



Q1 Trends in Trading Activity



FIA's Quarterly Webinar on Trends in Global
Futures and Options Volume and Open Interest



Presenters



Will Acworth
MODERATOR

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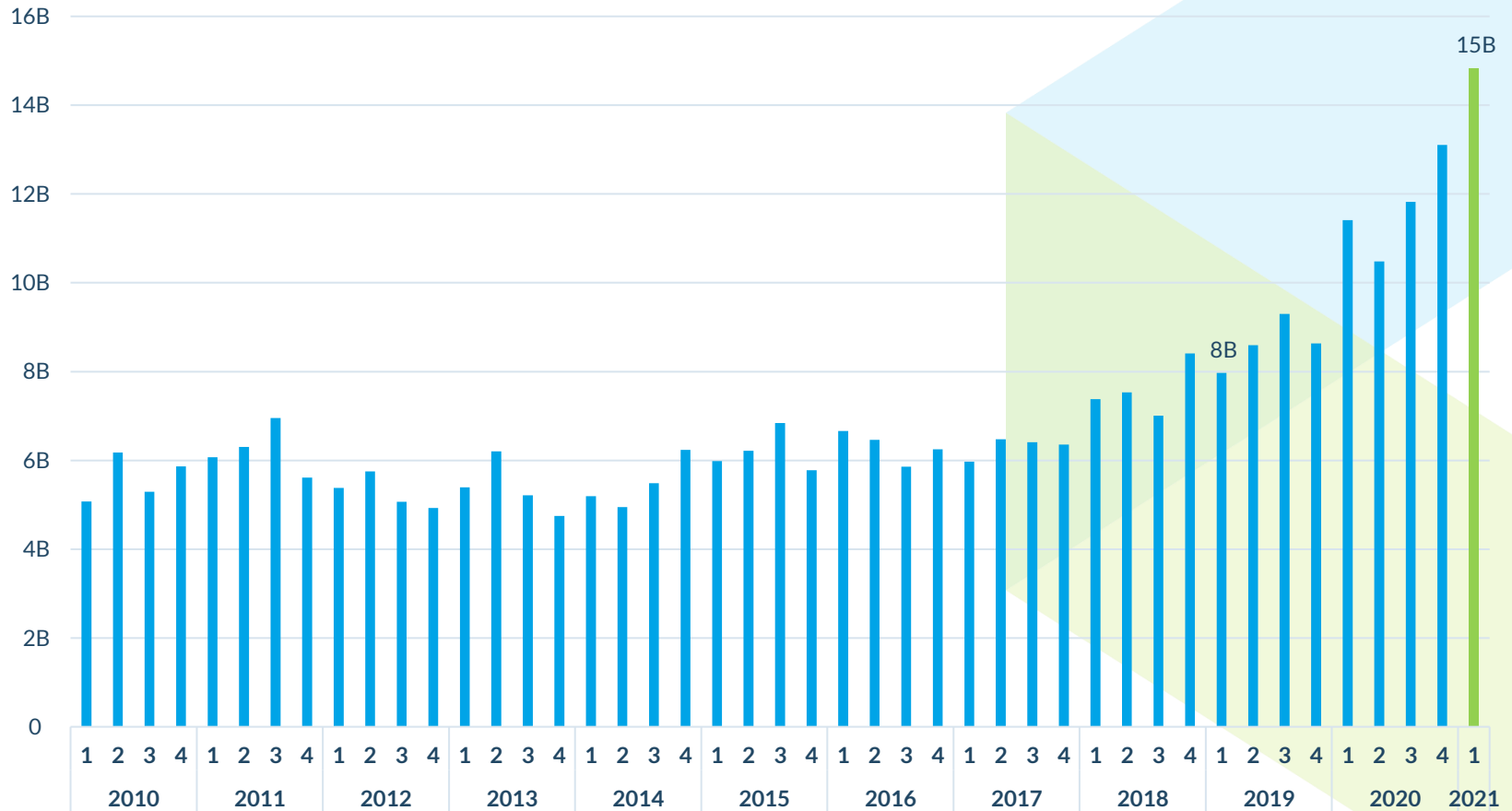


Keith Parker

*Managing Director and Head
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First Quarter of 2021 Sets Another Record for Trading Volume

Global Futures and Options Volume By Quarter



Global Futures and Options: Volume and Open Interest by Region and Category

Global Futures and Options Volume by Region

Region	Jan-Mar 2021 Vol	YoY Change	% Change	2021 Mar OI	YoY Change	% Change
Asia-Pacific	6,533,546,013	2,128,810,055	48.3%	94,873,066	9,499,437	11.1%
North America	4,037,301,168	449,886,903	12.5%	534,164,893	68,373,496	14.7%
Latin America	2,195,058,851	835,512,089	61.5%	174,524,202	-21,051,526	-10.8%
Europe	1,460,547,532	-311,834,849	-17.6%	251,382,642	-4,314,231	-1.7%
Other	601,889,814	319,064,559	112.8%	28,215,145	12,443,909	78.9%
Total	14,828,343,378	3,421,438,757	30.0%	1,083,159,948	64,951,085	6.4%

Global Futures and Options Volume by Category

Category	Jan-Mar 2021 Vol	YoY Change	% Change	2021 Mar OI	YoY Change	% Change
Equity Index	5,906,393,062	1,336,943,172	29.3%	279,718,478	-75,144,520	-21.2%
Individual Equity	3,697,810,356	1,661,773,131	81.6%	479,445,095	139,628,848	41.1%
Currency	1,307,490,590	209,516,004	19.1%	33,910,601	5,056,713	17.5%
Interest Rates	1,260,497,529	-280,683,887	-18.2%	177,381,317	-6,696,845	-3.6%
Agriculture	728,972,541	166,463,801	29.6%	25,773,229	3,493,221	15.7%
Energy	722,749,973	-171,945,479	-19.2%	63,230,544	-4,066,387	-6.0%
Other	525,121,108	334,811,814	175.9%	8,761,980	2,760,108	46.0%
Non-Precious Metals	442,883,248	122,887,152	38.4%	9,785,820	-174,103	-1.7%
Precious Metals	236,424,971	41,673,049	21.4%	5,152,884	94,050	1.9%
Total	14,828,343,378	3,421,438,757	30.0%	1,083,159,948	64,951,085	6.4%

Other Region consists of exchanges in Greece, Israel, South Africa and Turkey

Other Category consists of chemicals, fertilizer, freight, lumber, plastics, and certain other products

Top Five Exchanges by Volume

Rank	Exchange	Jan-Mar 2021 Volume	YoY % Change	End Mar 2021 OI	YoY % Change
1	National Stock Exchange of India	3,130,045,825	69.7%	14,101,263	40.3%
2	B3	2,163,713,963	61.6%	171,298,349	-11.3%
3	CME Group	1,331,452,406	-20.5%	100,748,937	-18.2%
	Chicago Mercantile Exchange	651,929,218	-21.4%	56,297,482	-24.9%
	Chicago Board of Trade	494,198,839	-16.3%	28,391,682	-3.0%
	New York Mercantile Exchange	145,457,427	-28.1%	13,998,931	-13.4%
	Commodity Exchange (COMEX)	39,866,922	-24.9%	2,060,842	-25.5%
4	Nasdaq	911,190,559	53.0%	6,593,865	13.3%
	Nasdaq PHLX ¹	316,221,067	56.6%	n/a	n/a
	Nasdaq Options Market ¹	193,390,508	16.7%	n/a	n/a
	Nasdaq ISE ¹	189,456,040	42.5%	n/a	n/a
	Nasdaq GEMX ¹	143,451,952	142.9%	n/a	n/a
	Nasdaq MRX ¹	33,135,929	518.3%	n/a	n/a
	Nasdaq Exchanges Nordic Markets	18,055,967	-32.7%	6,414,498	13.7%
	Nasdaq BX Options ¹	17,323,435	390.8%	n/a	n/a
	Nasdaq Commodities	155,661	-21.7%	179,367	-1.1%
5	Intercontinental Exchange	885,824,059	10.6%	81,751,695	3.9%
	ICE Futures Europe	327,640,618	-17.7%	50,950,657	7.2%
	NYSE Arca ¹	257,474,396	58.2%	n/a	n/a
	NYSE Amex ¹	214,182,223	68.0%	n/a	n/a
	ICE Futures U.S.	86,026,128	-23.2%	30,789,727	-1.2%
	ICE Futures Singapore	484,610	-6.5%	352	8.0%
	ICE Futures Abu Dhabi ²	16,084	n/a	10,959	n/a

¹ Open Interest for these exchanges attributed to OCC

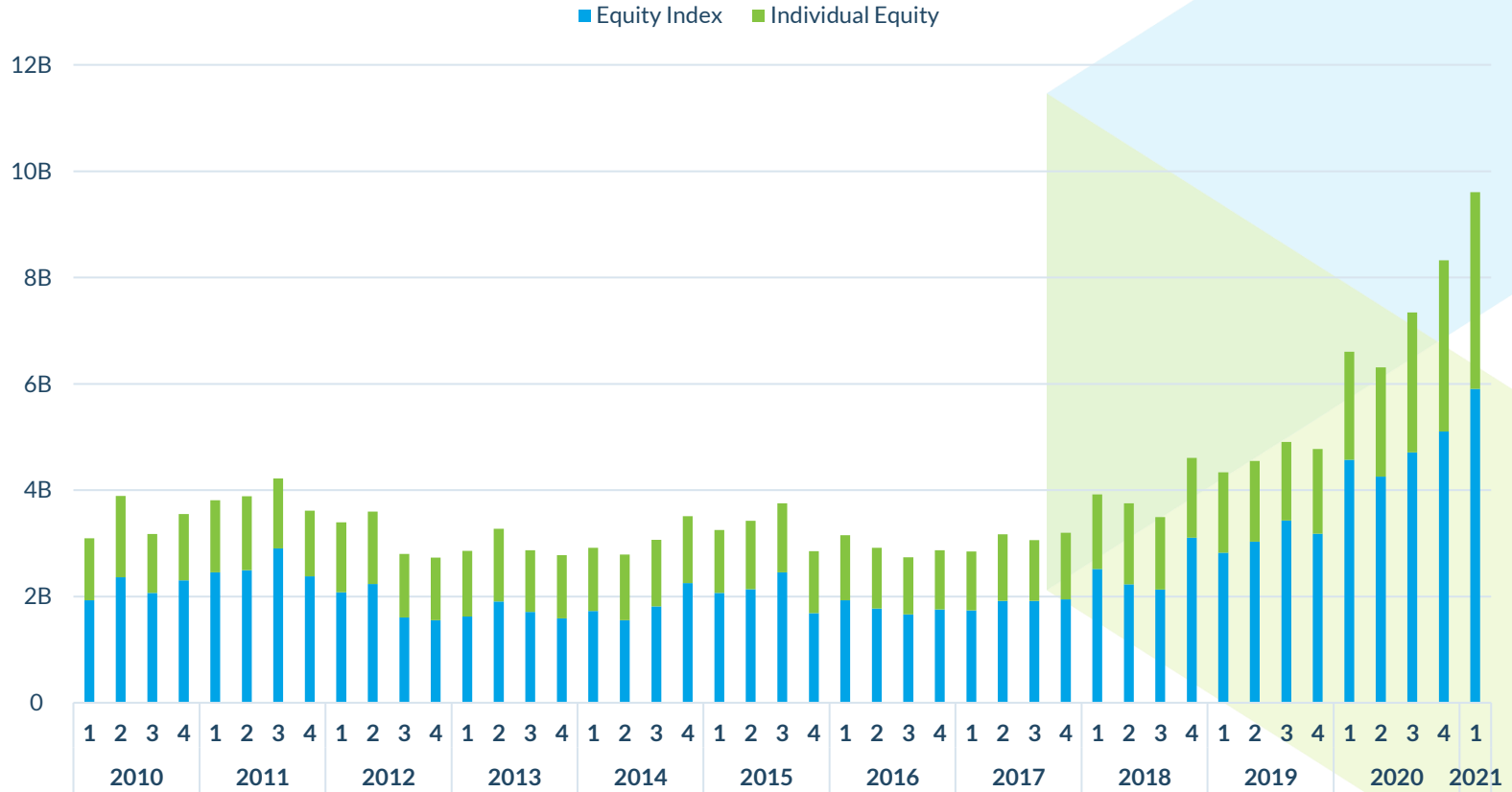
² ICE Futures Abu Dhabi began trading in March 2021

Next 10 Top Exchanges by Trading Volume

Rank	Exchange	Jan-Mar 2021 Vol	YoY Change	% Change	2021 Mar OI	YoY Change	% Change
6	CBOE Holdings	789,135,382	103,278,116	15.1%	368,798	133,525	56.8%
	Cboe Options Exchange ¹	387,541,450	5,314,166	1.4%	n/a	n/a	n/a
	Cboe BZX Options Exchange ¹	214,966,429	44,846,517	26.4%	n/a	n/a	n/a
	Cboe EDGX Options Exchange ¹	90,237,214	31,607,095	53.9%	n/a	n/a	n/a
	Cboe C2 Options Exchange ¹	80,777,957	26,412,193	48.6%	n/a	n/a	n/a
	Cboe Futures Exchange	15,612,332	-4,901,855	-23.9%	368,798	133,525	56.8%
7	Korea Exchange	673,982,169	65,998,971	10.9%	12,093,328	2,534,745	26.5%
8	Zhengzhou Commodity Exchange	634,056,462	388,713,773	158.4%	10,281,630	4,027,332	64.4%
9	Shanghai Futures Exchange	631,383,504	241,127,602	61.8%	7,000,182	-393,267	-5.3%
	Shanghai Futures Exchange	612,174,047	227,805,597	59.3%	6,770,943	-472,289	-6.5%
	Shanghai International Energy Exchange	19,209,457	13,322,005	226.3%	229,239	79,022	52.6%
10	Dalian Commodity Exchange	552,423,337	125,195,874	29.3%	9,888,628	435,400	4.6%
11	Moscow Exchange	542,909,004	-40,849,810	-7.0%	10,133,492	4,052,344	66.6%
12	Borsa Istanbul	540,750,400	315,803,439	140.4%	12,044,431	7,059,633	141.6%
13	Eurex	466,508,380	-164,672,340	-26.1%	143,907,883	-11,410,200	-7.3%
14	BSE	371,807,628	162,061,926	77.3%	2,926,670	605,535	26.1%
	BSE	308,702,493	111,895,928	56.9%	2,925,417	604,292	26.0%
	India International Exchange	63,105,135	50,165,998	387.7%	1,253	1,243	12430.0%
15	Miami International Holdings¹	323,273,983	150,791,182	87.4%	n/a	n/a	n/a
	MIAX Pearl ¹	121,671,476	44,516,500	57.7%	n/a	n/a	n/a
	MIAX Options ¹	105,643,867	39,063,373	58.7%	n/a	n/a	n/a
	MIAX Emerald ¹	95,958,640	67,211,309	233.8%	n/a	n/a	n/a

Equity Trading: Main Driver for Higher Volume

Quarterly Volume in Equity Futures and Options

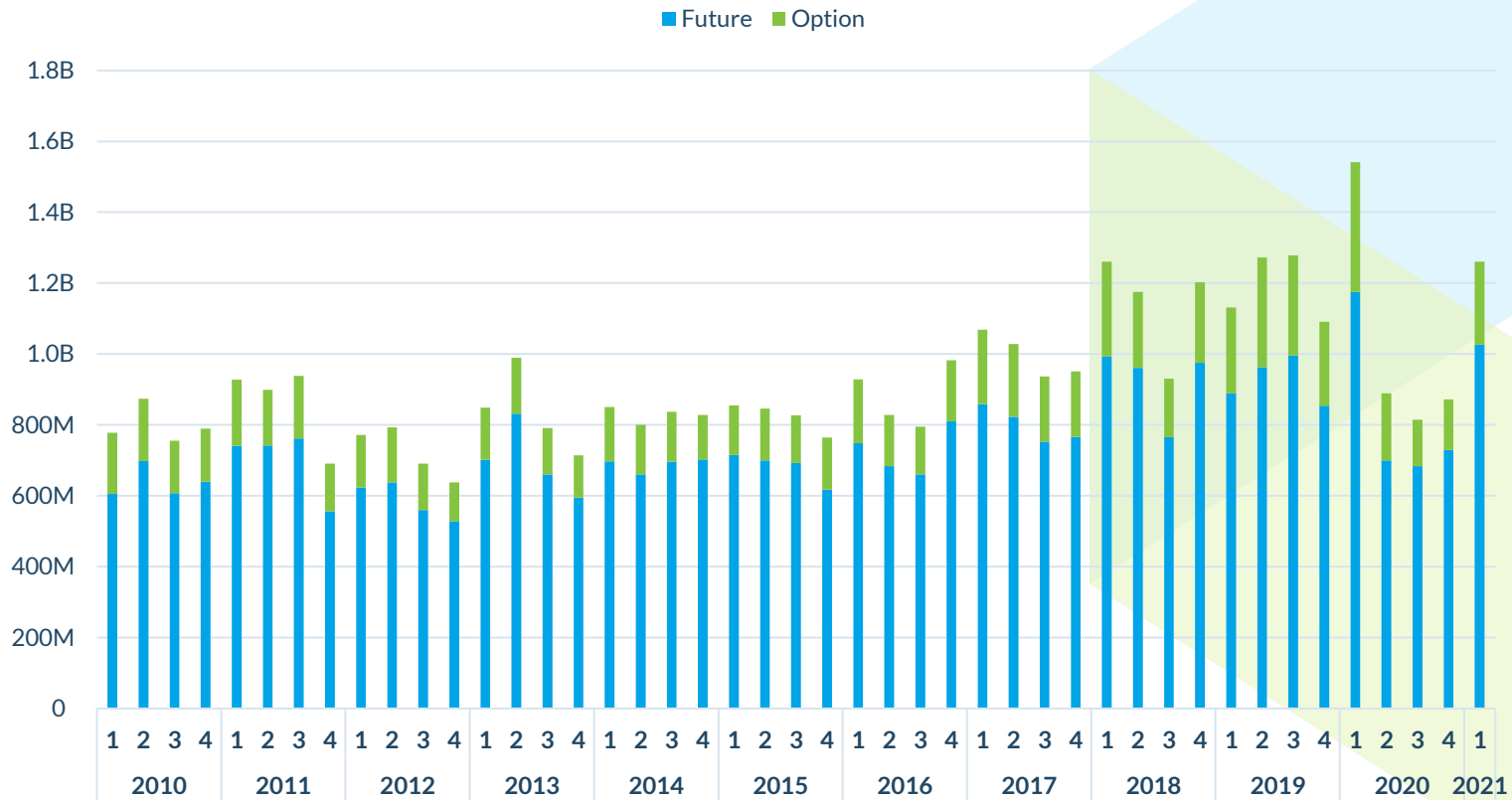


Top 20 Equity Index Futures and Options

Rank	Contract	Jan-Mar 2021 Volume	YoY% Change	End Mar 2021 OI	YoY% Change
1	Bank Nifty Index Options, National Stock Exchange of India	1,565,572,442	77.0%	1,084,619	207.6%
2	Mini Ibovespa Index (WIN) Futures, B3	1,080,259,315	79.3%	1,035,155	-13.7%
3	CNX Nifty Index Options, National Stock Exchange of India	893,860,424	110.9%	2,040,265	101.0%
4	SPDR S&P 500 ETF Options *	271,684,968	-8.6%	18,719,106	-31.6%
5	Kospi 200 Options, Korea Exchange	157,353,092	-24.5%	1,965,576	-11.1%
6	E-mini S&P 500 Futures, Chicago Mercantile Exchange	111,099,369	-31.4%	2,585,446	-24.8%
7	Powershares QQQ ETF Options *	77,457,015	34.7%	9,253,548	44.5%
8	S&P 500 Index (SPX) Options, Cboe Options Exchange	74,349,332	-30.1%	12,918,784	-31.1%
9	Micro E-mini Nasdaq 100 Index Futures, Chicago Mercantile Exchange	66,625,840	96.6%	69,120	31.9%
10	Micro E-mini S&P 500 Index Futures, Chicago Mercantile Exchange	64,286,399	50.9%	90,455	11.2%
11	Euro Stoxx 50 Index Futures, Eurex	63,229,548	-52.7%	2,999,856	-35.0%
12	Euro Stoxx 50 Index Options, Eurex	62,282,783	-42.1%	33,293,602	-19.7%
13	India 50 Index Options, India International Exchange	61,215,820	412.3%	371	7320.0%
14	Nikkei 225 Mini Futures, Osaka Exchange	60,837,567	-48.8%	372,060	-44.1%
15	Taiex (TXO) Options, Taiwan Futures Exchange	53,663,421	-6.9%	307,610	-59.8%
16	iShares Russell 2000 ETF Options *	44,655,700	45.3%	6,823,328	12.6%
17	Kospi 200 Weekly Options, Korea Exchange	41,019,366	57.8%	118,324	549.5%
18	RTS Index Futures, Moscow Exchange	40,510,842	-4.0%	373,240	-27.5%
19	CBOE Volatility Index (VIX) Options, Cboe Options Exchange	37,023,785	-24.7%	7,797,124	-25.9%
20	E-mini Nasdaq 100 Futures, Chicago Mercantile Exchange	36,965,964	-17.9%	222,778	19.4%

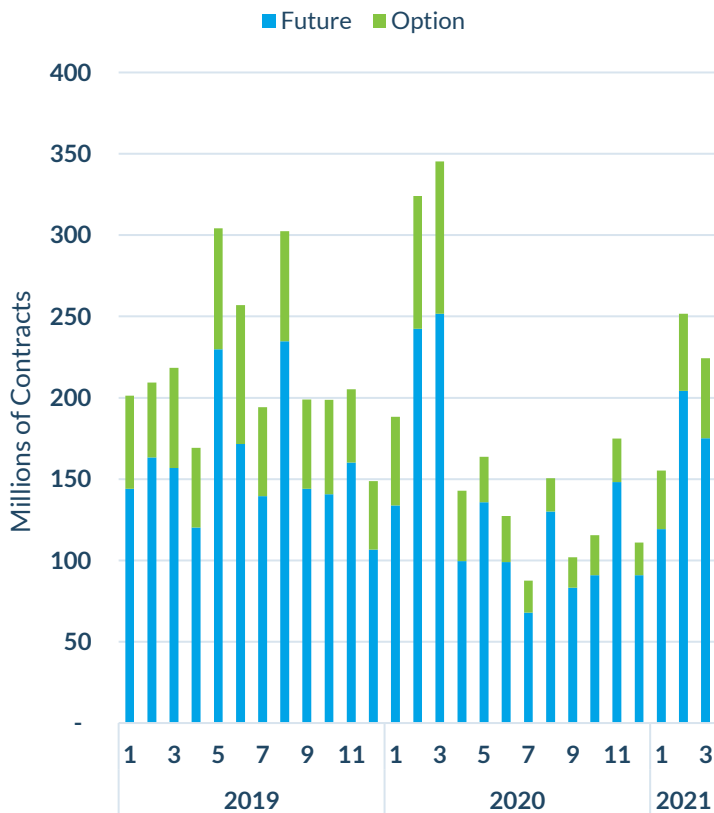
Rates Trading: Strong Recovery in Q1

Quarterly Volume in Interest Rate Futures and Options

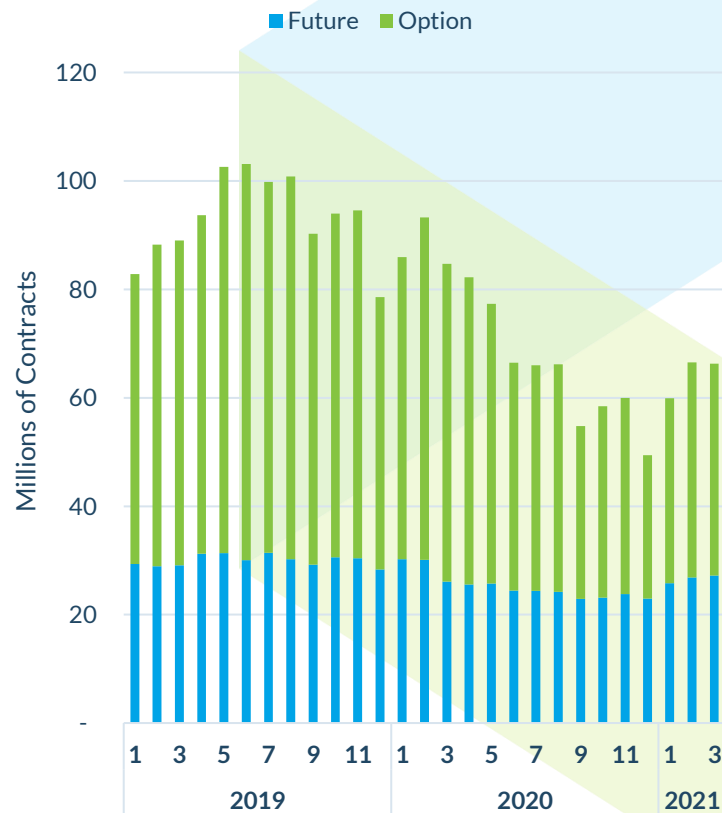


Rates Trading: CME Volume Returns to Pre-Covid Levels But Open Interest Lags

Trading Volume by Month

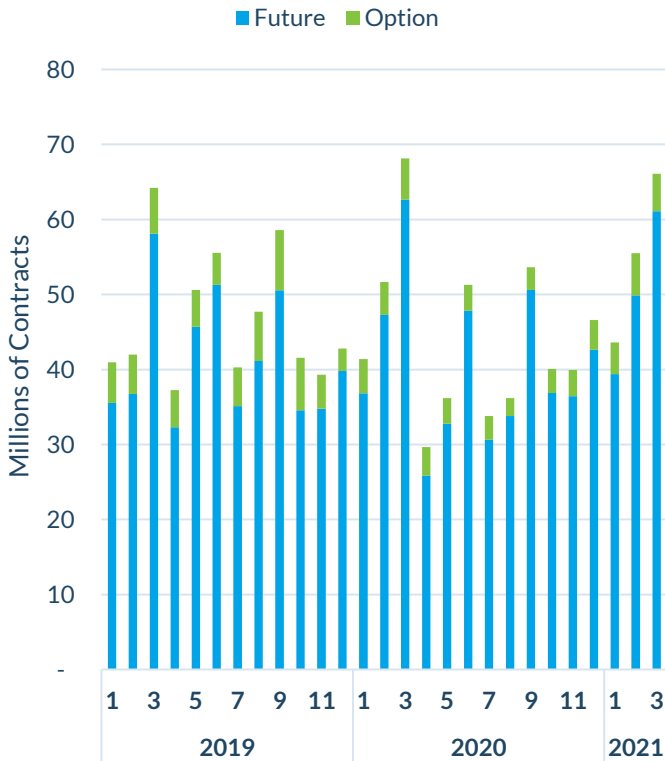


Open Interest by Month

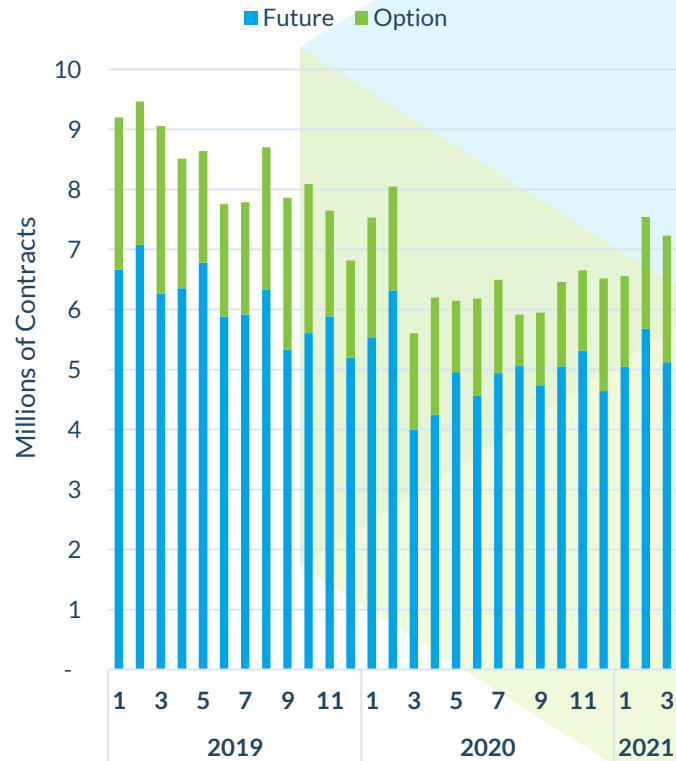


Rates Trading: Eurex Volume Reaches 66 Million Contracts in March, Almost Matching Pandemic Peak

Trading Volume by Month

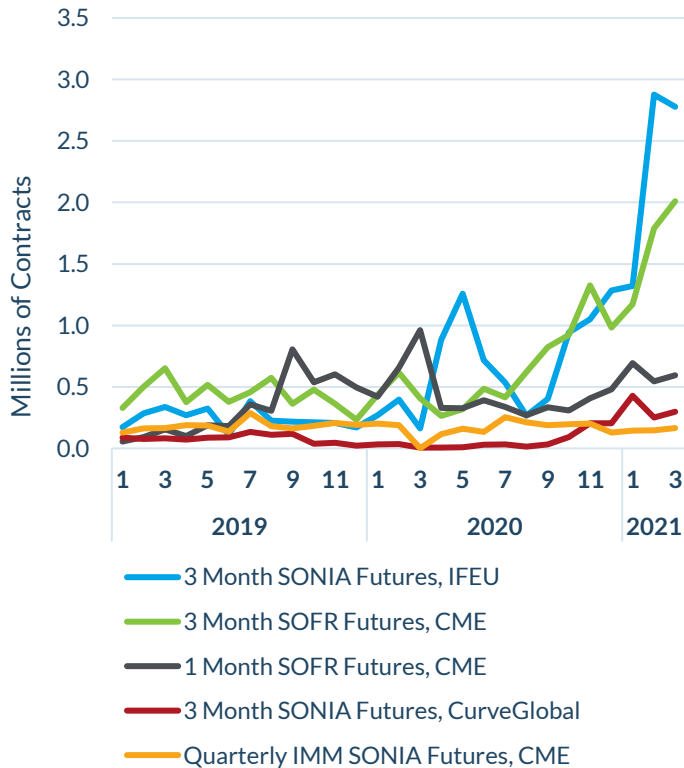


Open Interest by Month

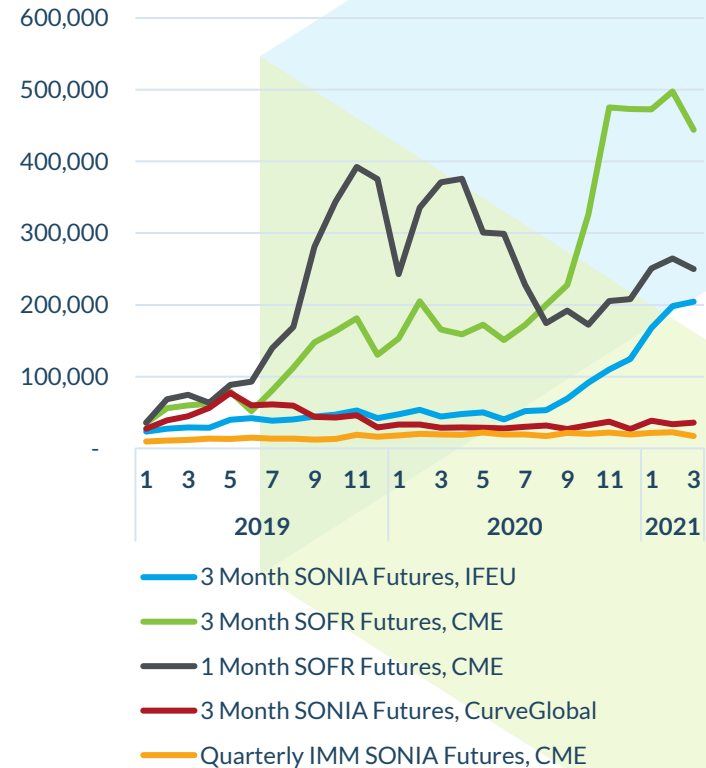


Rates Trading: SONIA and SOFR Futures Trading Accelerates in Q1, OI Surpasses 1 Mn in Feb

Trading Volume by Month



Open Interest by Month

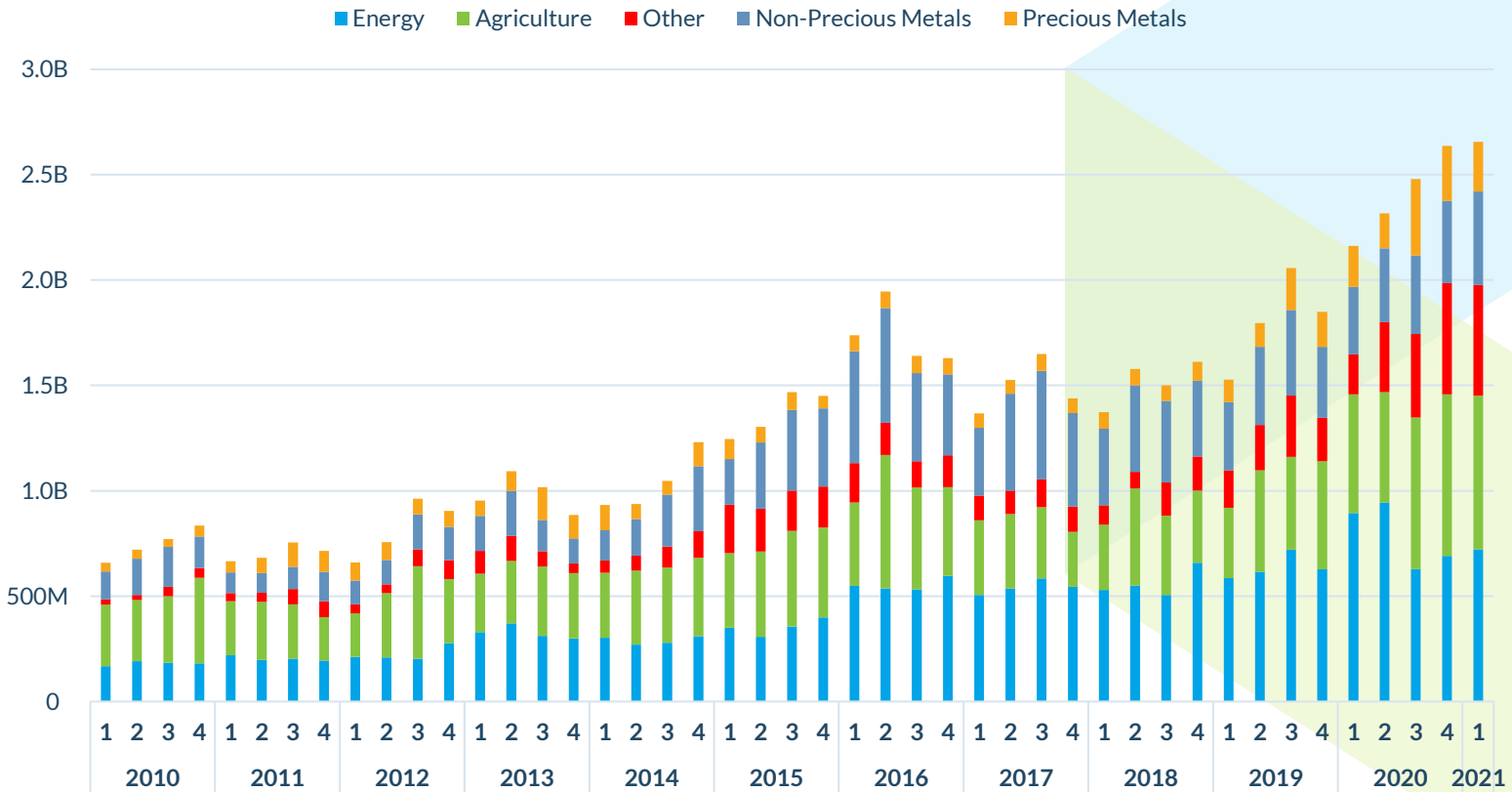


Top 20 Interest Rates Futures and Options

Rank	Contract	Jan-Mar 2021 Vol	% Change	2021 Mar OI	% Change
1	One-Day Interbank Deposit (DI1) Futures, B3	169,402,741	7.8%	27,802,730	26.7%
2	Eurodollar Futures, Chicago Mercantile Exchange	165,631,715	-25.9%	11,407,230	5.8%
3	10 Year Treasury Note Futures, Chicago Board of Trade	134,477,195	-11.7%	3,892,960	19.5%
4	5 Year Treasury Note Futures, Chicago Board of Trade	79,549,075	-12.6%	3,585,357	-6.8%
5	Average One-Day Interbank Deposit Rate Index (IDI) Options, B3	60,045,105	-25.4%	35,677,925	-7.1%
6	Euro-Bund Futures, Eurex	56,306,346	1.3%	1,221,214	16.9%
7	Eurodollar Mid-Curve Options, Chicago Mercantile Exchange	52,674,984	75.2%	16,790,379	77.1%
8	3 Month Euribor Futures, ICE Futures Europe	48,151,286	-20.9%	3,523,175	9.9%
9	3 Month Sterling Futures, ICE Futures Europe	45,181,627	-27.6%	4,533,472	34.4%
10	10 Year Treasury Note Options, Chicago Board of Trade	44,921,629	-17.5%	3,255,387	-10.8%
11	30 Year Treasury Bond Futures, Chicago Board of Trade	32,518,111	7.1%	1,185,169	18.4%
12	Euro-Bobl Futures, Eurex	32,324,842	1.1%	1,064,991	18.5%
13	2 Year Treasury Note Futures, Chicago Board of Trade	30,597,806	-46.7%	2,352,959	-17.6%
14	Ultra 10 Year Treasury Note Futures, Chicago Board of Trade	25,121,552	24.0%	1,394,104	84.5%
15	Euro-Schatz Futures, Eurex	23,645,058	-9.5%	1,436,492	51.9%
16	Long Gilt Futures, ICE Futures Europe	19,372,682	10.1%	649,471	58.0%
17	Iboxx High Yield Corporate Bond ETF Options *	19,002,475	-21.6%	5,246,134	-2.4%
18	10 Year Treasury Bond Futures, ASX 24	17,709,158	10.9%	1,295,646	9.6%
19	Ultra Treasury Bond Futures, Chicago Board of Trade	15,684,539	-3.6%	1,135,760	8.0%
20	Eurodollar Options, Chicago Mercantile Exchange	14,763,762	-87.5%	17,029,786	-58.3%

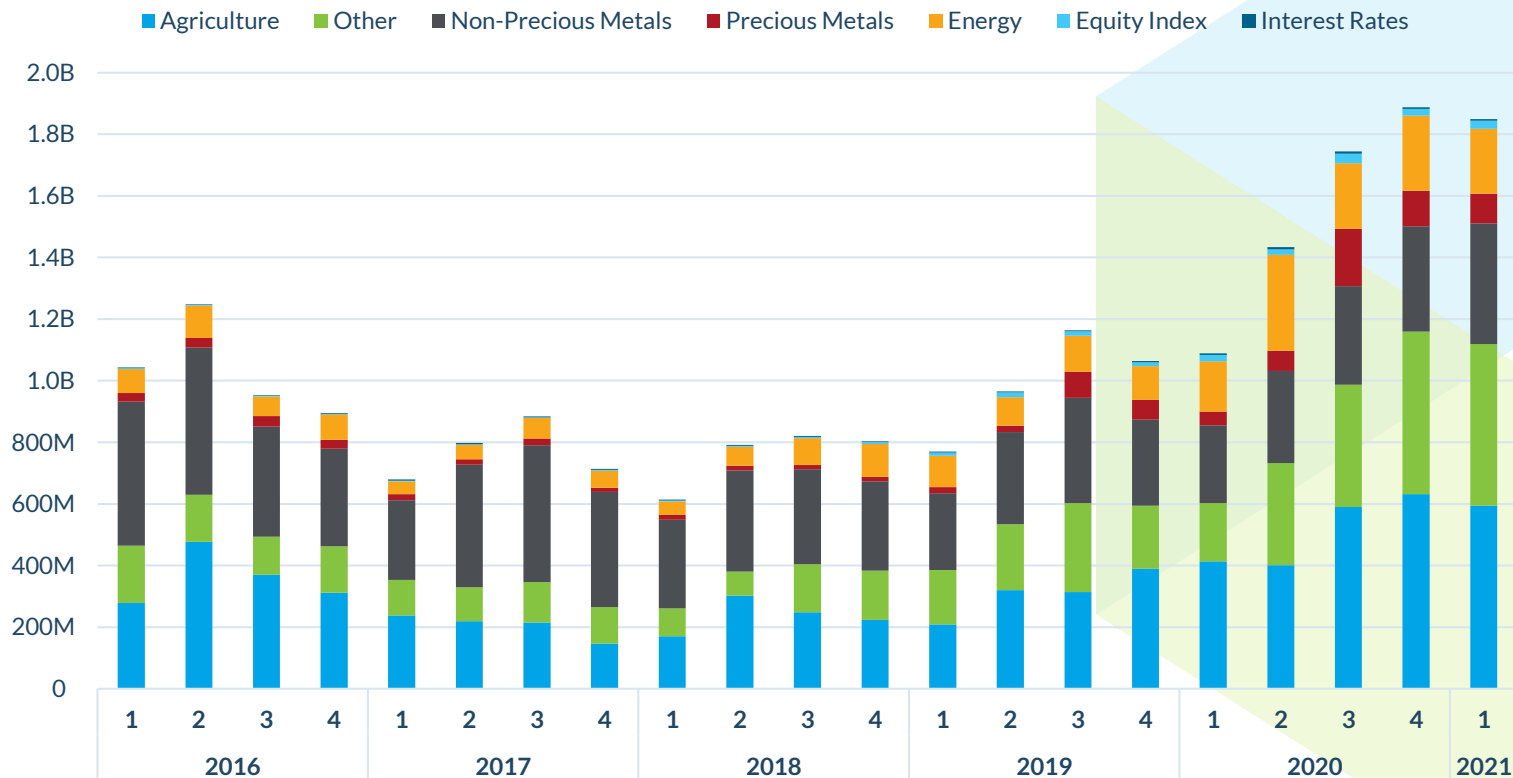
Commodities: Chemicals and Plastics in 'Other' Category Driving Recent Volume Increases

Quarterly Volume in Commodity Futures and Options



China: Rapid Growth in Trading of Futures in Agriculture and 'Other' Categories

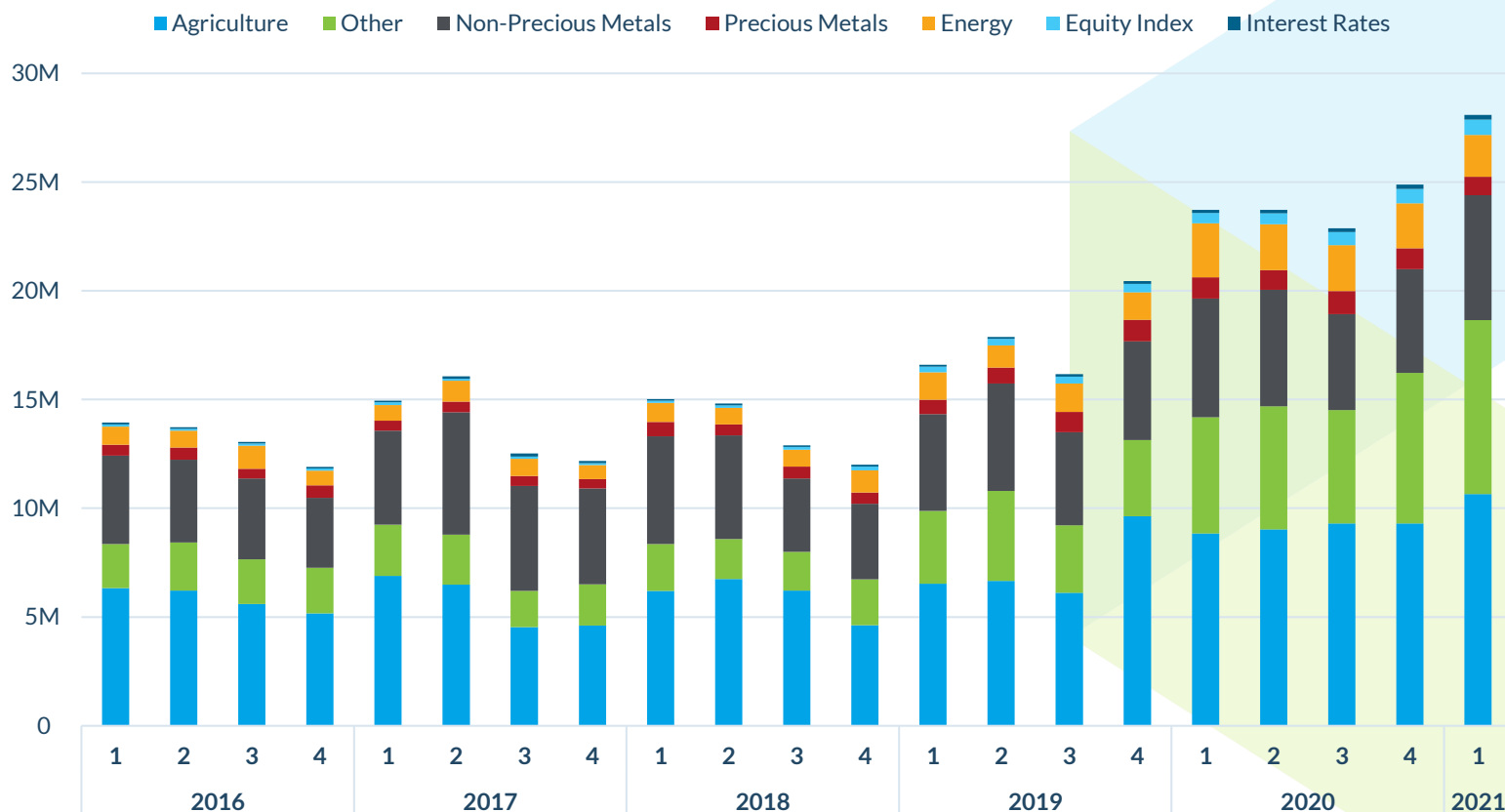
Quarterly Volume by Category



Based on data from five exchanges in mainland China: CFFEX, DCE, INE, SHFE and ZCE

China: Aggregate Open Interest Has Doubled Over Last Five Years

End of Quarter Open Interest by Category

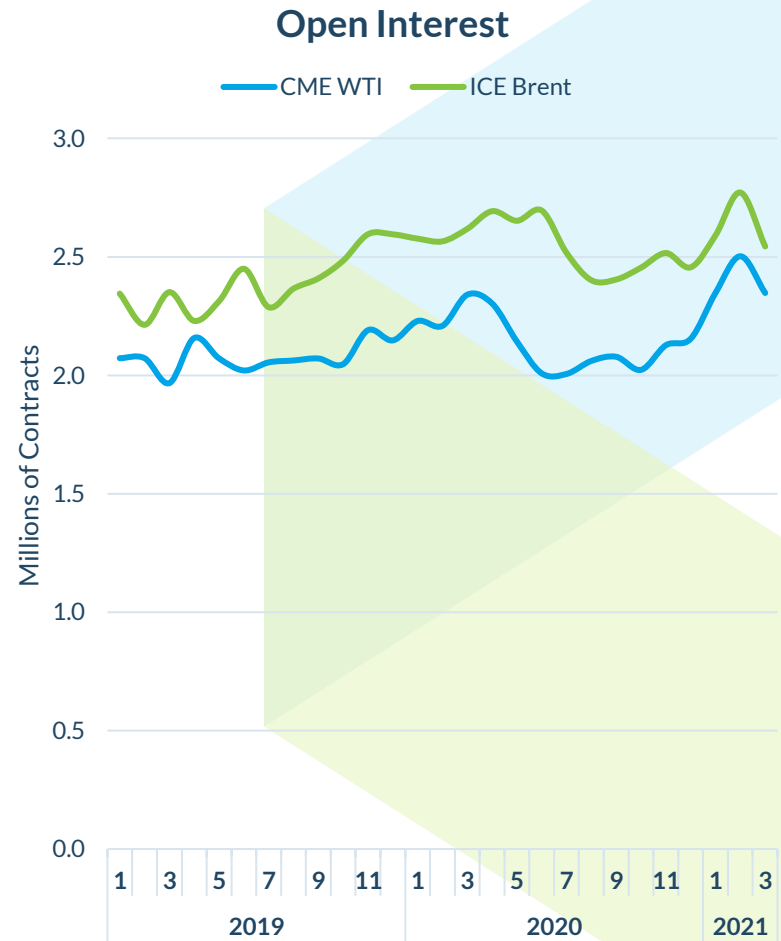
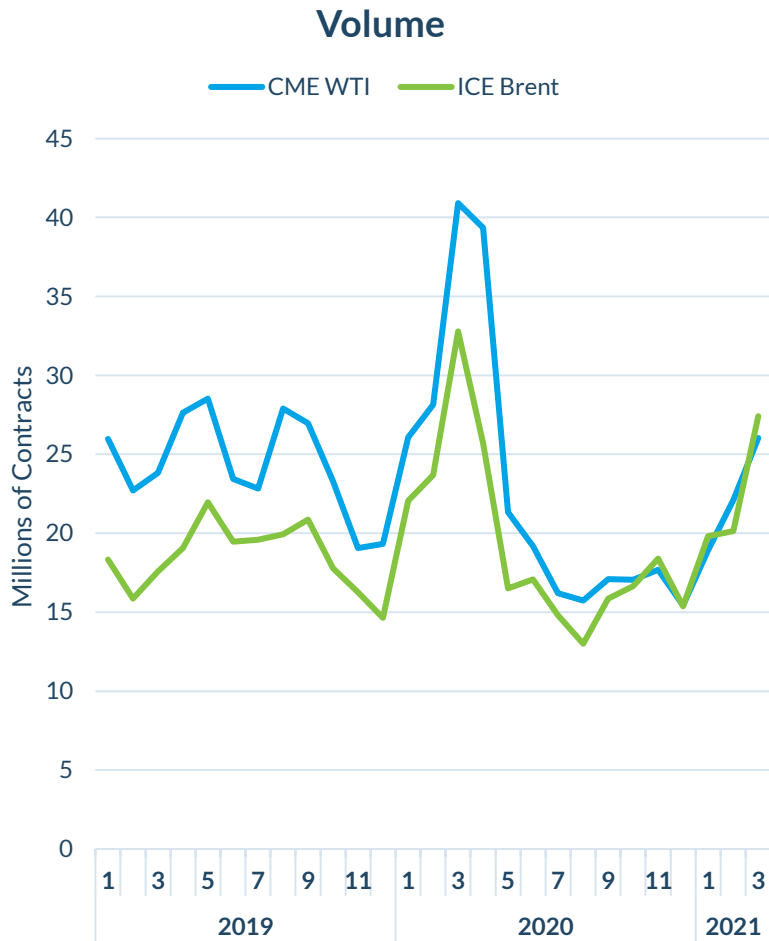


Based on data from five exchanges in mainland China: CFFEX, DCE, INE, SHFE and ZCE

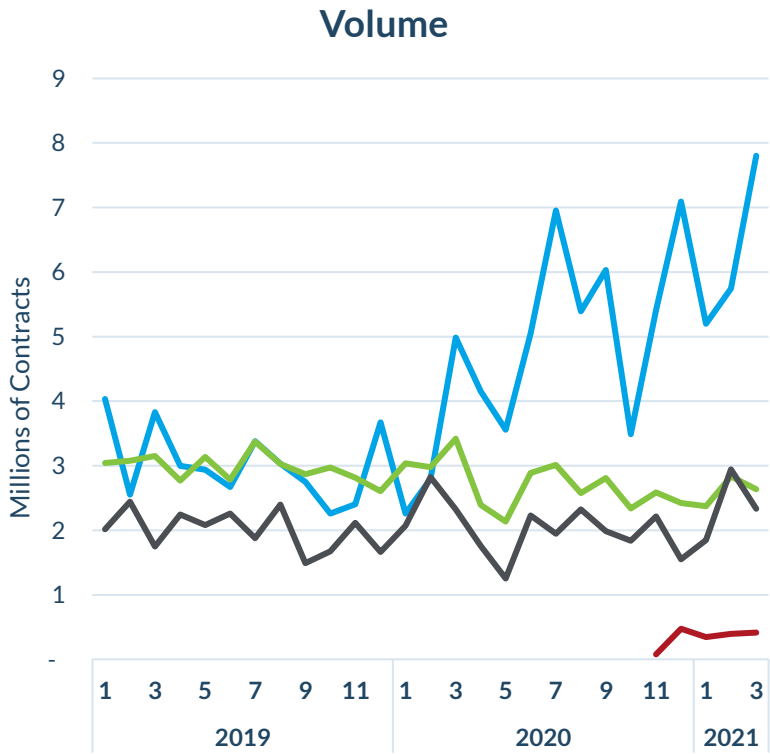
Top 20 Energy Futures and Options

Rank	Contract	Jan-Mar 2021		2021 Mar OI	% Change
		Vol	% Change		
1	Brent Oil Futures, Moscow Exchange	137,602,880	-42.9%	1,698,242	76.5%
2	Fuel Oil Futures, Shanghai Futures Exchange	81,246,101	-22.9%	317,959	-66.8%
3	Brent Crude Oil Futures, ICE Futures Europe	67,348,820	-14.2%	2,543,697	-2.8%
4	WTI Light Sweet Crude Oil (CL) Futures, New York Mercantile Exchange	67,067,189	-29.5%	2,347,818	0.3%
5	Thermal Coal (ZC) Futures, Zhengzhou Commodity Exchange	39,497,129	666.4%	380,853	16.3%
6	Bitumen Futures, Shanghai Futures Exchange	34,353,155	-6.5%	492,147	-37.6%
7	North American Natural Gas Futures, ICE Futures U.S.	32,542,764	-21.6%	15,485,087	-1.0%
8	Henry Hub Natural Gas (NG) Futures, New York Mercantile Exchange	25,582,922	-28.0%	1,203,608	-1.7%
9	Gas Oil Futures, ICE Futures Europe	22,161,266	-21.2%	967,416	9.7%
10	Coke Futures, Dalian Commodity Exchange	16,922,152	133.0%	198,765	30.8%
11	WTI Light Sweet Crude Oil Futures, ICE Futures Europe	15,061,161	-11.6%	542,000	-21.9%
12	Hard Coking Coal Futures, Dalian Commodity Exchange	13,056,928	261.7%	182,535	70.5%
13	Global Oil Products Futures, ICE Futures Europe	12,968,910	-10.0%	4,140,029	-1.1%
14	Natural Gas Futures, Multi Commodity Exchange of India	12,733,341	33.4%	14,347	48.1%
15	RBOB Gasoline Physical (RB) Futures, New York Mercantile Exchange	12,455,147	-17.2%	373,548	2.9%
16	Medium Sour Crude Oil Futures, Shanghai International Energy Exchange	11,444,683	124.8%	76,656	-39.6%
17	Heating Oil Futures, ICE Futures Europe	10,490,526	-8.0%	34,738	32.4%
18	North American Natural Gas and Power Options, ICE Futures U.S.	10,384,896	-8.0%	5,494,189	7.8%
19	NY Harbor ULSD (HO) Futures, New York Mercantile Exchange	10,347,907	-30.8%	409,965	16.0%
20	Dutch TTF Gas Futures, ICE Futures Europe	8,974,481	11.6%	1,688,251	11.0%

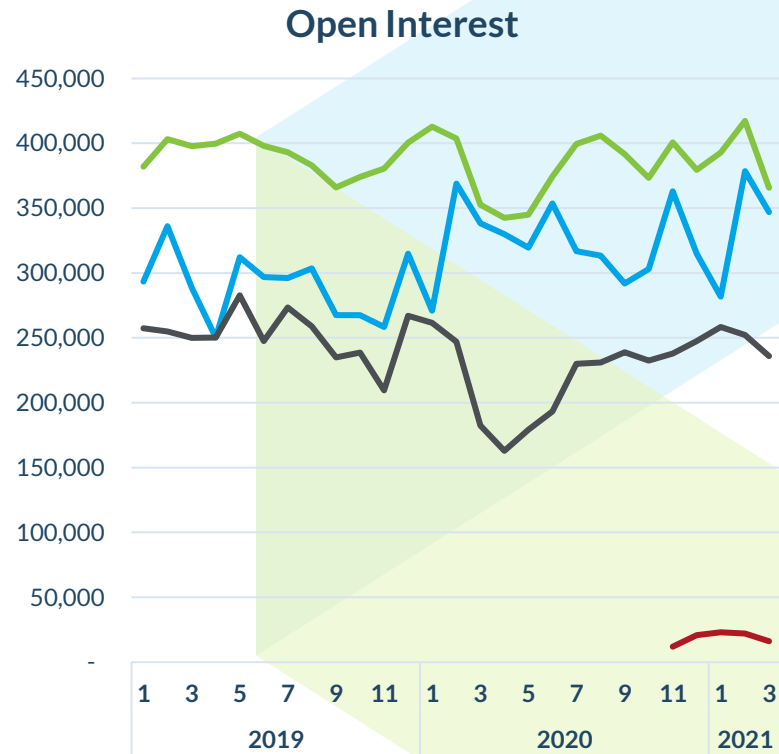
Crude Oil Futures: Battle of the Benchmarks



Copper Futures: Tri-Polar Market



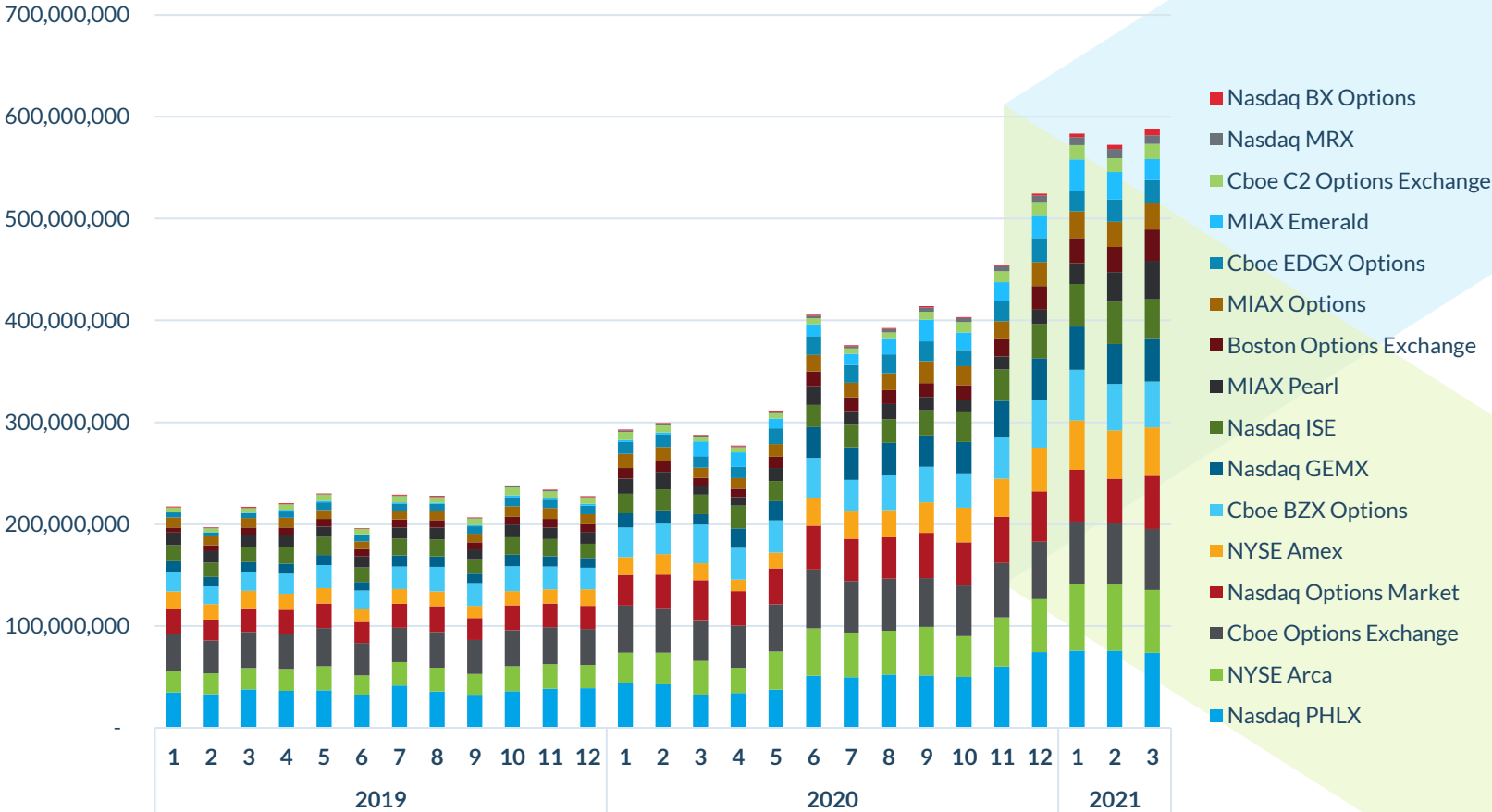
- Copper Futures, SHFE
- Copper Grade A Futures, LME
- Copper (HG) Futures, COMEX
- Bonded Copper Futures, INE



- Copper Futures, SHFE
- Copper Grade A Futures, LME
- Copper (HG) Futures, COMEX
- Bonded Copper Futures, INE

Explosive Growth in the Trading of Single Stock Options on US Exchanges

US Single Stock Option Volume

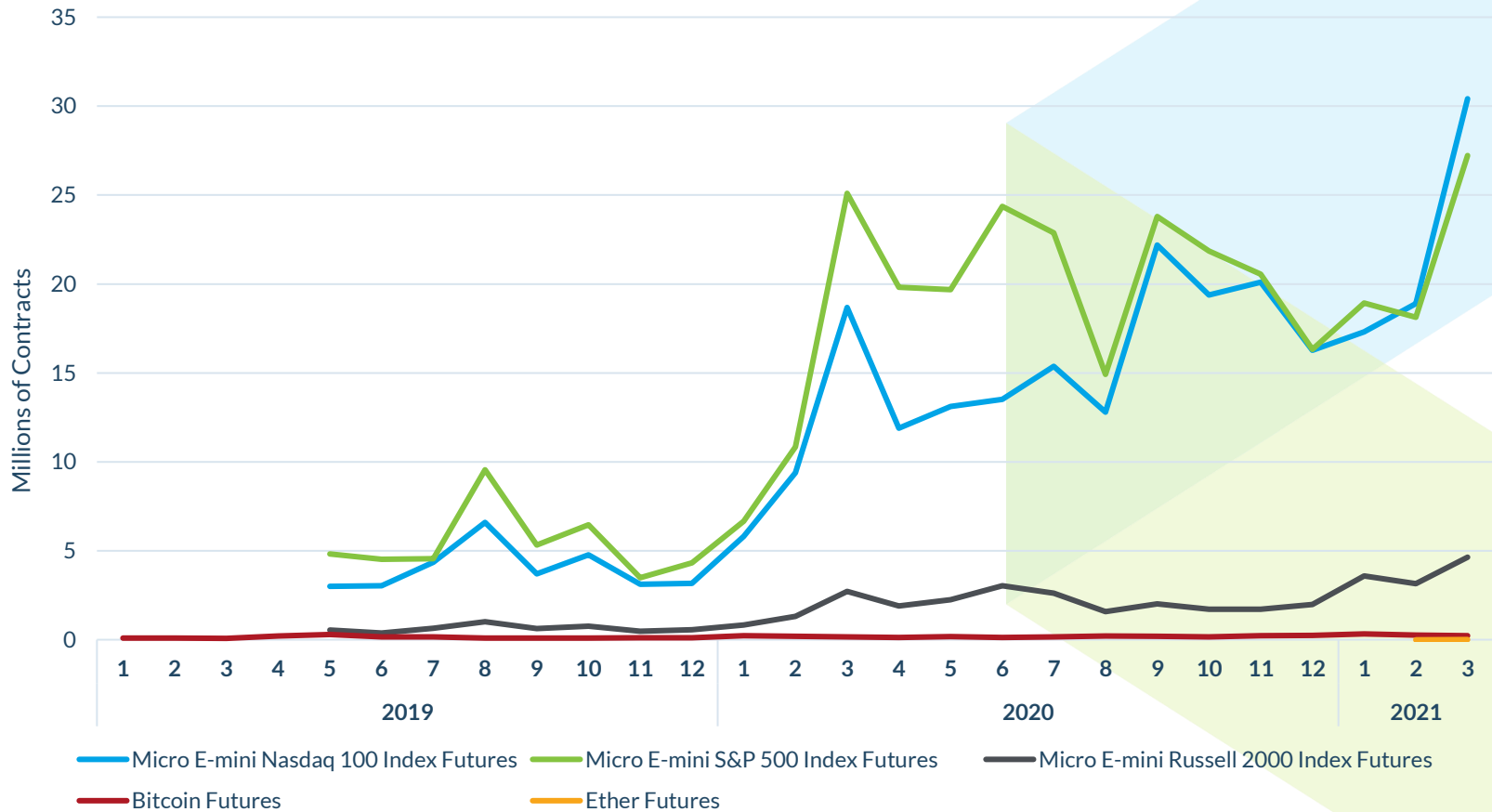


Explosive Growth in the Trading of Single Stock Options on US Exchanges

Exchange Name	2021 Jan-Mar Volume	2020 Jan-Mar Volume	YoY Change	% Change
Nasdaq PHLX	225,622,004	119,490,231	106,131,773	88.8%
NYSE Arca	191,375,695	93,998,598	97,377,097	103.6%
Cboe Options Exchange	181,897,806	129,757,694	52,140,112	40.2%
Nasdaq Options Market	146,819,570	102,753,867	44,065,703	42.9%
NYSE Amex	142,970,048	53,863,226	89,106,822	165.4%
Cboe BZX Options	140,593,750	97,049,936	43,543,814	44.9%
Nasdaq GEMX	123,575,936	37,349,338	86,226,598	230.9%
Nasdaq ISE	121,883,698	58,976,481	62,907,217	106.7%
MIAX Pearl	87,708,041	40,449,447	47,258,594	116.8%
Boston Options Exchange	79,785,187	28,895,755	50,889,432	176.1%
MIAX Emerald	78,419,501	18,706,713	59,712,788	319.2%
MIAX Options	76,934,960	37,418,491	39,516,469	105.6%
Cboe EDGX Options Exchange	64,443,912	35,486,093	28,957,819	81.6%
Cboe C2 Options Exchange	42,524,380	19,082,077	23,442,303	122.8%
Nasdaq MRX	25,231,735	3,977,122	21,254,613	534.4%
Nasdaq BX Options	13,910,467	2,525,849	11,384,618	450.7%

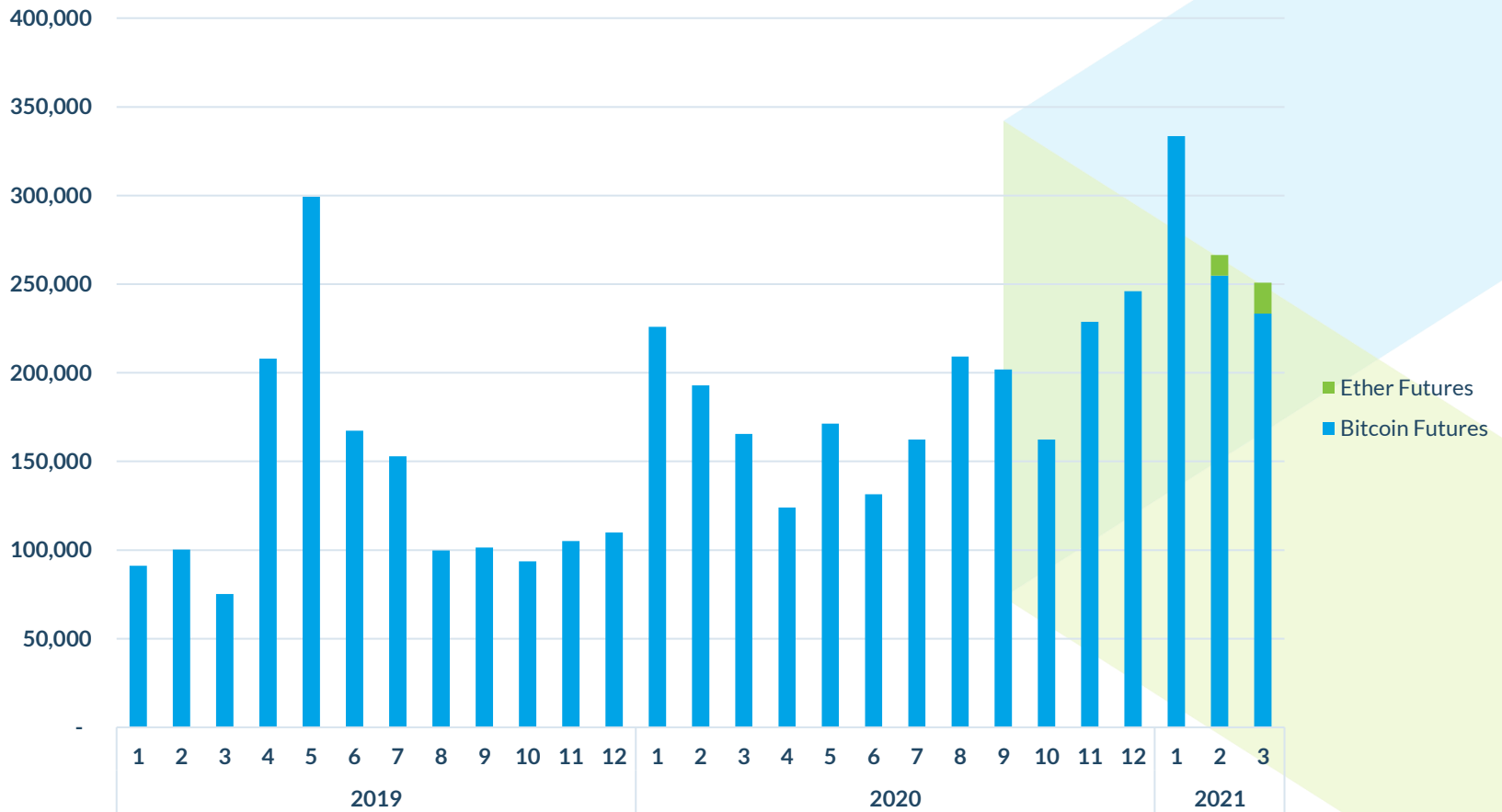
Rise of Retail: Micros vs Cryptos

Monthly Futures Volume on CME



Rise of Retail: Crypto Futures at CME

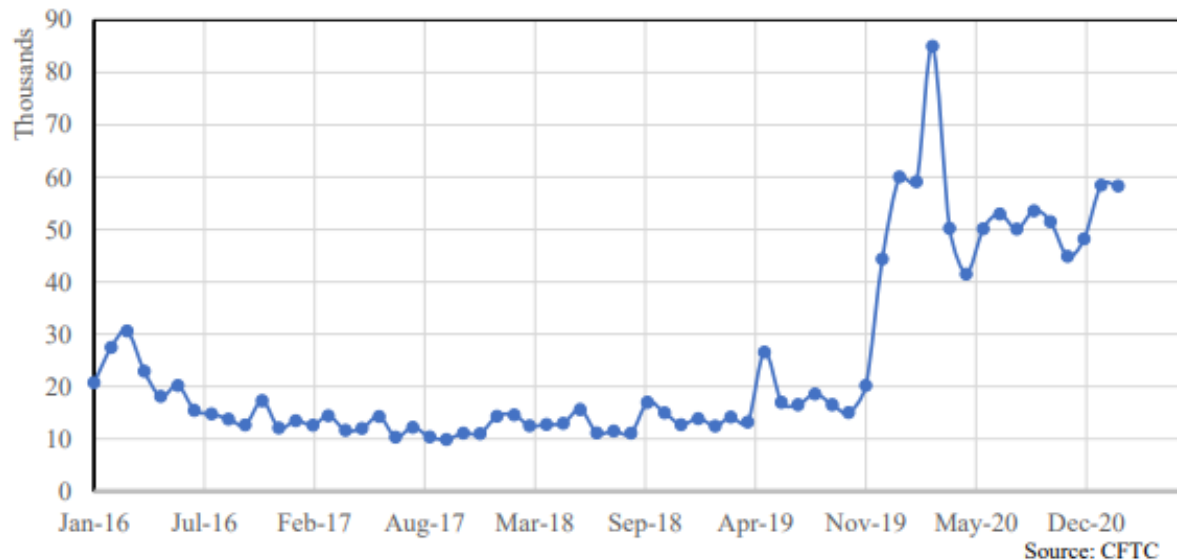
Monthly Volume



Rise of Retail: New Accounts in US Futures Markets

- CFTC Staff Presentation at Global Markets Advisory Committee March 11
- Large spike in new accounts in Q1 2020
- Analysis shows most retail traders seek shorter-term trends
- “High correlation” between social media attention and increased participation

New Accounts Opened
All U.S. Designated Contract Markets



US Equity Strategy Presentation

Rise of retail: will it last, what are the impacts?

Keith Parker

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This report has been prepared by UBS Securities LLC.

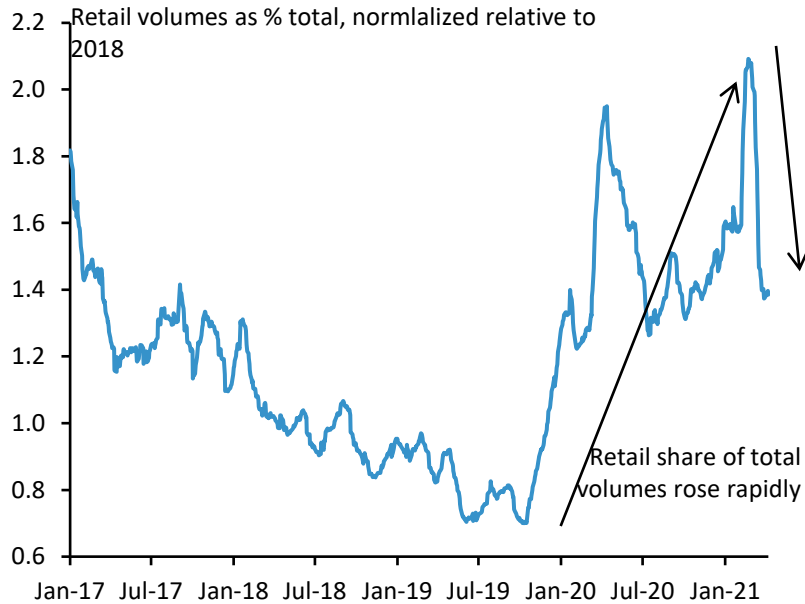
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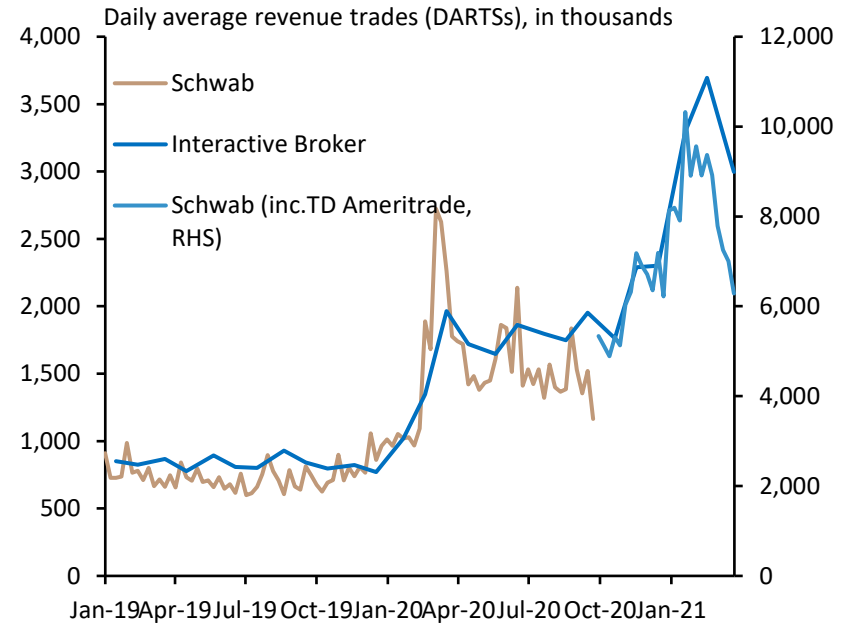
Retail volume has surged

Retail volumes as a % of total
(rolling monthly, normalized to 2018)



Source: Factset, UBS Data Solutions, UBS

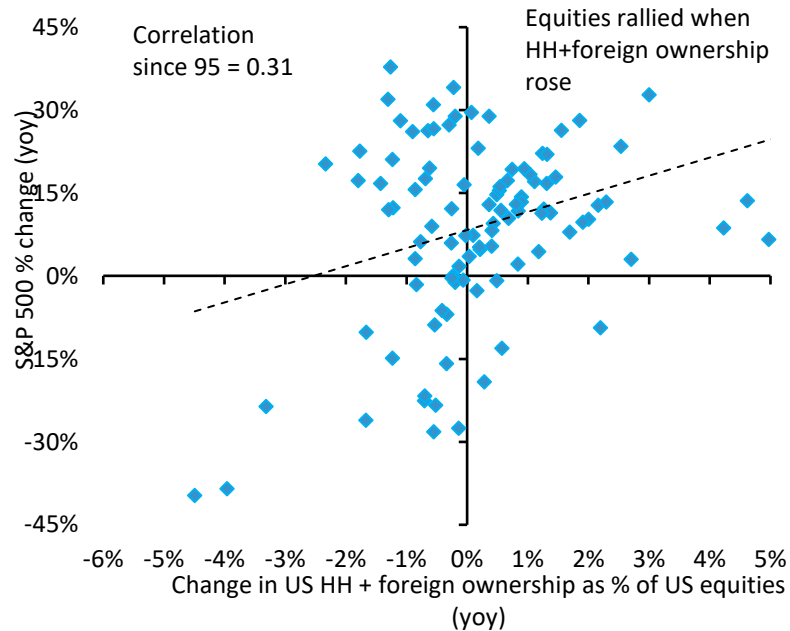
Daily average revenue trades at retail brokerages



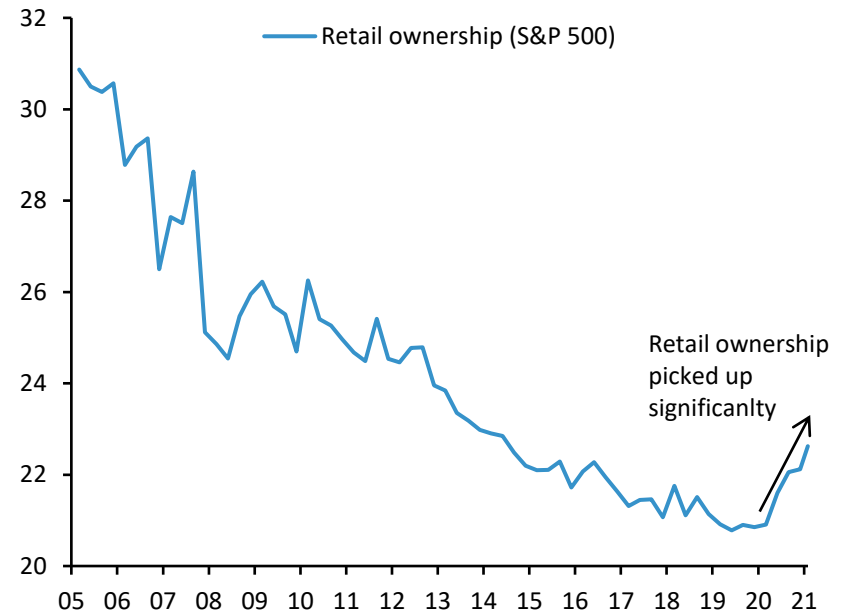
Source: Company reports, UBS

Retail ownership and returns in perspective

S&P 500 performance vs. ownership changes



Retail ownership of S&P 500 based on 13F filings

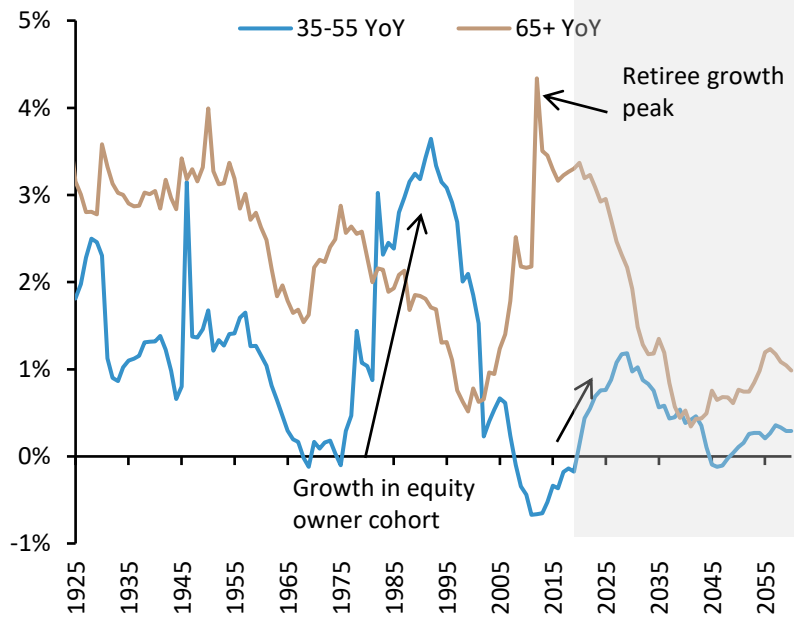


Source: Haver Analytics, UBS

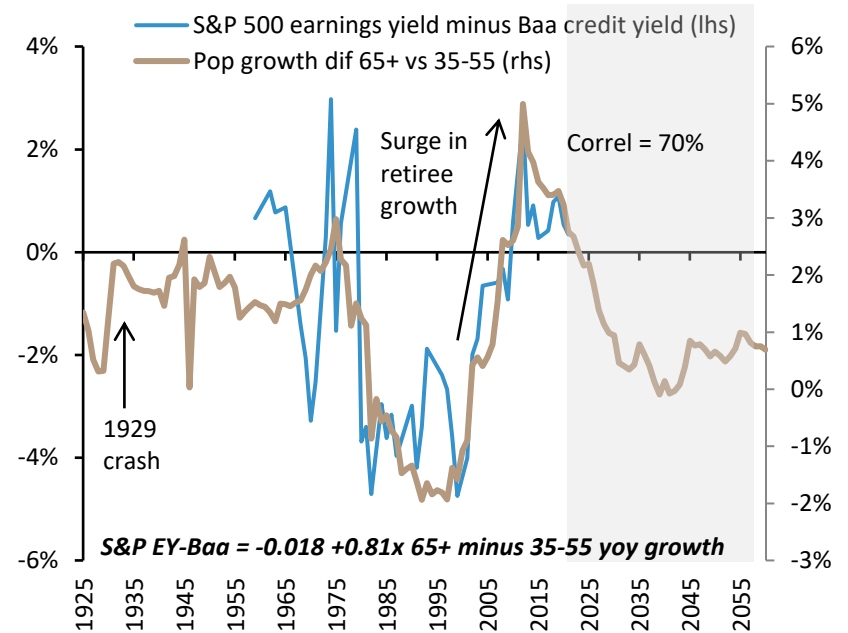
Source: Factset, UBS

Demographics point to growing retail influence

Population growth by cohort



Population growth differences and S&P 500 earnings yield minus Baa corp yield

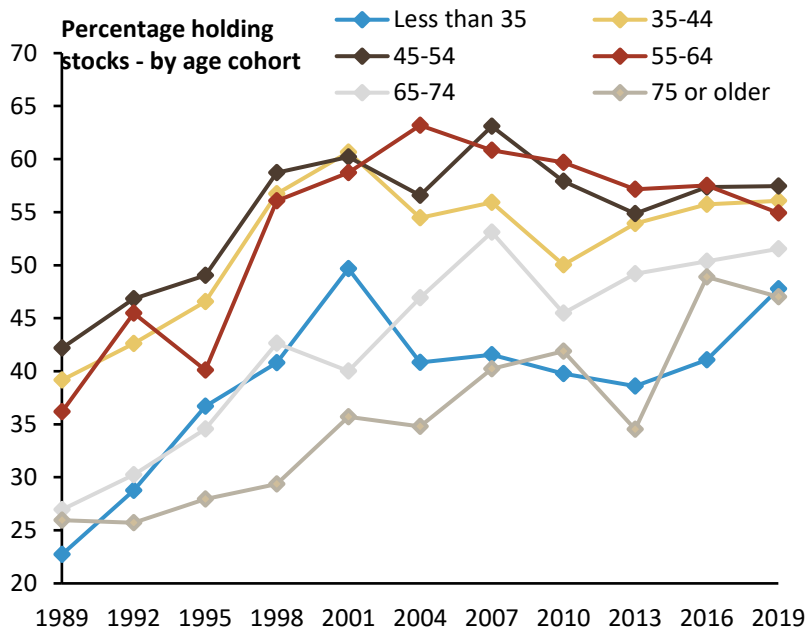


Source: Census Bureau, Haver, FactSet, UBS

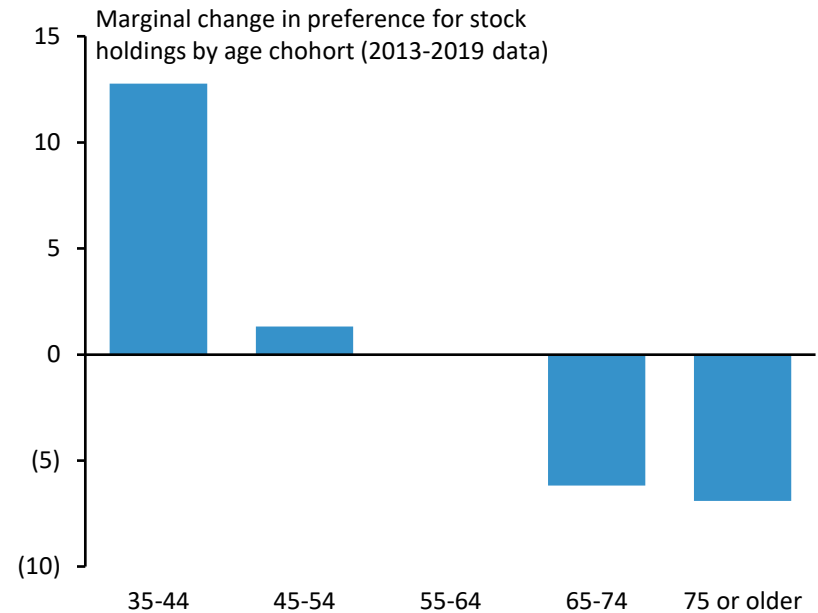
Source: Census Bureau, Haver, FactSet, UBS

Age and equity ownership: 35-55yr olds key

Percentage of individuals holding stocks by age cohort



Marginal change in preference for stocks holding by age cohort (pp)

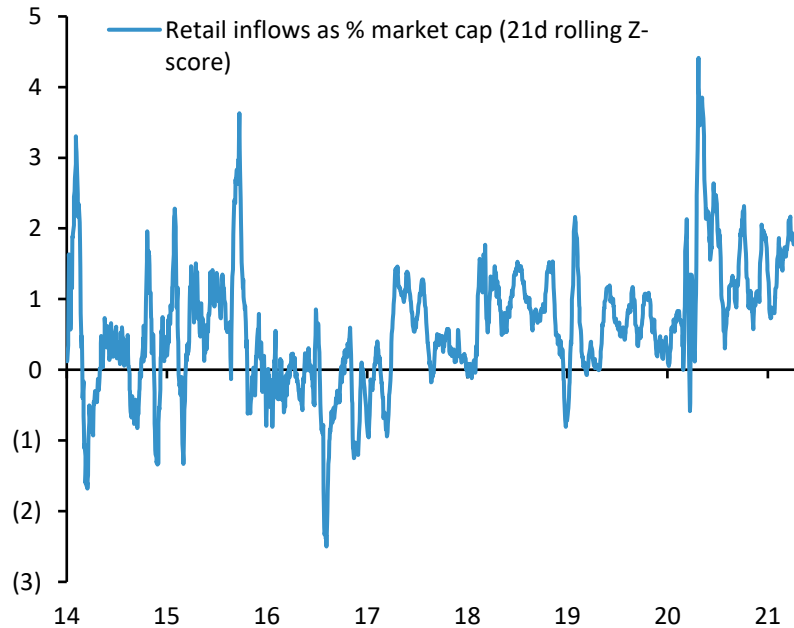


Source: Federal Reserve, UBS

Source: Federal Reserve, UBS

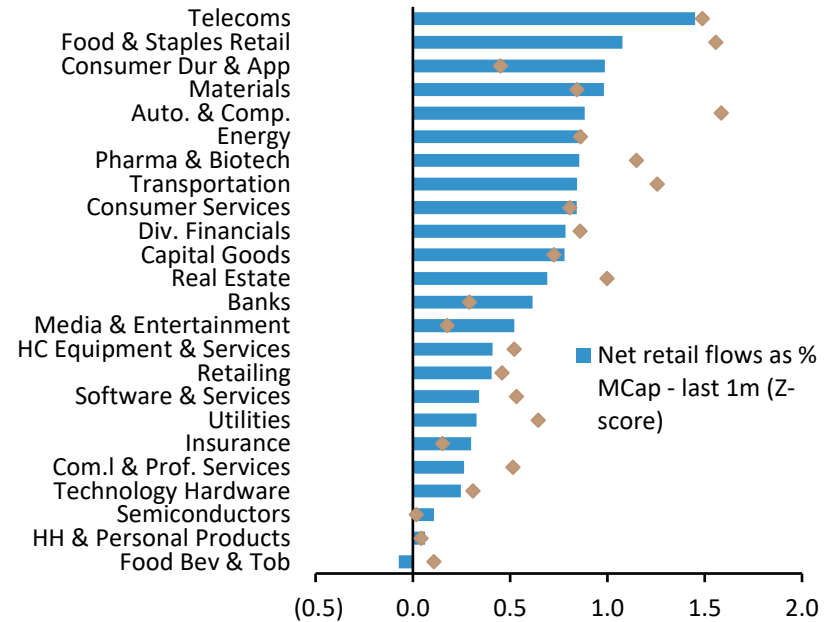
UBS retail flows show a jump in net buying

Retail net buying of US stocks as a share of market cap (21d, z-score)



Source: Factset, UBS Data Solutions, UBS

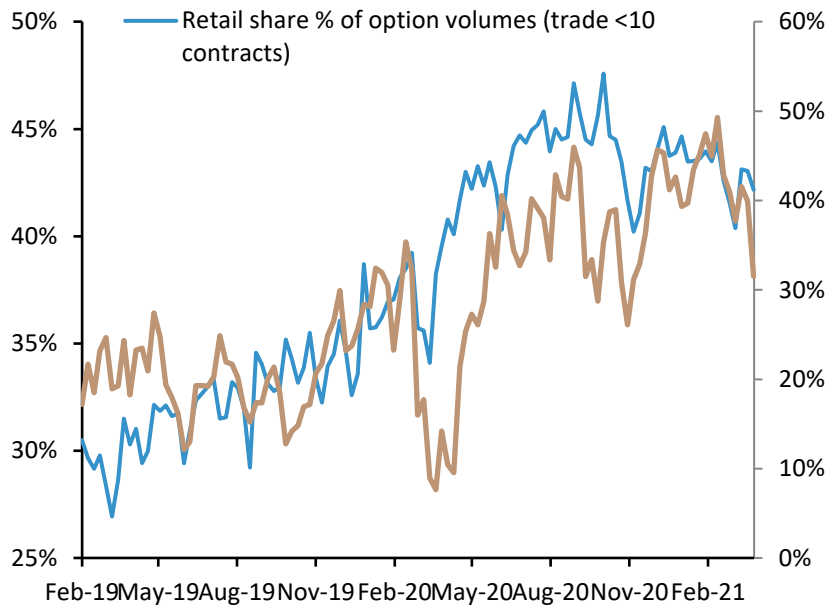
Retail net flows by industry group (as % of market cap, z-score)



Source: Factset, UBS Data Solutions, UBS

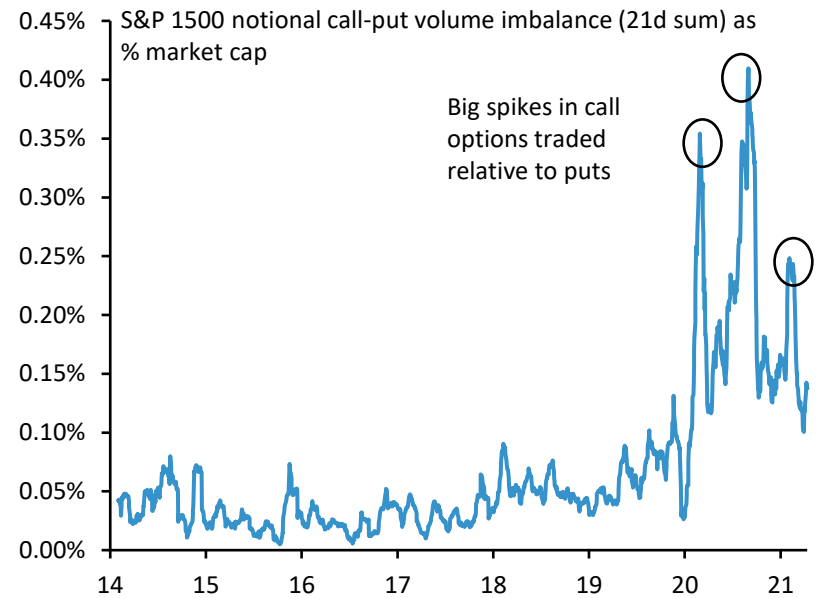
Retail option activity increased as well, particularly call buying

Retail share of option trading rising
(option trades <10 contracts)



Source: OCC, UBS

Call-Put imbalance as % market cap

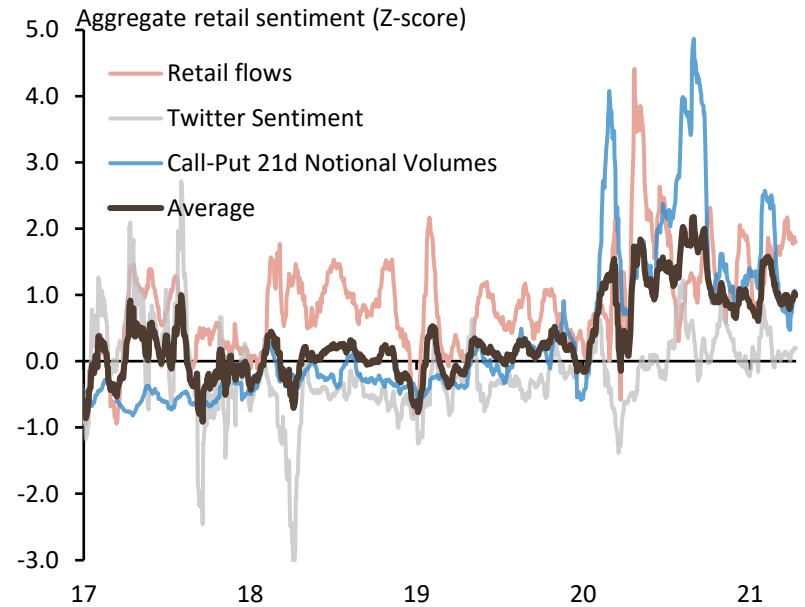
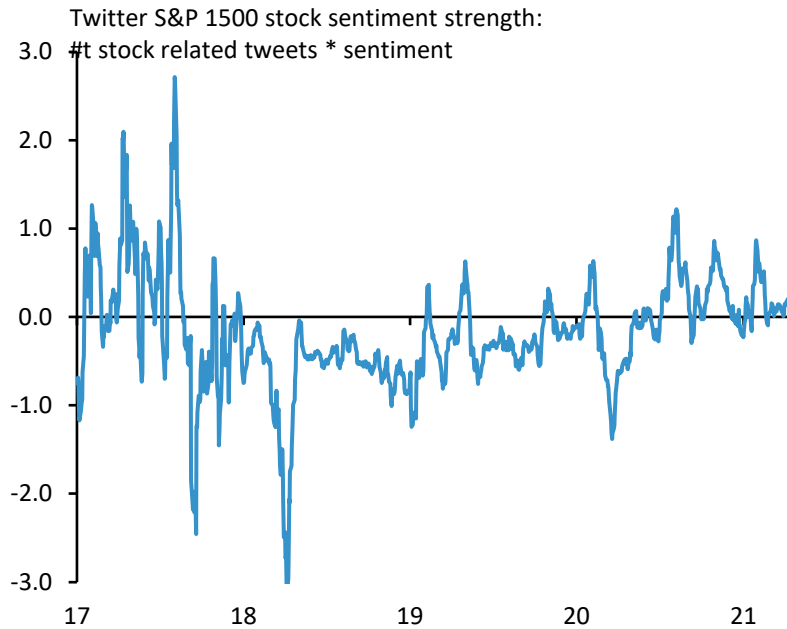


Source: Bloomberg, UBS

Retail Sentiment Indicator - a proprietary signal

Twitter sentiment strength –
Sentiment times #Tweets

Retail Sentiment Indicator

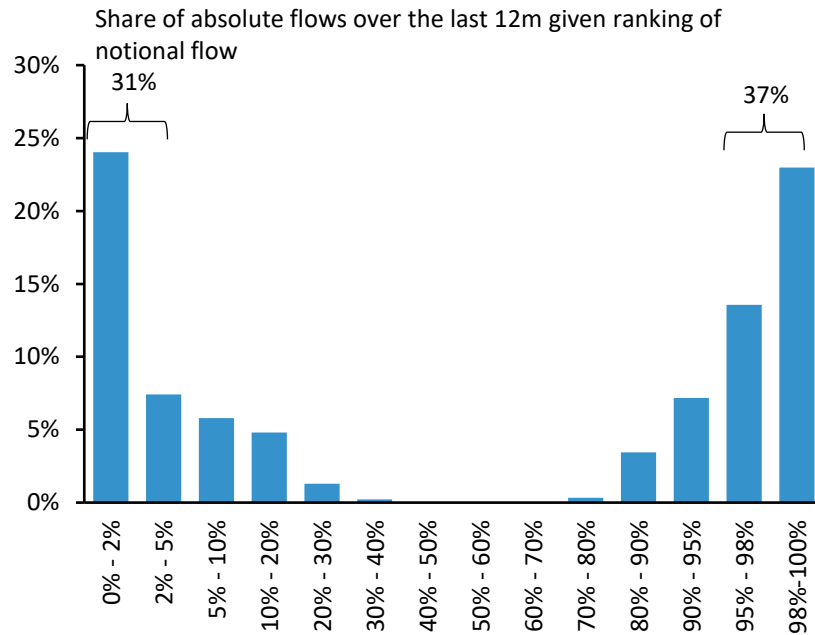


Source: Twitter, Bloomberg, UBS

Source: Factset, Bloomberg, UBS Data Solutions, UBS

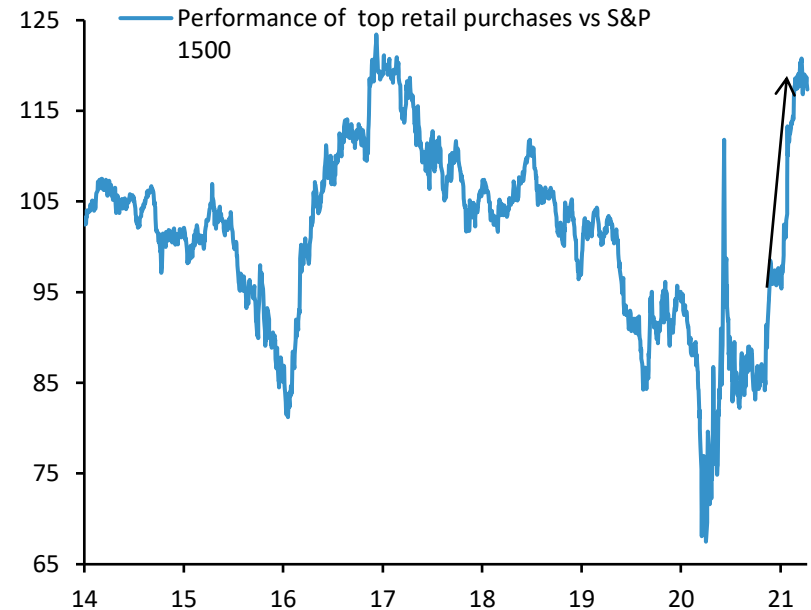
Retail biases: concentrated buying and selling

Retail purchases and sales have been highly concentrated



Source: UBS, Data Solutions, UBS

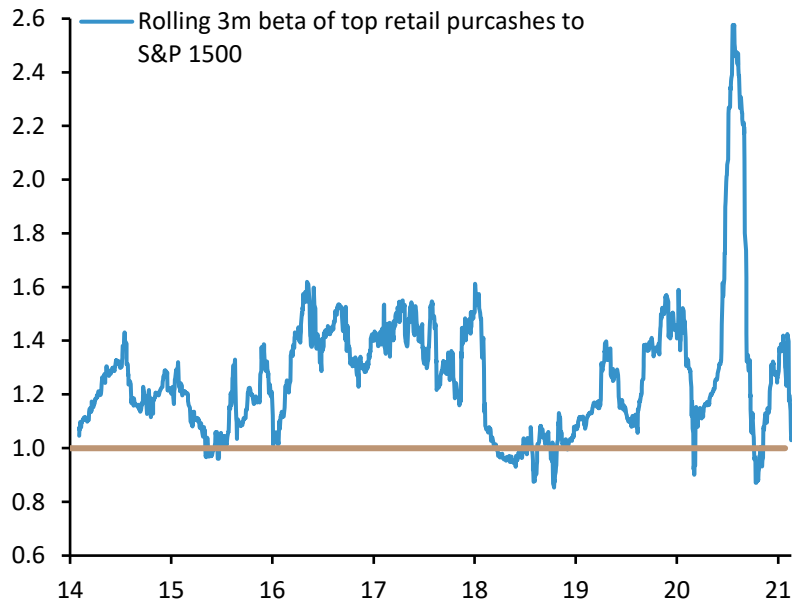
Performance of retail investors top stocks relative to S&P 500



Source: UBS, Data Solutions, UBS

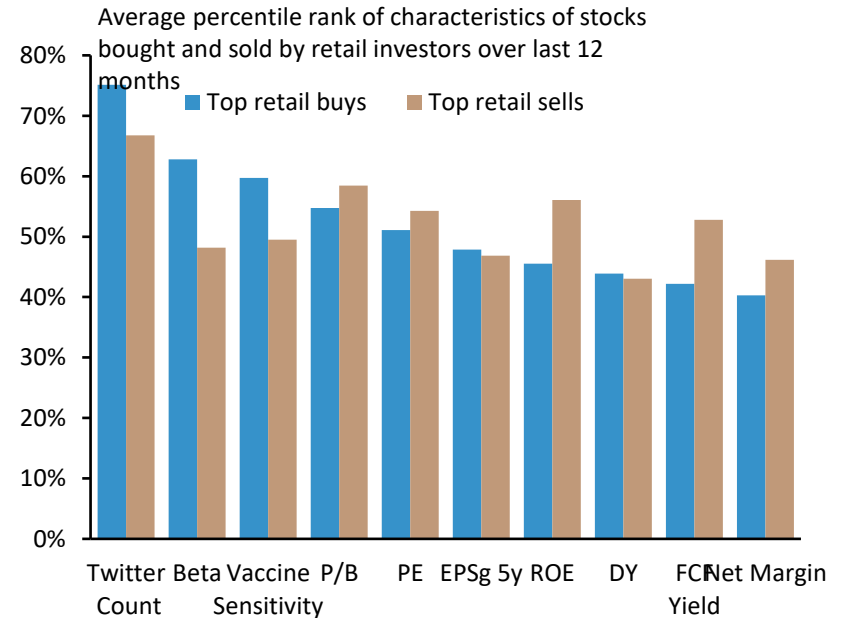
Retail biases: styles and factors

Beta of retail investors top stocks



Source: Factset, Data Solutions, UBS

Characteristic of retail investors top stocks bought and sold

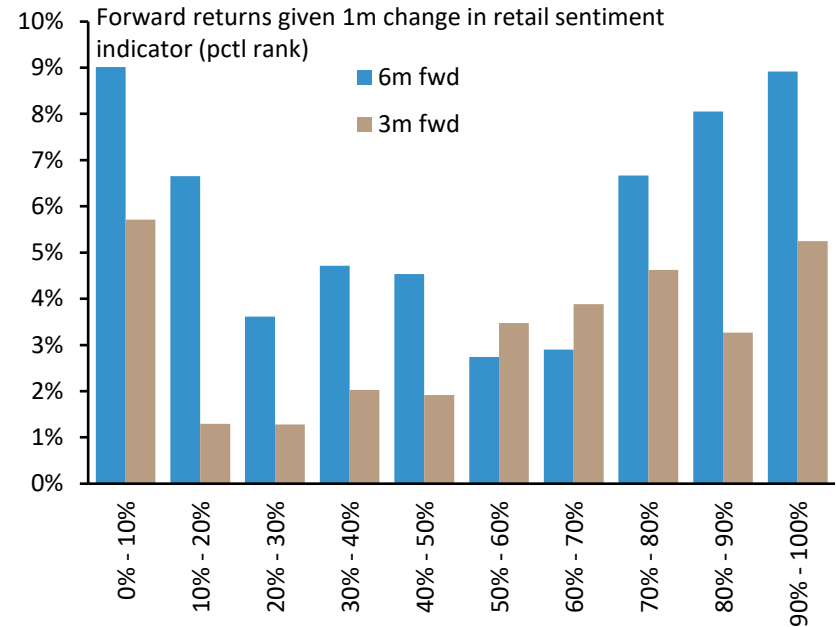
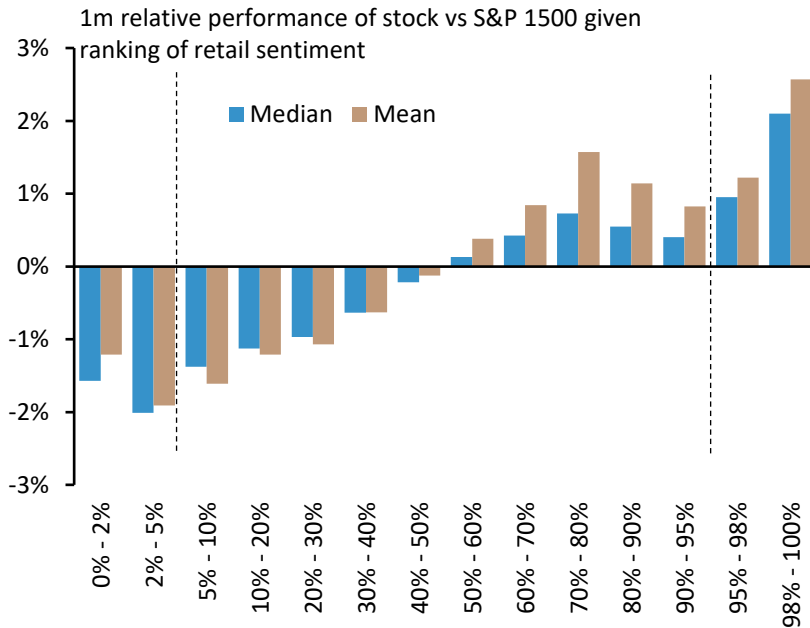


Source: Factset, Bloomberg, UBS Data Solutions, UBS. Note: Twitter = total number of financially relevant tweets

Retail matters for stock returns

1m coincident stock return based on retail sentiment strength (higher = more positive)

Forward return in S&P 500 given change in retail sentiment

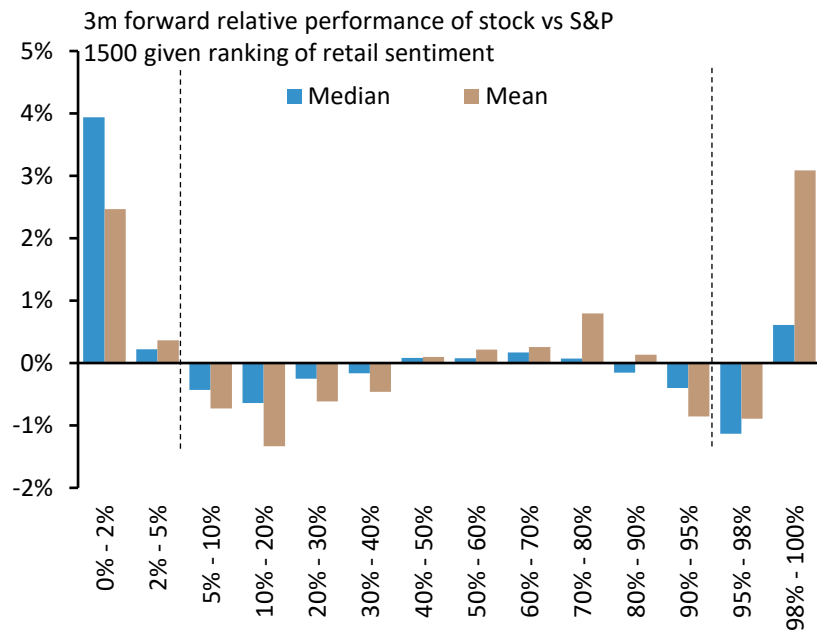


Source: Factset, Bloomberg, UBS Data Solutions, UBS

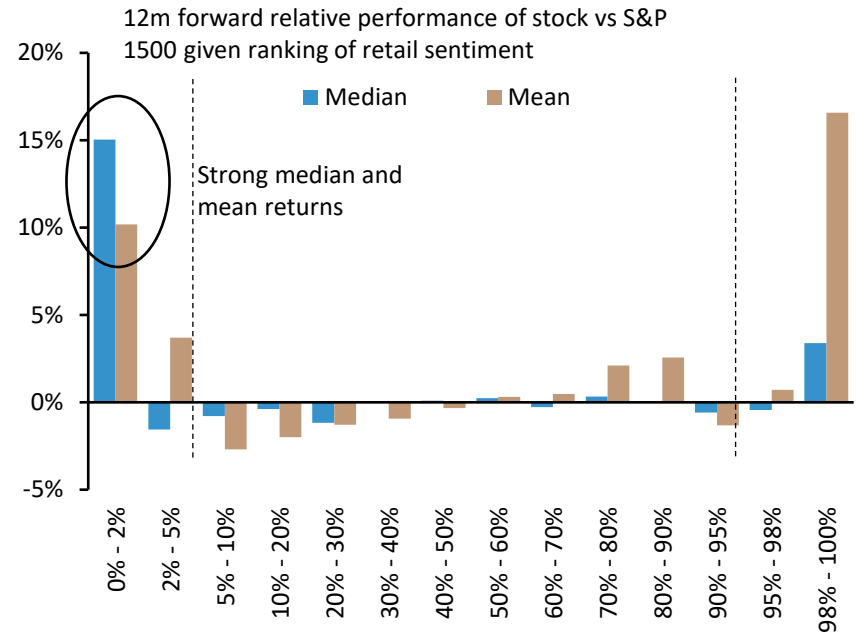
Source: Factset, Bloomberg, UBS Data Solutions, UBS

Stock signal? Retail interest and forward returns

3m forward stock return based on retail sentiment strength



12m forward stock return based on retail sentiment strength



Source: Factset, Bloomberg, UBS Data Solutions, UBS

Source: Factset, Bloomberg, UBS Data Solutions, UBS

Rise of Retail

The Impact on Exchanges and Market Structure

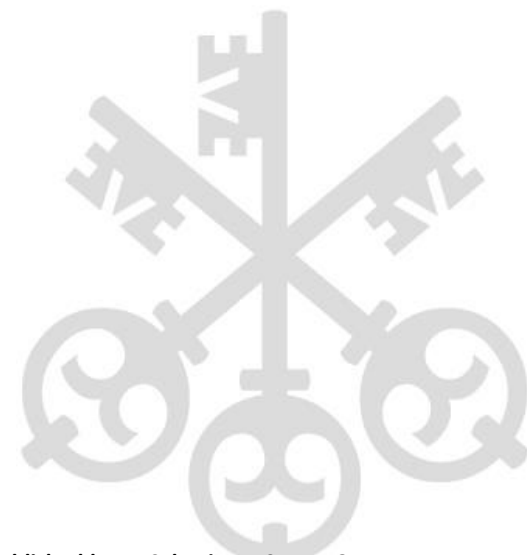
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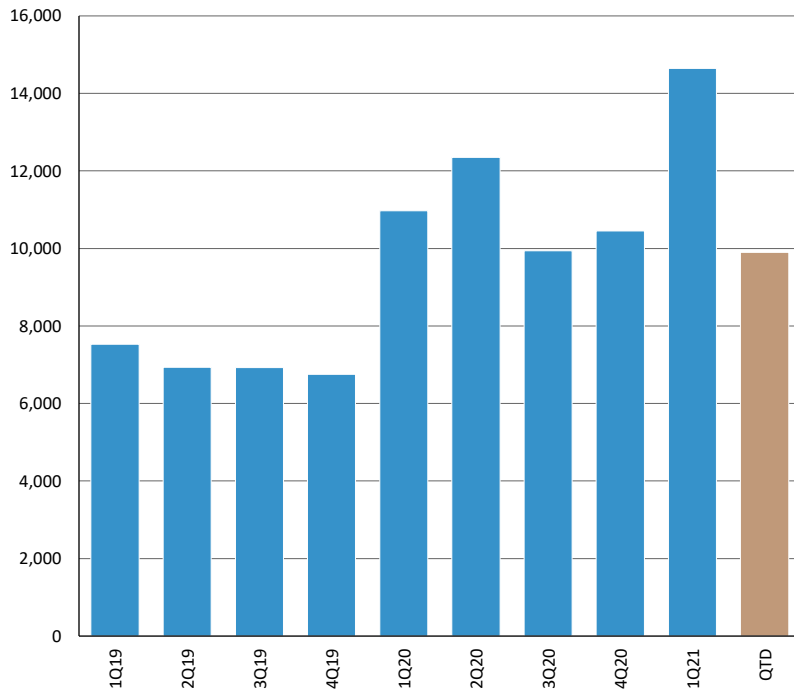
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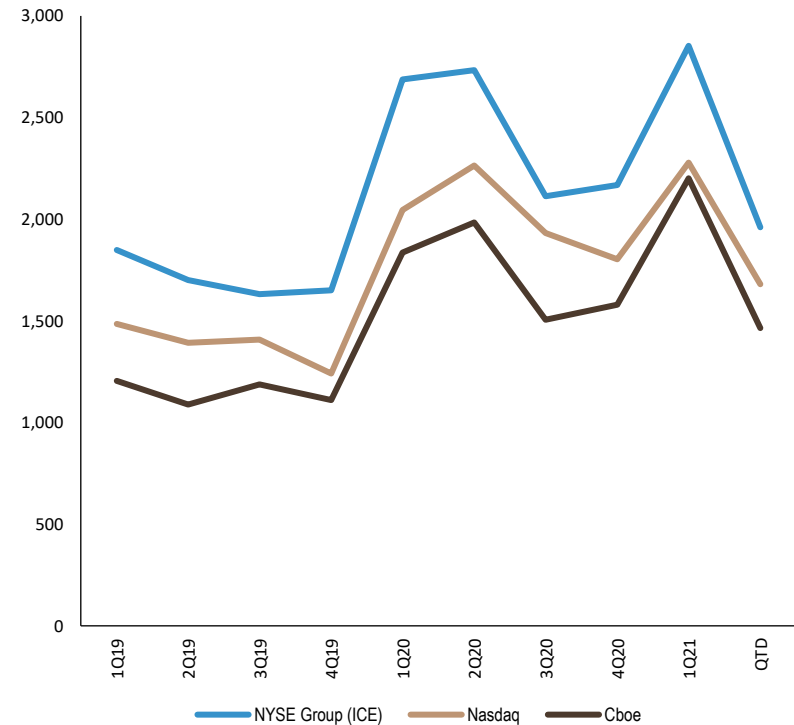
US cash equities: retail has driven industry volumes higher

Total industry volume



Source: Cboe
Note: in millions of shares per day

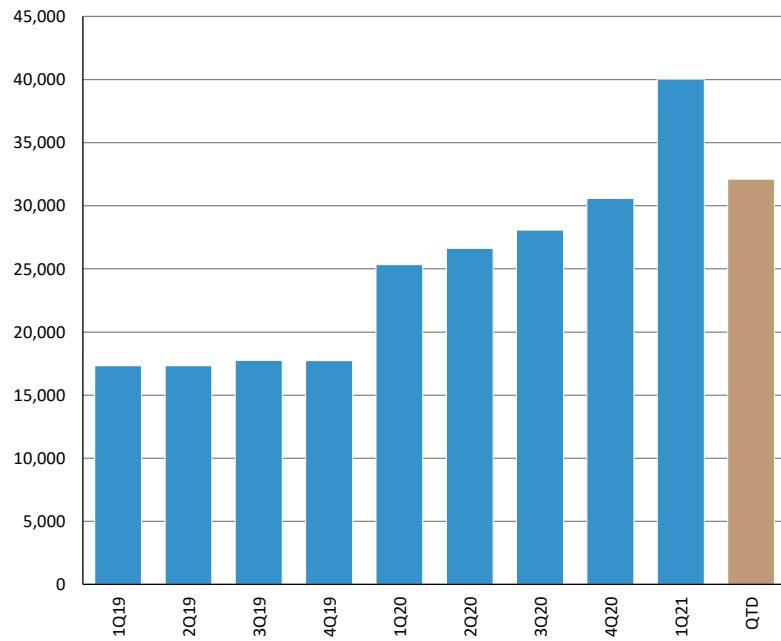
US cash equity volume by exchange group



Source: Cboe
Note: in millions of shares per day

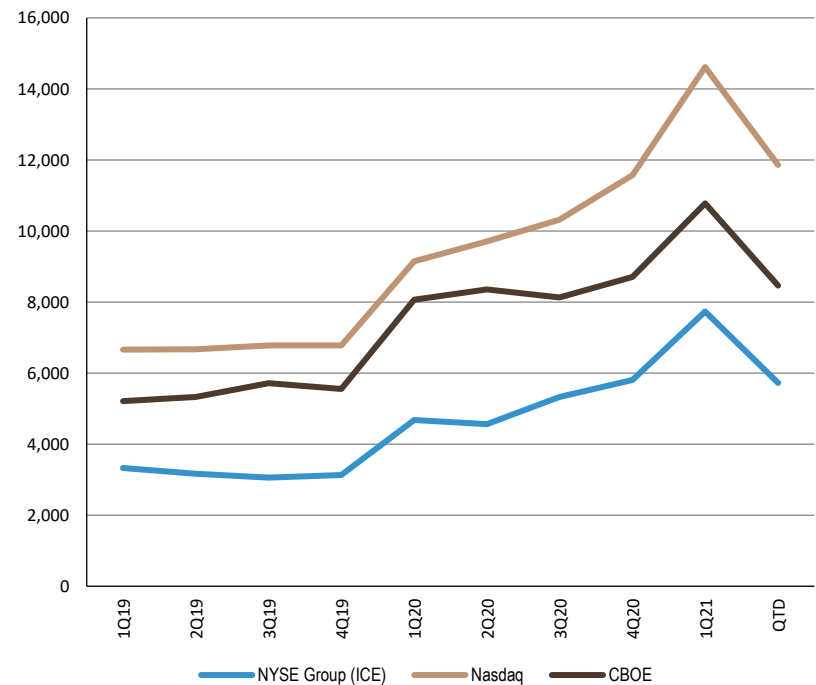
US equity options: retail participation has increased significantly

Total industry volume



Source: OCC
Note: in thousands of contracts per day

US equity option volume by exchange group

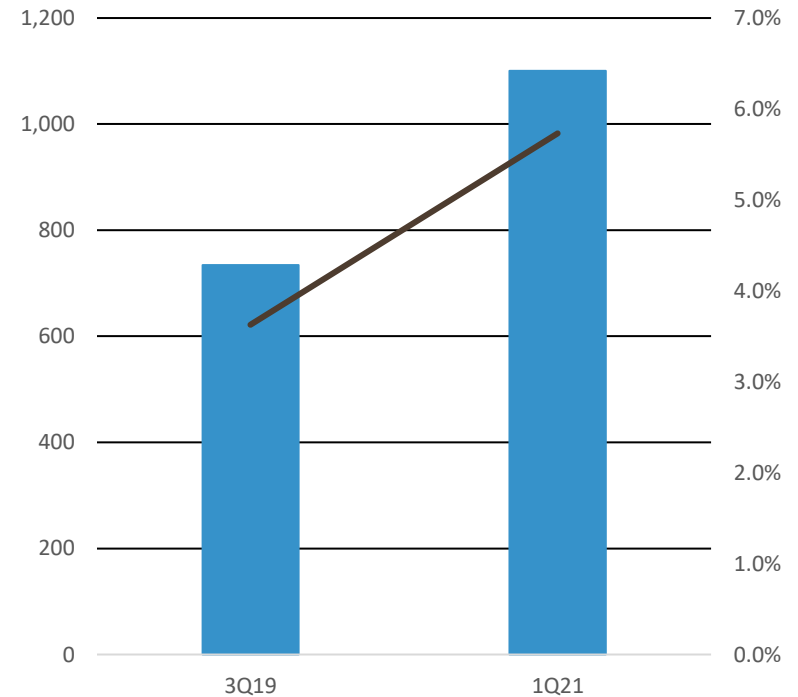
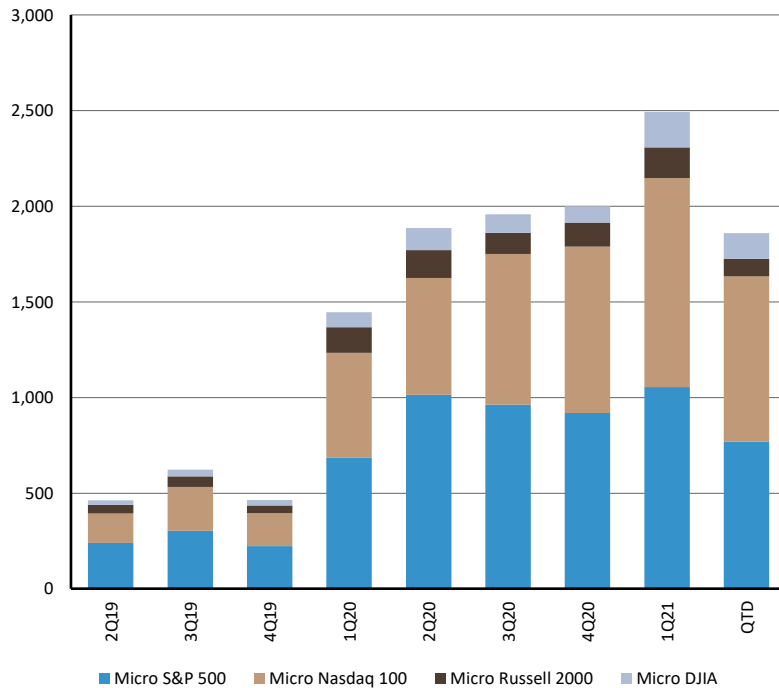


Source: OCC
Note: in thousands of contracts per day

CME Group: new product launches support retail growth

Total micro equity volumes

Retail as a % of total volume increased from 3.7% to 5.1% from 3Q19 to 1Q21

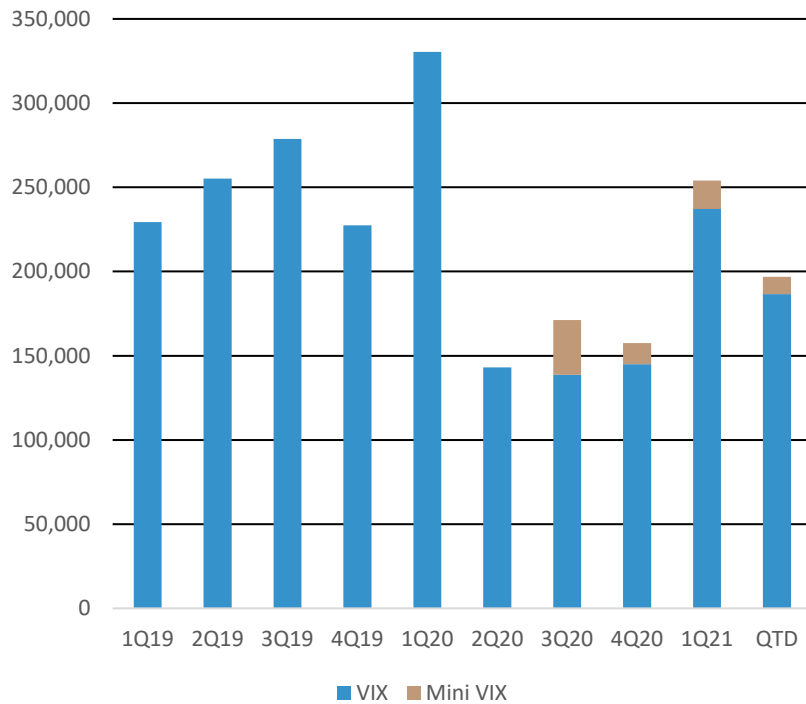


Source: CME Group
Note: in thousands of contracts per day

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Note: in thousands of contracts per day

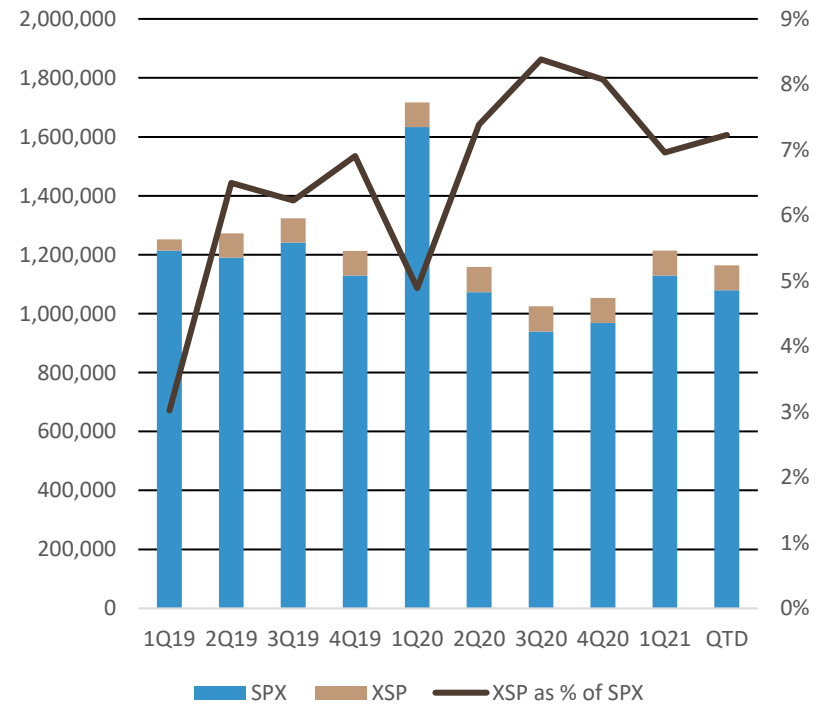
CBOE: increased focus on retail and tailored products

VIX and mini VIX futures combined ADV



Source: Cboe
 Note: Mini VIX futures launched 8/10/2020; in contracts per day

XSP as a % of SPX



Source: Cboe
 Note: in contracts per day

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Equity market returns are influenced by corporate earnings, interest rates, risk premia, as well as other variables influenced by the business cycle. The outlook for any and all of these variables is subject to change.

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Buy	FSR is > 6% above the MRA.	52%	31%
Neutral	FSR is between -6% and 6% of the MRA.	36%	28%
Sell	FSR is > 6% below the MRA.	12%	22%
Short-Term Rating	Definition	Coverage ³	IB Services ⁴
Buy	Stock price expected to rise within three months from the time the rating was assigned because of a specific catalyst or event.	<1%	<1%
Sell	Stock price expected to fall within three months from the time the rating was assigned because of a specific catalyst or event.	<1%	<1%

Source: UBS. Rating allocations are as of 31 March 2021.

1:Percentage of companies under coverage globally within the 12-month rating category.

2:Percentage of companies within the 12-month rating category for which investment banking (IB) services were provided within the past 12 months.

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