ECONOMIC REPORT



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Data as good as of 30/09/2022.

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MARKET SCENARIO

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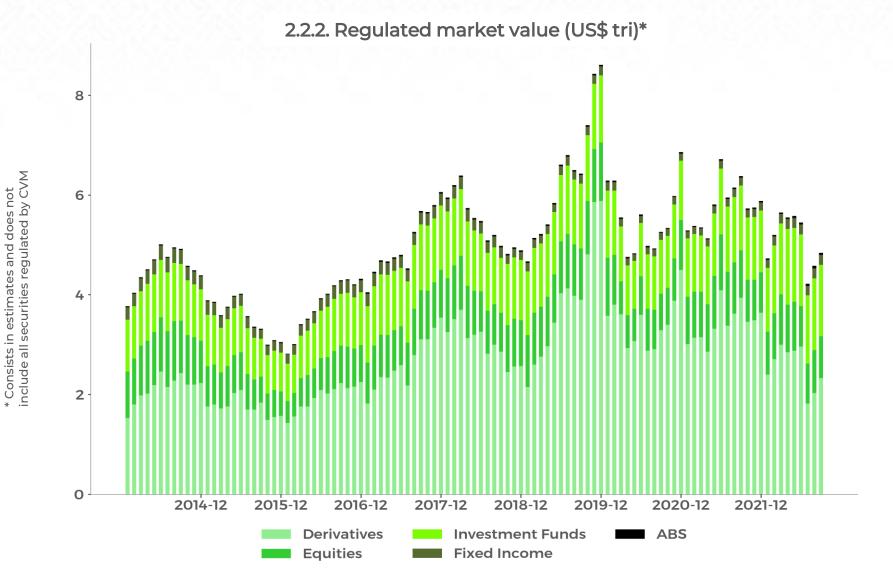
1. Market scenario - Highlights

- In the first three quarters of 2022 a total of R\$ 425.7 bi in securities were issued so far (3.1.1). Even that in a comparison with the same period of 2021 (3.3.2) both total quantities and total value issued are still lagging, one is still able to positively highlight corporate fixed income markets. Values issued in such realm (corporate bonds + comercial paper) keep sustained above last year in both mentioned dimensions such products represent 55% of total value issued in 2022, as compared to 40% in 2021.
- Also regarding securities offers, using the same comparision window, one can single out the growth of total value issued for Agribusiness ABS (R\$ 36 bi, versus R\$15.9 bi), as well as the crowdfunding offers (3.2.1), which have more than doubled in quantity and tripled in total value issued.
- The set of regulated participants (2.1) has risen 9% relative 2021-Q4, now comprising 78.162 participants. One must emphasise the growth observed in the Consultant realm, so far the highest growth rate YTD (23.7% 1.259 versus 1.018) among categories with more than 100 participants.
- The estimate for the total regulated market (2.2.1) is now R\$ 23.39 tri, near 5% down relative to 2022-Q2 (R\$ 27.48 tri). This sum has been majorly impacted by the unwinding of interest rate derivatives positions on B3 Exchange (5.1) figures, excluded derivatives, have actually increased 5%.
- The daily average financial turnover in the secondary market for equities (round lot) and REITs keeps below last year, however the opposite can be now stated for the corporate bond market (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 all varieties here considered except for CDI futures.

2.1. Number of participants*	2017	2018	2019	2020	2021	2022
Registered Non-Resident Investors	19.416	19.293	18.244	18.705	19.220	19.217
Registered Investment Funds	16.182	17.718	19.427	22.295	26.445	28.410
Registered Asset Managers	3.382	3.452	3.560	3.786	4.185	4.455
Legal persons	2.479	2.512	2.603	2.774	3.036	3.220
	903	940	957	1.012	1.149	1.235
Registered Research Analysts	606	662	698	923	1.147	1.364
Legal persons	606	615	629	840	1.161	1.238
	0	47	69	83	108	126
Registered Investment Consultants	673	659	694	790	1.018	1.259
Legal persons	479	498	547	632	815	1.017
	194	161	147	158	203	242
Registered Brokerage Firms (trading)	74	74	74	69	70	66
Registered Brokerage Firms (distribution)	94	101	100	102	106	101
Registered Brokers (sum)	6.652	7.778	10.798	13.881	18.141	21.827
Legal persons	5.492	6.619	9.608	12.275	16.969	20.575
	1.160	1.159	1.190	1.156	1.172	1.252
Registered Custodians	145	139	146	146	156	154
Registered Bookkeeprs	53	59	61	63	72	73
Registered Organized Market Administrators	1	1	1	3	3	4
Registered CSDs	1	1	1	1	2	2
Registered Crowdfunding Platforms	N/A	14	26	32	54	57
Registered public, foreign and subsidized companies (active)	672	666	656	675	765	744
Securitization companies		-	-	-	-	72
Registered Independent Auditors	391	375	528	354	346	351
Registered Rating Agencies	7	7	7	6	6	6
TOTAL	48.349	50.999	55.021	61.831	71.736	78.162

Source: CVM, APIMEC

2.2.1. Total regulated markets (US\$ tri)*										
CATEGORY	ASSET	2017	2018	2019	2020	2021	2022			
— •	Corporate Bonds	0.23	0.15	0.17	0.13	0.15	0.19			
Fixed Income	Commercial Paper	0.01	0.01	0.01	0.01	0.01	0.01			
Securitization	MBS	0.02	0.02	0.02	0.02	0.02	0.02			
Securization	Agrobusiness	0.01	0.01	0.01	0.01	0.01	0.02			
Variable Income	Equities – Market Cap	0.96	0.92	1.17	1.00	0.81	0.84			
Derivatives	Notional outstanding	3.54	2.56	5.88	4.50	3.63	2.32			
Derivatives	Structured Notes	0.00	0.01	0.00	0.00	0.01	0.01			
Investment	Rule-555	1.15	1.08	1.18	1.03	1.03	1.20			
Funds	Structured Funds	0.14	0.13	0.17	0.16	0.21	0.23			
TO	TOTAL		4.87	8.60	6.86	5.87	4.85			



Source: CVM and Organized Market Administrators

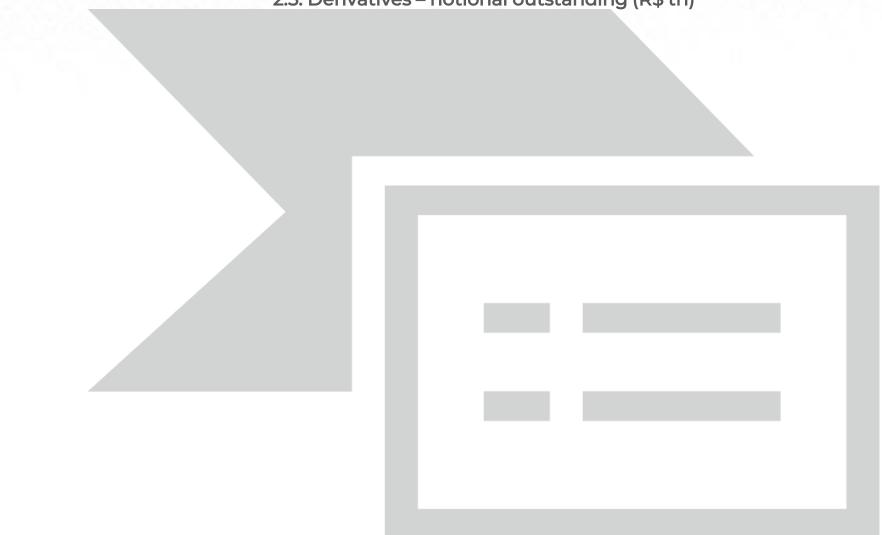




2.4. ICVM 555 Funds (ex-FoF) – quantity and NAV (R\$ tri)



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

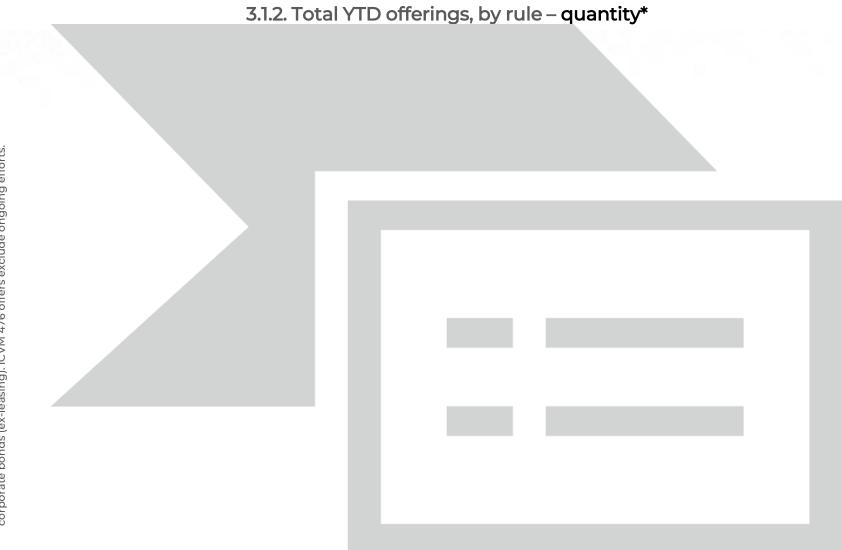


3. Primary markets 3.1. Annual totals by rule

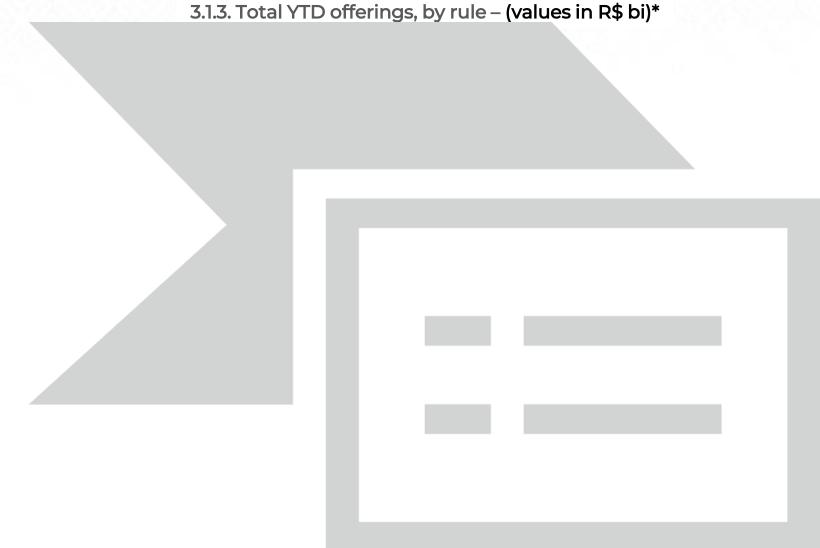
* Consists in estimates and does not include all securities regulated by CVM. Includes stocks+DR, MBS, Agrobusiness ABS, CDOs, REITs, Private Equity, CP, bank bonds and	corporate bonds (ex-leasing). ICVM 476 offers exclude ongoing efforts. ICVM 400 exclude single undivisable batch exemptions.	

3.1.1. Annual totals (quantity and value)*	2017		2018		2019		2020		2021		2022	
RULE	qty	R\$ bi	qty	R\$ bi	qty	R\$ bi	qty	R\$ bi	qty	R\$ bi	qty	R\$ bi
ICVM 400	91	50.2	76	33.5	125	89.5	135	120.2	165	129.3	115	91.1
ICVM 400 (exemptions)	-	-	_	_	-	_	2	5.0	1	0.1	_	-
ICVM 476	842	177.0	1.036	252.7	1.319	386.3	1.380	318.1	2.676	597.3	1.417	334.4
ICVM 588 (crowdfunding)	-	-	3	0.00	86	0.10	98	0.13	74	0.13	110	0.21
TOTAL	933	227.2	1.115	286.2	1.530	475.9	1.615	443.4	2.916	726.8	1.642	425.7

3. Primary markets 3.1. Annual totals by rule



3. Primary markets 3.1. Annual totals by rule



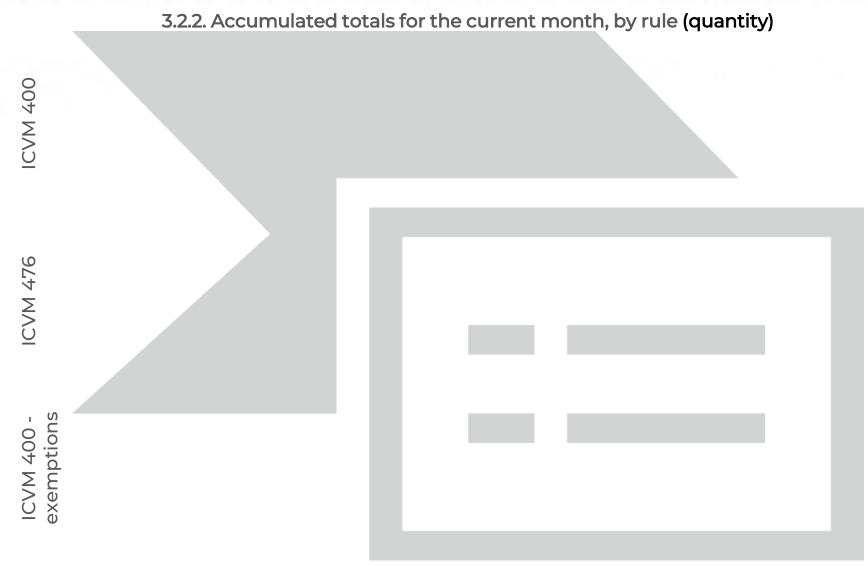
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3. Primary markets 3.2. Accumulated totals by rule

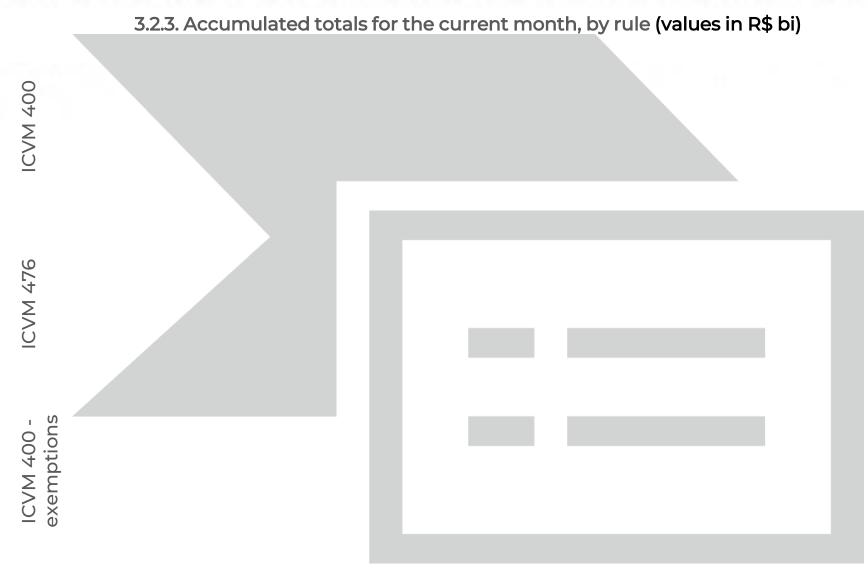
3.2.1. Accumulated totals for the current month (quantity and value)*	2017		2018		2019		2020		2021		2022	
RULE	qty	R\$ bi	qty	R\$ bi	qty	R\$ bi	qty	R\$ bi	qty	R\$ bi	qty	R\$ bi
ICVM 400	55	28.8	55	22.6	77	56.3	81	74.2	125	110.0	115	91.1
ICVM 400 (exemptions)	-	-	_	-	-	-	2	5.0	1	0.1	-	-
ICVM 476	571	112.0	719	191.9	877	277.1	943	227.5	1.473	359.9	1.417	334.4
ICVM 588 (crowdfunding)	-	-	_	_	59	0.07	80	0.1	45	0.07	110	0.21
TOTAL	626	140.8	774	214.5	1.013	333.5	1.106	306.8	1.644	470.1	1.642	425.7

Source: CVM

3. Primary markets 3.2. Accumulated totals by rule



3. Primary markets 3.2. Accumulated totals by rule



3. Primary markets 3.3. Annual totals by instrument

3.3.1. Annual totals (quantity and value)*	20)17	20)18	20	019	20	20	20)21	20	22
INSTRUMENT	qty	R\$ bi	qty	R\$ bi	qty	R\$ bi	qty	R\$ bi	qty	R\$ bi	qty	R\$ bi
Equities	26	40.1	5	11.2	42	90.2	53	118.6	71	130.7	17	54.7
Corporate Bonds	264	88.2	351	149.1	379	185.7	276	121.2	502	251.0	357	202.1
Bank Bonds	8	3.0	14	6.0	21	10.0	2	0.96	-	-	-	-
Commercial Paper	101	27.2	84	29.0	94	36.6	71	21.9	82	27.0	104	29.7
MBS	104	7.7	101	8.2	188	17.6	230	14.3	424	33.6	264	31.6
Agribusiness ABS	67	12.4	52	6.1	69	14.3	56	13.3	125	25.0	150	36.0
CDOs	141	16.6	196	21.2	268	37.7	302	48.2	680	88.5	318	26.2
REITs	75	8.2	106	17.7	197	42.3	259	49.2	384	62.6	171	23.8
Private Equity	147	23.8	203	37.7	186	41.4	268	55.7	574	108.3	151	21.4
TOTAL	933	227.2	1.112	286.2	1.444	475.8	1.517	443.3	2.842	726.7	928	425.5

* 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 3.3. Annual totals by instrument

3.3.2. Accumulated totals for the current month (quantity and value)*	20)17	20	18	20)19	20	20	20)21	20	22
INSTRUMENT	qty	R\$ bi	qty	R\$ bi	qty	R\$ bi	qty	R\$ bi	qty	R\$ bi	qty	R\$ bi
Equities	17	25.3	3	6.8	24	57.6	36	79.3	68	126.4	17	54.7
Corporate Bonds	173	53.2	253	119.0	254	136.0	187	76.2	339	166.0	357	202.1
Bank Bonds	5	2.0	12	5.2	15	7.5	-	-	-	-	-	-
Commercial Paper	65	15.8	56	23.9	64	27.4	64	18.9	44	14.7	104	29.7
MBS	67	4.0	66	5.5	110	10.8	135	9.6	303	21.0	264	31.6
Agribusiness ABS	41	8.1	35	3.7	40	9.4	28	7.1	76	15.9	150	36.0
CDOs	99	10.3	128	12.6	189	28.9	225	40.4	324	43.8	318	26.2
REITs	53	5.6	78	13.3	128	28.3	170	33.8	229	42.4	171	23.8
Private Equity	106	16.6	143	24.7	130	27.6	181	41.3	216	39.8	151	21.4
TOTAL	626	140.8	774	214.5	954	333.5	1.026	306.7	1.599	470.1	1.532	425.5

* 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.

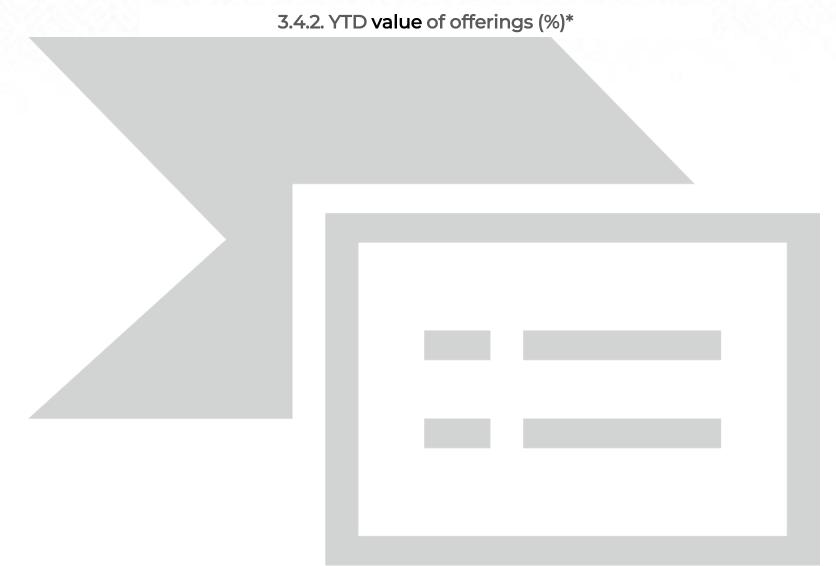
Source: CVM

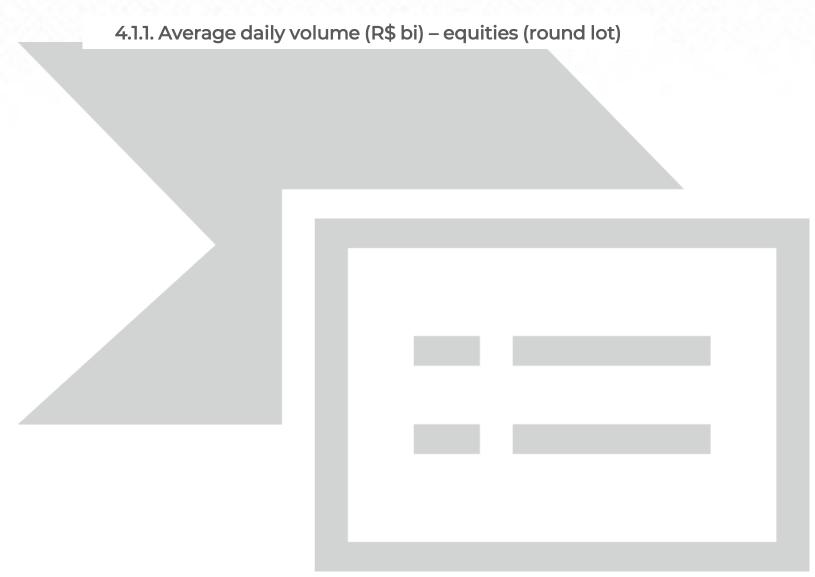
3. Primary markets 3.4. Totals by rule and instrument

3.4.1. YTD quantity of offerings (%)*

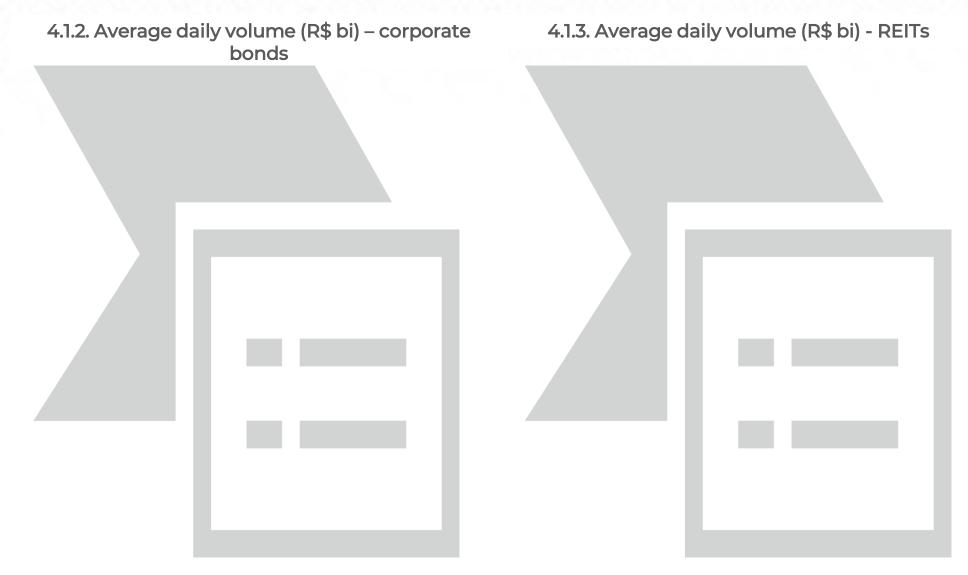


3. Primary markets 3.4. Totals by rule and instrument





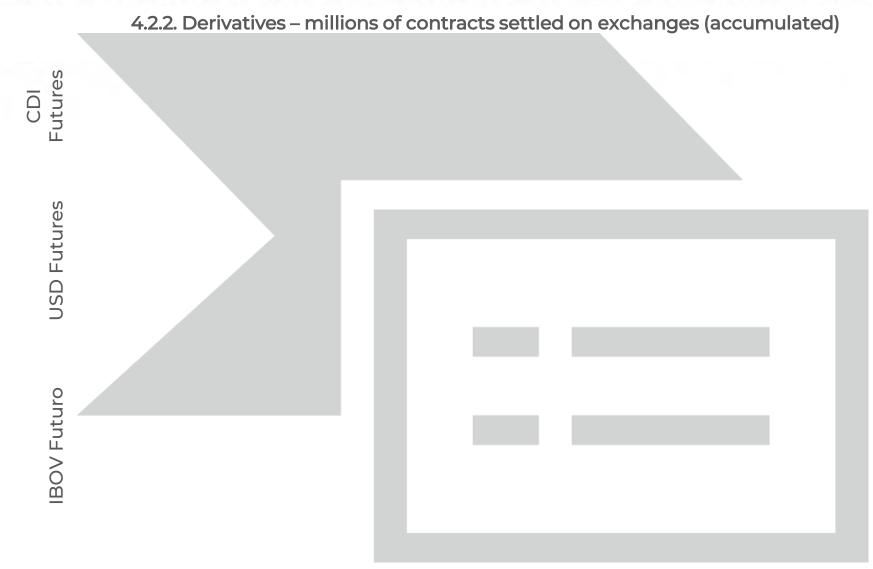
4. Secondary markets 4.1. Spot



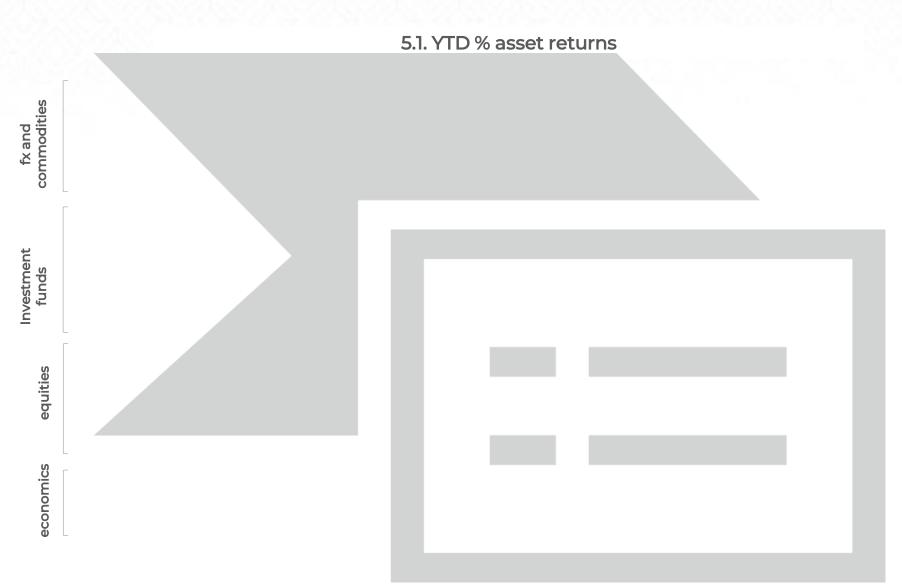
4.2.1. Derivatives – millions of contracts settled on exchanges (annual total)										
INSTRUMENT	2017	2018	2019	2020	2021	2022				
CDI Futures	354.4	371.0	476.0	516.7	653.9	495.6				
USD Futures	74.2	91.7	94.6	80.2	70.9	51.6				
Ibovespa Futures	18.8	23.8	36.1	41.9	49.1	31.1				
TOTAL	447.4	486.5	606.7	638.8	773.9	578.4				

Source: Organized Market Administrators

4. Secondary markets 4.2. Derivatives



5. Asset returns



RISK SCENARIO

6. Risk map





	MACRO	MARKET	LIQUIDITY	RISK APPETITE	CREDIT
2022-Q3	2.4	2.0	2.4	1.7	2.0
2022-Q2	2.7	2.0	2.8	1.2	2.0

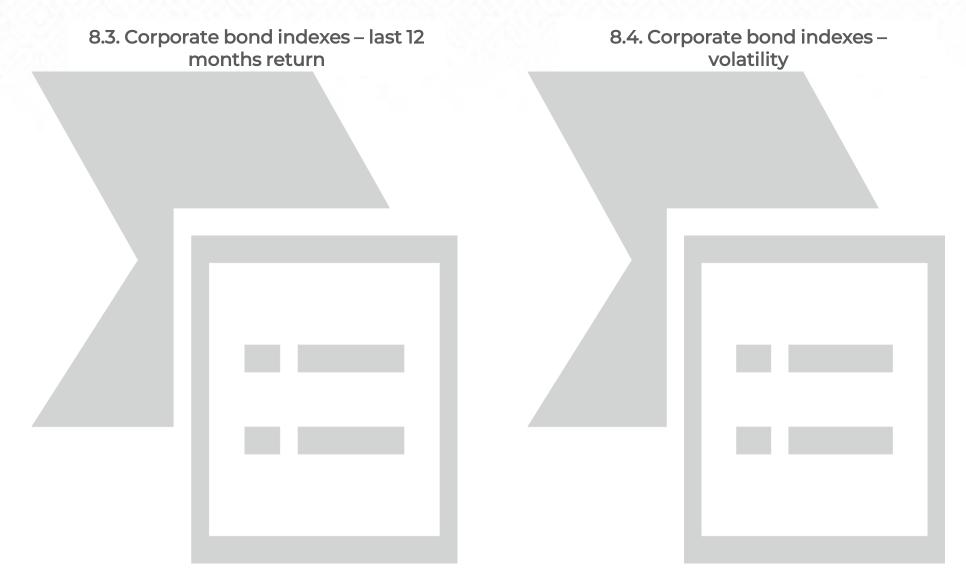
- In the context of 2022-Q3, which can be associated to a bear market in global variable income (8.1), reacceleration of volatility (8.2 and 8.4) and negative returns on global fixed income (8.3), connected to the ongoing base rate hikes on DMs, one is able to point out a rise in the risk apetite indicator and a low on the liquidity and macroecnomic risk indicatores, despite an intraquarter peak in the last two time series.
- The rise in the risk appetite indicator can be explained by the USD sovereign spreads component, even though global corporate spreads had exerted opposite pressure on the indicator (9.2). It must be added that the variable income component (9.1) has contribuited to the overall rise in the indicator, suggesting that the price correction associated to the bear market has stimulated risky behaviour through a process of valuation multiple compression.
- In the end, it is worthwhile to consider that despite peaks over the historical time series this year for the bid-ask spread (10.1), avergae default probability (11.1) and for the reacceleration of realized volatility mentioned above, most Risk Map indicators have not moved accordingly. This can be explained for such moves were not statistically significant yet (according to the Methodology), considering that their baseline values have been somewhat impacted by the outliers associated to the 2020 Covid epidemic shock.

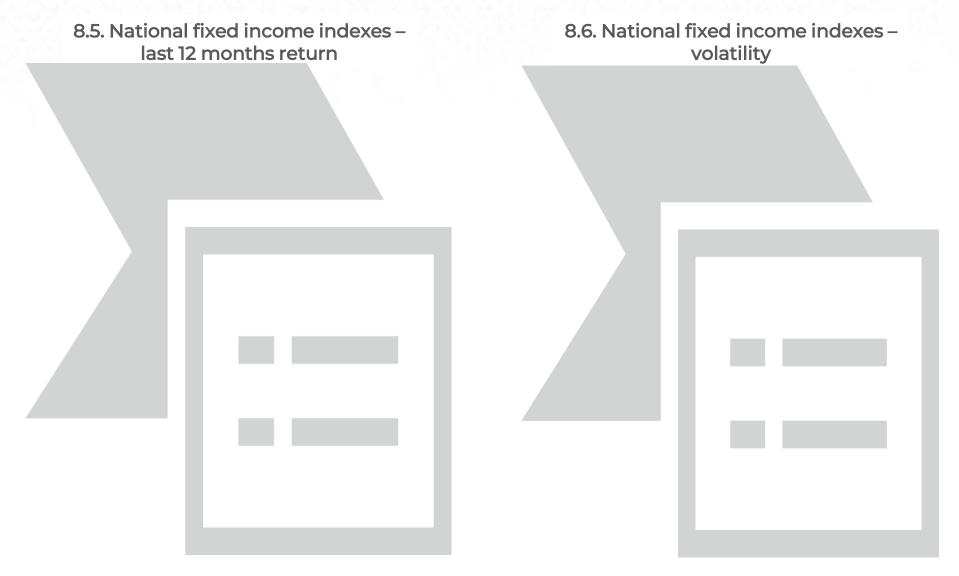
7. Macroeconomic risk

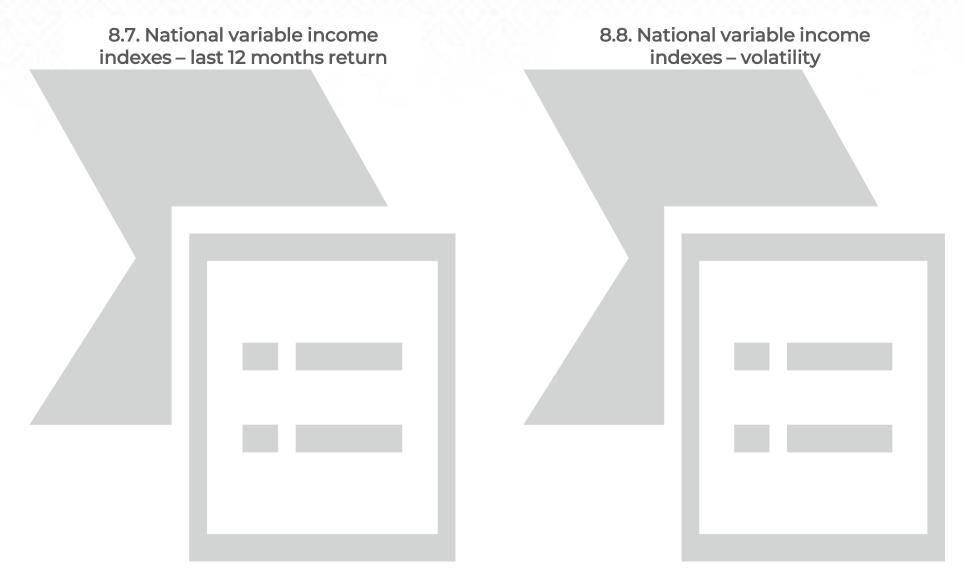
7.1. Sovereign CDS – emerging economies (basis points)











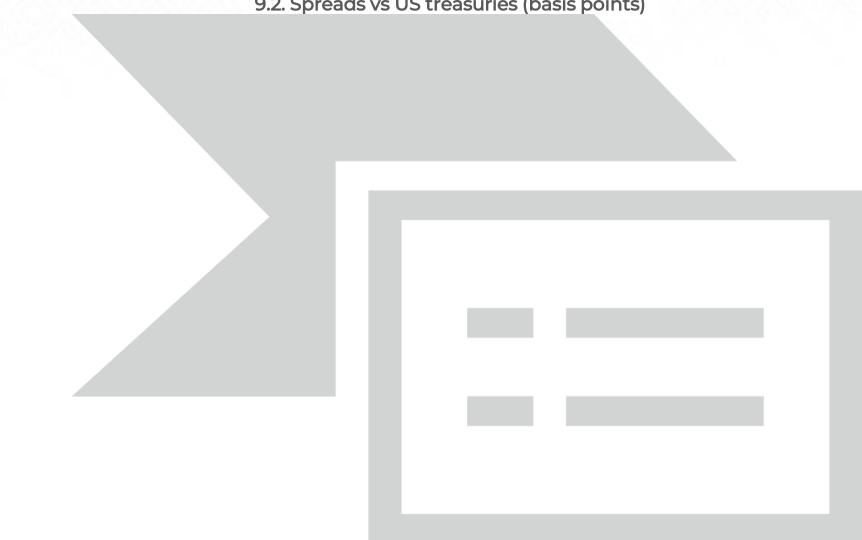
9. Risk appetite

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



9. Risk appetite

9.2. Spreads vs US treasuries (basis points)



10. Liquidity risk

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



10. Liquidity risk

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



11. Credit risk

11.1. Default probability index – equities (basis points)



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.