

ECONOMIC REPORT

Year 9 | Volume nº 92 | 2021 Q4

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Data as good as of 31/12/2021.

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MARKET SCENARIO



1. Market scenario - Highlights

- In the year of 2021 a grand total of R\$ 722.2 bi in securities were issued (3.1.1), R\$ 252.1 bi of which were issued on the last quarter. This has been the record amount issued in any year. One can single out the corporate bond market, which accounted for almost 35% of total value.
- However, it must be pointed out that some of the observed growth for the ICVM 476 offers can be explained by an one-time only effect, notably the widespread anticipated end of issuance efforts ahead of changes in the methodology of regulatory levies for such operations. In the last quarter of 2021, R\$ 223 bi has been issued using such channel, whereas only R\$ 87 bi in 2020. Notwithstanding such event, the total issued amount would still be na annual record.
- The set of regulated participants (2.1) has risen 16% YoY, comprising 71.756 participants. It shall be pointed out that growth has been observed in almost all categories, of which can be highlighted Registered Independent Brokers (30%), totaling 18.141 registered participants.
- The estimate for the total regulated market (2.2.1) is R\$ 33.15 tri, 6% down relative to last year's same period. However, such decline is mainly due to the aggregated derivatives notional stock outstanding. Excluding such category, we can point out a R\$ 0.48 tri increase for the grand total, investment fund industry being its main net driver.
- The daily average financial turnover in the secondary market for equities (odd lot), debentures and REITs keeps sustained above last year (4.1.1, 4.1.2 e 4.1.3). Finally, the YTD number of derivatives contracts settled on exchanges (4.2.2) has kept below last year's for USD Futures contracts only.

2. Regulated markets

2.1. Number of participants*	2016	2017	2018	2019	2020	2021
Registered Non-Resident Investors	18.429	19.416	19.293	18.244	18.705	19.220
Registered Investment Funds	14.936	16.182	17.718	19.427	22.295	26.445
Registered Asset Managers (sum)	3.353	3.411	3.475	3.561	3.814	4.191
Fiduciary Administrators (only)	29	36	42	42	49	54
Asset Managers (only)	3.227	3.281	3.349	3.438	3.686	4.056
Both	97	94	84	81	79	81
Registered Research Analysts	624	606	615	630	840	1.161
Registered Investment Consultants	648	686	669	697	791	1.018
Registered Brokerage Firms (trading)	84	74	74	74	69	70
Registered Brokerage Firms (distribution)	107	94	101	100	102	106
Registered Brokers (sum)	6.053	6.652	7.778	10.798	13.881	18.141
Legal persons	4.828	5.492	6.619	9.608	12.275	16.969
Firms	1.225	1.160	1.159	1.190	1.156	1.172
Registered Custodians	144	145	139	146	146	156
Registered Bookkeepers	35	53	59	61	63	72
Registered Organized Market Administrators	1	1	1	1	3	3
Registered CSDs	1	1	1	1	1	2
Registered Crowdfunding Platforms	N/A	N/A	14	26	32	54
Registered public companies, including foreign and subsidized, with active status	690	672	666	656	675	765
Registered Independent Auditors	408	391	375	528	354	346
Registered Rating Agencies	7	7	7	7	6	6
TOTAL (*Estimates)	45.520	48.391	50.985	54.957	61.777	71.756

Source: CVM, APIMEC

2. Regulated markets

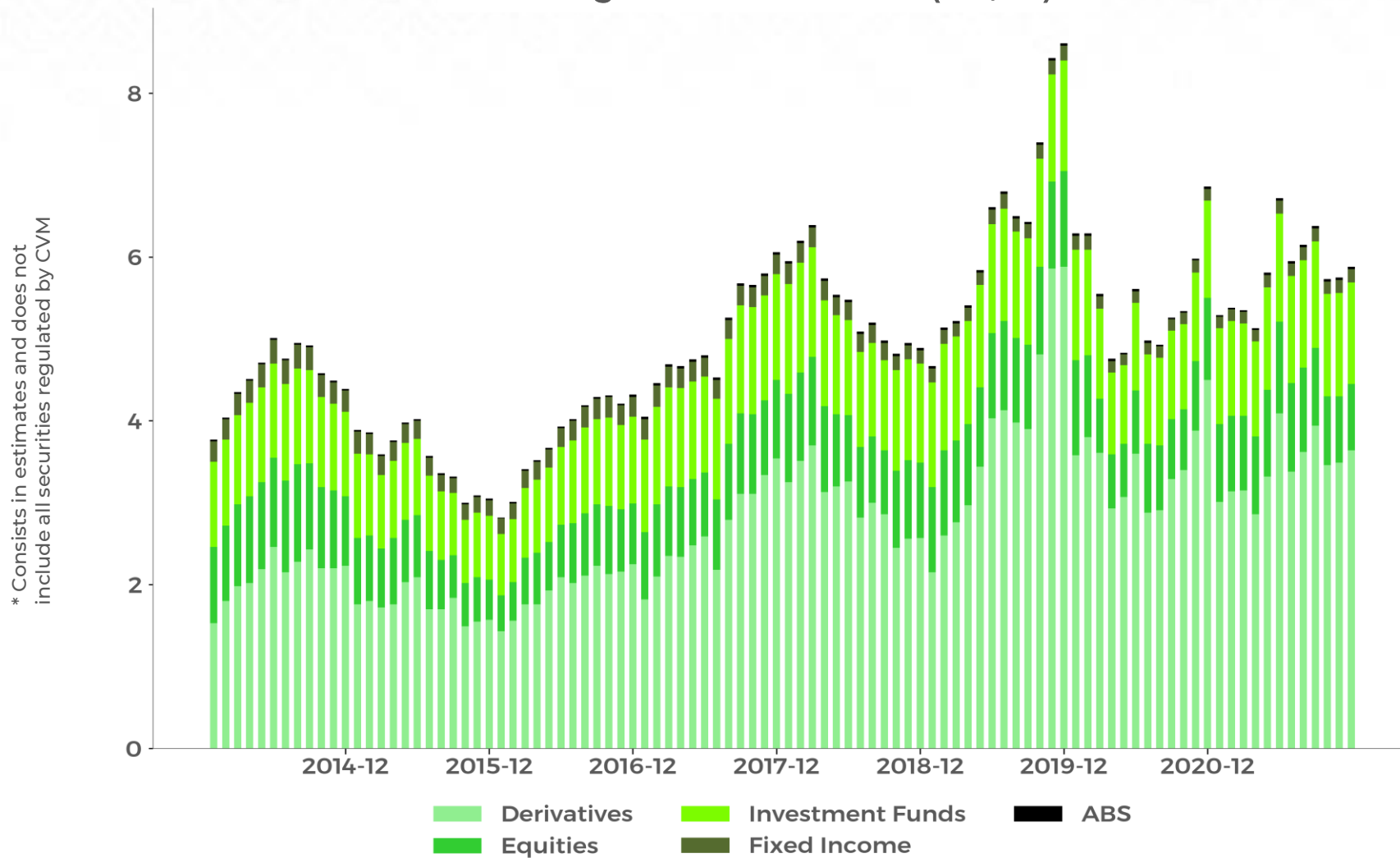
2.2.1. Total regulated markets (US\$ tri)*

CATEGORY	ASSET	2016	2017	2018	2019	2020	2021
Fixed Income	Corporate Bonds	0.24	0.23	0.15	0.17	0.13	0.15
	Commercial Paper	0.00	0.01	0.01	0.01	0.01	0.01
Securitization	MBS	0.02	0.02	0.02	0.02	0.02	0.02
	Agrobusiness	0.01	0.01	0.01	0.01	0.01	0.01
Variable Income	Equities – Market Cap	0.74	0.96	0.92	1.17	1.00	0.81
Derivatives	Notional outstanding	2.25	3.54	2.56	5.88	4.50	3.63
	Structured Notes	0.00	0.00	0.01	0.00	0.00	0.01
Investment Funds	Rule-555	0.95	1.15	1.08	1.18	1.03	1.03
	Structured Funds	0.11	0.14	0.13	0.17	0.16	0.21
TOTAL		4.31	6.05	4.87	8.60	6.86	5.87

* Consists in estimates and does not include all securities regulated by CVM

2. Regulated markets

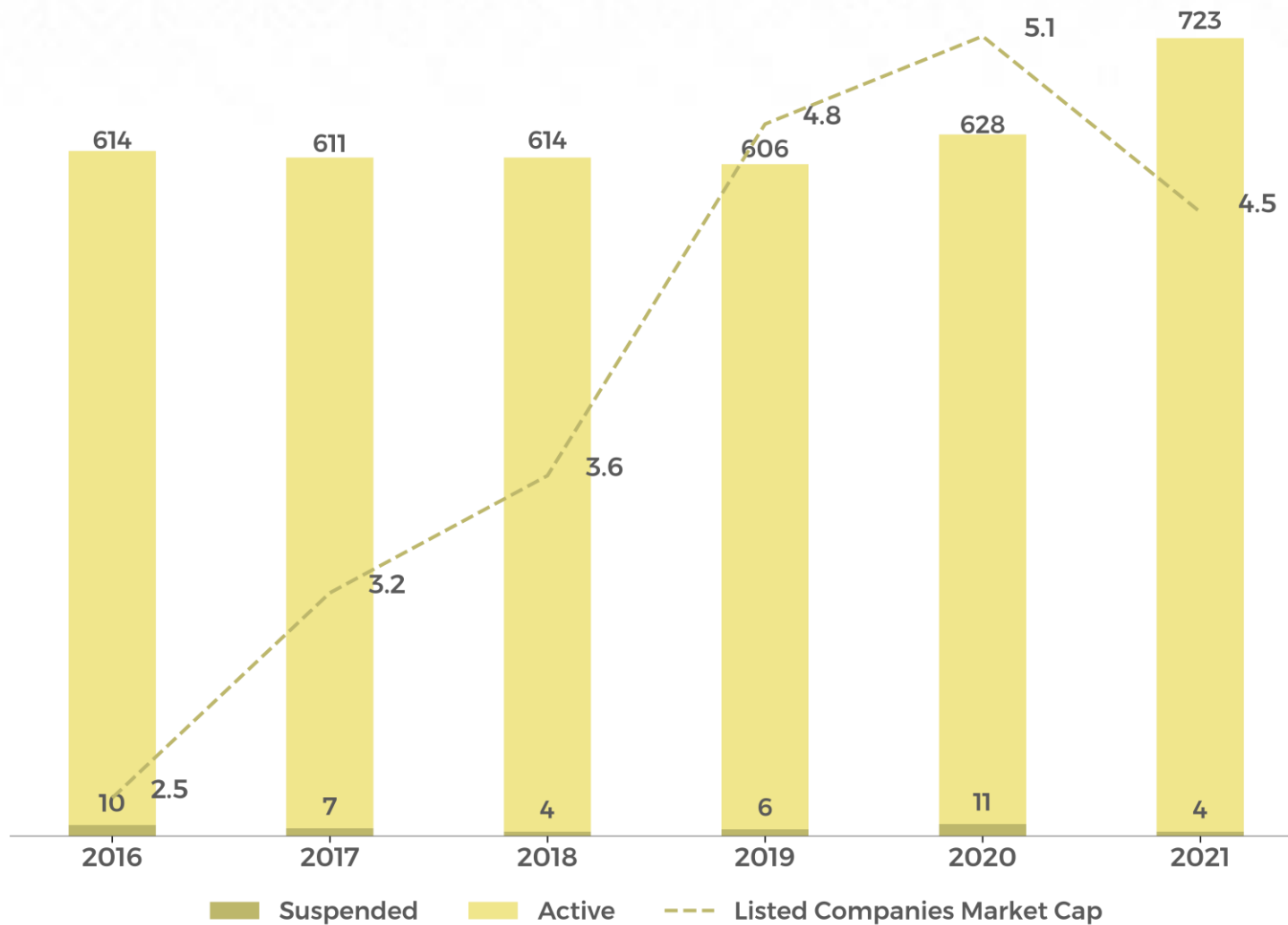
2.2.2. Regulated market value (US\$ tri)*



Source: CVM and Organized Market Administrators

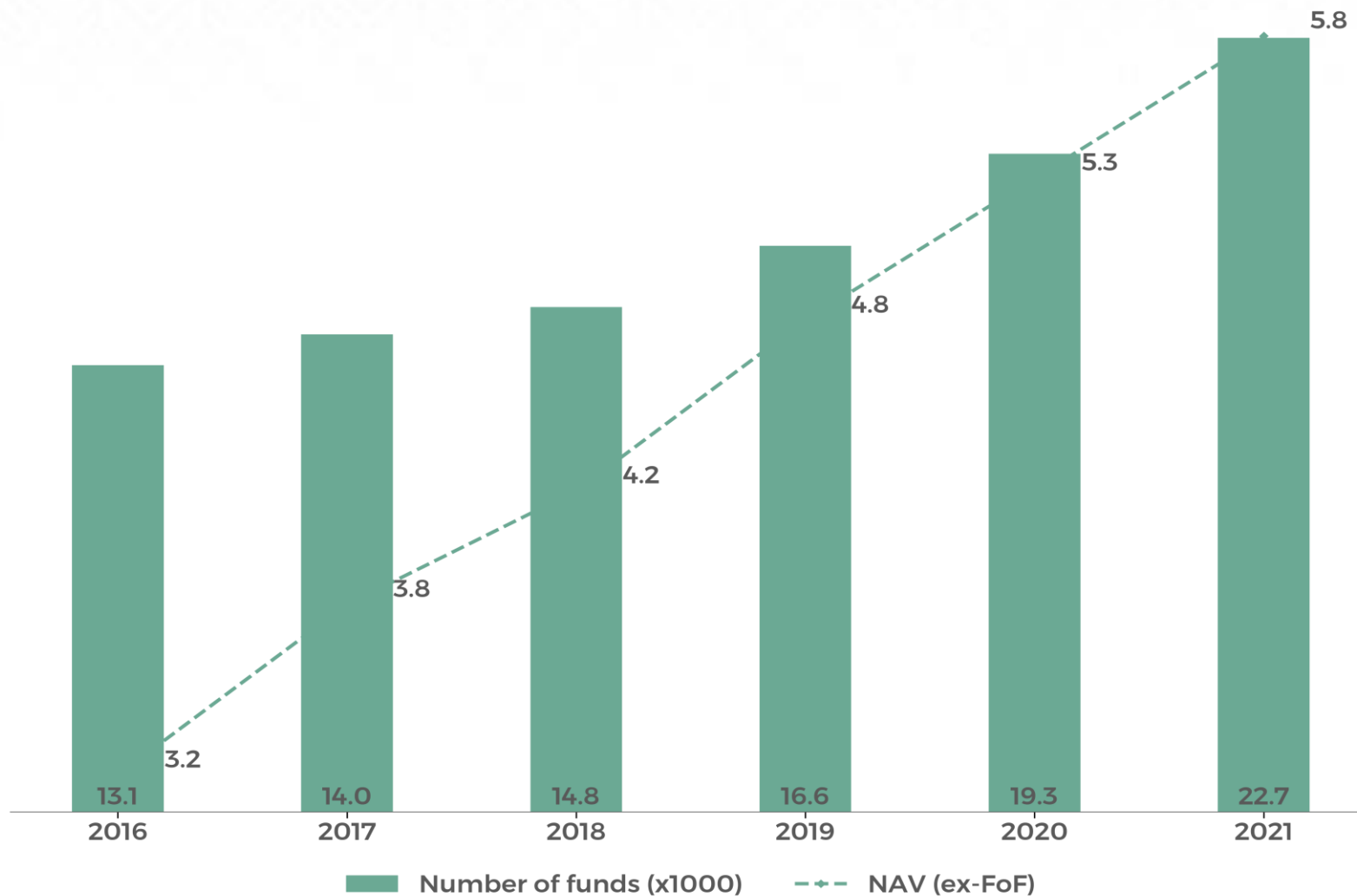
2. Regulated markets

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

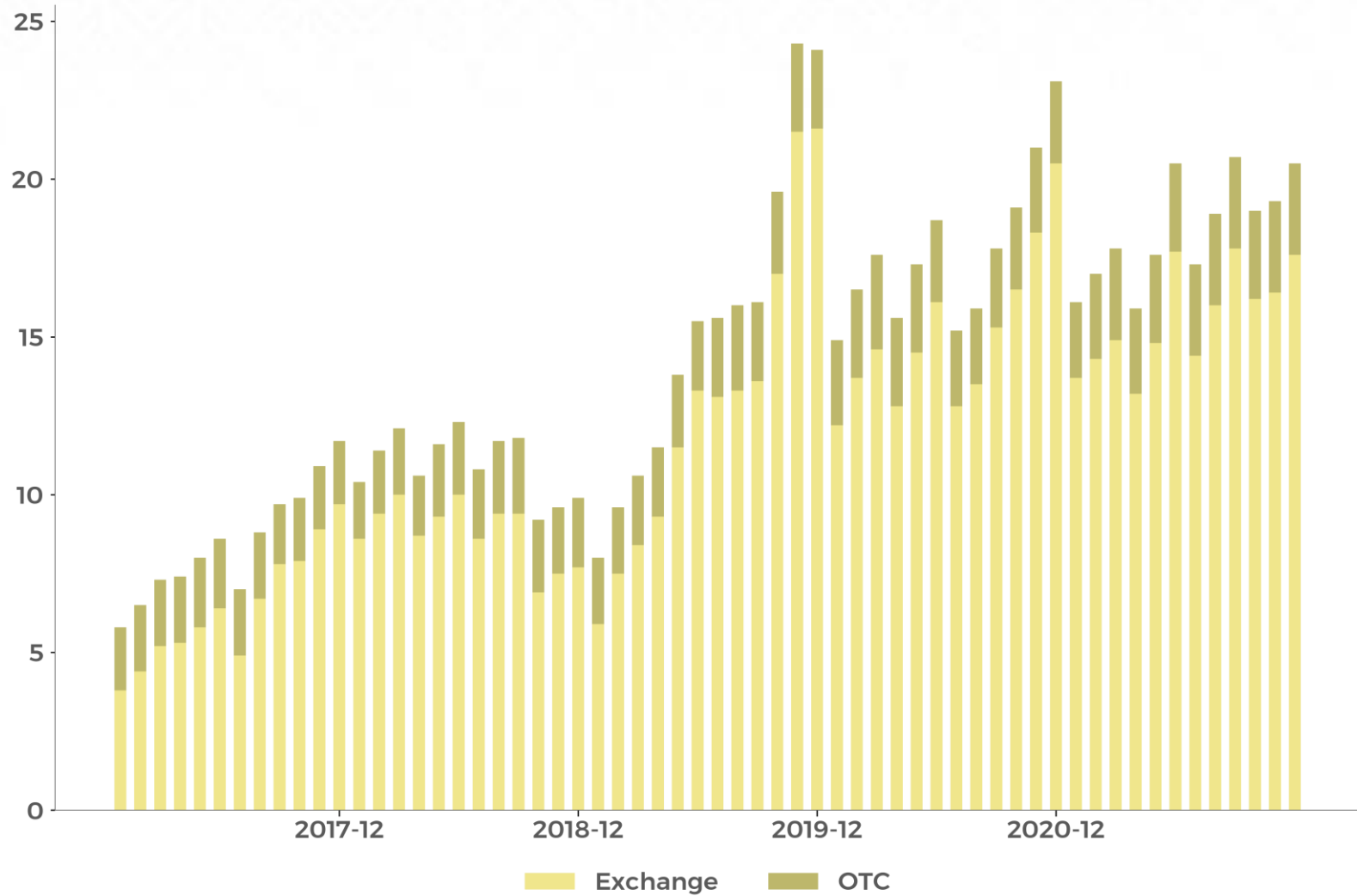


Source: CVM, B3

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



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



3. Primary markets

3.1. Annual totals by rule

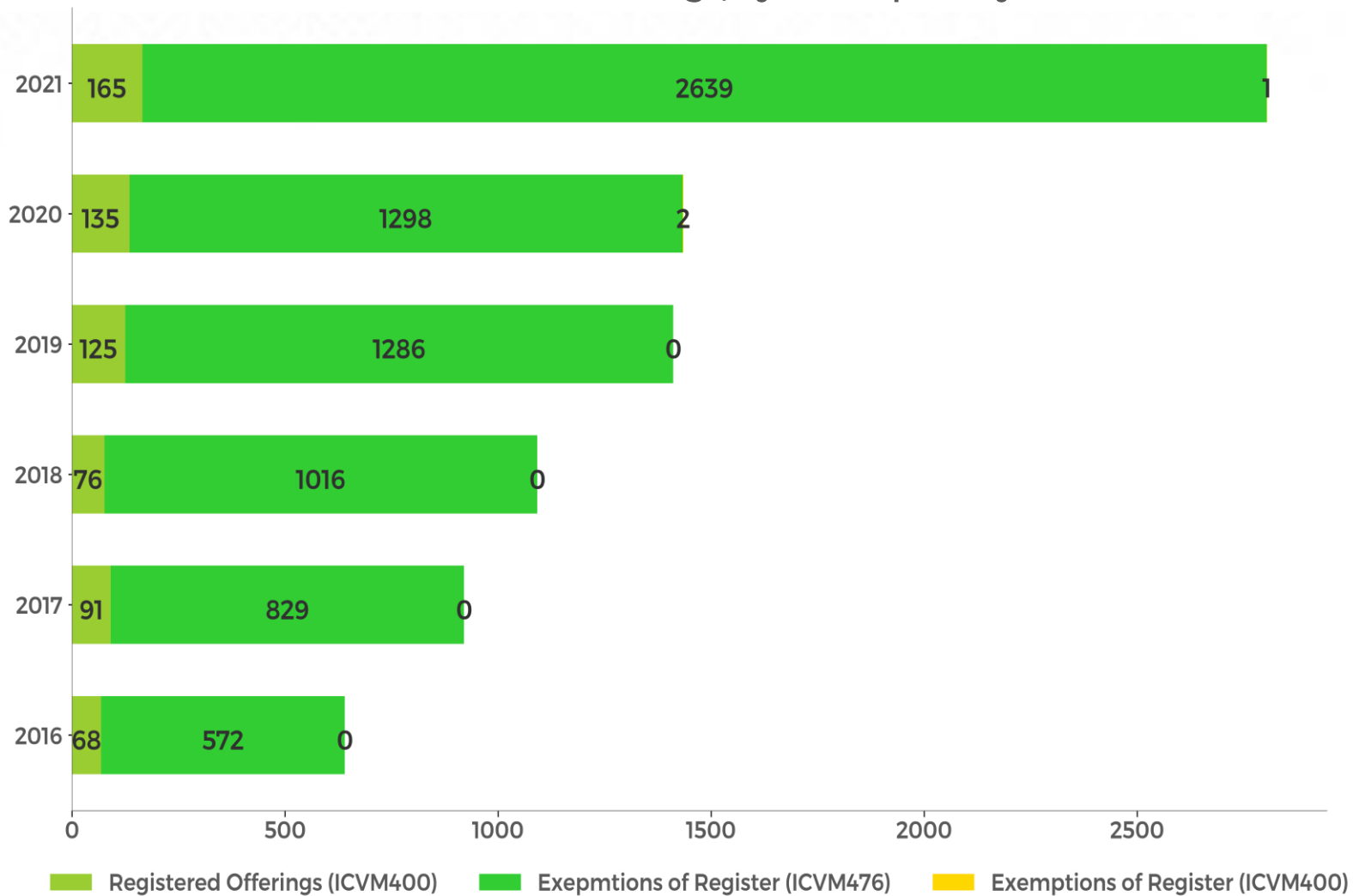
3.1.1. Annual totals (quantity and value)*	2016		2017		2018		2019		2020		2021	
	qty	R\$ bi	qty	R\$ bi	qty	R\$ bi	qty	R\$ bi	qty	R\$ bi	qty	R\$ bi
ICVM 400	68	20.8	91	50.2	76	33.5	125	89.5	135	120.2	165	129.3
ICVM 400 (exemptions)	-	-	-	-	-	-	-	-	2	5.0	1	0.1
ICVM 476	572	127.3	829	176.5	1.016	250.6	1.286	383.9	1.298	307.8	2.639	592.6
ICVM 588 (crowdfunding)	-	-	-	-	3	0.00	86	0.10	98	0.13	87	0.16
TOTAL	640	148.1	920	226.7	1.095	284.1	1.497	473.5	1.533	433.1	2.892	722.2

* 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

3.1.2. Total YTD offerings, by rule – quantity*

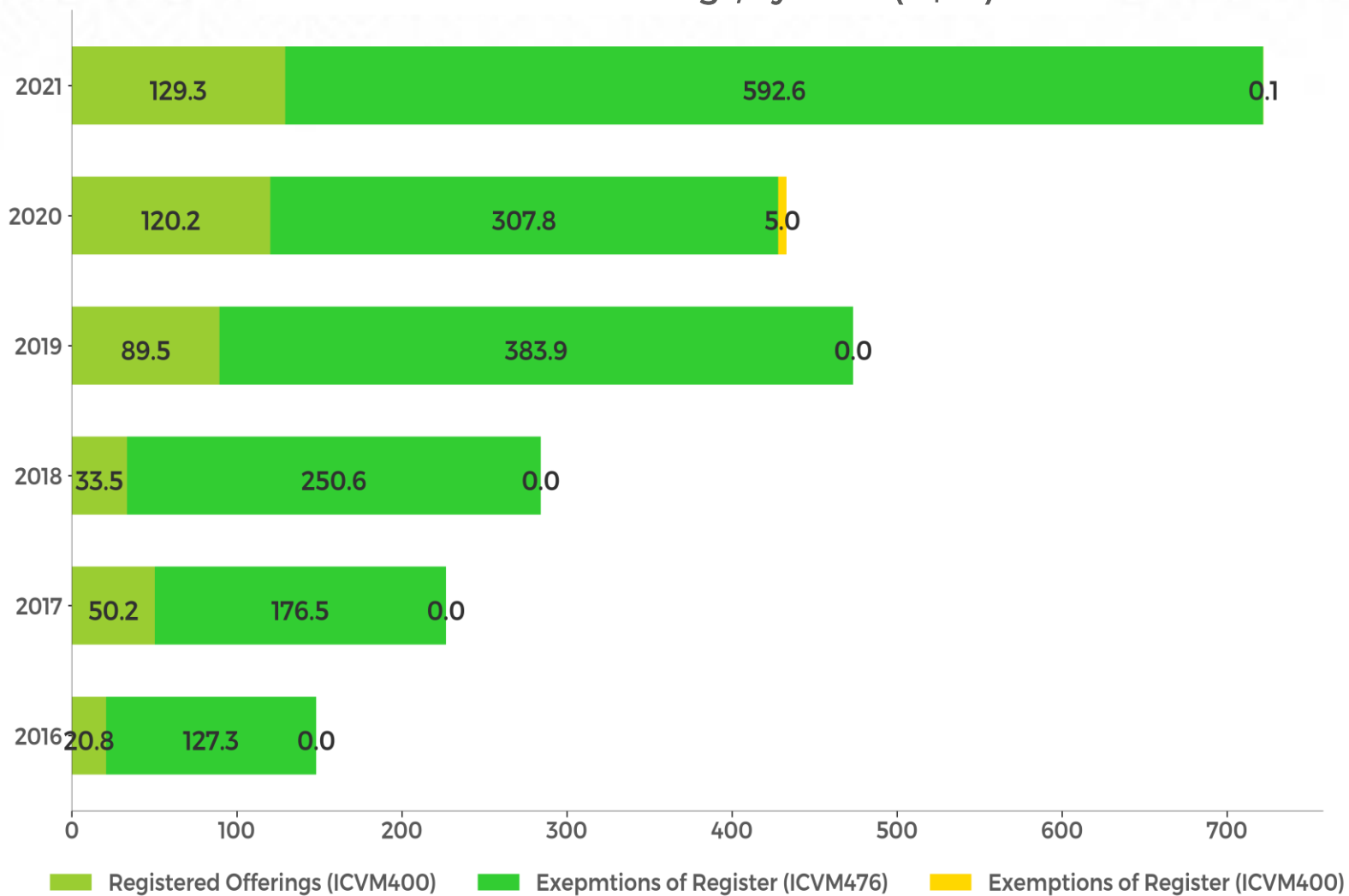


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3. Primary markets

3.1. Annual totals by rule

3.1.3. Total YTD offerings, by rule – (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

* 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.

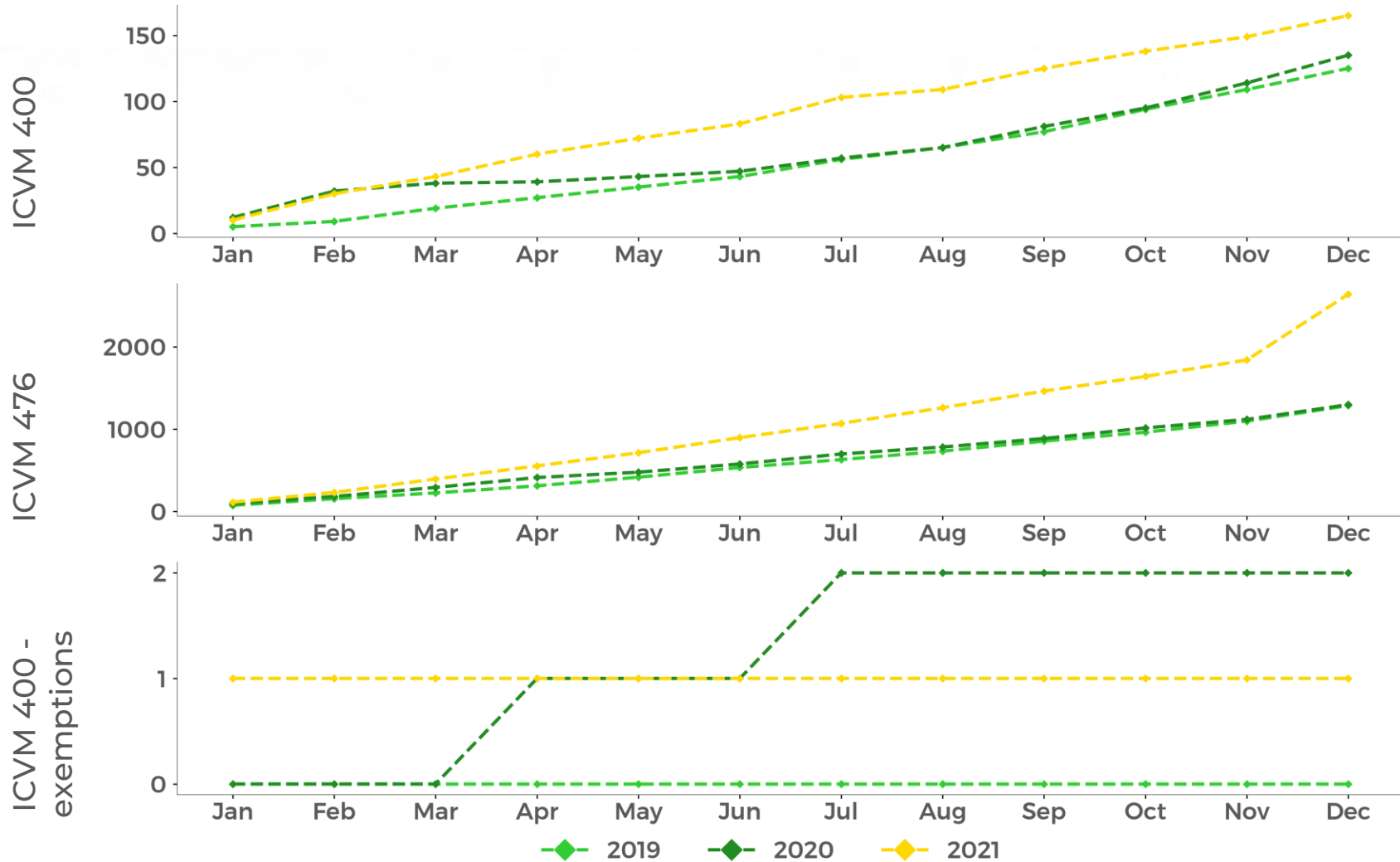
3.2.1. Accumulated totals for the current month (quantity and value)*	2016		2017		2018		2019		2020		2021	
	qty	R\$ bi	qty	R\$ bi	qty	R\$ bi	qty	R\$ bi	qty	R\$ bi	qty	R\$ bi
ICVM 400	68	20.8	91	50.2	76	33.5	125	89.5	135	120.2	165	129.3
ICVM 400 (exemptions)	-	-	-	-	-	-	-	-	2	5.0	1	0.1
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TOTAL	640	148.1	920	226.7	1.095	284.1	1.497	473.5	1.533	433.1	2.892	722.2

Source: CVM

3. Primary markets

3.2. Accumulated totals by rule

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

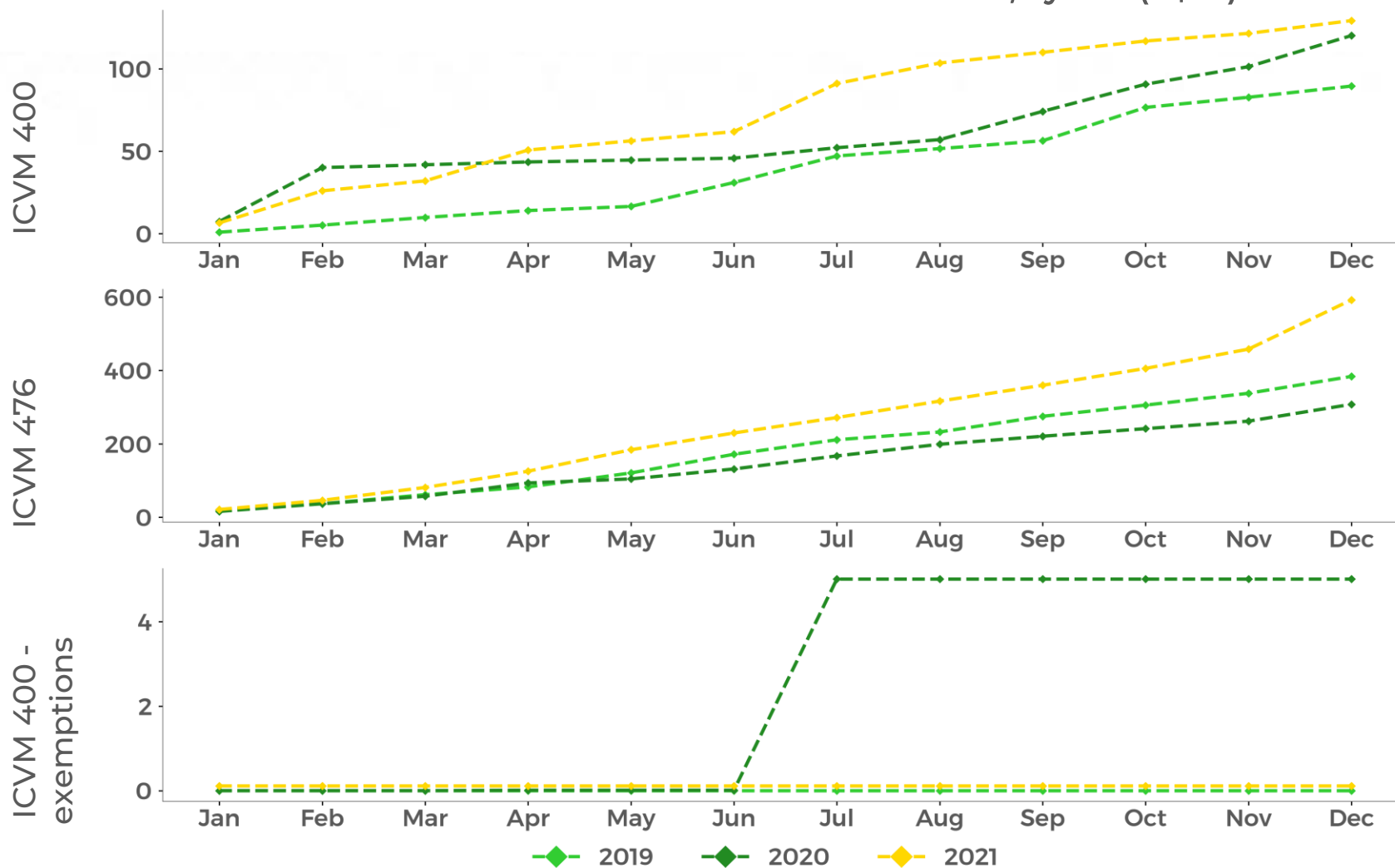


Source: CVM

3. Primary markets

3.2. Accumulated totals by rule

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



Source: CVM

3. Primary markets

3.3. Annual totals by instrument

3.3.1. Annual totals (quantity and value)*	2016		2017		2018		2019		2020		2021	
INSTRUMENT	qty	R\$ bi	qty	R\$ bi	qty	R\$ bi	qty	R\$ bi	qty	R\$ bi	qty	R\$ bi
Equities	10	10.7	26	40.1	5	11.2	42	90.2	53	118.6	71	130.7
Corporate Bonds	170	63.3	264	88.2	351	149.1	379	185.7	276	121.2	502	251.0
Bank Bonds	4	2.1	8	3.0	14	6.0	21	10.0	2	0.96	-	-
Commercial Paper	72	8.8	101	27.2	84	29.0	94	36.6	71	21.9	79	25.8
MBS	106	17.7	104	7.7	101	8.2	186	17.6	222	14.1	420	33.3
Agribusiness ABS	37	12.8	67	12.4	52	6.1	69	14.3	56	13.3	122	24.9
CDOs	68	3.7	138	16.4	187	20.6	255	36.8	266	43.1	670	87.6
REITs	66	6.1	74	8.2	104	17.7	196	42.3	256	48.9	380	62.3
Private Equity	107	23.0	138	23.5	194	36.2	169	39.9	233	51.0	561	106.3
TOTAL	640	148.1	920	226.7	1.092	284.1	1.411	473.4	1.435	433.1	2.805	722.0

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Source: CVM

3. Primary markets

3.3. Annual totals by instrument

3.3.2. Accumulated totals for the current month (quantity and value)*	2016		2017		2018		2019		2020		2021	
	qty	R\$ bi	qty	R\$ bi	qty	R\$ bi	qty	R\$ bi	qty	R\$ bi	qty	R\$ bi
Equities	10	10.7	26	40.1	5	11.2	42	90.2	53	118.6	71	130.7
Corporate Bonds	170	63.3	264	88.2	351	149.1	379	185.7	276	121.2	502	251.0
Bank Bonds	4	2.1	8	3.0	14	6.0	21	10.0	2	0.96	-	-
Commercial Paper	72	8.8	101	27.2	84	29.0	94	36.6	71	21.9	79	25.8
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TOTAL	640	148.1	920	226.7	1.092	284.1	1.411	473.4	1.435	433.1	2.805	722.0

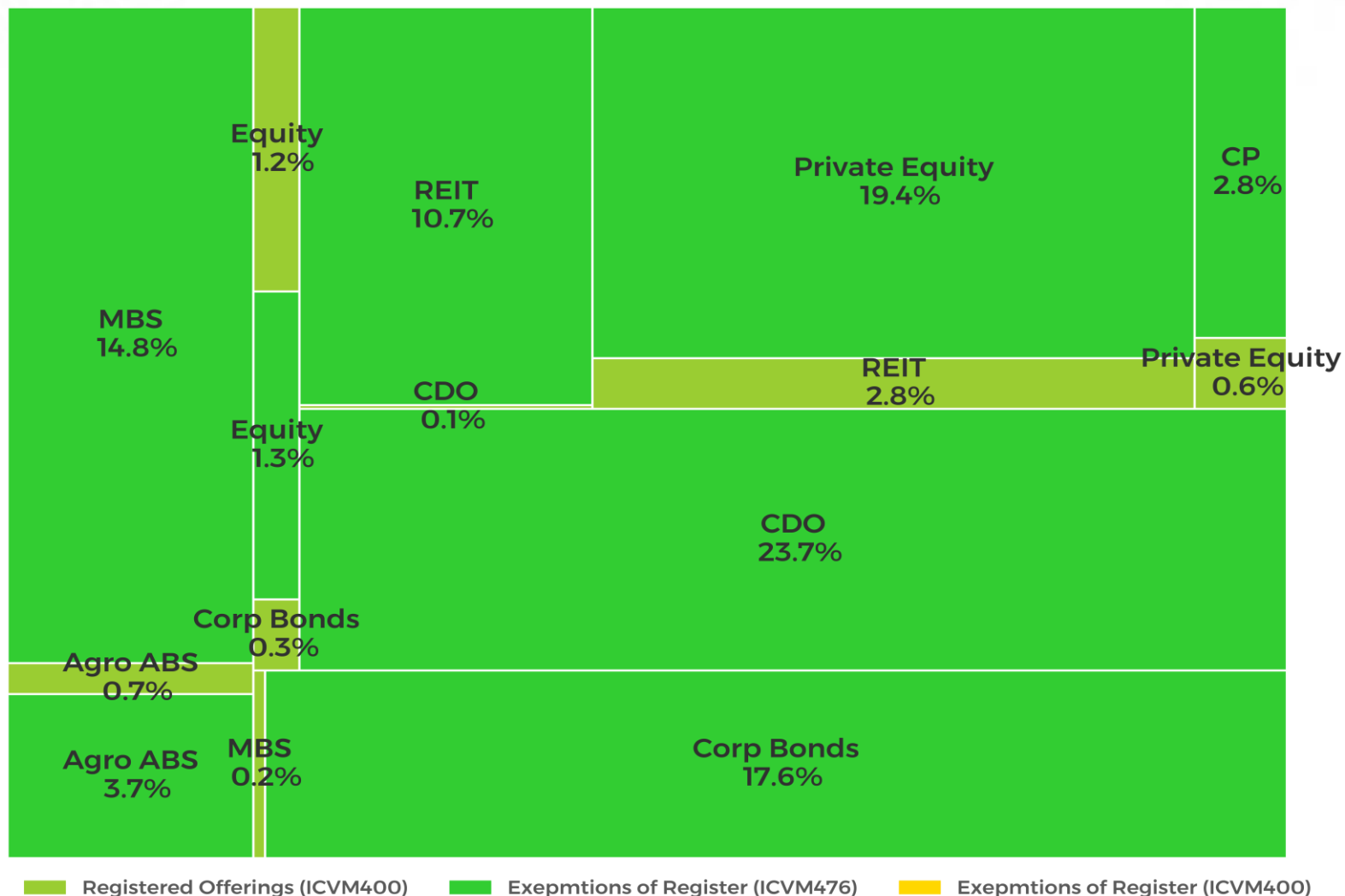
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Source: CVM

3. Primary markets

3.4. Totals by rule and instrument

3.4.1. YTD quantity of offerings (%)*

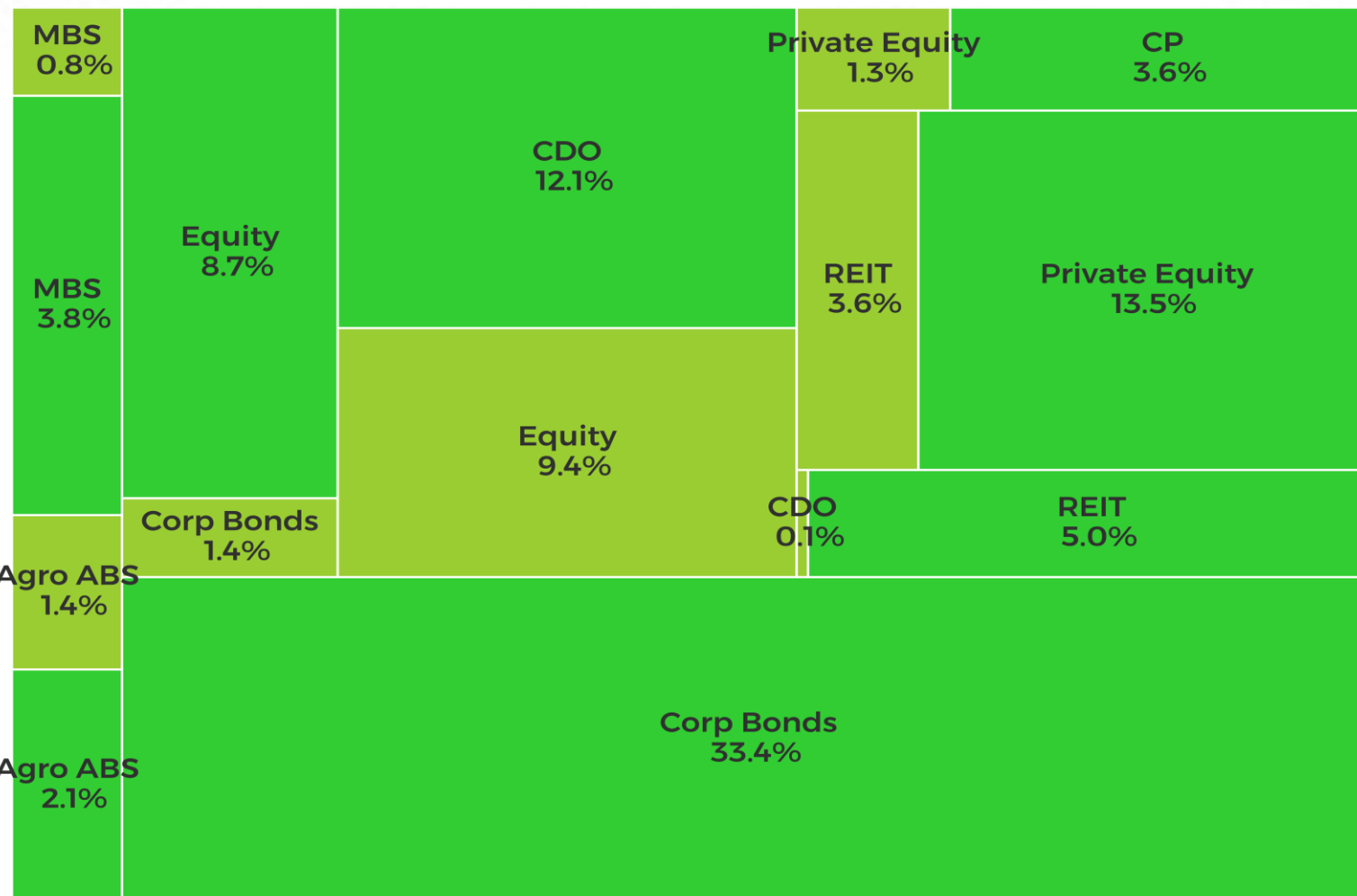


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3. Primary markets

3.4. Totals by rule and instrument

3.4.2. YTD value of offerings (%)*



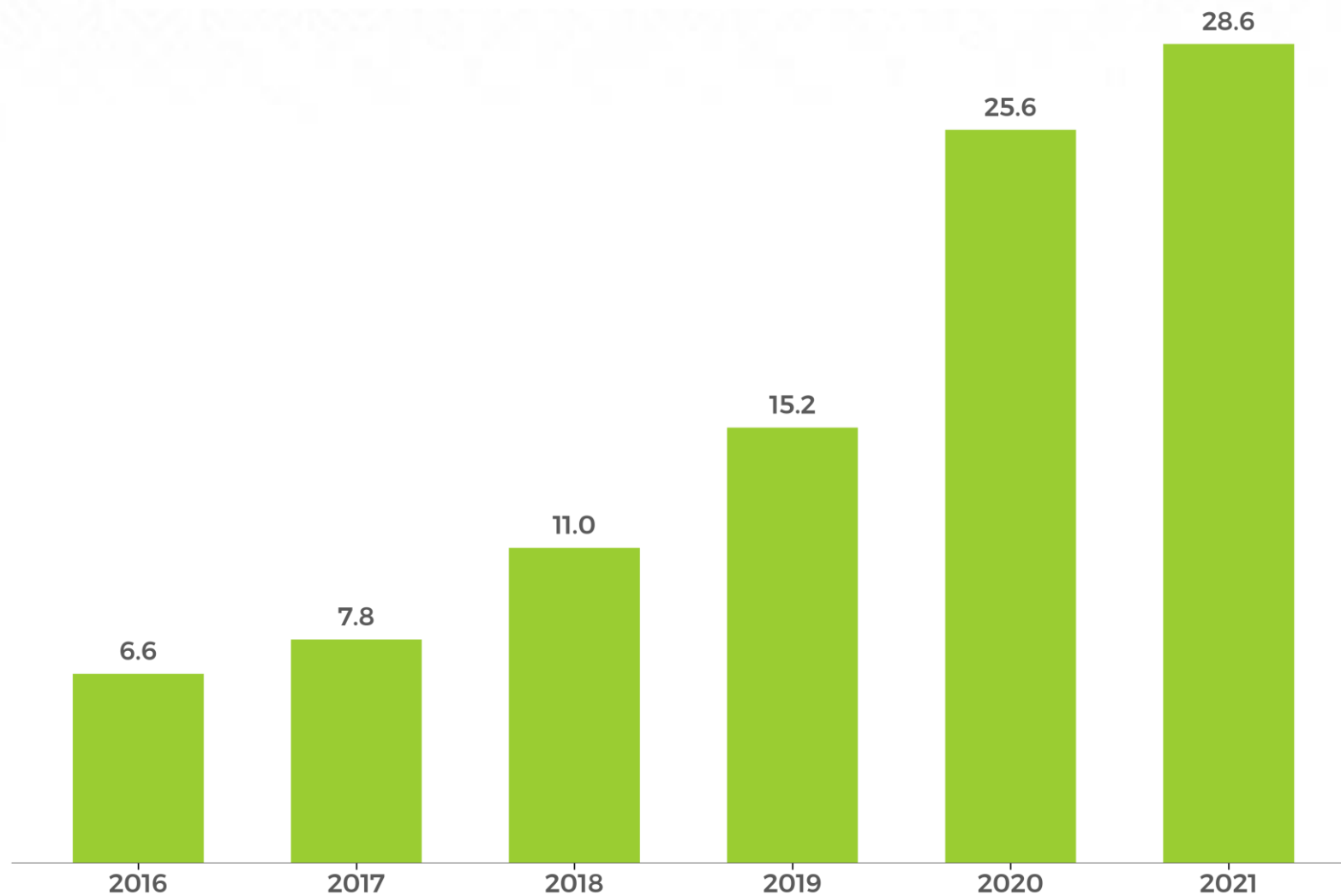
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■ Registered Offerings (ICVM400)
 ■ Exemptions of Register (ICVM476)
 ■ Exemptions of Register (ICVM400)

4. Secondary markets

4.1. Spot

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

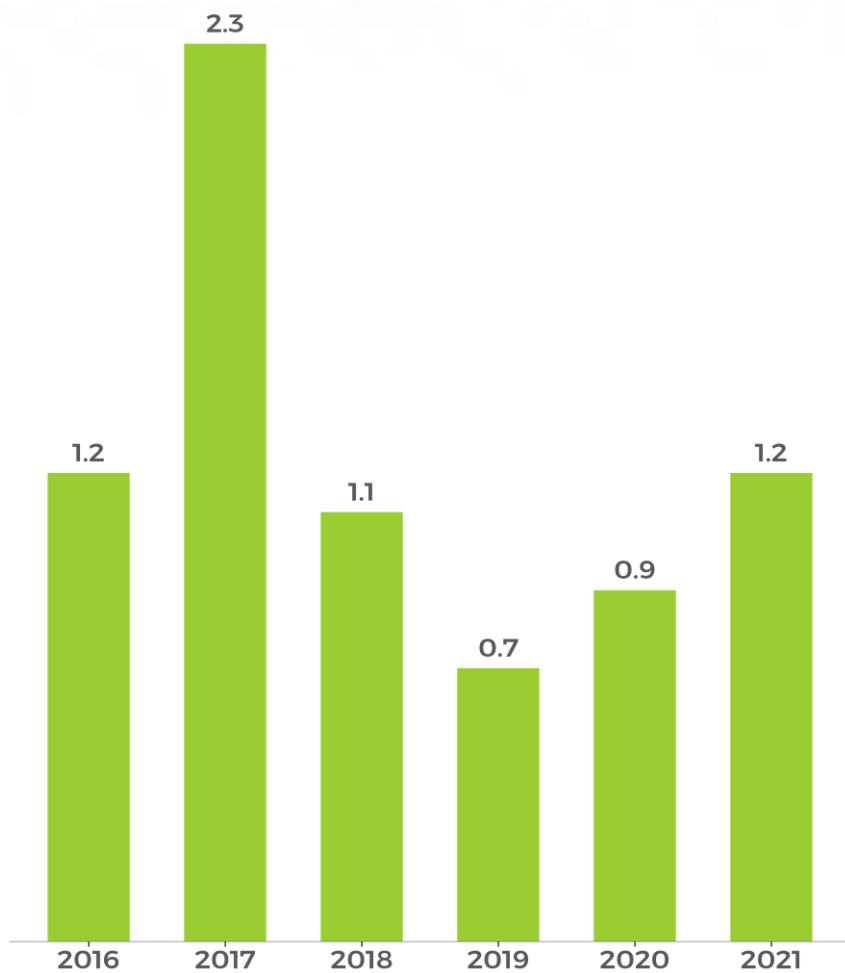


Source: B3

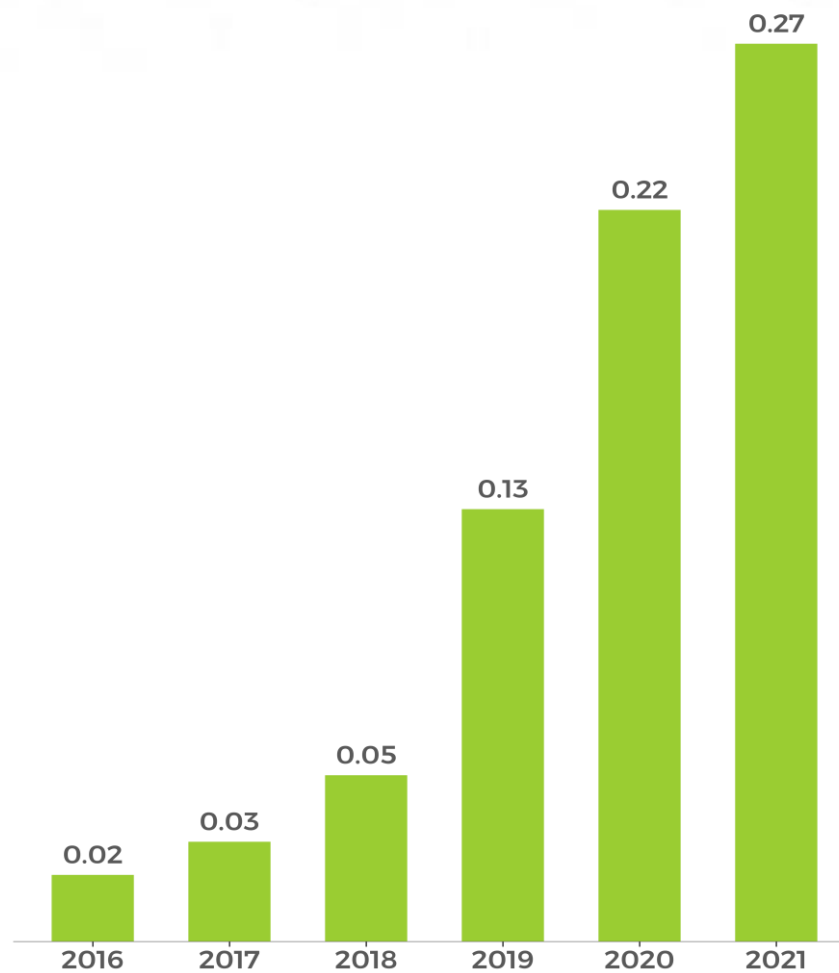
4. Secondary markets

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)

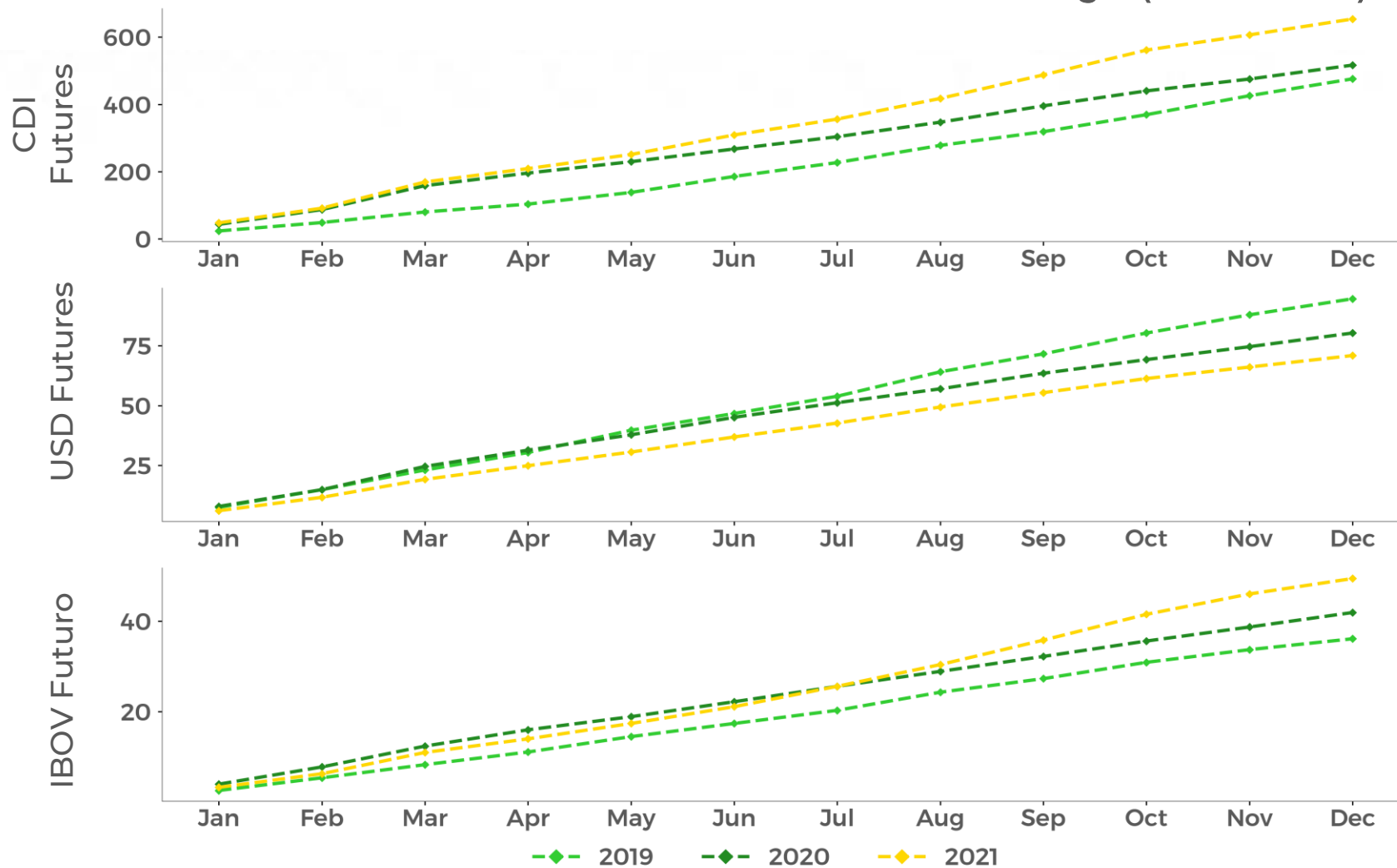
INSTRUMENT	2016	2017	2018	2019	2020	2021
CDI Futures	302.5	354.4	371.0	476.0	516.7	653.9
USD Futures	71.4	74.2	91.7	94.6	80.2	70.9
Ibovespa Futures	19.1	18.8	23.8	36.1	41.9	49.1
TOTAL	393.0	447.4	486.5	606.7	638.8	773.9

Source: Organized Market Administrators

4. Secondary markets

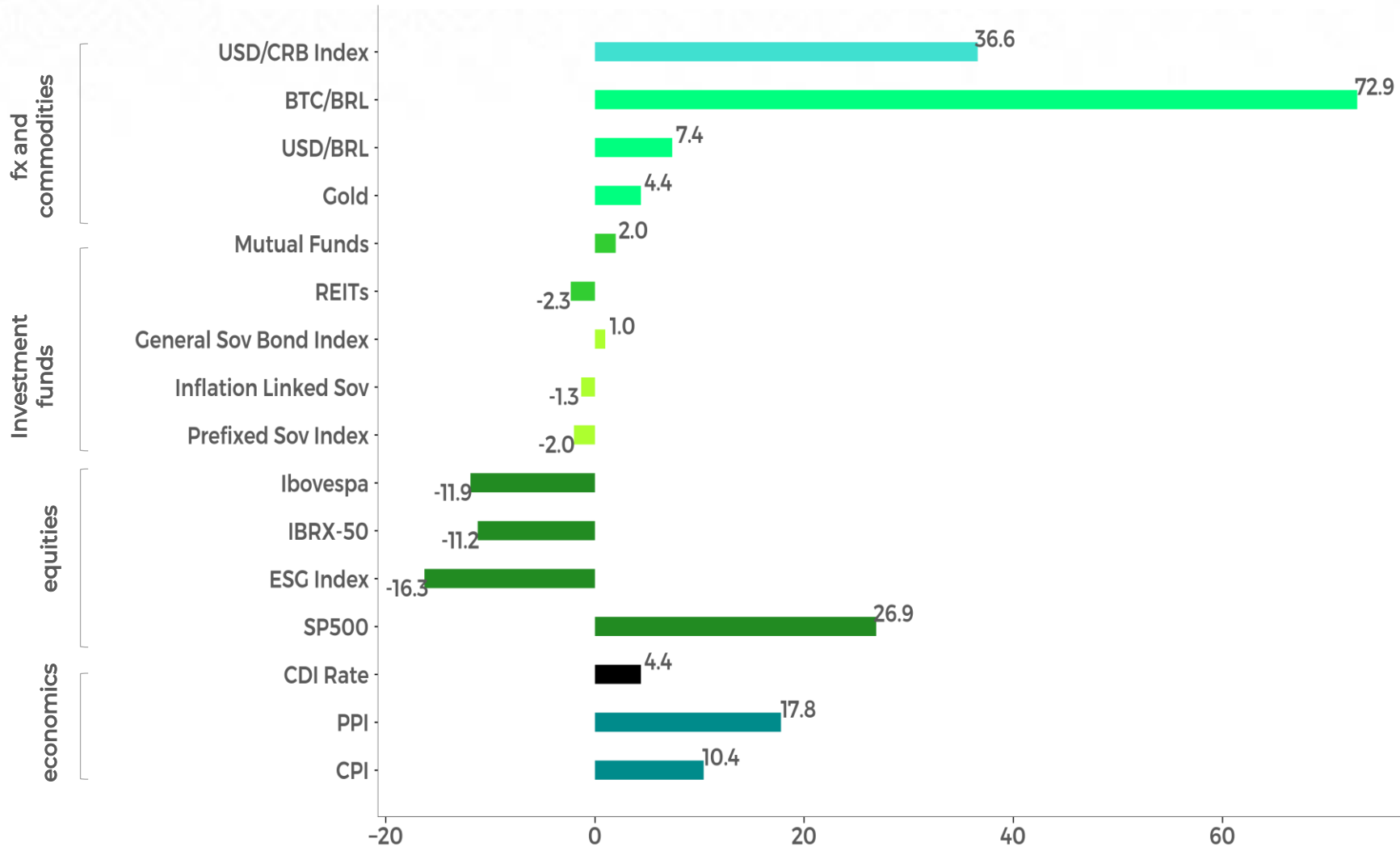
4.2. Derivatives

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



Source: Organized Market Administrators

5.1. YTD % asset returns

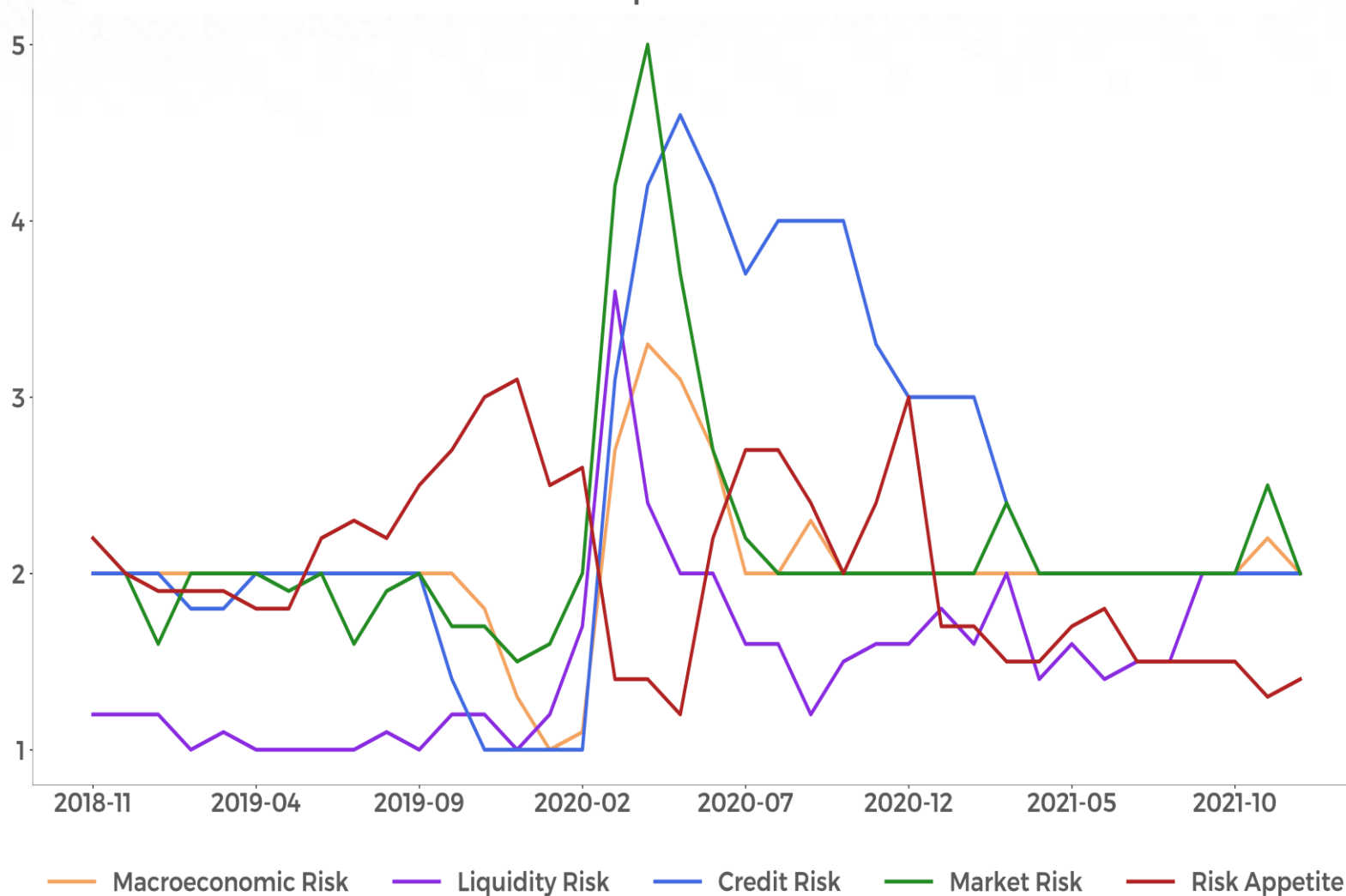


Source: Economatca, Bloomberg

A hand holding a pen points to a bar chart on a document. The document is overlaid with a green diamond pattern. The text 'RISK SCENARIO' is written in large white letters on the right side of the image.


RISK SCENARIO

6.1. Risk map – last 36 months



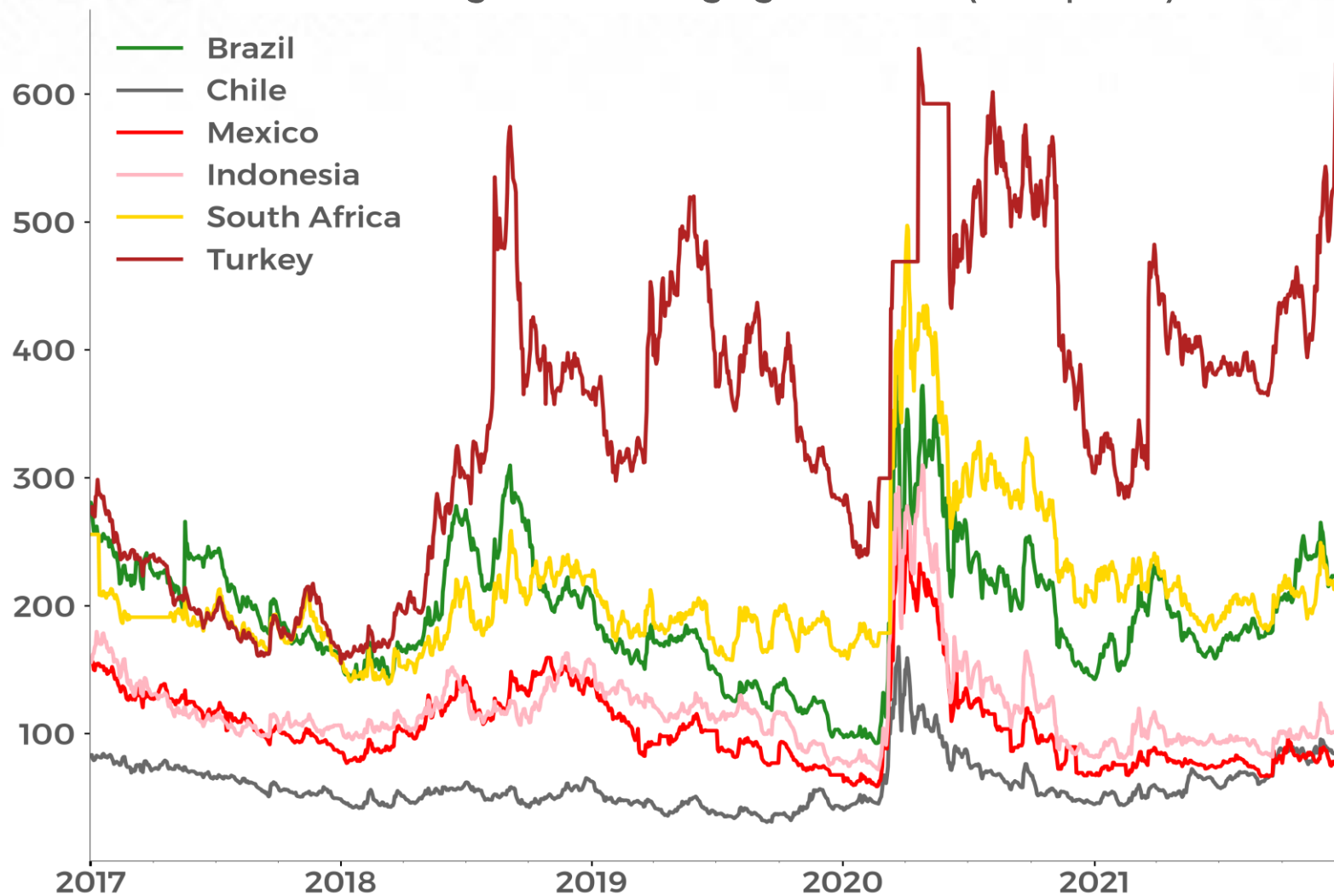
Calculated by CVM according to Methodology

6. Risk map - highlights

	MACRO	MARKET	LIQUIDITY	RISK APPETITE	CREDIT
2021-Q2	2.0	2.0	2.0	 1.4	2.0
2021-Q1	2.0	2.0	2.0	1.5	2.0

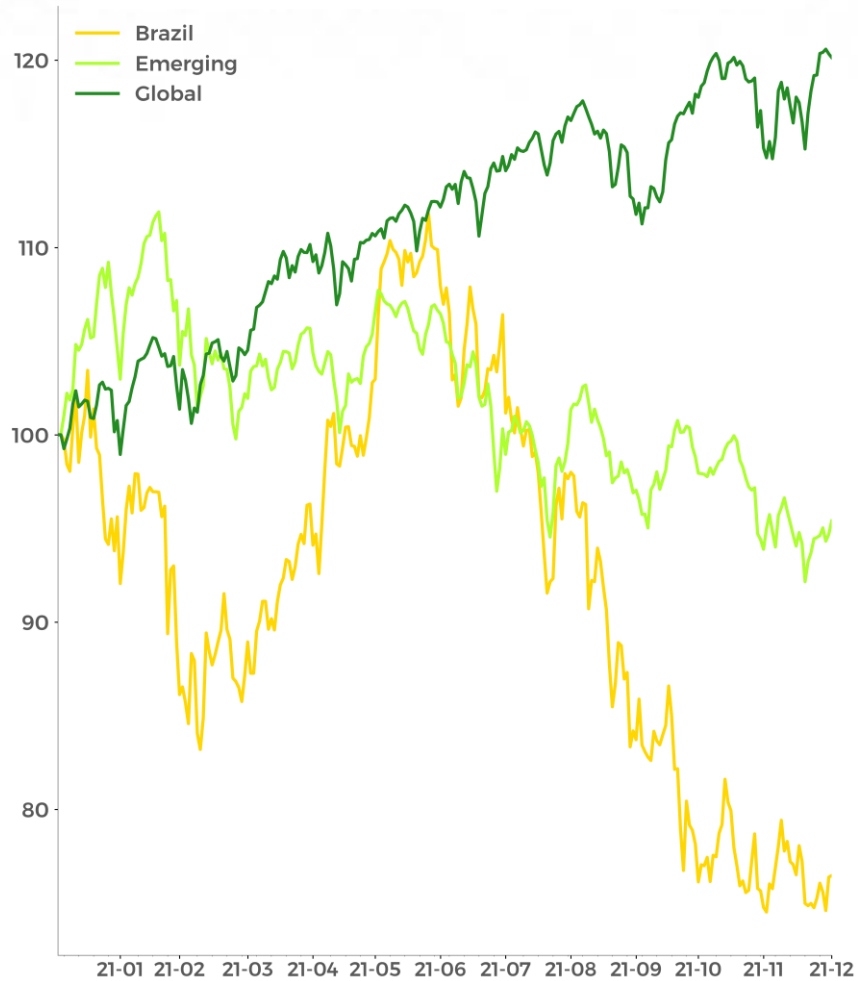
- New decline for risk appetite and stability for all other indicators, despite peaks during the quarter.
- Concerning the risk appetite index, it can be pointed out that its sovereign spread subcomponent (9.2) has again directed the main indicator decrease in the quarter. We can also add that the Adjusted PE indicator (9.1) keeps denoting higher risk aversion in the Brazilian variable income markets relative to its EM and Global peers.
- Regarding global fixed income markets, one can point out some unfavorable decoupling of EM markets in both performance and volatility (8.3 and 8.4). In the national fixed income markets, one can denote underperformance and volatility peaks during the quarter, specially for the IMA-B index, more susceptible to changes in inflation expectations in the long end of the curve (8.5 and 8.6).
- Deceleration of trailing 12 month net foreign investor inflows on secondary equity markets (10.2)

7.1. Sovereign CDS – emerging economies (basis points)

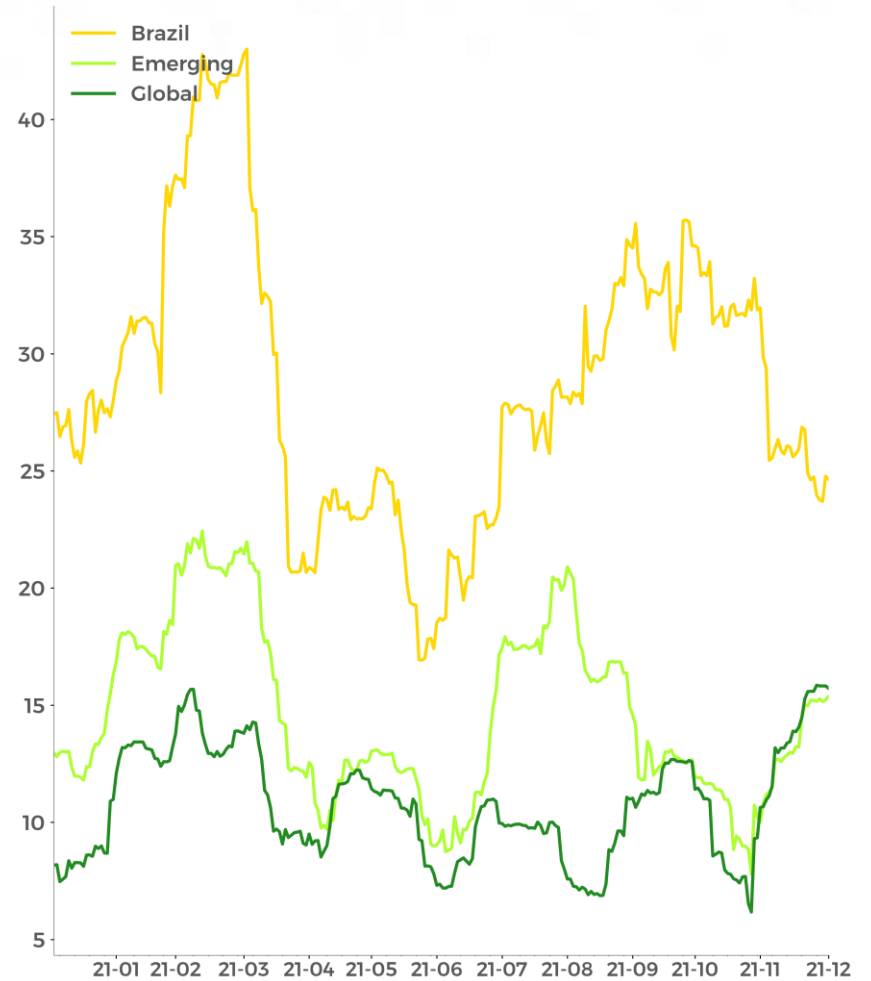


Source: Bloomberg

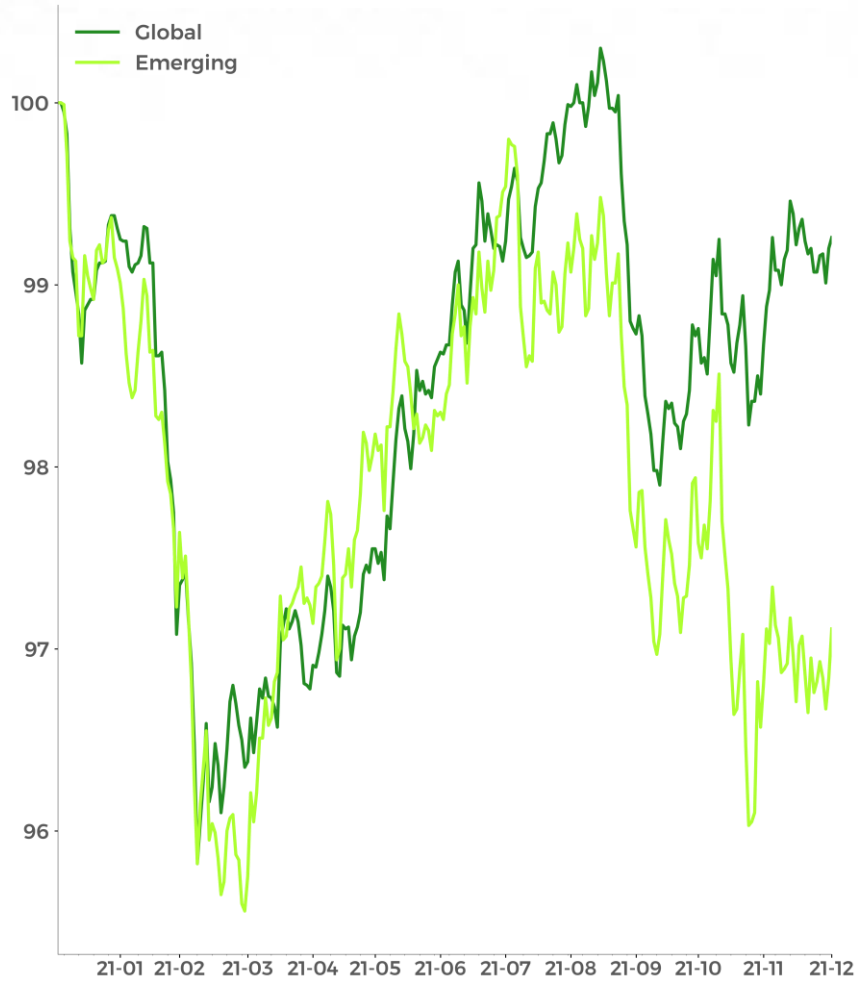
8.1. MSCI equity indexes – last 12 months return



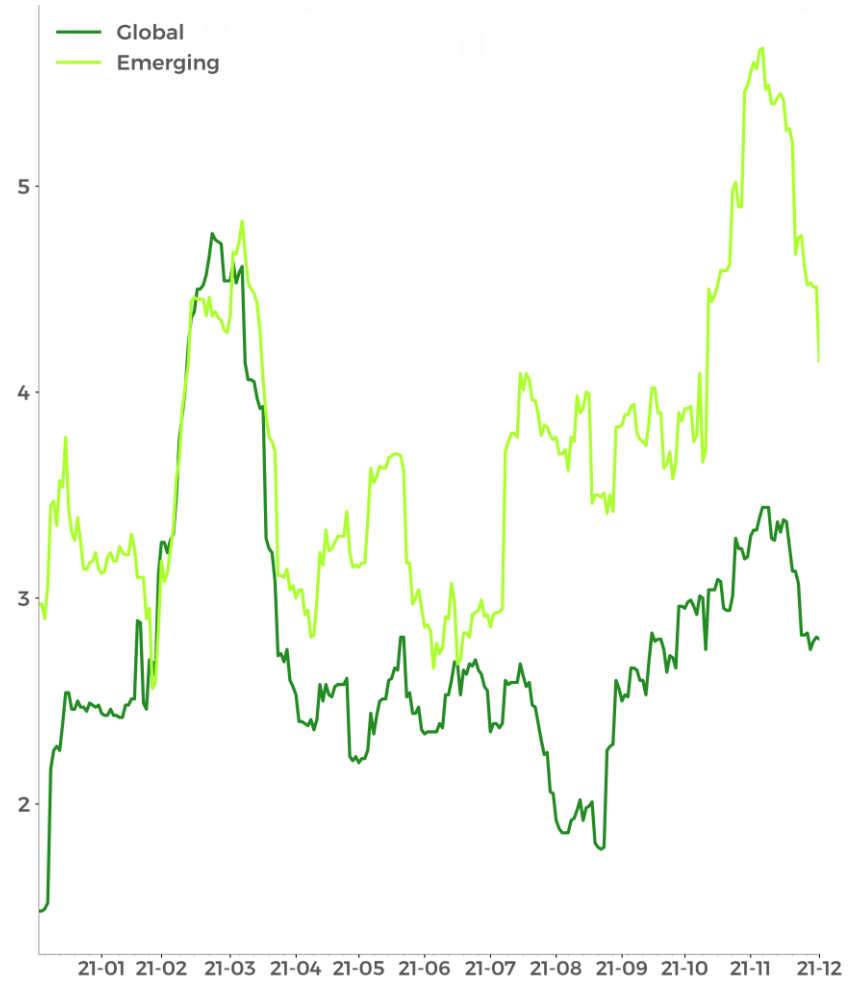
8.2. MSCI equity indexes – volatility



8.3. Corporate bond indexes – last 12 months return

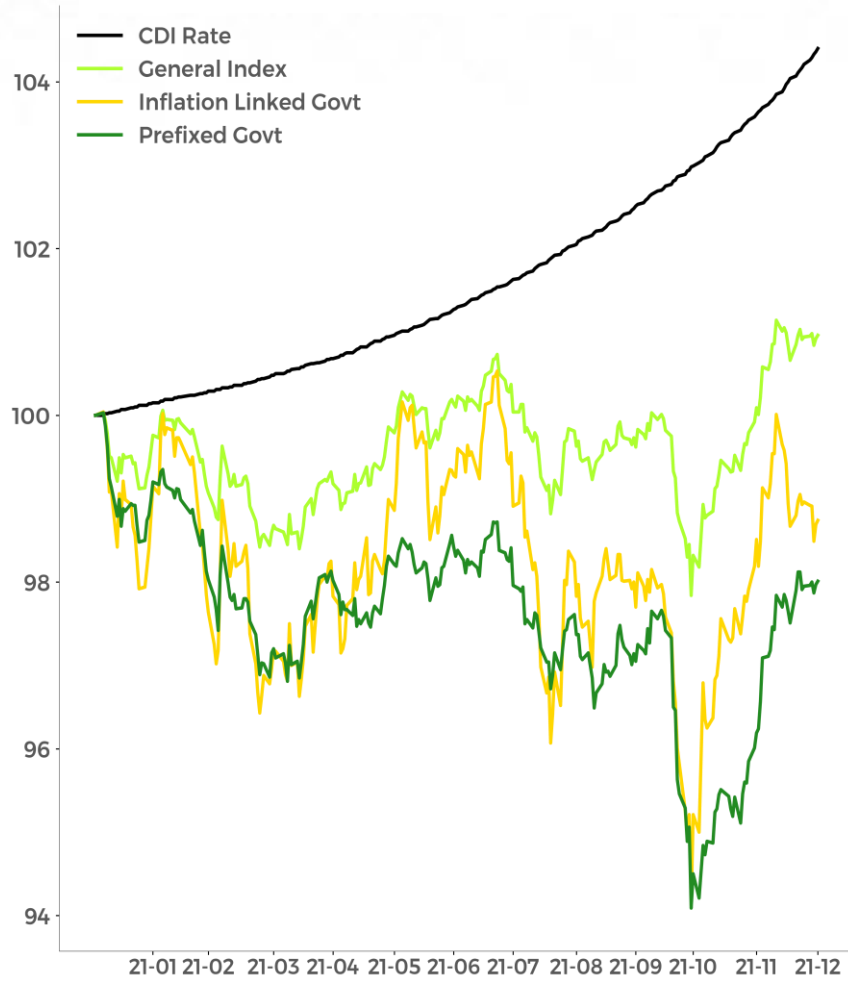


8.4. Corporate bond indexes – volatility

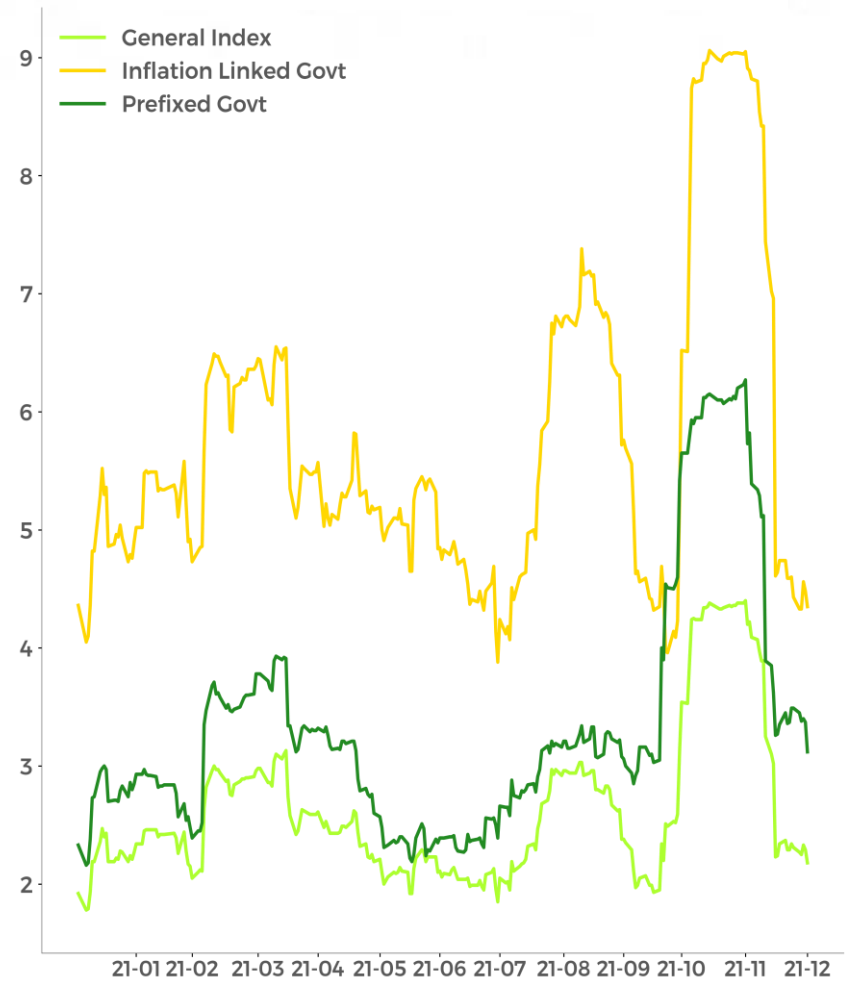


8. Market risk

8.5. National fixed income indexes – last 12 months return

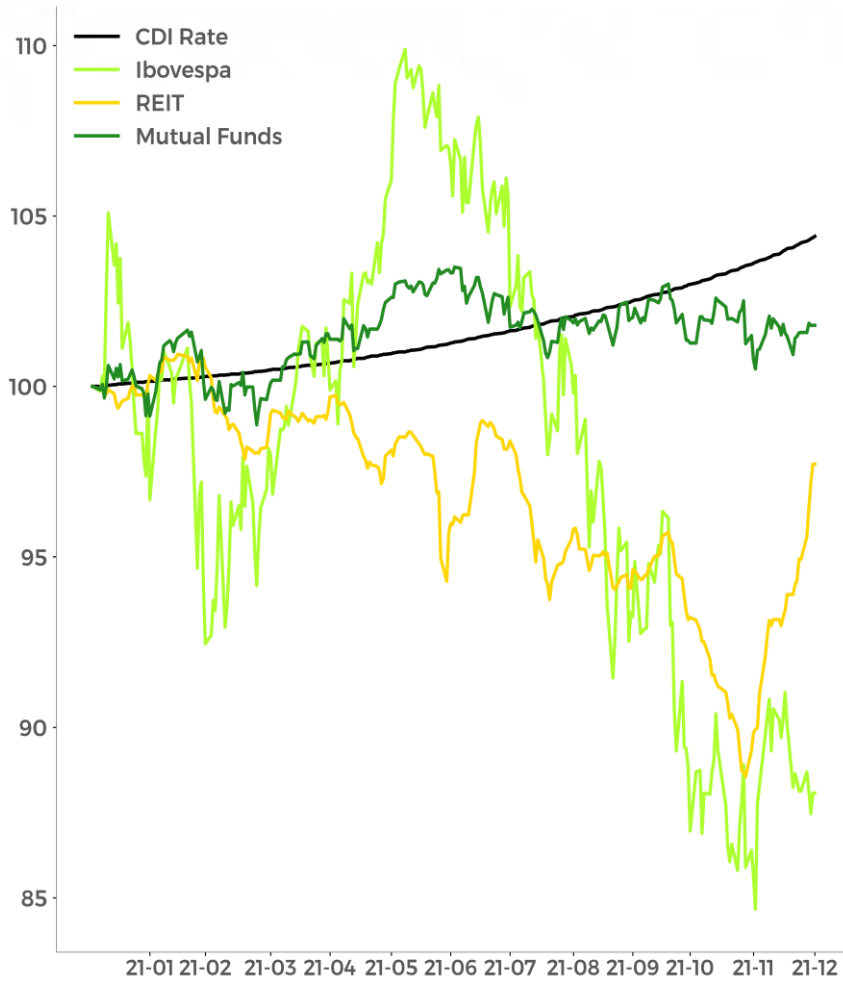


8.6. National fixed income indexes – volatility

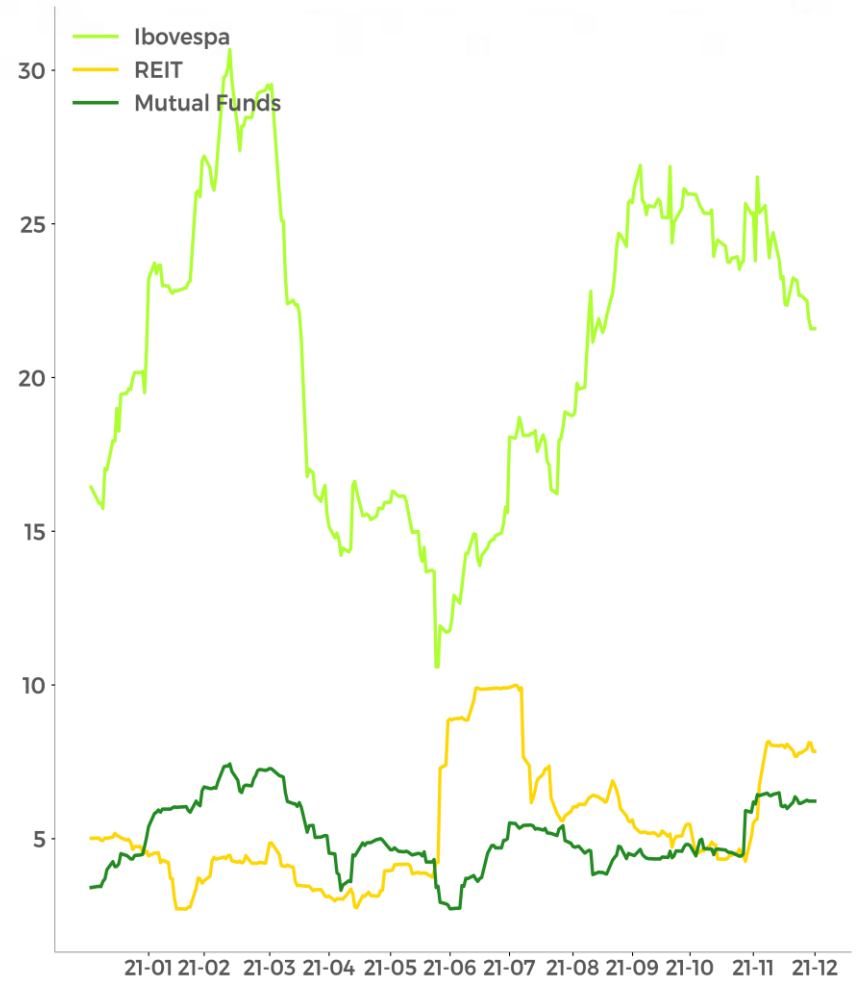


8. Market risk

8.7. National variable income indexes – last 12 months return

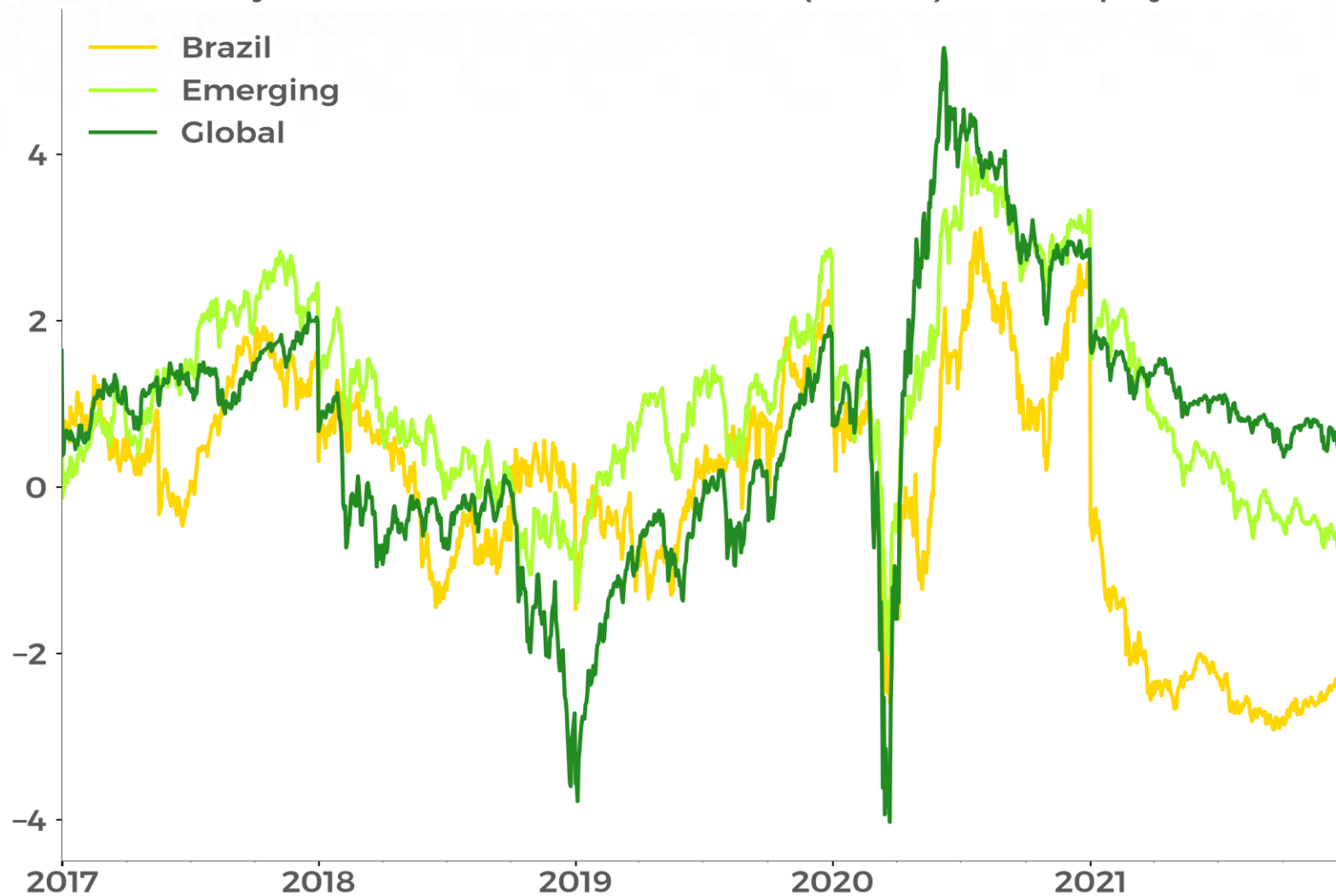


8.8. National variable income indexes – volatility



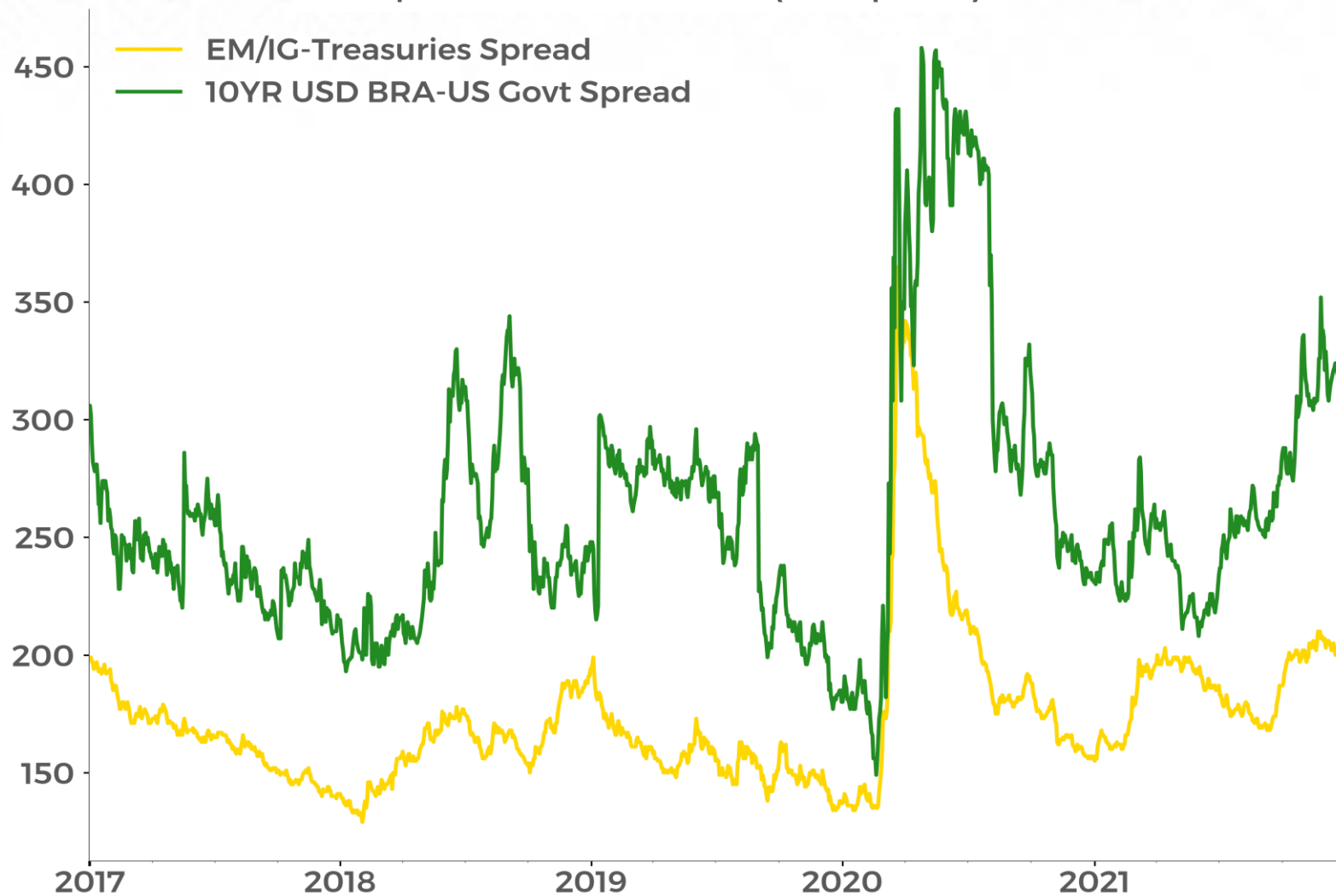
Source: Bloomberg

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



Source: Bloomberg

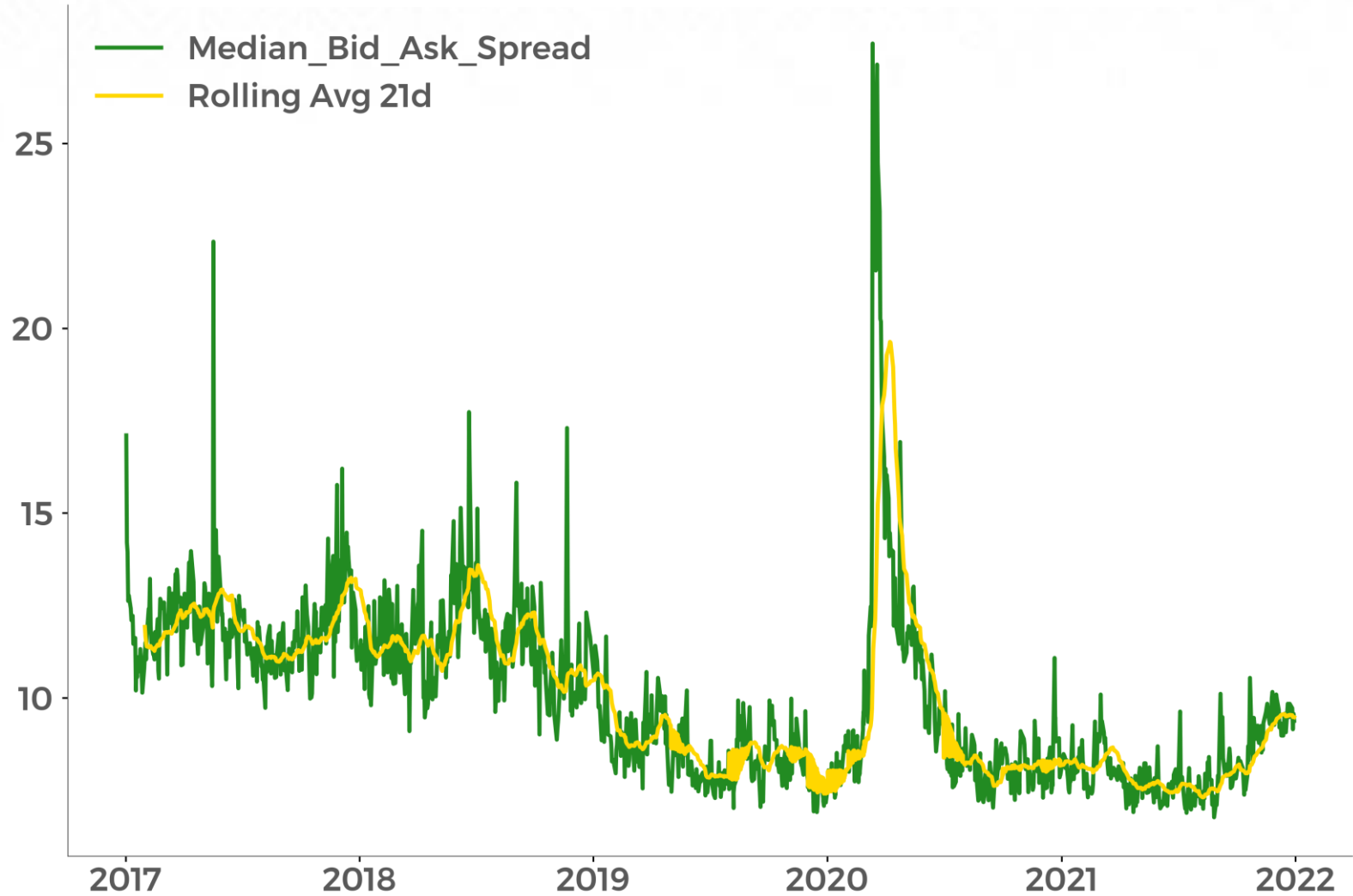
9.2. Spreads vs US treasuries (basis points)



Source: Bloomberg

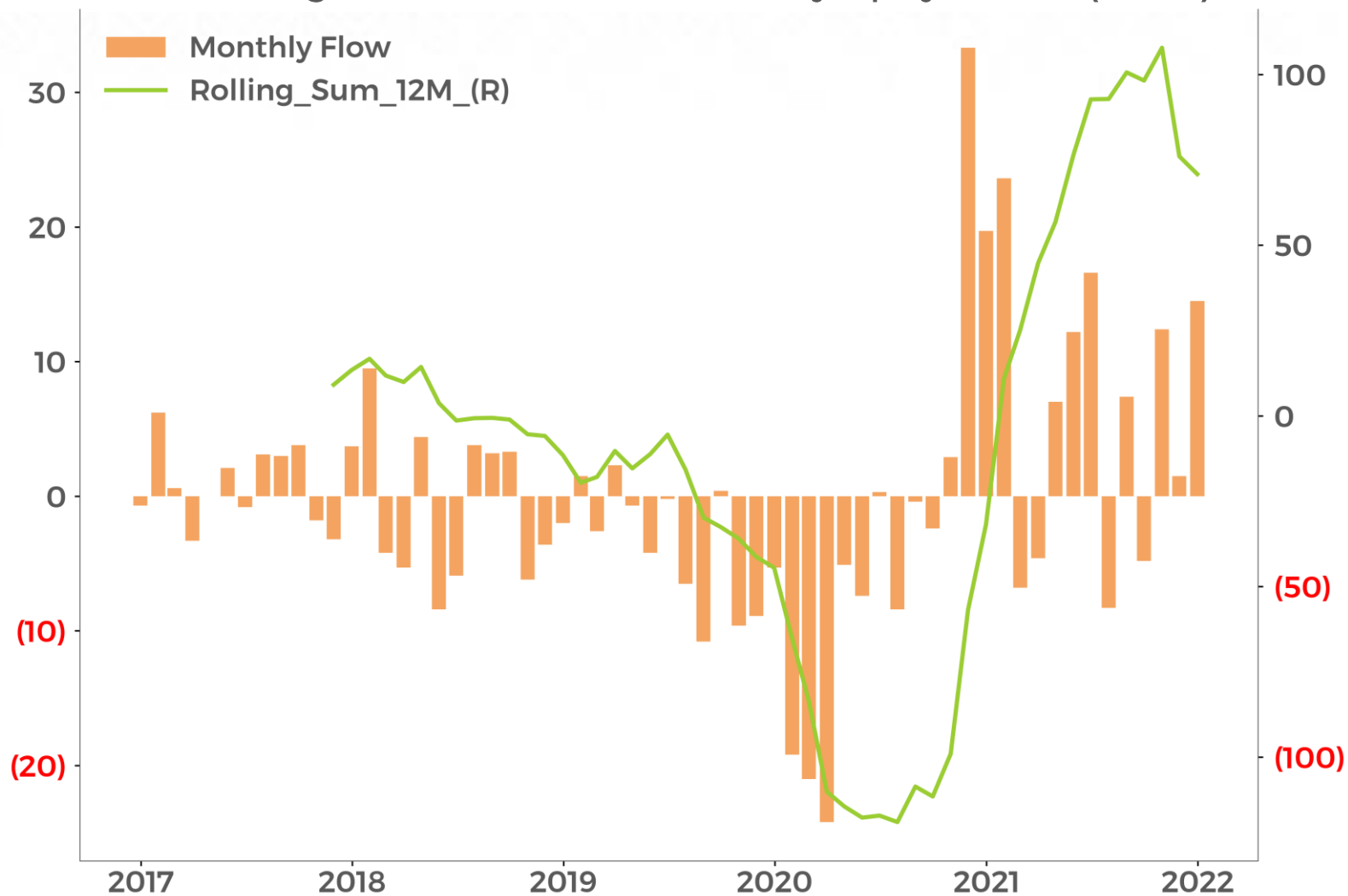
10. Liquidity risk

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



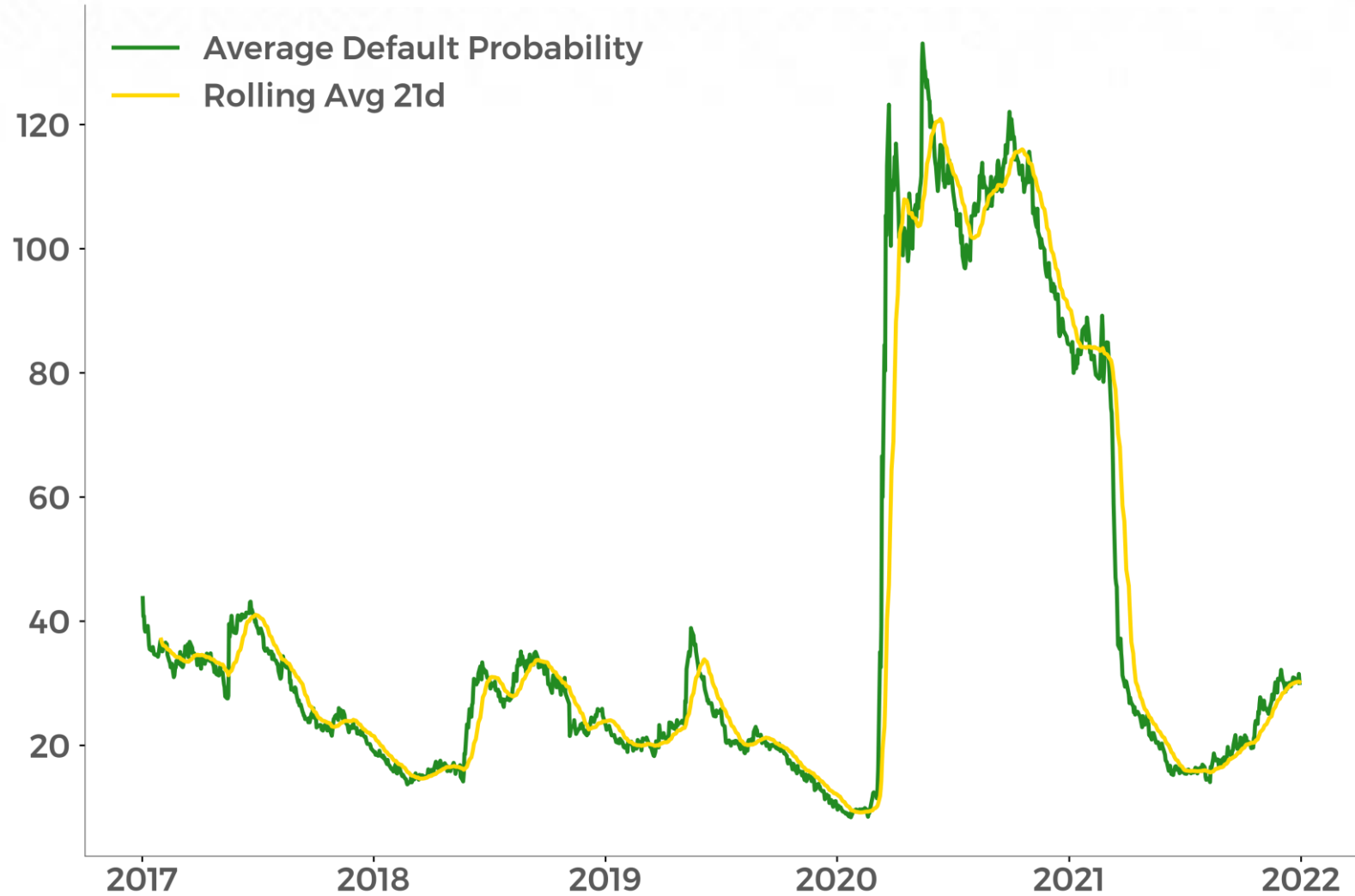
Source: Bloomberg

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



Source: Bloomberg

11.1. Default probability index – equities (basis points)



Source: Bloomberg

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.

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.

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.