

JSE
INTEREST RATE DERIVATIVES
MONTHLY VIEW

September 2022

Compiled by the IRC team

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HIGHLIGHTS

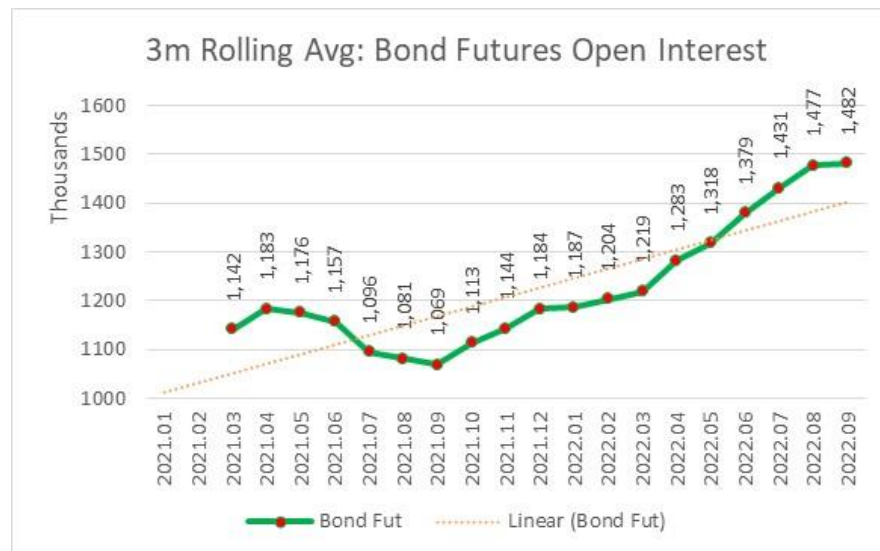
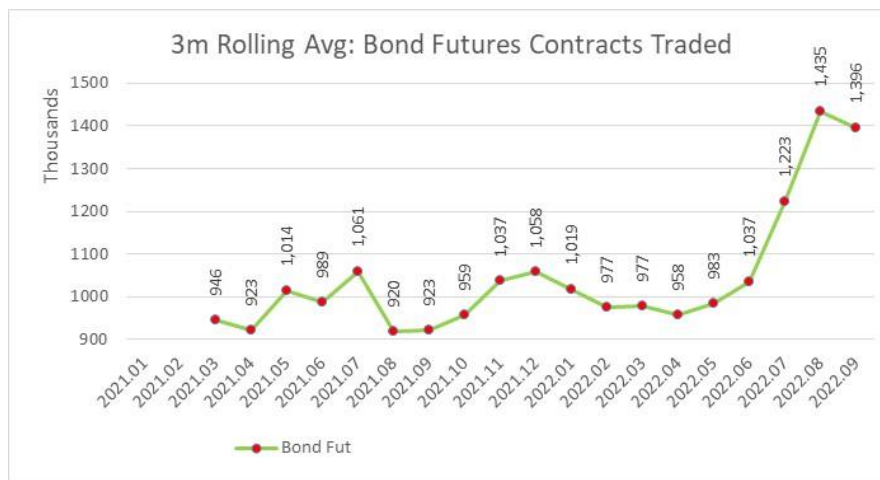
*The September month is traditionally a lower activity month (~205k contracts traded) as markets prepare for the next rollover in October and close-out in early November. This is shown by a slight decline in the 3m average contracts traded at the end of Sep22. However, the total IRD contracts are UP 16.5% ytd at 10.7m contracts and IRD Open Interest are UP 30% at 1.49m contracts. **Every month-end in 2022 has seen open interest greater than 1m contracts in Bond futures contracts.***

- The **Bond futures** contracts traded UP 19.3% ytd at 10.2m contracts and Open Interest up 38.5% (1.3m contracts).
- The **trend in both contracts traded and open interest is best seen using Rolling 3-month averages.** The 3m rolling average of contracts traded shows a steady increase in activity since Apr22 with a slight decline in Sep22. Open Interest has seen a consistent increase since Sep21.
- The put vs call option structure is represented by the **Put-Call ratios of Open Interest.** The R209, R213 and R2044 have more open puts than calls in the market (see page 18)
- The bond option volumes have seen flattening trend after 3 months of resurgence in option volumes compared to last year. The YTD activity in Bond Options is up 18.6% and open interest is up 21% over the same period last year, but still lower than volumes seen in 2019.
- The Govi and Bond Index Futures value traded is UP 7.2% ytd with value traded of R81bln ytd

LATEST TRENDS IN BOND FUTURES ACTIVITY

Bond Futures tend to be traded as term instruments which results in large volumes trading into and around expiry dates and lower volumes in other periods. This manifests as a “see-saw” activity in the monthly volumes. To observe trends, we observe the Rolling 3m Average activity.

Bond Futures Trends: Contracts Traded and Open Interest



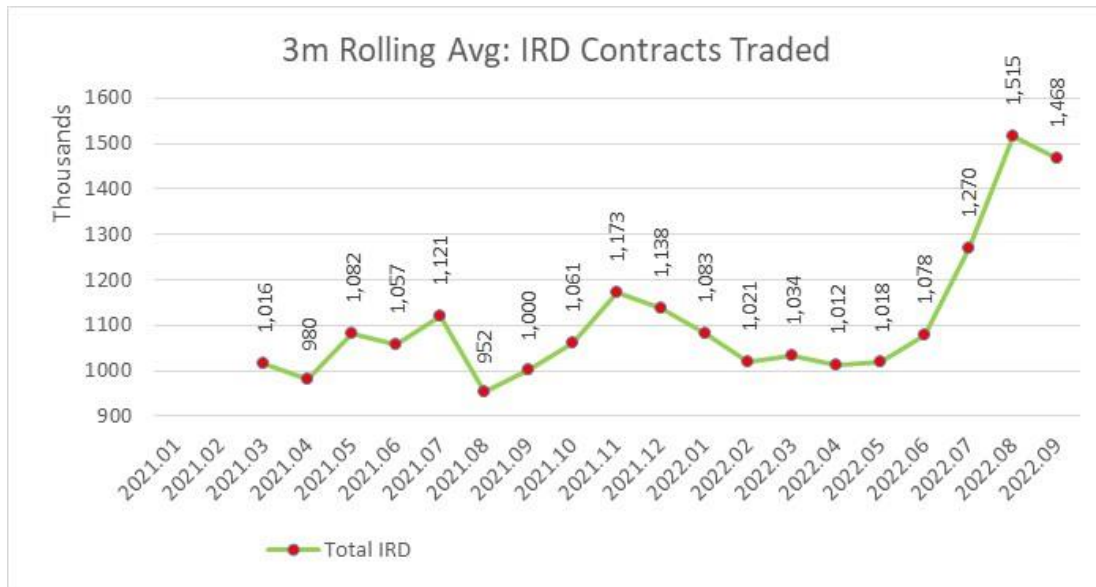
The 3m rolling average of contracts traded shows an increase in activity since Apr-22 after a period of decline in early 2022 with a slight decline in Sep22. The Open Interest has seen a consistent increase since Sep-21 with a slight flattening trend in Sep22.

MONTHLY SNAPSHOT: CONTRACTS & OPEN INTEREST

CONTRACTS TRADED

Monthly Snapshot Contracts Traded 2021/22								
	Bond Fut	Calls	Puts	Govi Fut	Index Fut	Jibar Fut	Swap Fut	Total
2021.01	2,064,147	21,004	17,677	1,941	2,888	40,001	-	2,147,658
2021.02	647,370	24,856	21,684	101	582	40,470	-	735,063
2021.03	127,022	21,895	15,812	29	60	400	-	165,218
2021.04	1,995,098	13,289	27,516	1,517	1,720	-	-	2,039,140
2021.05	920,233	13,899	108,021	87	753	-	-	1,042,993
2021.06	50,847	12,776	24,800	17	161	-	-	88,601
2021.07	2,210,468	7,750	9,100	1,996	1,298	-	-	2,230,612
2021.08	497,888	14,332	25,619	30	138	69	-	538,076
2021.09	61,417	18,400	22,650	11	31	130,000	-	232,509
2021.10	2,316,337	34,747	57,736	2,056	1,386	800	-	2,413,062
2021.11	734,640	25,520	63,241	213	254	50,075	-	873,943
2021.12	123,724	2,100	-	6	-	-	51	125,881
2022.01	2,198,294	8,260	38,140	2,132	1,356	-	-	2,248,182
2022.02	607,540	39,077	40,890	48	208	-	-	687,763
2022.03	126,385	29,435	10,026	3	5	222	-	166,076
2022.04	2,139,536	10,546	29,023	2,264	1,262	-	-	2,182,631
2022.05	683,749	13,140	8,420	10	332	100	-	705,751
2022.06	286,875	26,900	32,583	6	13	-	-	346,377
2022.07	2,699,371	36,982	18,065	2,318	1,926	100	-	2,758,762
2022.08	1,319,225	59,807	61,514	19	43	-	-	1,440,608
2022.09	168,100	21,851	14,895	54	281	-	-	205,181

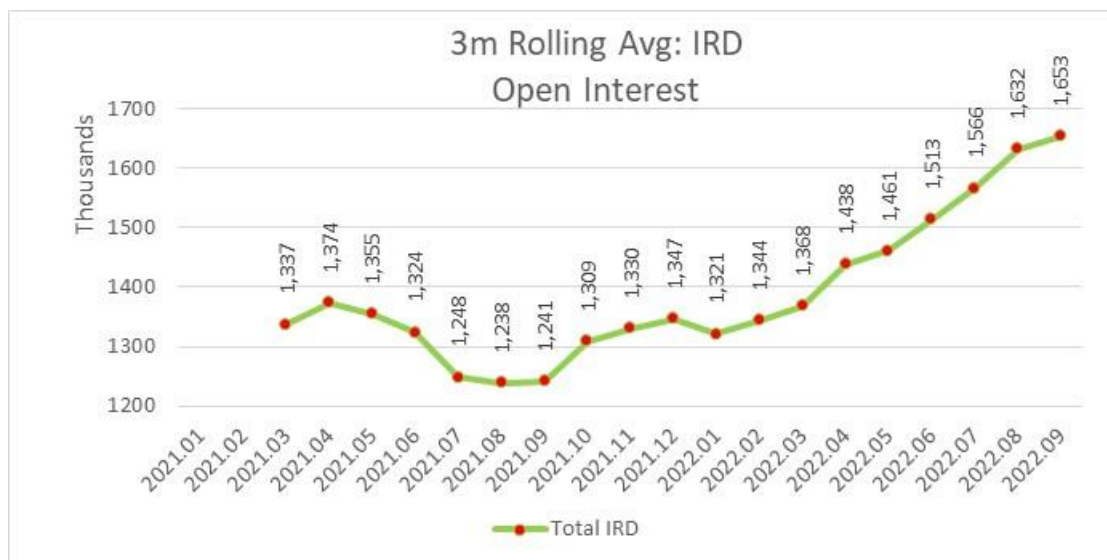




The 3m rolling average of contract volumes displays an upward trend from May22 to Aug22 and slight decline in Sep22, after a flatter period at the beginning of 2022.

OPEN INTEREST

Monthly Snapshot Open Interest 2021/22								
	Bond Fut	Calls	Puts	Govi Fut	Index Fut	Jibar Fut	Swap Fut	Total
2021.01	1,368,771	54,416	117,177	977	1,365	50,001	51	1,592,758
2021.02	1,012,584	45,247	96,085	975	1,212	30,471	51	1,186,625
2021.03	1,043,823	52,181	103,536	1,001	1,196	30,471	51	1,232,259
2021.04	1,493,709	61,680	114,125	1,003	1,270	30,471	51	1,702,309
2021.05	989,485	31,963	76,593	987	726	30,471	51	1,130,276
2021.06	986,432	38,363	82,093	981	581	30,471	51	1,138,972
2021.07	1,311,466	41,313	91,193	997	631	30,471	51	1,476,122
2021.08	946,280	36,714	85,050	986	594	30,540	51	1,100,215
2021.09	948,396	48,514	98,050	993	625	50,540	51	1,147,169
2021.10	1,445,779	64,705	117,651	1,098	829	50,140	51	1,680,253
2021.11	1,036,547	56,870	67,614	983	721	215	51	1,163,001
2021.12	1,069,111	58,970	67,614	987	721	215	-	1,197,618
2022.01	1,454,861	66,850	78,374	1,023	805	215	-	1,602,128
2022.02	1,088,101	66,830	74,984	989	718	215	-	1,231,837
2022.03	1,114,292	76,765	78,019	990	720	215	-	1,271,001
2022.04	1,645,940	76,742	85,496	1,115	669	215	-	1,810,177
2022.05	1,195,046	50,178	53,524	1,111	909	315	-	1,301,083
2022.06	1,297,146	66,578	62,424	1,111	913	315	-	1,428,487
2022.07	1,800,421	94,508	72,185	875	856	415	-	1,969,260
2022.08	1,332,947	84,705	77,297	870	839	415	-	1,497,073
2022.09	1,313,187	93,252	84,742	874	825	415	-	1,493,295



The 3m rolling average of open interest displays an upward trend since Sep 2021 and continues to move higher. Every month-end in 2022 has seen open interest greater than 1m contracts in all IRD contracts as well as in Bond futures contracts. This is largely a result of higher bond futures and options open positions

INTEREST RATE DERIVATIVE CONTRACTS

IRD CONTRACTS TRADED

The number of IRD contracts traded ytd is UP 16.5% over same period previous year, with bond futures UP 19.3%.

Listed IRD CONTRACTS TRADED							
YTD - Contracts	Bond Fut	Bond Opt	Govi Fut	Index Fut	JIBAR Fut	SWAP Fut	Total
2021	8,574,490	421,080	5,729	7,631	210,940	-	9,219,870
2022	10,229,075	499,554	6,854	5,426	422	-	10,741,331
Growth	19.3%	18.6%	19.6%	-28.9%	-99.8%	0.0%	16.5%

IRD VALUE TRADED

IRD VALUE TRADED YTD (Rm)							
Period	Bond Fut	Bond Opt	Govi Fut	Index Fut	JIBAR Fut	SWAP Fut	Total
2021	806,286	760	44,313	31,536	5,062	-	887,957
2022	910,727	870	56,280	25,011	10	-	992,898
Growth	13.0%	14.4%	27.0%	-20.7%	-99.8%	0.0%	11.8%

IRD TRADED NOMINAL EXPOSURE*

Effective nominal exposure (and value traded for indices) provides a comparable metric to examine activity across various markets.

LISTED IRD UNDERLYING NOMINAL EXPOSURE RbIn							
YTD - Nominal	Bond Fut	Bond Opt	Govi Fut ValTr	Index Fut ValTr	JIBAR Fut	SWAP Fut	Total
Contract size	100k	100k	1	1	100k	100k	
2021	857.4	42.1	44.3	31.5	21.1	-	996.5
2022	1,022.9	50.0	56.3	25.0	0.042	-	1,154.2
Growth	19.3%	18.6%	27.0%	-20.7%	-99.8%	0.0%	15.8%
% Split	88.6%	4.3%	4.9%	2.2%	0.0%	0.0%	100.0%

**Underlying nominals traded (in R billions) are represented by the contract size multiplied by the contracts traded, except for the Govi and Index futures which are represented by the value traded.*

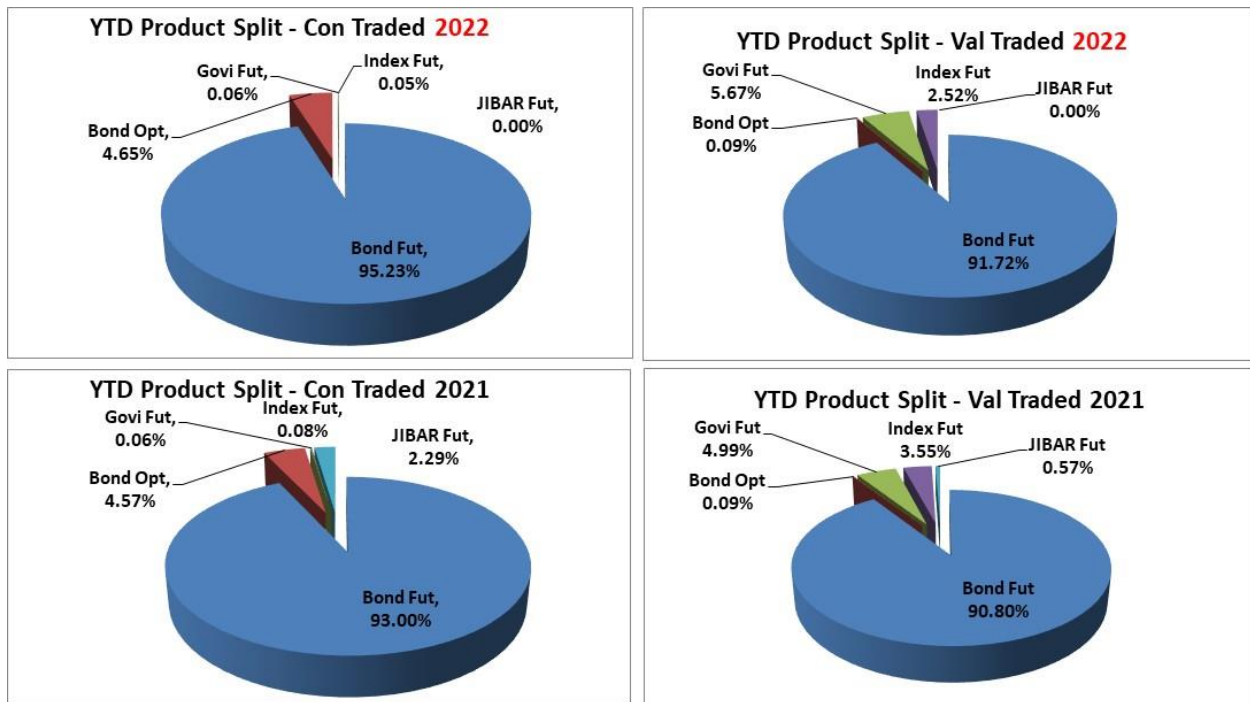
IRD OPEN INTEREST

The Open Interest up 30% compared to same period last year while bond futures up 38.5%. and bond options up 21%

IRD OPEN INTEREST CONTRACTS YTD							
Period	Bond Fut	Bond Opt	Govi Fut	Index Fut	JIBAR Fut	SWAP Fut	Total
2021	948,396	146,564	993	625	50,540	51	1,147,169
2022	1,313,187	177,994	874	825	415	-	1,493,295
Growth	38.5%	21.4%	-12.0%	32.0%	-99.2%	-100.0%	30.2%

IRD PRODUCT SPLIT IN CONTRACTS AND VALUE TRADED

The **GOVI and Index Futures**, with a high nominal underlying per contract, represent a small percentage (<1%) of all contracts traded but **represent 8.2% of all IRD value traded YTD**



TWO-MONTH CLOSE OUT PERIOD VOLUME (ALL IRD CONTRACTS)

Roll activity typically starts in the month prior to close-out. Thus, close-out activity is represented here by consolidating **volumes for the close-out month and the prior month as a 2-month period**.

	ALL IRD CONTRACTS (in 2-mth periods) (millions of contracts)									
Close-Out (2-mth)	2016	2017	2018	2019	2020	2021	2022	% Chg 2021/20	% Chg 2022/21	
Close-Out 1 (Feb)	1.733	2.455	3.292	2.609	3.097	2.883	2.936	-6.9%	1.8%	
Close-Out 2 (May)	2.401	2.491	2.973	2.518	3.219	3.082	2.888	-4.2%	-6.3%	
Close-Out 3 (Aug)	2.313	3.051	2.532	3.009	3.040	2.769	4.199	-8.9%	51.7%	
Close-Out 4 (Nov)	2.399	3.320	2.749	2.787	3.082	3.287		6.7%		

The August 2022 (2-mth) close-out period saw 4.2m contracts trading, up 51% over last year's equivalent period.

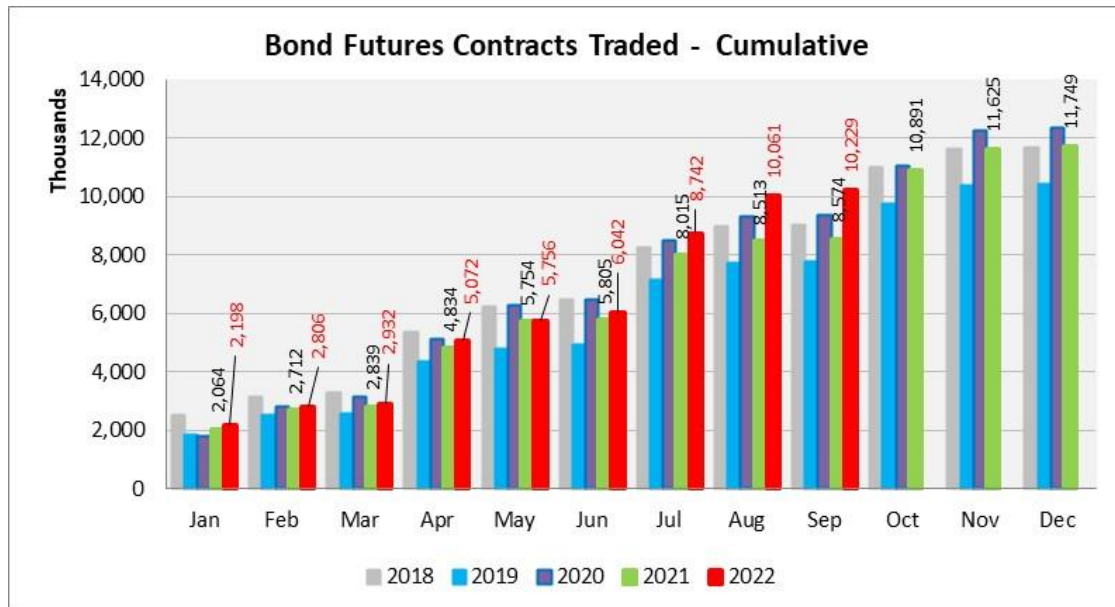
BOND FUTURES

BOND FUTURES: CONTRACTS TRADED

The Futures contracts traded in August were up over 165% on same period last year with 1.3m contracts traded (equivalent of R132bln notional). On a YTD basis, this is a 18.2% growth over same period last year. **This represents a record cumulative or year-to-date (YTD) volume for bond futures.**



Bond Futures Contracts Traded									
Date	2016	2017	2018	2019	2020	2021	2022	Chg 21/20	Chg 22/21
Jan	826,485	1,963,456	2,512,043	1,872,040	1,808,945	2,064,147	2,198,294	14.1%	6.5%
Feb	883,377	493,725	622,760	654,730	994,022	647,370	607,540	-34.9%	-6.2%
Mar	79,520	148,066	184,080	71,194	337,360	127,022	126,385	-62.3%	-0.5%
Apr	1,490,182	1,168,792	2,071,717	1,778,197	1,984,879	1,995,098	2,139,536	0.5%	7.2%
May	854,135	1,322,123	868,973	434,577	1,152,932	920,233	683,749	-20.2%	-25.7%
Jun	134,452	177,529	241,609	121,845	187,670	50,847	286,875	-72.9%	464.2%
Jul	1,542,365	1,475,383	1,770,507	2,232,039	2,022,009	2,210,468	2,699,371	9.3%	22.1%
Aug	691,788	1,497,690	706,275	550,331	820,119	497,888	1,319,225	-39.3%	165.0%
Sep	207,021	235,816	53,904	85,331	59,877	61,417	168,100	2.6%	173.7%
Oct	1,903,245	1,947,995	1,987,598	1,970,014	1,707,398	2,316,337		35.7%	
Nov	477,584	1,304,500	599,247	610,292	1,210,516	734,640		-39.3%	
Dec	77,224	180,041	69,157	57,887	64,811	123,724		90.9%	
TOTAL	9,167,378	11,915,116	11,687,870	10,438,477	12,350,538	11,749,191	10,229,075	-4.9%	19.3%
%Chg		30.0%	-1.9%	-10.7%	18.3%	-4.9%			

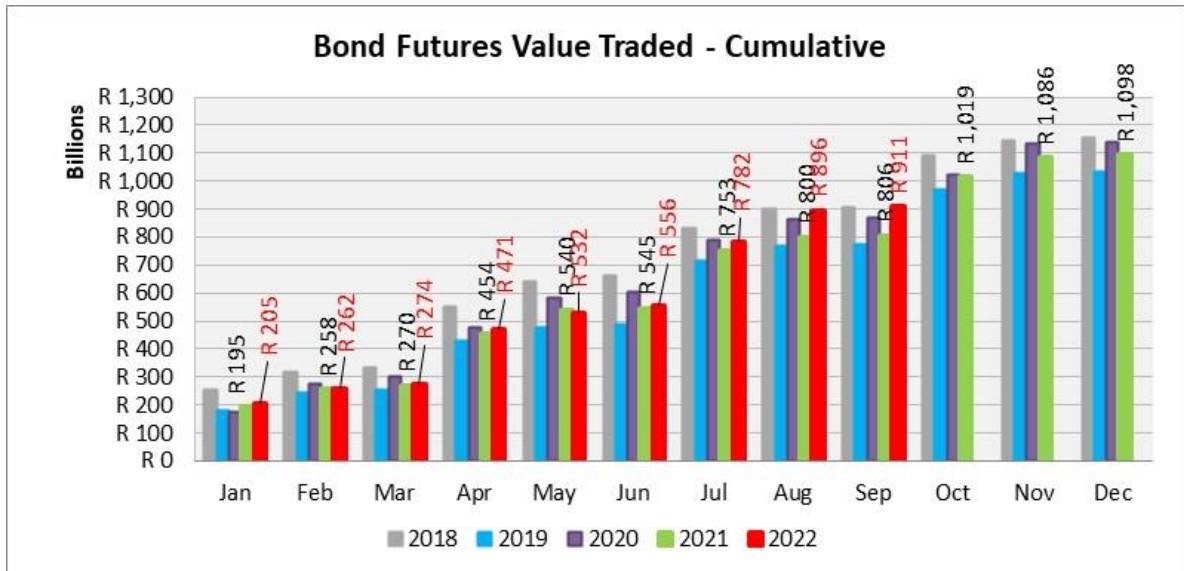


Since the derivative activity is very seasonal and varies greatly around the expiration date of contracts, the difference between activity in one month and another month can vary greatly. The 3m rolling average provides an easy way to observe medium to longer trends.

The 3m average bond futures activity shows a strong uptrend since Apr 2022 with a slight decline in Sep22, after an earlier decline in from 2021 year-end into early 2022.

BOND FUTURES: VALUE TRADED

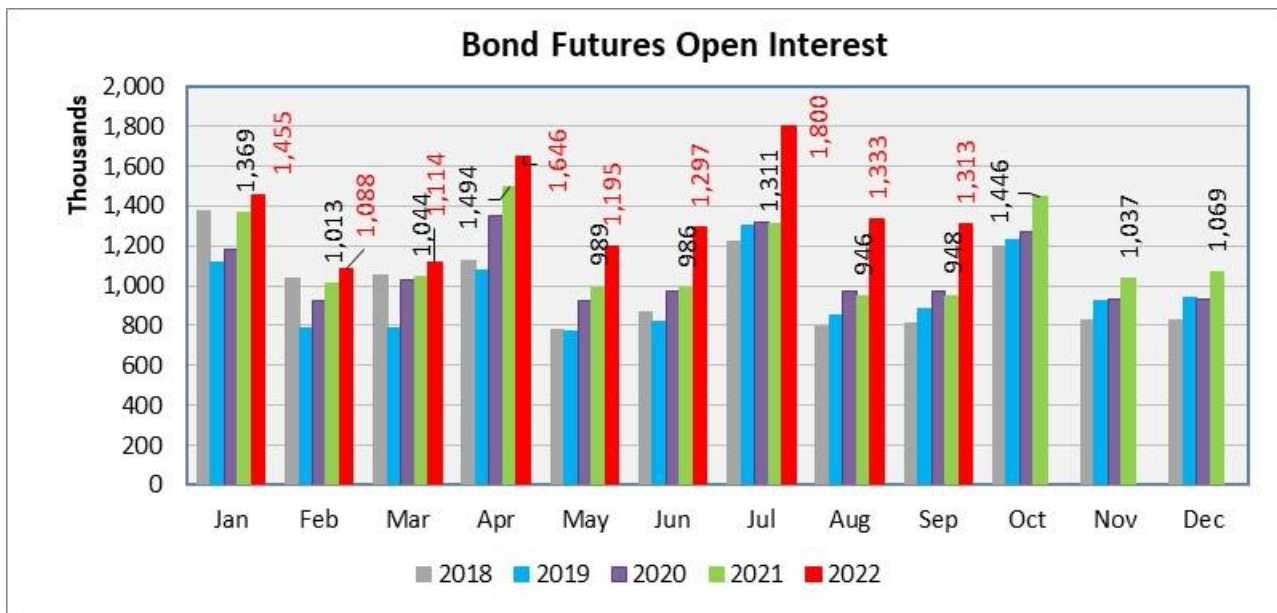
The value traded year-to-date is 13% UP compared to same period in 2021.



Bond Futures Value Traded Rm									
Date	2016	2017	2018	2019	2020	2021	2022	Chg 21/20	Chg 22/21
Jan	R 93,017	R 207,419	R 253,621	R 180,384	R 176,702	R 194,789	R 204,686	10.2%	5.1%
Feb	R 83,446	R 54,107	R 63,521	R 65,075	R 97,898	R 62,982	R 57,288	-35.7%	-9.0%
Mar	R 8,122	R 15,689	R 18,820	R 7,378	R 29,570	R 12,063	R 11,528	-59.2%	-4.4%
Apr	R 159,522	R 128,361	R 212,944	R 177,545	R 174,397	R 184,453	R 197,483	5.8%	7.1%
May	R 87,612	R 131,736	R 91,403	R 44,429	R 106,329	R 85,790	R 61,213	-19.3%	-28.6%
Jun	R 13,129	R 19,049	R 22,502	R 11,983	R 17,525	R 5,349	R 24,236	-69.5%	353.1%
Jul	R 166,159	R 151,742	R 170,320	R 225,830	R 185,667	R 207,191	R 225,996	11.6%	9.1%
Aug	R 75,809	R 152,914	R 68,472	R 53,410	R 73,391	R 47,531	R 113,556	-35.2%	138.9%
Sep	R 20,266	R 24,072	R 5,123	R 8,239	R 5,882	R 6,139	R 14,741	4.4%	140.1%
Oct	R 210,332	R 191,314	R 185,855	R 194,759	R 156,245	R 212,448		36.0%	
Nov	R 55,648	R 126,095	R 54,306	R 59,502	R 109,123	R 67,490		-38.2%	
Dec	R 7,458	R 17,391	R 6,458	R 5,516	R 6,269	R 11,623		85.4%	
TOTAL	980,519	1,219,888	1,153,345	1,034,049	1,138,999	1,097,847	910,727	-3.6%	13.0%
%Chg		24.4%	-5.5%	-10.3%	10.1%	-3.6%			

BOND FUTURES: OPEN INTEREST

Bond Futures Open interest at month end was 1.31m contracts, up 38.5% over last year. **Open interest has been above last year's levels for all month ends in 2022.** This could be attributed to some roll activity being shifted from near-term contracts out to the medium-term contracts as positions being held rather than closed.

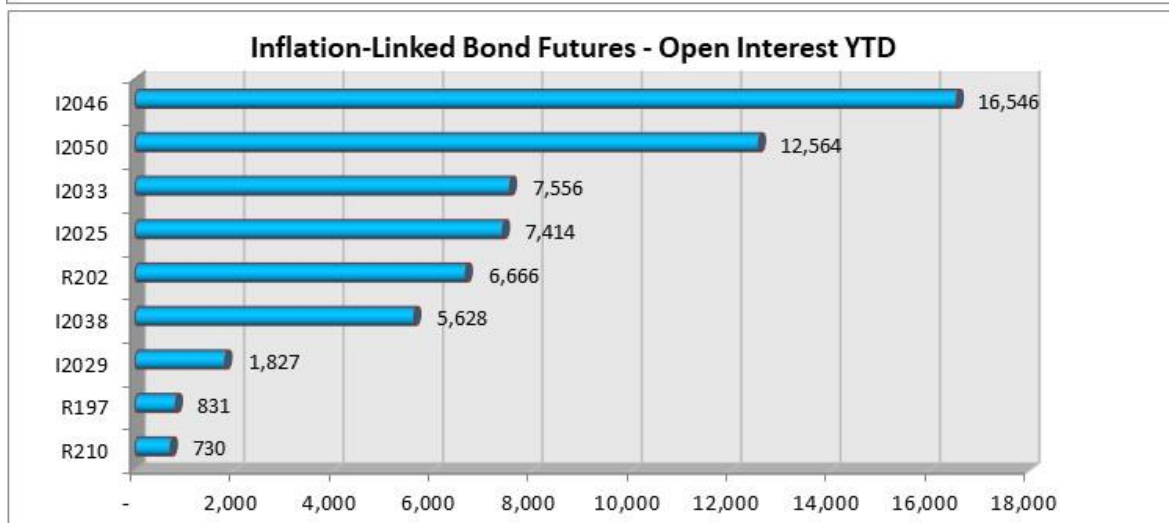
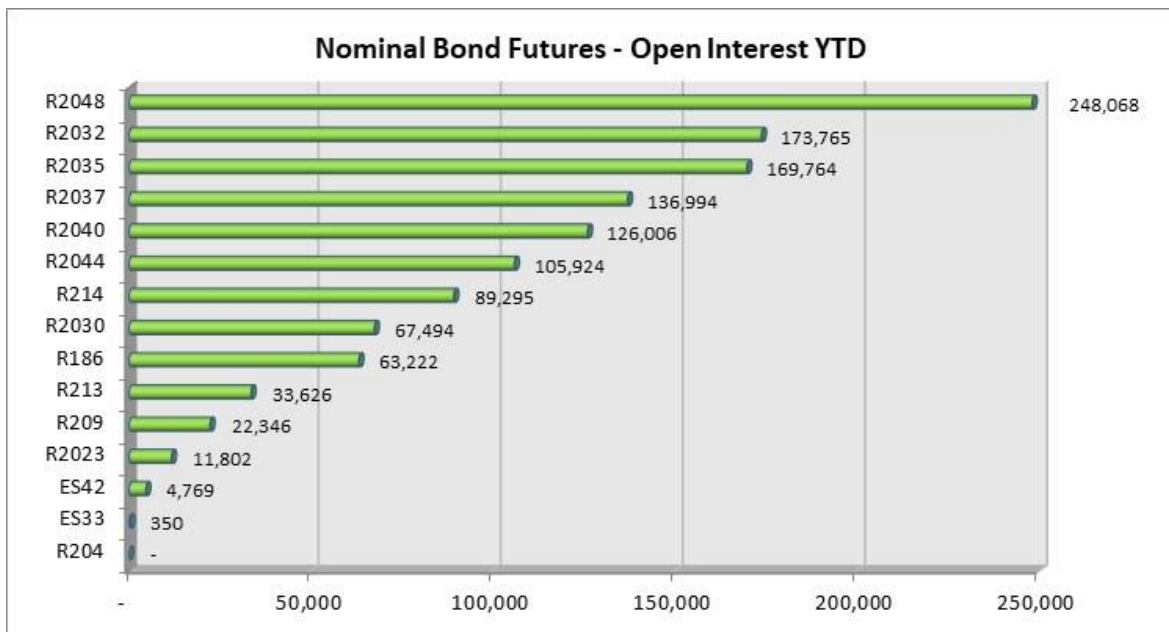


Bond Futures Open Interest									
Date	2016	2017	2018	2019	2020	2021	2022	Chg 21/20	Chg 22/21
Jan	713,913	1,137,425	1,372,543	1,118,795	1,183,158	1,368,771	1,454,861	15.7%	6.3%
Feb	633,062	770,321	1,037,493	784,852	921,269	1,012,584	1,088,101	9.9%	7.5%
Mar	650,335	801,800	1,052,470	787,390	1,027,896	1,043,823	1,114,292	1.5%	6.8%
Apr	890,406	1,037,427	1,126,181	1,073,638	1,349,483	1,493,709	1,645,940	10.7%	10.2%
May	752,370	794,207	777,714	769,139	923,863	989,485	1,195,046	7.1%	20.8%
Jun	753,049	868,162	870,652	817,539	971,675	986,432	1,297,146	1.5%	31.5%
Jul	996,943	1,139,985	1,222,141	1,302,006	1,321,763	1,311,466	1,800,421	-0.8%	37.3%
Aug	655,211	977,327	798,912	849,438	973,254	946,280	1,332,947	-2.8%	40.9%
Sep	657,642	981,713	809,221	883,920	969,022	948,396	1,313,187	-2.1%	38.5%
Oct	999,507	1,383,649	1,201,141	1,231,132	1,273,672	1,445,779		13.5%	
Nov	793,813	1,020,399	826,316	927,675	931,839	1,036,547		11.2%	
Dec	798,552	1,016,463	827,458	944,806	936,762	1,069,111		14.1%	
%Chg		27.3%	-18.6%	14.2%	-0.9%	14.1%			38.5%

BOND FUTURES: OPEN INTEREST PER INSTRUMENT

The largest open positions is the R2048 at R24.8 bln nominal (~248k contracts) while R2032 and R2035 have open interest nominal about 17bln (~170k contracts). Largest linker open interest is the I2046 at R1.6bln nominal underlying

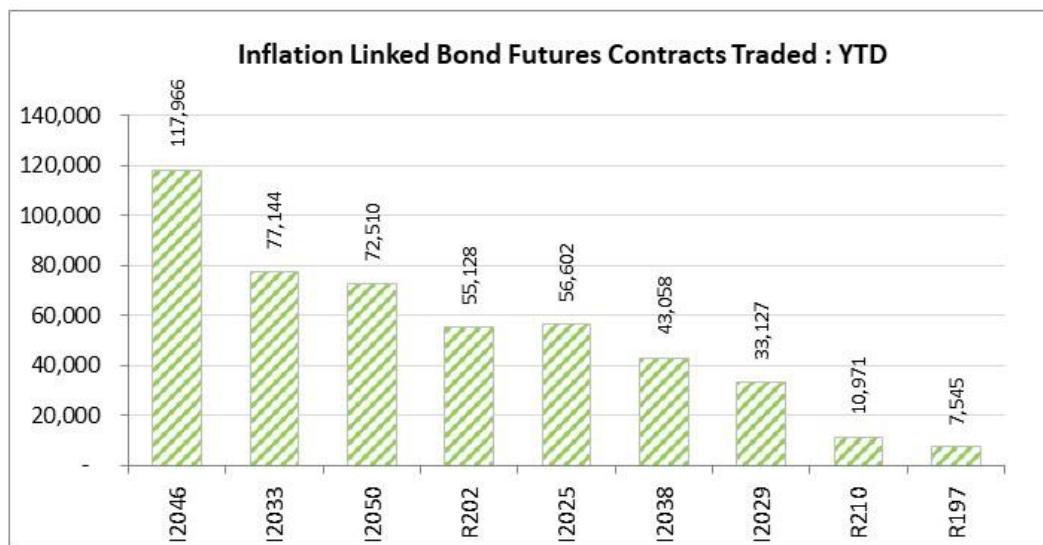
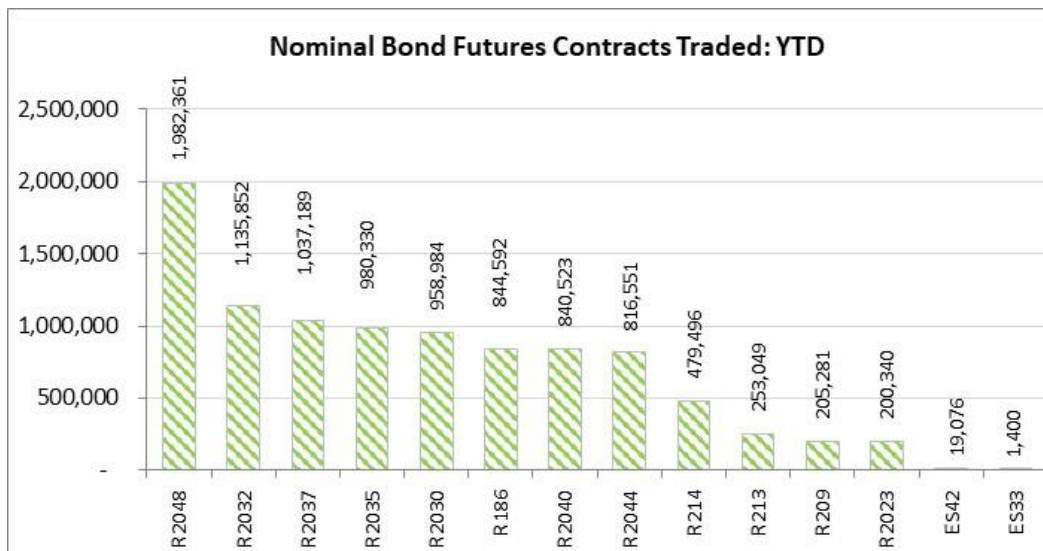
Open Interest Table: YTD			
	Nominal Bond	Inflation-Linkers	Total
Contracts	1,253,425	59,762	1,313,187
Nominal Value Rm	125,343	5,976	131,319
% Split	95.4%	4.6%	100.0%



SINGLE BOND FUTURE CONTRACTS

The most actively traded bond future YTD is the R2048 with a total of R198bn notional underlying. The graph shows a further 7 bonds trading between R80-R113bn notional. Most active linker is the I2046 at R11.7bn nominal

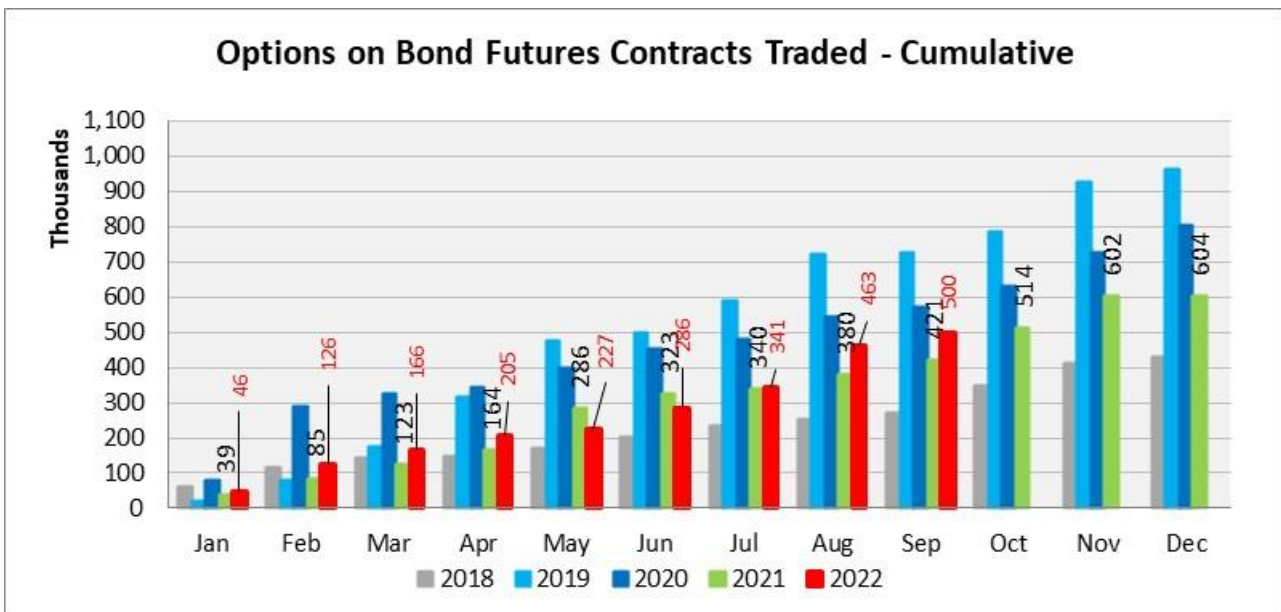
Total Contracts Traded ytd			
	Nominal Bond	Inflation-Linkers	Total
Contracts	9,755,024	474,051	10,229,075
Nominal Value Rm	975,502	47,405	1,022,908
% Split	95.4%	4.6%	100.0%



OPTIONS ON BOND FUTURES

OPTIONS ON BOND FUTURES: CONTRACTS TRADED YTD

The past month has seen a flattening trend after 3 months of resurgence in option volumes compared to last year. The YTD activity in Bond Options is now 18.6% up over the same period last year, but still lower than volumes seen in 2019.

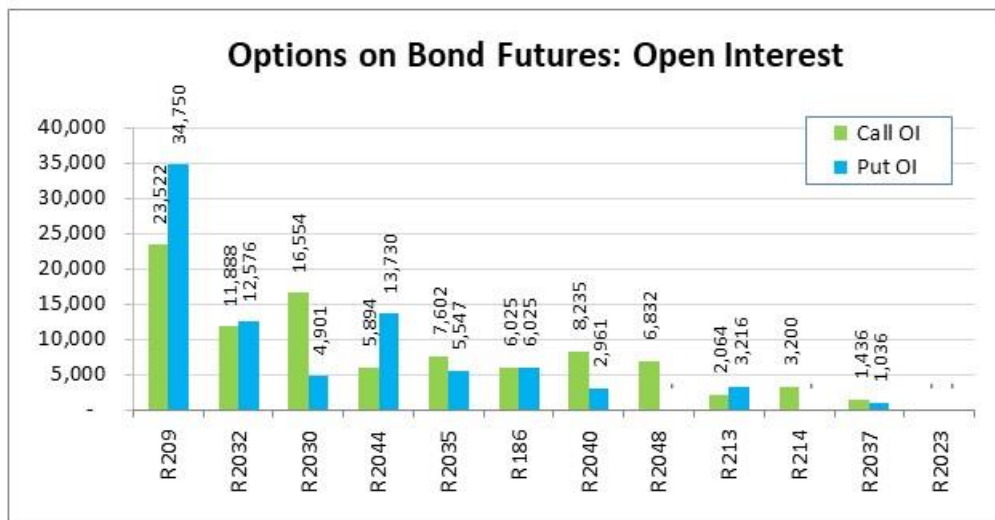
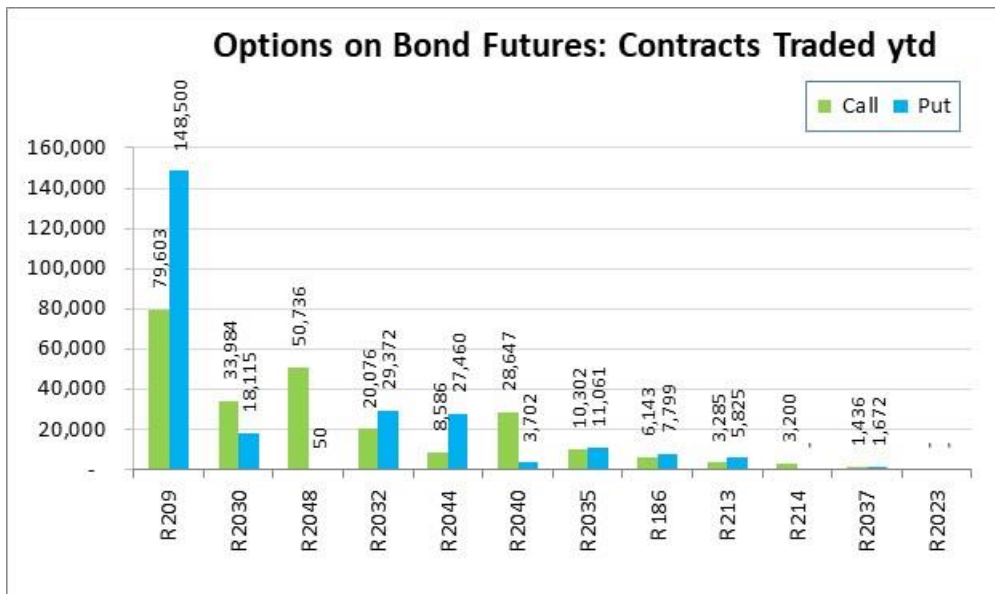


Options on Bond Futures Contracts Traded									
Date	2016	2017	2018	2019	2020	2021	2022	Chg 21/20	Chg 22/21
Jan	-	14,483	60,405	19,110	77,201	38,681	46,400	-49.9%	20.0%
Feb	17,536	11,415	54,977	59,033	210,210	46,540	79,967	-77.9%	71.8%
Mar	8,812	25,538	28,832	95,276	36,940	37,707	39,461	2.1%	4.7%
Apr	22,435	5,400	5,558	143,016	17,731	40,805	39,569	130.1%	-3.0%
May	29,048	8,862	20,150	157,005	56,719	121,920	21,560	115.0%	-82.3%
Jun	5,775	23,320	34,432	26,470	53,416	37,576	59,483	-29.7%	58.3%
Jul	18,285	8,019	28,655	88,896	30,101	16,850	55,047	-44.0%	226.7%
Aug	54,921	63,882	17,260	131,864	61,600	39,951	121,321	-35.1%	203.7%
Sep	36,208	22,555	19,612	7,489	25,183	41,050	36,746	63.0%	-10.5%
Oct	12,419	26,394	78,210	58,639	61,600	92,483		50.1%	
Nov	50	34,036	63,736	140,504	96,308	88,761		-7.8%	
Dec	50	63,418	16,886	34,609	76,656	2,100		-97.3%	
TOTAL	205,539	307,322	428,713	961,911	803,665	604,424	499,554	-24.8%	18.6%
%Chg		49.5%	39.5%	124.4%	-16.5%	-24.8%			

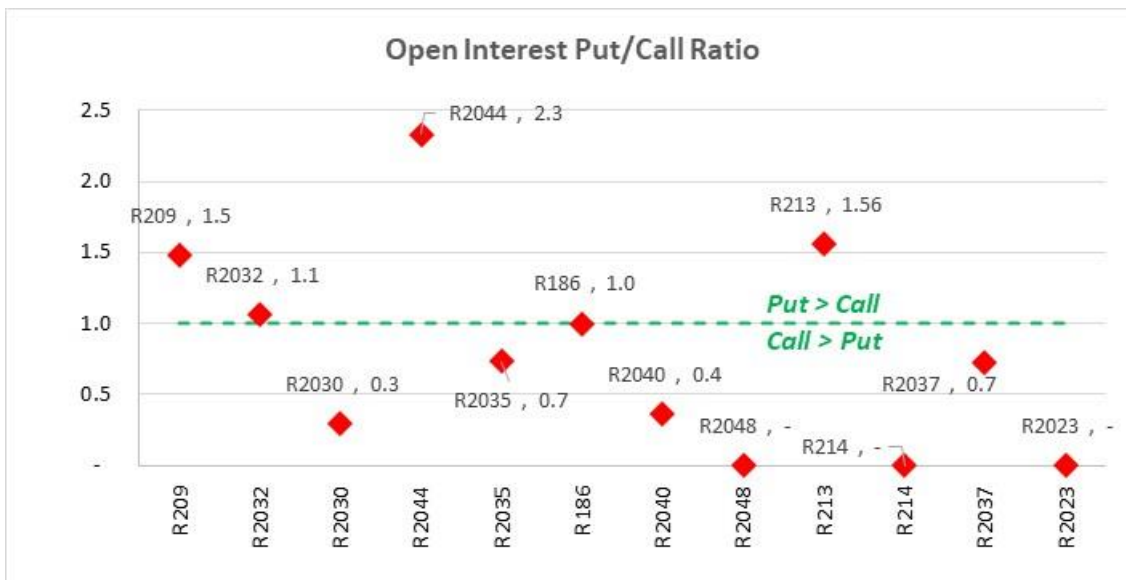
OPTIONS ON BOND FUTURES: CONTRACTS TRADED AND OPEN INTEREST

The largest open interest is in the R209 options with the equivalent of R3.4bln notional puts and R2.4bln calls.

Options on Bond Futures				
	Contracts ytd		Open Interest	
Calls	245,998	49.2%	93,252	52.4%
Puts	253,556	50.8%	84,742	47.6%
Total	499,554	100.0%	177,994	100.0%



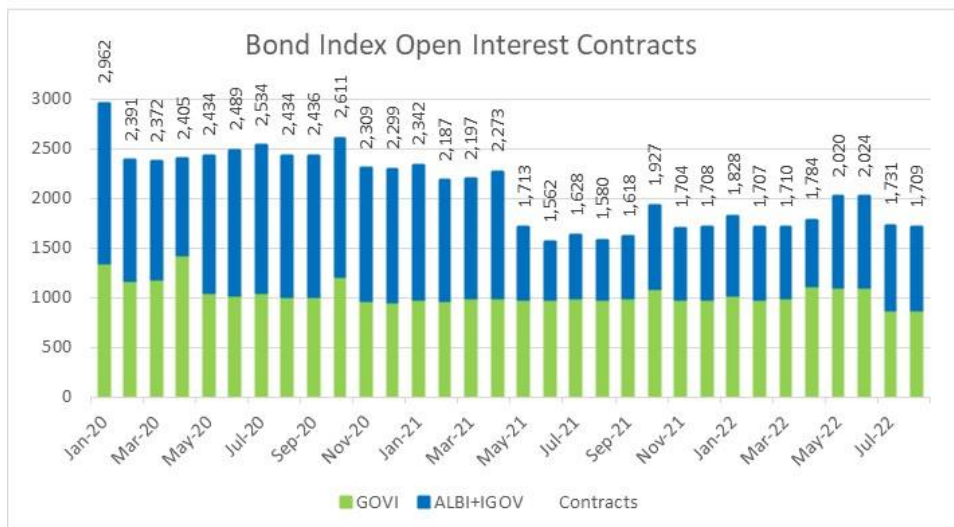
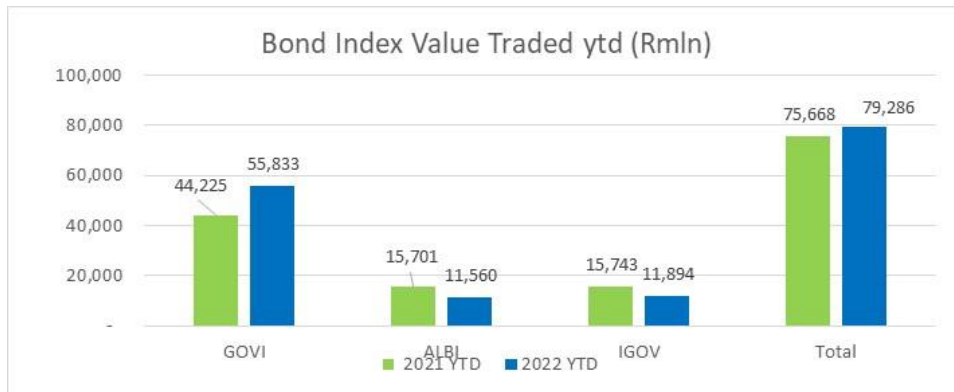
Put-Call Ratios represented in the chart below. A ratio of 1 represents an equal number of open puts and calls. The largest ratio of puts to calls is in the R2044.



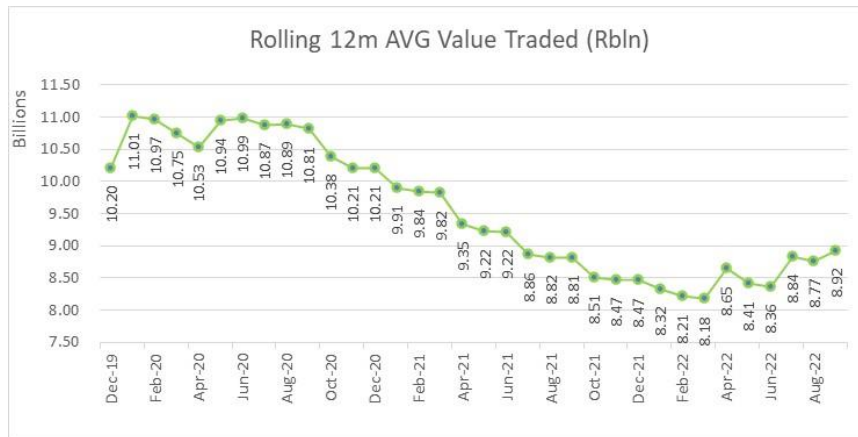
BOND INDEX FUTURES

The Bond Index Future value traded¹ at R81.2bln, is UP 7.2% over previous period. The activity trend seen in the rolling 12m AVG value traded graph shows current average of R8.9bln, slightly higher than the averages seen since Nov-21. Open interest is 5% UP YTD

Value Traded Rm				
	GOVI	ALBI	IGOV	Total
2021 YTD	44,313	15,701	15,835	75,849
2022 YTD	56,280	12,618	12,393	81,291
% Change	27.0%	-19.6%	-21.7%	7.2%
Open Interest Contracts				
	GOVI	ALBI+IGOV	Total	
2021 YTD	993	625	1,618	
2022 YTD	874	825	1,699	
% Change	-12.0%	32.0%	5.0%	



¹ Bond index activity is best determined using value traded as contracts have a large nominal exposure equivalent to (100k * Index level)



VALUE TRADED Rm					
	GOVI	ALBI	IGOV	Val Traded	Roll 12m Avg
Jan-19	5,683	11,086	2,674	19,442	
Feb-19	497	4,005	327	4,828	
Mar-19	2,086	1,092	118	3,296	
Apr-19	5,676	16,580	4,658	26,914	
May-19	538	115	50	702	
Jun-19	74	138	-	211	
Jul-19	11,167	11,628	4,418	27,214	
Aug-19	797	482	271	1,550	
Sep-19	339	21	878	1,238	
Oct-19	18,183	5,601	7,265	31,049	
Nov-19	2,362	2,695	884	5,941	
Dec-19	55	14	-	69	10,205
Jan-20	17,443	5,266	6,425	29,134	11,012
Feb-20	1,283	2,316	663	4,262	10,965
Mar-20	73	624	74	771	10,755
Apr-20	13,806	4,444	5,987	24,237	10,532
May-20	2,966	805	1,845	5,616	10,941
Jun-20	300	50	461	812	10,991
Jul-20	14,676	4,597	6,436	25,710	10,866
Aug-20	349	915	552	1,816	10,888
Sep-20	43	238	39	320	10,811
Oct-20	14,608	5,155	6,094	25,857	10,379
Nov-20	1,824	1,228	868	3,920	10,210
Dec-20	67	30	8	105	10,213
Jan-21	14,739	4,375	6,347	25,461	9,907
Feb-21	778	1,715	1,003	3,496	9,843
Mar-21	216	181	100	498	9,821
Apr-21	11,671	3,020	3,841	18,532	9,345
May-21	667	2,130	1,351	4,149	9,223
Jun-21	134	274	372	780	9,220
Jul-21	15,780	2,933	2,711	21,424	8,863
Aug-21	239	1,073	18	1,330	8,822
Sep-21	88	-	92	181	8,811
Oct-21	16,282	2,948	3,056	22,286	8,513
Nov-21	1,703	1,510	193	3,406	8,470
Dec-21	49	-	-	49	8,466
Jan-22	17,537	3,262	2,972	23,771	8,325
Feb-22	399	1,753	3	2,155	8,213
Mar-22	25	17	9	51	8,176
Apr-22	18,758	2,199	3,207	24,164	8,645
May-22	83	324	937	1,343	8,412
Jun-22	48	99	3	151	8,359
Jul-22	18,825	3,675	4,710	27,210	8,841
Aug-22	158	232	51	441	8,767
Sep-22	447	1,058	499	2,005	8,919