.3 | 12 | 36.9 | 42 | 76.8 | 14 | 52.2 | 10 | 15.4 |
| Corporate Bonds | 158 | 73.1 | 169 | 98.6 | 136 | 50.5 | 200 | 97.0 | 233 | 134.4 | 177 | 93.1 |
| Bank Bonds | 10 | 4.1 | 13 | 6.6 | - | - | - | - | - | - | - | - |
| Commercial Paper | 34 | 17.5 | 39 | 9.9 | 63 | 18.9 | 22 | 5.8 | 69 | 18.8 | 70 | 12.5 |
| MBS | 41 | 3.1 | 59 | 5.4 | 81 | 6.9 | 188 | 12.8 | 176 | 16.3 | 190 | 18.1 |
| Agribusiness ABS | 25 | 2.1 | 23 | 5.5 | 17 | 4.1 | 46 | 10.4 | 80 | 18.6 | 88 | 18.8 |
| CDOs | 88 | 7.9 | 118 | 12.1 | 136 | 22.0 | 202 | 32.6 | 173 | 15.7 | 438 | 27.5 |
| REITs | 53 | 11.1 | 67 | 13.5 | 105 | 20.8 | 155 | 31.1 | 114 | 16.0 | 177 | 30.3 |
| Private Equity | 97 | 16.9 | 94 | 23.1 | 112 | 22 | 142 | 27.9 | 96 | 13.0 | 196 | 47.8 |
| TOTAL | 509 | 142.6 | 594 | 204.0 | 662 | 182.1 | 997 | 294.3 | 955 | 285.0 | 1.346 | 263.5 |

Source: CVM

4. Secondary markets

4.1. Spot

4.1.1. Average daily volume (R\$ bi) – equities (round lot)

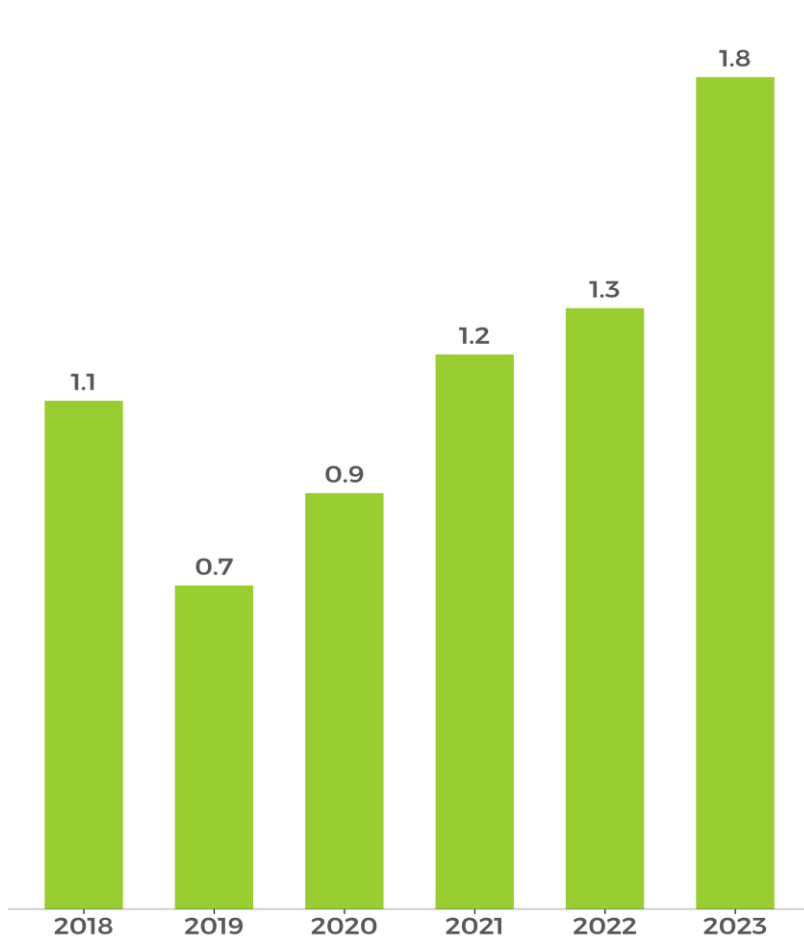


Source: B3

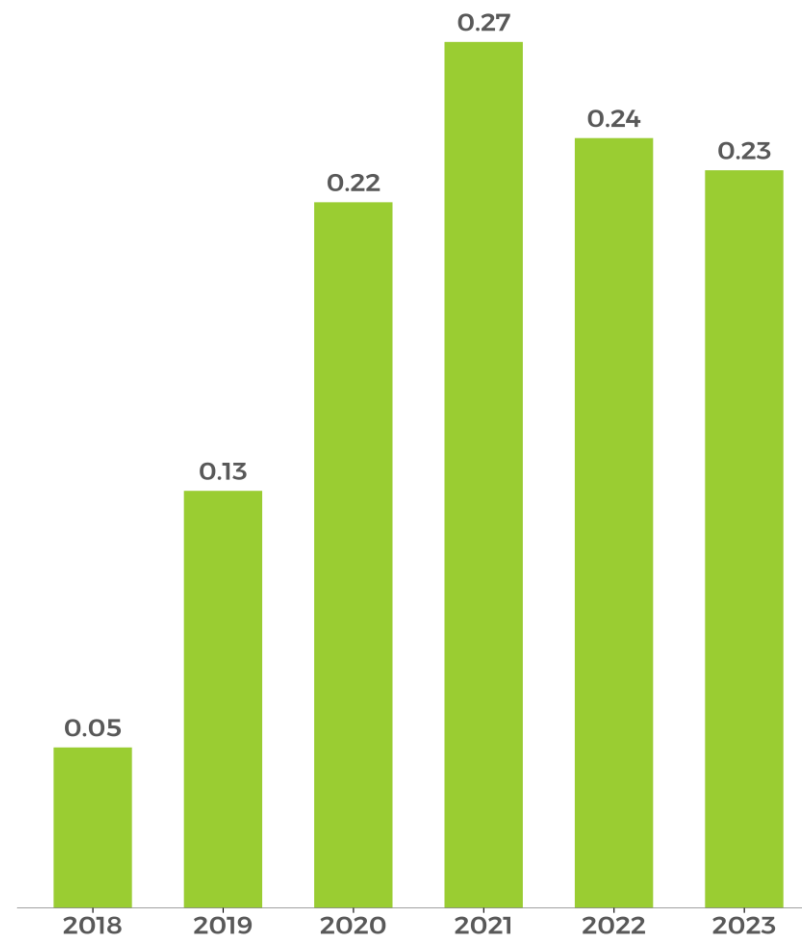
4. Secondary markets

4.1. Spot

4.1.2. Average daily volume (R\$ bi) – corporate bonds



4.1.3. Average daily volume (R\$ bi) - REITs



4. Secondary markets

4.2. Derivatives

4.2.1. Derivatives – millions of contracts settled on exchanges (annual total)

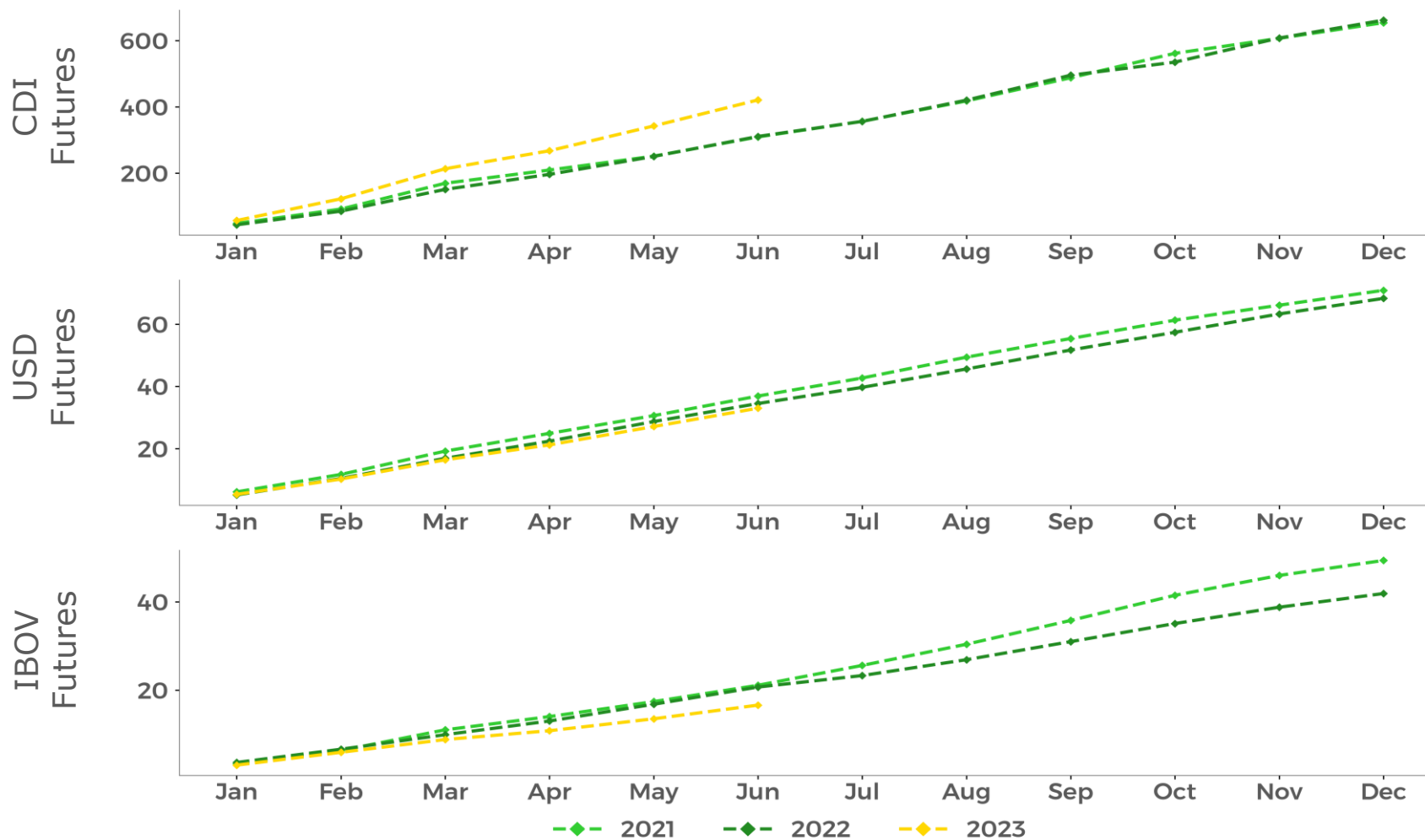
| INSTRUMENT | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 |
|------------------|--------------|--------------|--------------|--------------|--------------|--------------|
| CDI Futures | 370.8 | 475.9 | 516.7 | 653.9 | 661.5 | 420.8 |
| USD Futures | 91.7 | 94.6 | 80.2 | 70.9 | 68.3 | 33.0 |
| Ibovespa Futures | 23.8 | 36.1 | 41.9 | 49.4 | 41.9 | 16.6 |
| TOTAL | 486.3 | 606.6 | 638.8 | 774.2 | 771.7 | 470.4 |

Source: Organized Market Administrators

4. Secondary markets

4.2. Derivatives

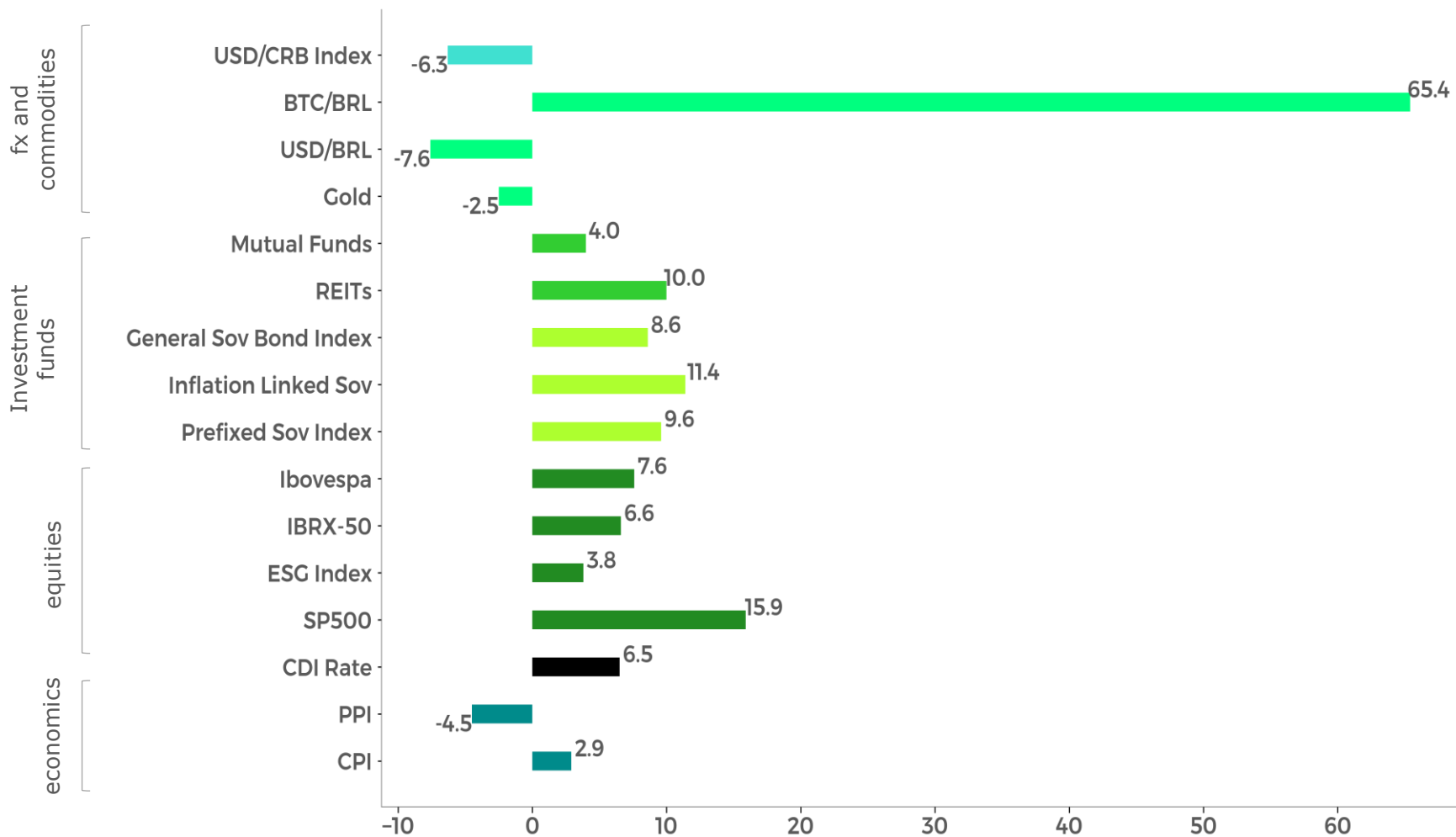
4.2.2. Derivatives – millions of contracts settled on exchanges (accumulated)



Source: Organized Market Administrators

5. Asset returns

5.1. YTD % asset returns



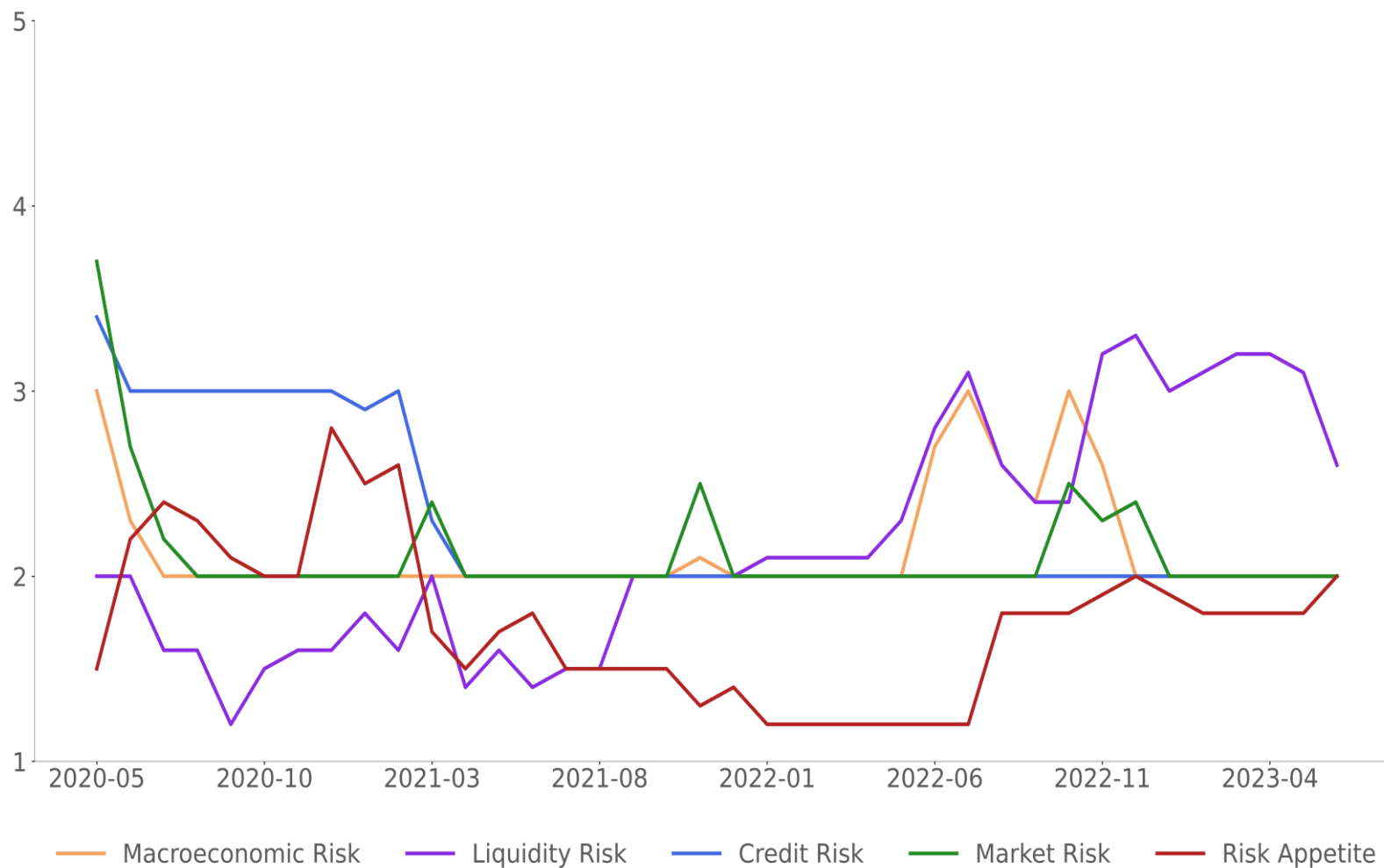
Source: Economatca, Bloomberg

The background is a dark teal color with faint, semi-transparent charts and data points. On the left, there are several diamond-shaped outlines. In the upper right, there is a bar chart with values 110, 90, 87, 88, and 91. In the lower right, there is a pie chart with a segment labeled 19%.

RISK SCENARIO



6. Risk map

6.1. Risk map – last 36 months



Calculated by CVM according to Methodology

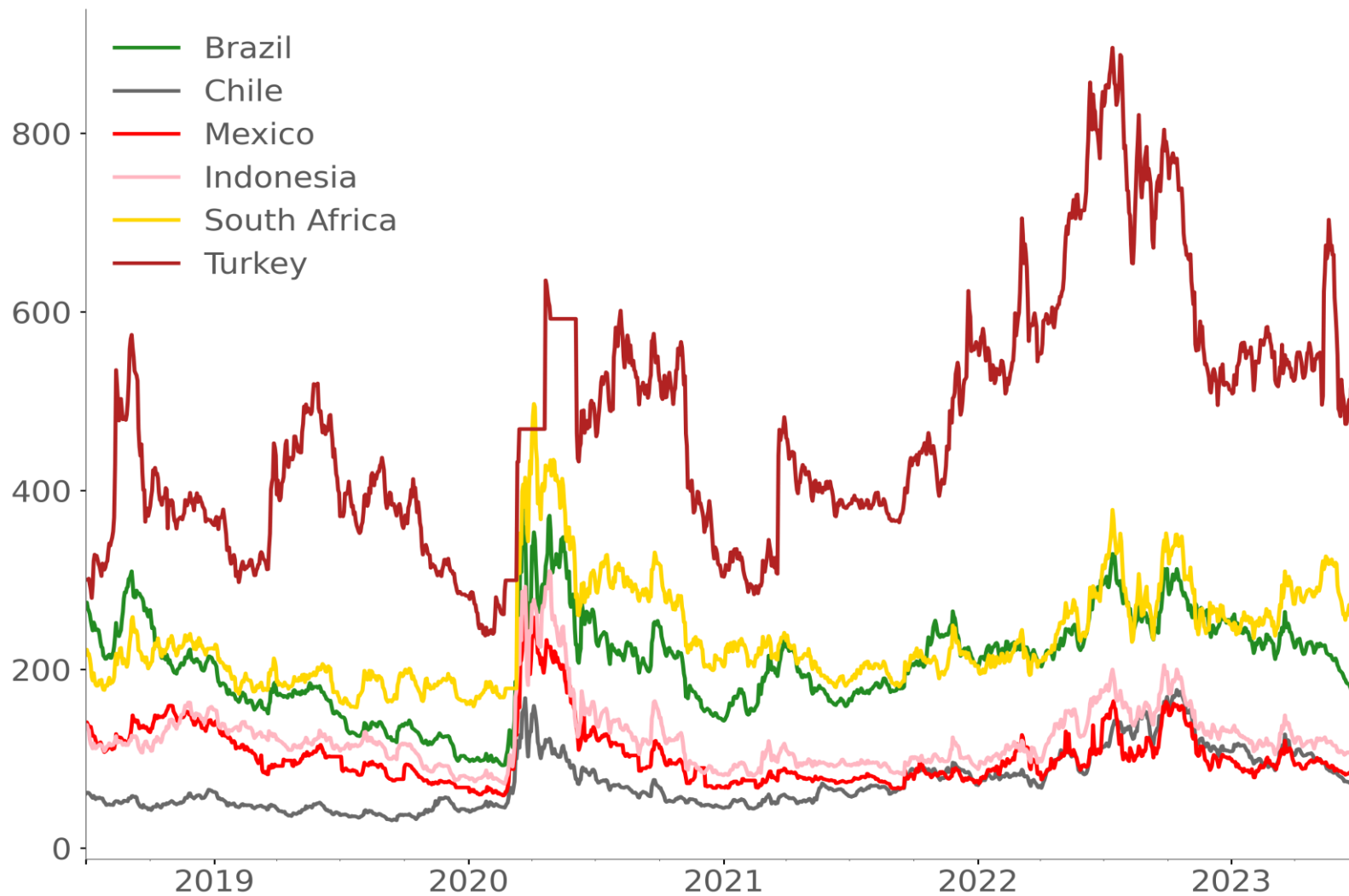
6. Risk map - Highlights

| | MACRO | MARKET | LIQUIDITY | RISK APPETITE | CREDIT |
|---------|-------|--------|---|---|--------|
| 2023-Q2 | 2.0 | 2.0 |  2.6 |  2.0 | 2.0 |
| 2023-Q1 | 2.0 | 2.0 | 3.2 | 1.8 | 2.0 |

- In the context of the second quarter, marked by a generalized decrease in the ex-post volatility indicator of global and national fixed income and equity markets (8.2, 8.4, 8.6 and 8.8), along with positive returns in the national fixed income market and equity markets (8.1, 8.3 and 8.7), this scenario can be correlated with expectations of a decline in national nominal and real future interest rates, a decrease in the liquidity risk indicator and an increase in the risk appetite were identified.
- A more detailed analysis of the risk appetite indicator shows that the improvement in the indicator is a result of Brazil's decoupling from comparable issuers regarding sovereign credit risk (9.2). This finding aligns with the decline in national sovereign CDS spreads (7.1) and the previously mentioned positive performance of the national fixed income markets (linked to expectations of a decline in national nominal and real future interest rates), indicating greater investor confidence in the direction of national fiscal policy.
- Finally, it is worth noting that despite the nominal level of default probability (11.1) and spread (10.1) indicators being higher compared to the previous year, these movements have not yet denoted a statistically significant worsening relative to the last 5 years historical data, which explains the containment of credit and liquidity risk indicators in the Map. Additionally, there has not been a surge in the probability indicator toward higher levels, even after the corporate credit event observed at the beginning of 2023.

7. Macroeconomic risk

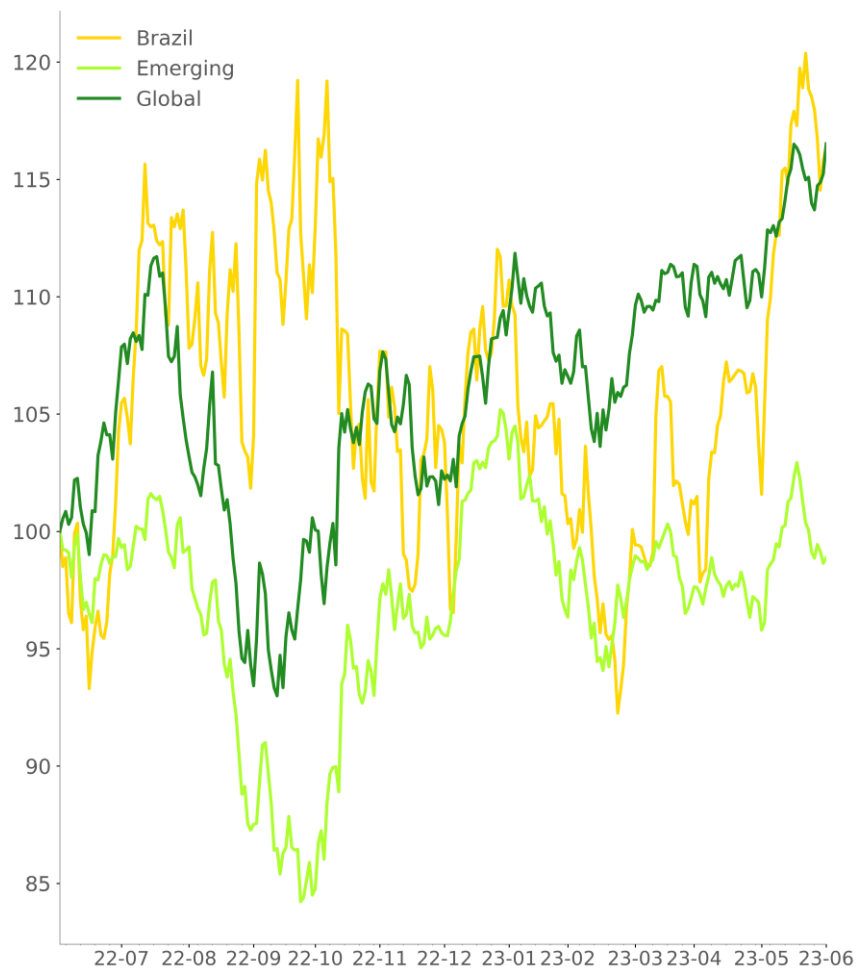
7.1. Sovereign CDS – emerging economies (basis points)



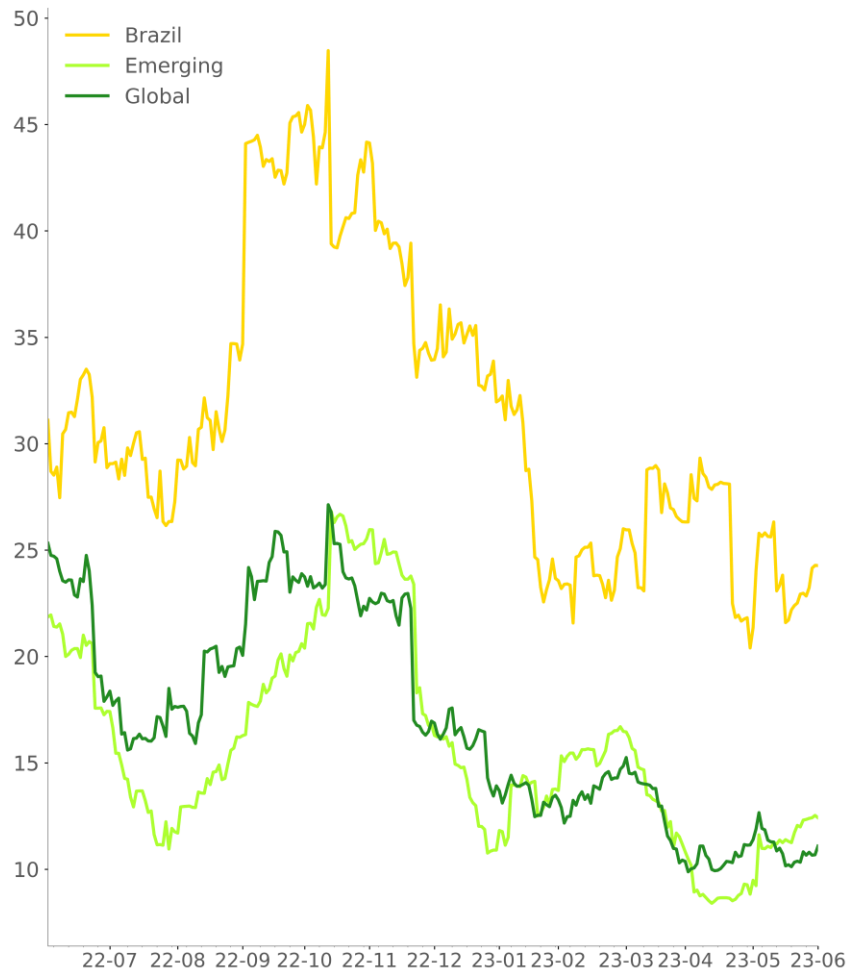
Source: Bloomberg

8. Market risk

8.1. MSCI equity indexes – last 12 months return



8.2. MSCI equity indexes – volatility

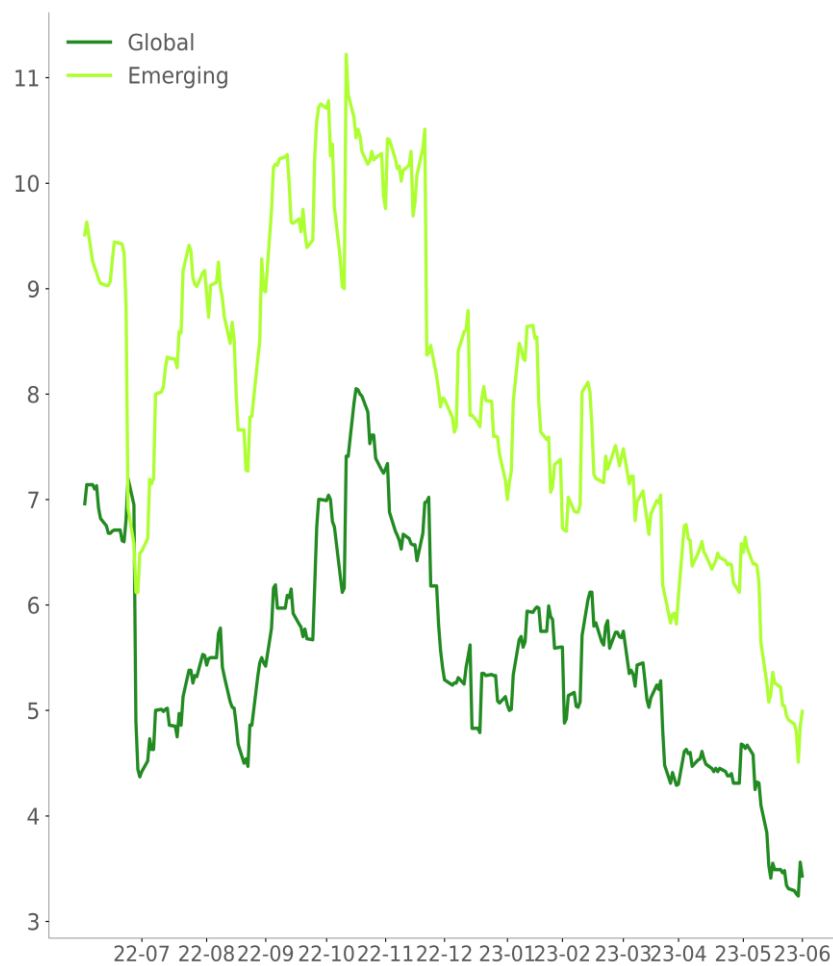


8. Market risk

8.3. Corporate bond indexes – last 12 months return

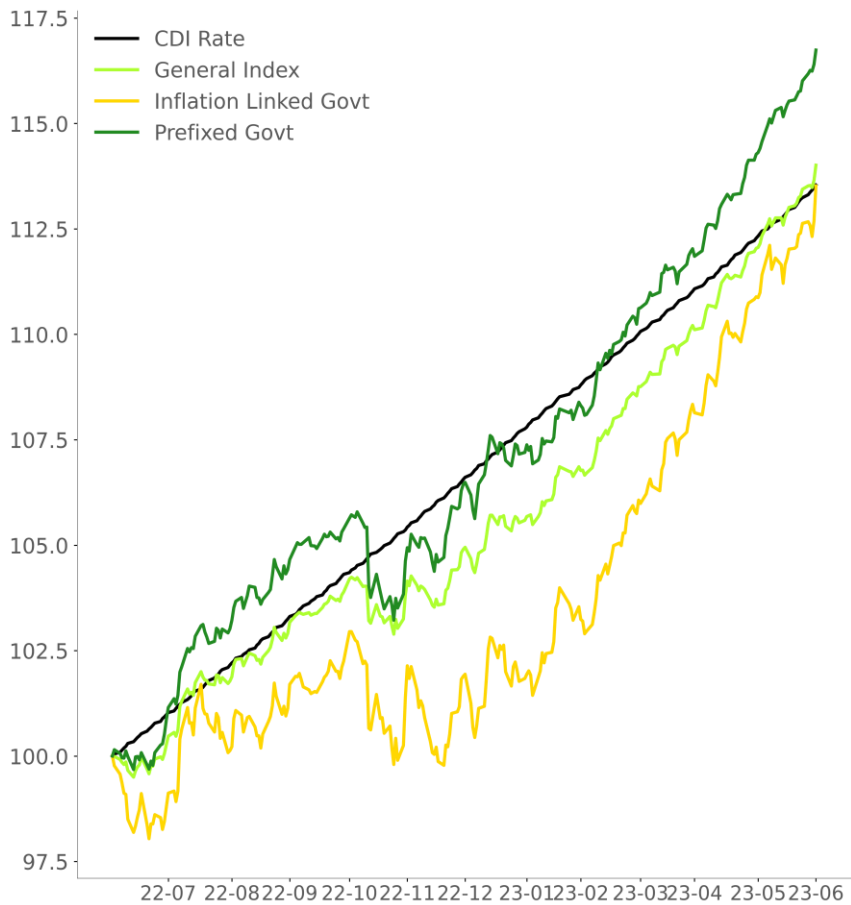


8.4. Corporate bond indexes – volatility

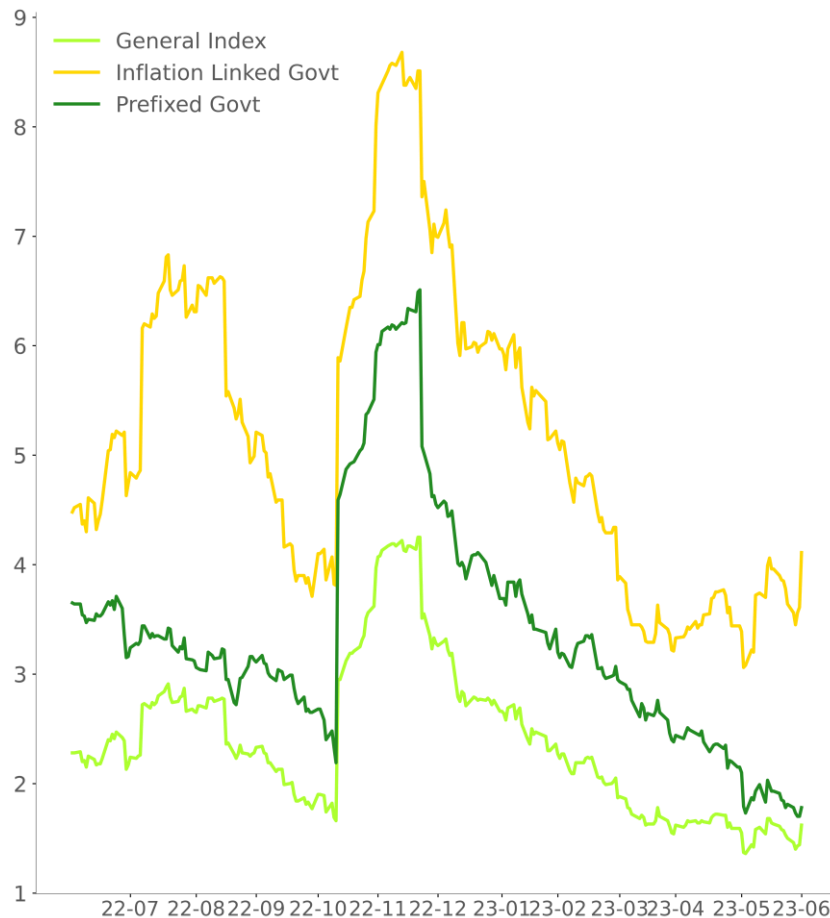


8. Market risk

8.5. National fixed income indexes – last 12 months return

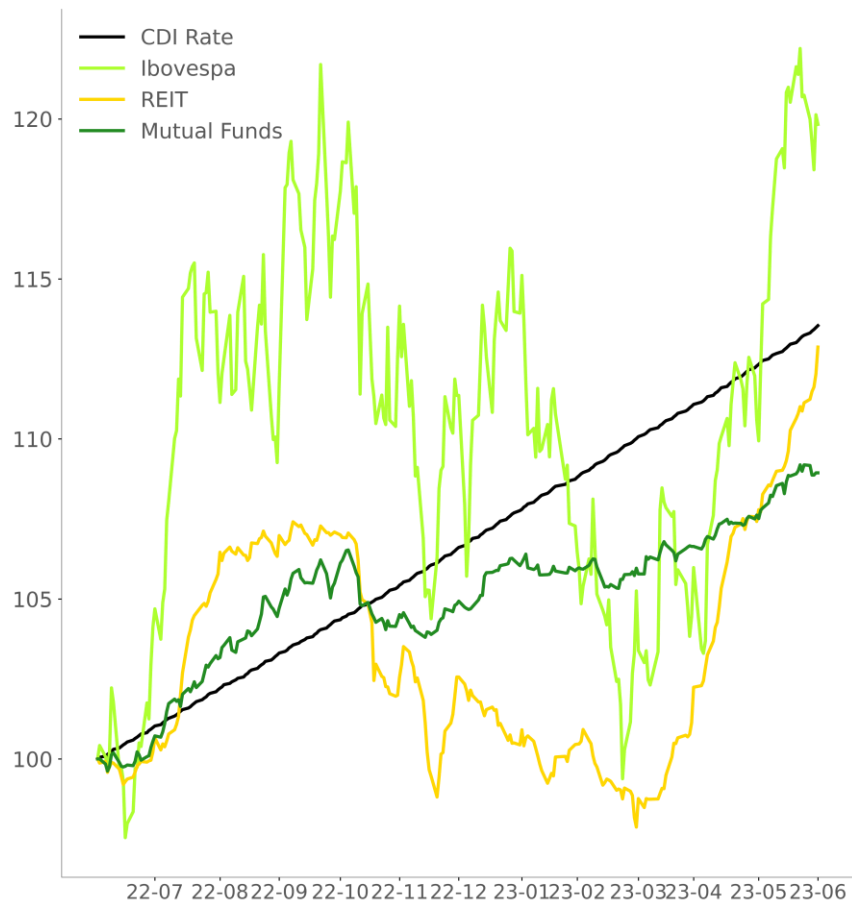


8.6. National fixed income indexes – volatility

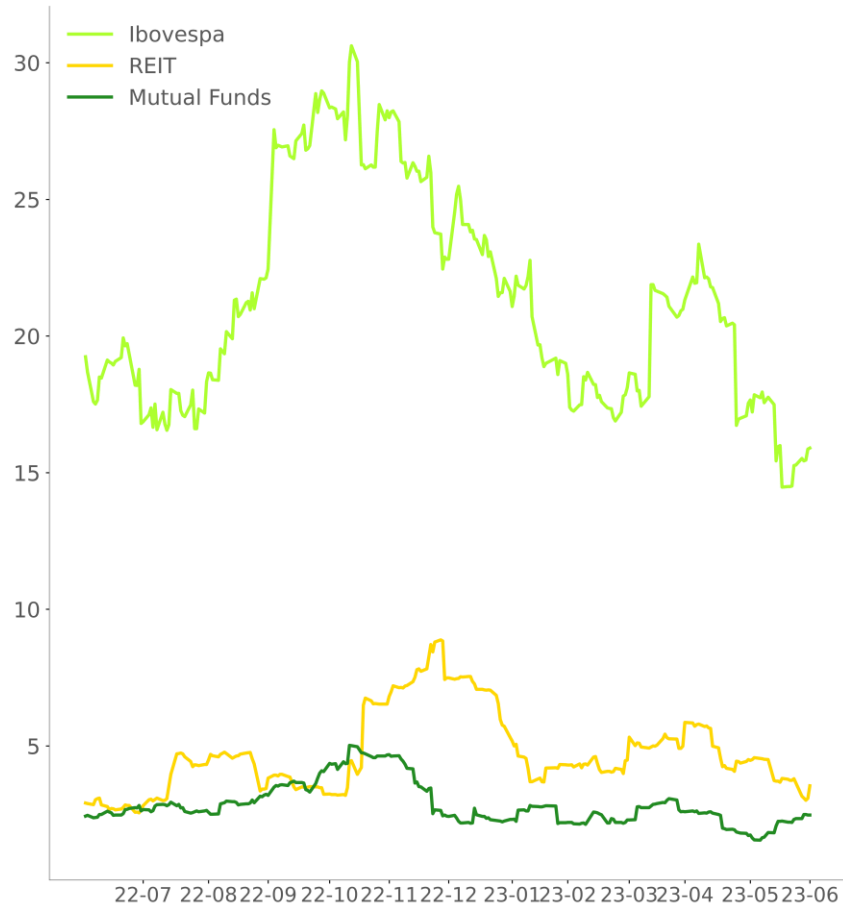


8. Market risk

8.7. National variable income indexes – last 12 months return

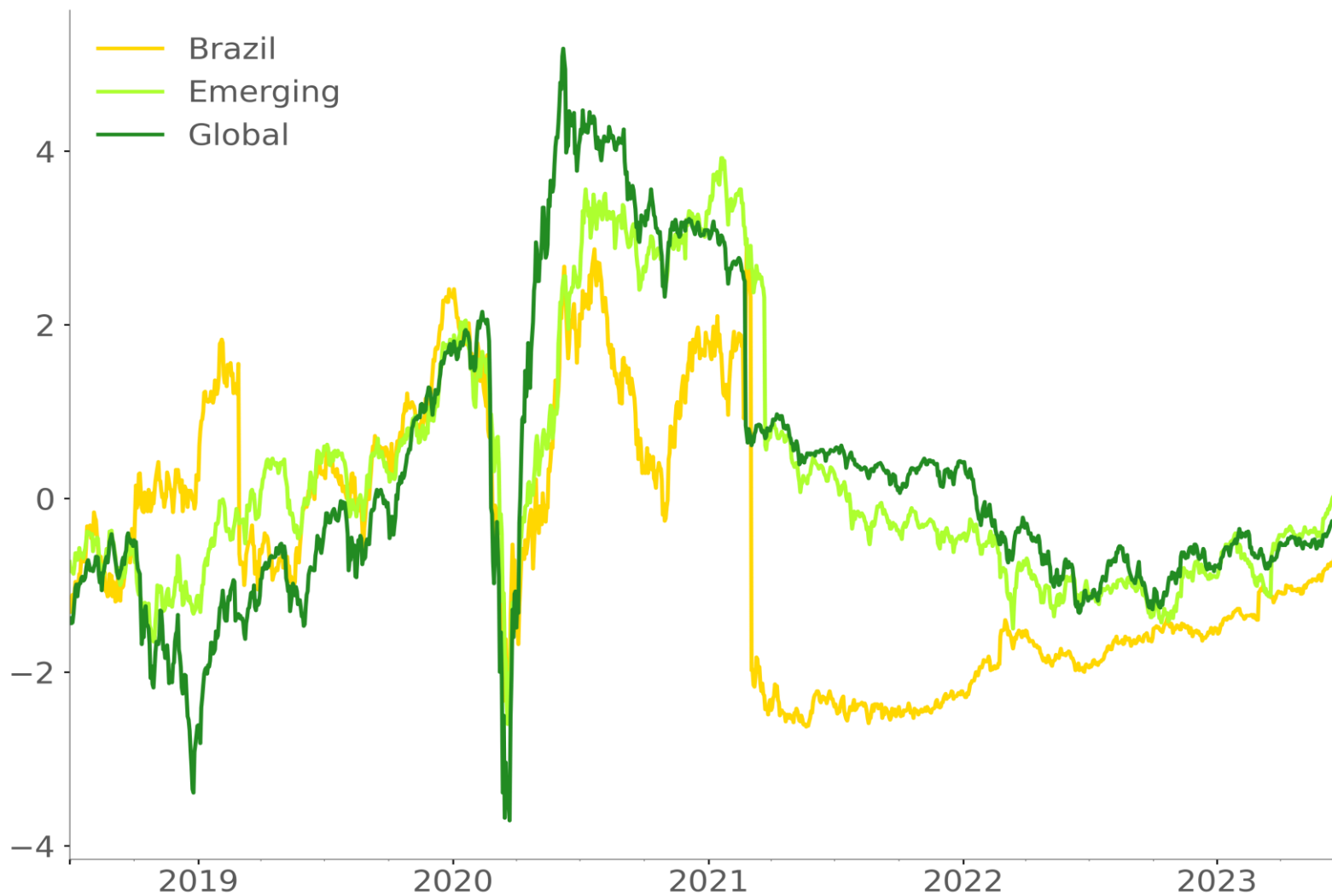


8.8. National variable income indexes – volatility



9. Risk appetite

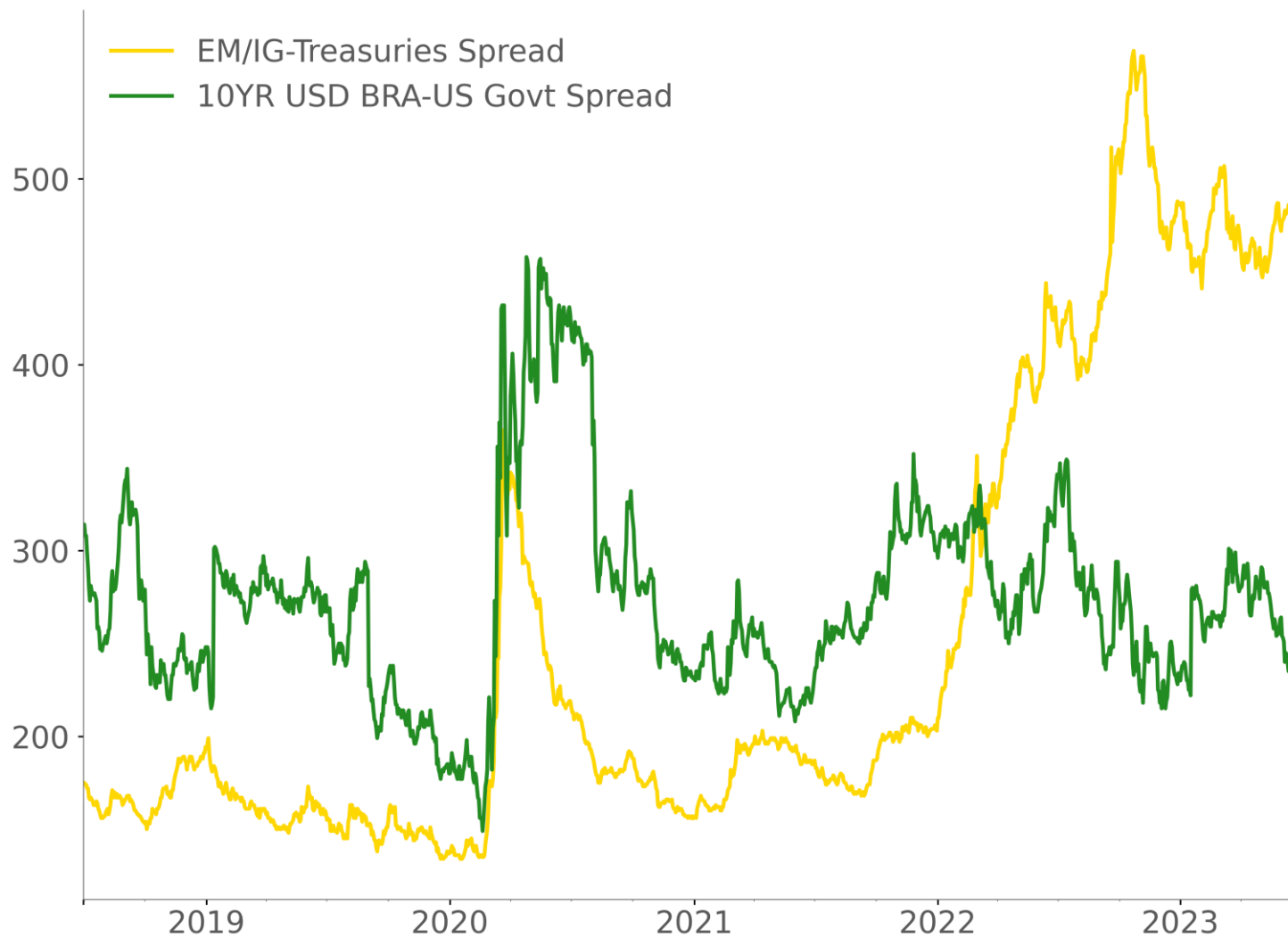
9.1. Adjusted estimated forward PE ratio (Z-Score) – MSCI equity indexes



Source: Bloomberg

9. Risk appetite

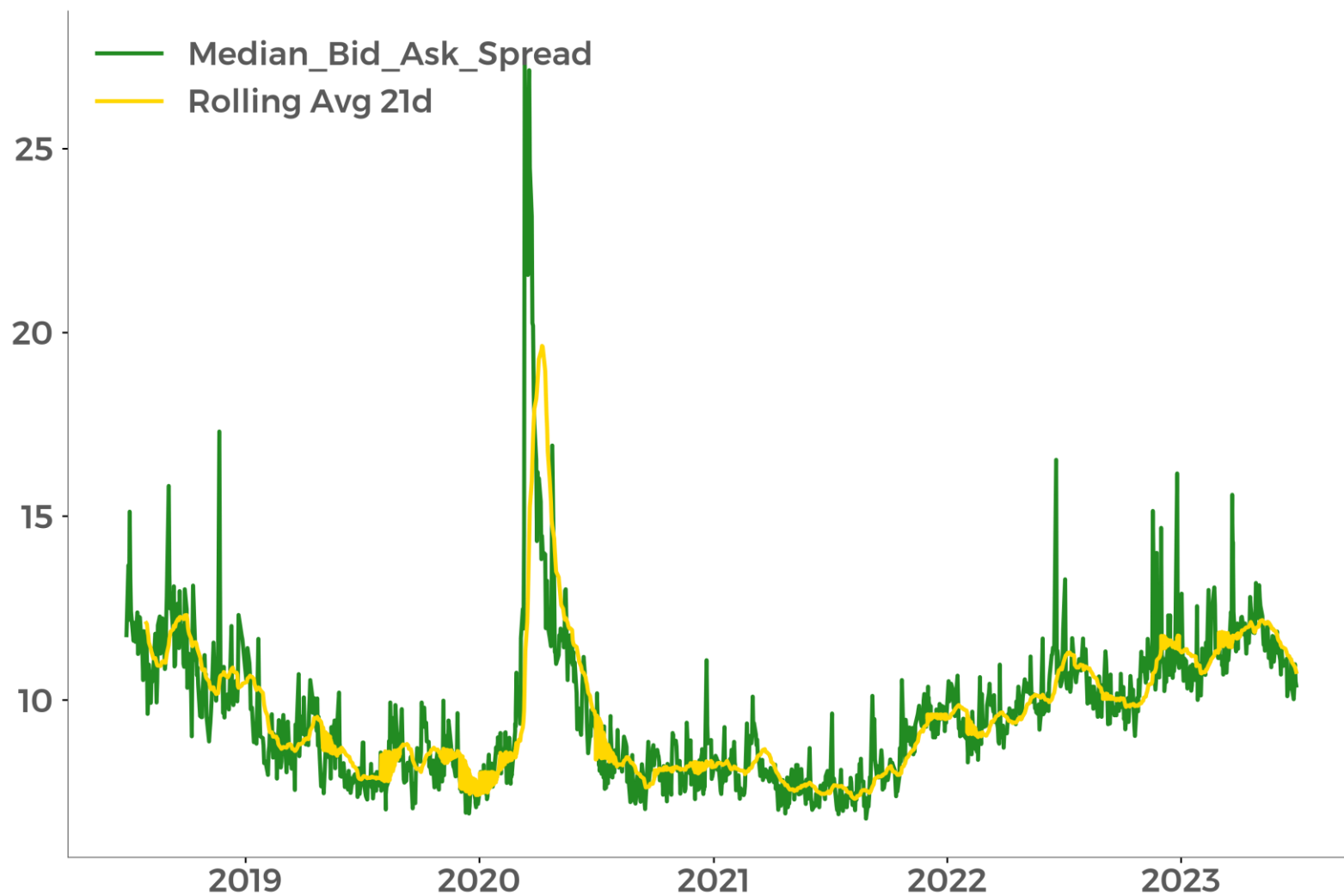
9.2. Spreads vs US treasuries (basis points)



Source: Bloomberg

10. Liquidity risk

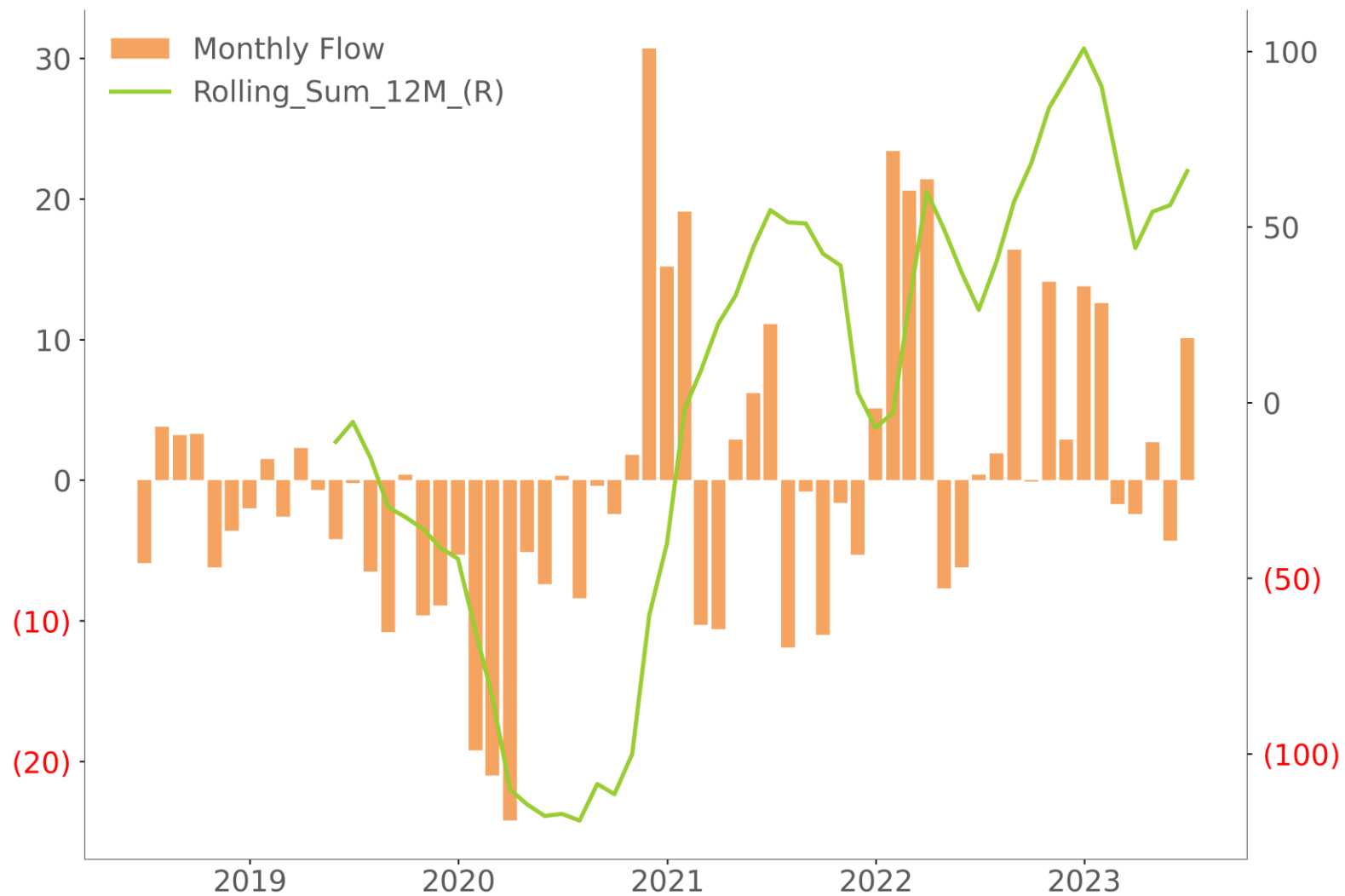
10.1. Bid-Ask spread index – equities (basis points)



Source: Bloomberg

10. Liquidity risk

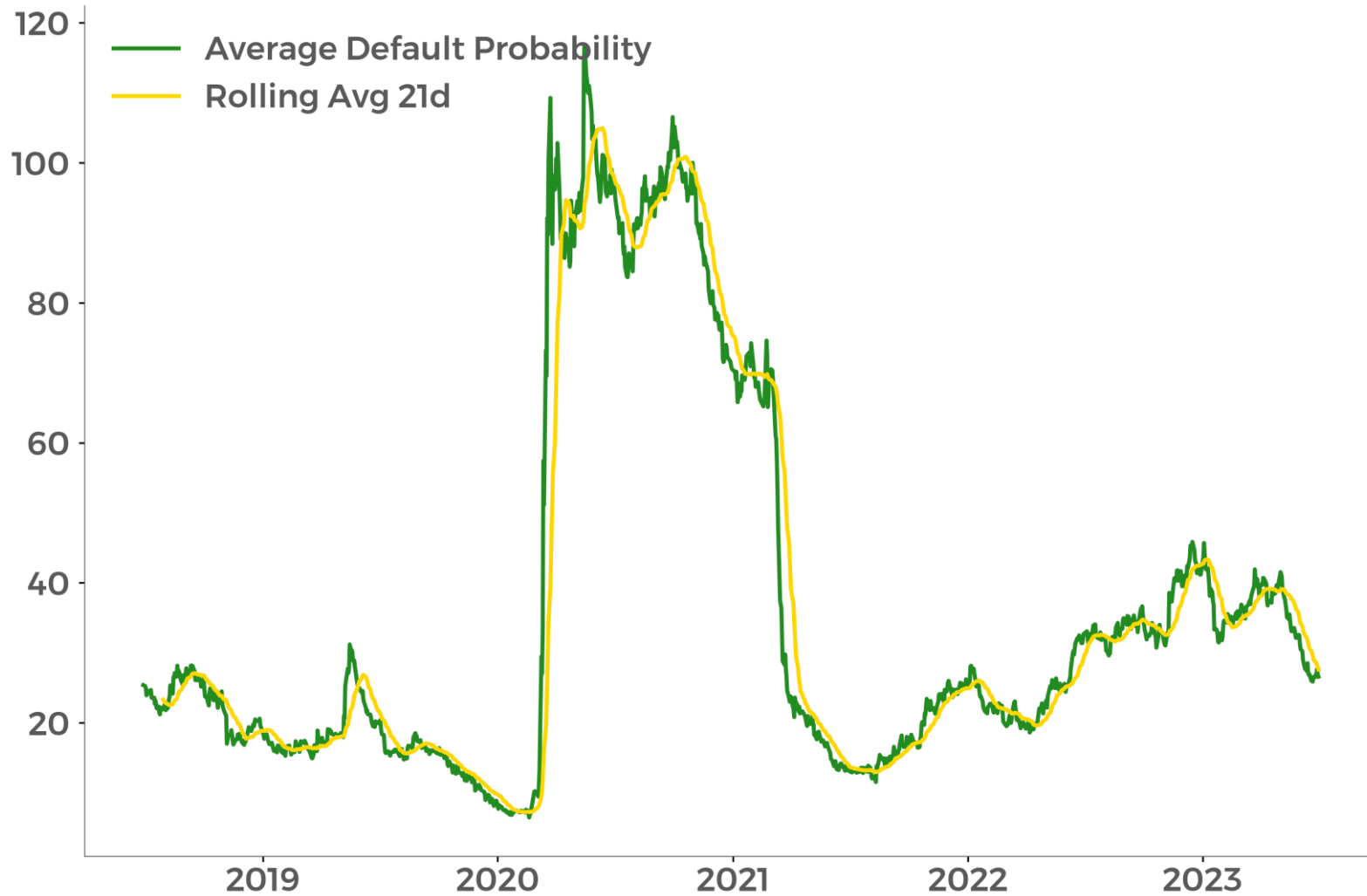
10.2. Net foreign investor inflows on secondary equity markets (US\$ bi)



Source: Bloomberg

11. Credit risk

11.1. Default probability index – equities (basis points)



Source: Bloomberg

Methodology

Risk map

Macro risk: simple monthly average of the daily Z-score (2500 day rolling window) of the 5YR Brazilian sovereign CDS (graph 1.3). Z-score Intervals and corresponding Risk Scale: above 2sd => 5; between 1,5 e 2sd => 4; between 0,5 e 1,5sd => 3; between -1 e 0,5sd=> 2; below -1sd => 1.

Market risk: arithmetic average of two composites, respectively the arithmetic monthly average of the daily Z-score (1250 day rolling window) of the 30 day realized annualized volatility of the MSCI Brasil Index (equities, see below) and the Anbima IMA-G Index (fixed income, see below). Z-score Intervals and corresponding Risk Scale: above 2sd => 5; between 1,5 e 2sd => 4; between 0,5 e 1,5sd => 3; between -1 e 0,5sd=> 2; below -1sd => 1.

Liquidity risk: simple monthly average of the daily Z-score (1250 day rolling window) of the Bid-Ask Spread Index (see below) . Z-score Intervals and corresponding Risk Scale: above 2sd => 5; between 1,5 e 2sd => 4; between 0,5 e 1,5sd => 3; between -1 e 0,5sd=> 2; below -1sd => 1.

Risk appetite: weighted average of three composites: first, the arithmetic average of the Adjusted Estimated PE Ratio, with a 0.5 weight; second, the arithmetic monthly average of the daily Z-score (1250 day rolling window) of the other two series that compose the Risk Appetite section (see below), each series with a weight equal to 0.25. Z-score Intervals and corresponding Risk Scale for the Adjusted Estimated PE Ratio: above 2sd => 5 between 1,5 e 2sd => 4; Between 0,5 and 1,5sd => 3; Between -1 and 0,5sd => 2; Below -1sd => 1. Z-score Intervals and corresponding Risk Scale for remaining series: below -2sd => 5; between -1,5 e -0,5sd => 4; between -0,5 e 1sd => 3; between 1 e 2sd => 2; above 2sd => 1.

Credit risk: simple monthly average of the daily Z-score (1250 day rolling window) of the Weighted Average Default Probability Index (see below). Z-score Intervals and corresponding Risk Scale: above 2sd => 5; between 1,5 and 2sd => 4; between 0,5 and 1,5sd => 3; between -1 e 0,5sd=> 2; below -1sd => 1.

Macro risk

Sovereign CDS Spreads: The graphs depict the daily trend of the closing price (in b.p.) of the 5YR sovereign CDS spreads of some emerging markets usually considered peers to Brazil.

Methodology

Market indexes

MSCI equity indexes: the MSCI World Index (denominated in this report as "Global") reflects the performance of the equity markets of several global markets. The MSCI Emerging Markets Index (denominated in this report as "Emerging") reflects the performance of the equity markets of several emerging markets. The MSCI Indexes also reflect single markets, such as the case of the MSCI Brazil Index.

Corporate bond indexes: indexes developed by Barclays/Bloomberg to measure the performance of investment grade bonds, converted to USD when appropriate. The BEHGTRUU Index (denominated in this report as "Emerging") refers to bonds in emerging markets, while the LGCPTRUU Index (denominated in this report as "Global") does the same for the global markets. In Bloomberg methodology, the bonds are weighted by market value, unhedged.

Índices de Referência: IRF-M = index composed by a basket of sovereign fixed-rate bonds (LTN and NTN-F). IMA-B = fixed income index that depicts the trend, at market prices, of a basket of retail price inflation-linked sovereign bonds (called NTN-B). IHFA = index for the mutual fund industry in Brazil, whose value reflects, in local currency, the performance of a hypothetical portfolio of mutual funds selected according to a methodology developed by ANBIMA. IFIX = main index for the Brazilian REIT industry. IMA-G = weighted average of the daily returns of IMA-B, IMA-C (wholesale price inflation linked sovereign bond index), IMA-S (floating rate sovereign bonds index) e IRF-M indexes. CDI = index for the main bank overnight rate in Brazil, widely used as benchmark.

Volatility: dispersion measure for the realized returns of an index or of a security. The 30 day realized volatility refers to the annualized standard deviation of the closing price returns in the last 30 trading days, expressed in percentage terms.

Liquidity indexes

Bid-Ask Spread: difference of bid and ask prices of a security divided by its midprice, frequently used as a gauge for market liquidity. The lower this ratio, the more liquid the security tends to be. The graph refers to the daily trend of the median spread calculated based on a sample comprised by half of the Ibovespa Index members with the lowest turnover volume for a given month.

Net foreign inflows on equities: Monthly foreign investor net inflows in the B3 secondary market for equities and equities derivatives.

Methodology

Risk appetite

Adjusted estimated forward PE ratio: ratio between the current price of an index or security and its estimated positive earnings for the following accumulated 12 months, according to the consensus of market analysts, excluding companies with negative EPS projections. The PE ratio can be understood as the payback time estimated to recover through its profits the capital investment in a given company. A high PE ratio indicates that the security might be overvalued relative to its recent profit potential. Inversely, a low PE ratio points that the security might be undervalued relative to its profit potential. In this report, the country/region analysis is done using the daily ratio for the corresponding MSCI Indexes as a reference. The calculated indicators refer to the Z-score (1250 trading day rolling window) of such ratios.

EM_IG vs US Treasuries: spread between a USD investment grade mixed corporate/sovereign bond index for emerging markets and the a US treasuries index, expressed as an annual percentage yield. Calculations use the BEHGTRUU Index and the BUSY Index, both available through Bloomberg.

USD Sovereign Brazil vs US Treasuries: difference between the yields of a generic 10YR USD-denominated sovereign Brazilian bond and an analogous treasury, both calculated by Bloomberg.

Credit risk

Default probability index: grasps the average default probability of non-holding non-financial corporates traded in the B3 exchange. Its calculation proceeds as follows: for each trading day and for the whole available sample of eligible companies in that day, the weighted average (by market cap) of the 1YR default probabilities is calculated ("BB_1YR_DEFAULT_PROB"), as made available by Bloomberg.

Methodology

Primary Markets

“Old” Regulatory Framework: includes offerings made under the old CVM rules, filed before 02/01/2023, established by ICVM nº 400/03 (and its exemptions) and 476/09, updated by subsequent rules. Here, the accounting occurs based on the date of register granting (or exemption), in the case of “rule 400”, or in the ending date, in the case of the “rule 476”, always using **the total amount raised**, as announced by the issuer in filings sent to CVM. Such accounting practice implies in retroactive changes related to “Rule 476”, due to the delayed flow of filings sent by the issuers reporting the end of fundraising efforts. The data does not include all types of registration exemptions, neither all securities offered, only those considered most representative.

“New” Regulatory Framework: corresponds to offerings under the Rule CVM nº160/22 rule, in force as of 02/01/2023. Those offers are divided in ordinary (with previous analysis by the CVM) and automatic (without previous analysis by the CVM). Unlike the older framework, the accounting of the values occurs here based on the date of the register granting, using **the pretended value of issuance**, as announced by the issuer in the filings sent to CVM. The offer might not reach the total pretended amount, but such information will be sent by issuer to CVM later only. The data does not include all securities offered, only those considered most representative.

“Crowdfunding” Framework: corresponds to offerings made in base on the Rule CVM nº88/22, former ICVM 588/17. There were no changes in this framework despite the rule update. Data comes from Annex G.