

Global Equity Index Futures Liquidity Watch

Global Equity Index Futures Liquidity Monitor

Global Equity Index Futures Liquidity Monitor

Contract details and liquidity statistics are tabulated for the universe of equity index futures traded globally. Liquidity data is measured over the *fourth quarter of 2023*.

Table of Contents

Global Equity Index Futures Liquidity Monitor	2
Most Traded Equity Index Futures Globally	2
Global Region	3
Americas Region	5
Asia Pacific Region	7
Europe, Middle East, and Africa (EMEA) Region	9
Equity Index Dividend Futures	12
Equity Index Block Futures	13
Research Analysts	17

25 January 2024

Futures
Global

Nicholas Dunne
Equity-Linked Analyst
BofAS
+1 646 855 2631
nicholas.dunne@bofa.com

Chintan Kotecha
Equity-Linked Analyst
BofAS
+1 646 855 5478
chintan.kotecha@bofa.com

Lars Naeckter >>
Equity-Linked Analyst
Merrill Lynch (DIFC)
+852 3508 7669
lars.naeckter@bofa.com

Zhenhua Xue >>
Equity-Linked Analyst
Merrill Lynch (Hong Kong)
zhenhua.xue@bofa.com

See Team Page for List of Analysts

Trading ideas and investment strategies discussed herein may give rise to significant risk and are not suitable for all investors. Investors should have experience in relevant markets and the financial resources to absorb any losses arising from applying these ideas or strategies.

>> Employed by a non-US affiliate of BofAS and is not registered/qualified as a research analyst under the FINRA rules. Refer to "Other Important Disclosures" for information on certain BofA Securities entities that take responsibility for the information herein in particular jurisdictions.

BofA Securities does and seeks to do business with issuers covered in its research reports. As a result, investors should be aware that the firm may have a conflict of interest that could affect the objectivity of this report. Investors should consider this report as only a single factor in making their investment decision.

Refer to important disclosures on page 14 to 16.

12650879

Timestamp: 25 January 2024 01:27PM EST

Global Equity Index Futures Liquidity Monitor

Most Traded Equity Index Futures Globally

Exhibit 1 below presents the largest traded futures by region and Exhibits 2 through 6 contain all traded listed futures

Exhibit 1: Equity index futures with the largest 3-month median notional open interest and volume by region

Futures on the S&P 500, EURO STOXX 50, TOPIX, and MSCI EM are the largest in each region

Americas Top 5 Open Interest (median daily)		
Index	Futures Ticker	\$ Notional (bn)
S&P 500	ES	494.6
S&P 500 TR	AXR	89.8
NASDAQ-100	NQ	86.5
S&P/TSX 60	PT	49.8
Russell 2000	RTY	47.9

Asia-Pac Top 5 Open Interest (median daily)		
Index	Futures Ticker	\$ Notional (bn)
TOPIX	TP	84.2
Nikkei-225	NK	60.3
CSI Smallcap 500	FFD	45.5
CSI 300	IFB	40.0
CSI 1000	IFD	39.3

EMEA Top 5 Open Interest (median daily)		
Index	Futures Ticker	\$ Notional (bn)
EURO STOXX 50	VG	128.5
EURO STOXX 50 Gross Return	VHO	93.8
FTSE 100	Z	46.8
DAX	GX	23.3
Swiss Market	SM	16.9

Global Top 5 Open Interest (median daily)		
Index	Futures Ticker	\$ Notional (bn)
MSCI Emerging Markets	MES	49.6
MSCI EAFE	MFS	41.0
MSCI EM Asia NR	ZTW	21.7
MSCI World NR	ZWP	11.3
MSCI Emerging Markets	RBE	4.5

Source: BofA Global Research. Data from 2-Oct-23 to 29-Dec-23.

Americas Top 5 Volume (median daily)		
Index	Futures Ticker	\$ Notional (bn)
S&P 500	ES	399.4
NASDAQ-100	NQ	209.1
Brazil Bovespa	XB	80.4
NASDAQ-100	HWB	35.4
Dow Jones Industrial Average	DM	27.4

Asia-Pac Top 5 Volume (median daily)		
Index	Futures Ticker	\$ Notional (bn)
Nikkei-225	NO	20.5
KOSPI 200	KM	15.2
CSI 300	IFB	14.0
TWSE	FT	13.7
Hang Seng	HI	13.0

EMEA Top 5 Volume (median daily)		
Index	Futures Ticker	\$ Notional (bn)
EURO STOXX 50	VG	36.6
DAX	GX	25.7
FTSE 100	Z	8.9
CAC-40	CF	4.4
Swiss Market	SM	3.4

Global Top 5 Volume (median daily)		
Index	Futures Ticker	\$ Notional (mn)
MSCI Emerging Markets	MES	4,366.1
MSCI EAFE	MFS	3,550.8
MSCI World NR	ZWP	414.3
MSCI EM Asia NR	ZTW	95.1
MSCI Emerging Markets	RBE	30.1

BofA GLOBAL RESEARCH



Global Region

Exhibit 2: Exchange listed equity index futures with global exposure

*To help see the trend, in the final two columns are percentage changes in open interest and volume from the prior quarter. Data from 2-Oct-23 to 29-Dec-23.

Regional Information				Contract Details				Liquidity Information	
Region	Country	Index Ticker	Index Name	Futures Ticker	CCY	Exch.	CFTC	3M Median Daily Open Interest (USD Mn)*	3M Median Daily Volume (USD Mn)*
Global	Global	AWPXJARN	FTSE Asia Pacific ex Japan Australia and New Zealand Net	FNA	USD	SGX	X	554.31 (-50.8%)	4.75 (-18.2%)
Global	Global	EPRA	FTSE EPRA/NAREIT Developed Europe	RIE	EUR	EOP	X	58.44 (-26.7%)	1.76 (-21.4%)
Global	Global	NDUECAXJ	MSCI AC Asia ex Japan NR USD	UJE	USD	EUX	X	37.72 (--)	0.15 (--)
Global	Global	M1APJ	MSCI AC Asia Pacific ex Japan NR	ZAP	USD	EUX	X	292.23 (-6.3%)	1.04 (-31.4%)
Global	Global	NDEEWNR	MSCI ACWI Net Total Return EUR	ZTE	EUR	EUX	X	626.72 (49.3%)	3.50 (997.9%)
Global	Global	M1WD	MSCI All Country World Net Return	WMW	USD	NYF	X	754.26 (-2.0%)	0.72 (-15.1%)
Global	Global	MSDE15XN	MSCI Daily Net Total Return Europe Ex UK Euro.	HMD	EUR	EUX	X	412.48 (-10.7%)	0.00 (--)
Global	Global	MXEA	MSCI EAFE	MFS	USD	NYF	X	40,963.35 (-2.5%)	3,550.80 (28.3%)
Global	Global	MXEA	MSCI EAFE	FFP	USD	EUX	X	1,877.94 (18.1%)	4.28 (349.9%)
Global	Global	NDDUEAFE	MSCI EAFE NR	FFA	USD	EUX	X	685.76 (-35.5%)	0.00 (--)
Global	Global	NU733561	MSCI EM (Emerging Markets) ESG Screened Index - EM Asia Subset	MUY	USD	EUX	X	236.19 (--)	0.00 (--)
Global	Global	M1MS	MSCI EM Asia NR	ZTW	USD	EUX	X	21,731.22 (-12.0%)	95.08 (-44.1%)
Global	Global	M1MS	MSCI EM Asia NR	ANS	USD	NYF	X	1,843.20 (-22.8%)	9.35 (-4.9%)
Global	Global	M1EE	MSCI EM EMEA Net TR USD	ZTY	USD	EUX	X	2,516.81 (-20.3%)	13.58 (-23.3%)
Global	Global	M1EE	MSCI EM EMEA Net TR USD	MOE	USD	NYF	X	138.32 (-34.1%)	1.08 (142.2%)
Global	Global	NU728007	MSCI EM ESG Screened Net USD	HRR	USD	EUX	X	145.23 (-38.8%)	0.02 (-0.8%)
Global	Global	M1LA	MSCI EM Latin America NR	ZUL	USD	EUX	X	1,533.02 (6.8%)	9.71 (-56.6%)
Global	Global	M1LA	MSCI EM Latin America NR	MWA	USD	NYF	X	759.79 (-43.9%)	0.00 (--)
Global	Global	MXEF	MSCI Emerging Markets	MES	USD	NYF	X	49,582.20 (-11.3%)	4,366.06 (-7.4%)
Global	Global	MXEF	MSCI Emerging Markets	RBE	USD	EUX	X	4,545.63 (-31.1%)	30.07 (30.1%)
Global	Global	M1EFESR	MSCI Emerging Markets ESG Leaders Net TR	LFO	USD	NYF	X	302.32 (-7.5%)	0.04 (--)
Global	Global	M1CXBRV	MSCI Emerging Markets ex China Net Return USD	MML	USD	NYF	X	1,037.32 (27.8%)	0.00 (--)
Global	Global	M1EF	MSCI Emerging Markets NR	ZTS	USD	EUX	X	2,053.04 (-22.4%)	5.26 (2.0%)
Global	Global	M1EF	MSCI Emerging Markets NR	MMO	USD	NYF	X	9.96 (-47.3%)	1.43 (-21.5%)
Global	Global	MBEF	MSCI Emerging Markets NR EUR	RZI	EUR	EUX	X	946.72 (-10.2%)	2.92 (-43.2%)
Global	Global	M1EF000V	MSCI Emerging Markets Value Net Total Return Index	FMP	USD	EUX	X	123.44 (-4.5%)	0.00 (--)
Global	Global	M1PCJ	MSCI Pacific ex Japan NR USD	ZSI	USD	EUX	X	490.05 (-20.2%)	6.28 (-30.7%)
Global	Global	M1PC	MSCI Pacific Net Total Return USD	FKB	USD	EUX	X	1,011.20 (137.4%)	2.51 (--)
Global	Global	MXWO	MSCI World	RVP	USD	EUX	X	1,214.82 (12.5%)	4.89 (110.6%)
Global	Global	MXWOCLNU	MSCI World Climate Change Net Return USD	WOW	USD	NYF	X	140.64 (-17.1%)	0.00 (--)
Global	Global	MXWOCLPA	MSCI World Climate Paris Aligned Net USD	MRP	USD	NYF	X	732.13 (10.6%)	0.00 (--)
Global	Global	NDWUTEL	MSCI World Communication Services Sector A Net TR USD	MWT	USD	ICF	--	180.03 (-18.4%)	0.00 (--)
Global	Global	NDWUENR	MSCI World Energy Sector Net Total Return USD	MEW	USD	ICF	--	152.99 (-21.6%)	0.00 (--)
Global	Global	NGSINU	MSCI World ESG Leaders Net Return	LFW	USD	NYF	X	333.18 (16.3%)	1.09 (53.8%)
Global	Global	NU721415	MSCI WORLD ESG SCREENED NET Net Return USD Index	HRL	USD	EUX	X	279.10 (--)	0.00 (--)
Global	Global	M1W0000G	MSCI World Growth Net Total Return USD	FGR	USD	EUX	X	319.54 (75.4%)	0.00 (--)
Global	Global	NDWUHC	MSCI World Health Care Net Total Return USD	MWR	USD	ICF	--	349.17 (-11.0%)	0.00 (--)
Global	Global	NDWUIND	MSCI World Industrials Net Total Return USD	MWY	USD	ICF	--	106.26 (-34.5%)	0.00 (--)
Global	Global	NDWUIT	MSCI World Information Technology NTR USD	MWP	USD	ICF	--	193.23 (-9.2%)	0.00 (--)
Global	Global	NDWUMAT	MSCI World Materials A Net Total Return USD	MMW	USD	ICF	--	149.48 (-22.1%)	0.00 (--)
Global	Global	M1WOMVOL	MSCI World Minimum Volatility Net Total Return USD	OFY	USD	EUX	--	706.75 (77.5%)	0.00 (--)
Global	Global	M1WOMOM	MSCI World Momentum Net Total Return USD Index	OER	USD	EUX	X	246.38 (--)	0.00 (--)
Global	Global	M1WO	MSCI World NR	ZWP	USD	EUX	X	11,268.74 (-3.5%)	414.33 (8.9%)
Global	Global	M1WO	MSCI World NR	WQL	USD	NYF	X	20.54 (-26.4%)	0.92 (22.7%)
Global	Global	M1WOMQUE	MSCI World Quality Net Total Return USD EOD Index	OXY	USD	EUX	X	578.79 (--)	0.00 (--)
Global	Global	NDWURLCL	MSCI World Real Estate Net Total Return USD Index	MRE	USD	EUX	X	274.30 (-7.9%)	0.00 (--)
Global	Global	NDWURLCL	MSCI World Real Estate Net Total Return USD Index	SCC	USD	ICF	--	114.17 (--)	0.00 (--)
Global	Global	NCUDWI	MSCI World Small Cap Net Total Return USD	OHT	USD	EUX	X	181.37 (--)	0.17 (--)



Exhibit 2: Exchange listed equity index futures with global exposure

*To help see the trend, in the final two columns are percentage changes in open interest and volume from the prior quarter. Data from 2-Oct-23 to 29-Dec-23.

Regional Information		Contract Details						Liquidity Information	
Region	Country	Index Ticker	Index Name	Futures Ticker	CCY	Exch.	CFTC	3M Median Daily Open Interest (USD Mn)*	3M Median Daily Volume (USD Mn)*
Global	Global	M1WO000V	MSCI World Value Net Total Return USD	FMO	USD	EUX	X	441.64 (-21.3%)	0.00 (–)

Source: BofA Global Research

BofA GLOBAL RESEARCH



Americas Region

Exhibit 3: Exchange listed equity index futures with Americas regional exposure

*To help see the trend, in the final two columns are percentage changes in open interest and volume from the prior quarter. Data from 2-Oct-23 to 29-Dec-23.

Regional Information				Contract Details				Liquidity Information	
Region	Country	Index Ticker	Index Name	Futures Ticker	CCY	Exch.	CFTC	3M Median Daily Open Interest (USD Mn)*	3M Median Daily Volume (USD Mn)*
Americas	Brazil	IBOV	Brazil Bovespa	BZ	BRL	BMF	X	7,908.72 (2.0%)	2,766.95 (-22.3%)
Americas	Brazil	IBOV	Brazil Bovespa	XB	BRL	BMF	X	5,615.32 (3.8%)	80,437.56 (5.0%)
Americas	Brazil	IBX50	BRAZIL IBrX-50	LB	BRL	BMF	X	101.94 (-7.7%)	0.22 (-22.2%)
Americas	Brazil	NDUEBRA	MSCI Brazil NR USD	MCB	USD	ICF	X	2,243.81 (52.9%)	19.59 (46.1%)
Americas	Brazil	NDUEBRA	MSCI Brazil NR USD	MUP	USD	EUX	X	566.66 (--)	0.00 (--)
Americas	Canada	M2CA	MSCI Canada Gross	ZTB	USD	EUX	X	5,461.86 (21.1%)	8.12 (101.9%)
Americas	Canada	SPTSX60	S&P/TSX 60	PT	CAD	MSE	X	49,807.79 (-4.8%)	3,927.62 (7.3%)
Americas	Canada	SPTSX60	S&P/TSX 60	MPT	CAD	MSE	X	11.96 (-23.7%)	0.45 (-39.5%)
Americas	Canada	STENRSR	S&P/TSX Composite Index Energy GICS Sector Total Return	DXS	CAD	MSE	--	729.52 (1.6%)	0.00 (--)
Americas	Mexico	MEXBOL	Mexico IPC	IS	MXN	MDX	X	407.27 (-2.4%)	21.82 (-1.2%)
Americas	Mexico	M1MX	MSCI Mexico NR USD	ZVP	USD	EUX	X	513.40 (-48.5%)	0.16 (--)
Americas	United States	IXCPR	Communication Services Select Sector	XAS	USD	CME	X	699.81 (44.0%)	8.89 (117.5%)
Americas	United States	IXY	Consumer Discretionary Select Sector	IXY	USD	CME	X	1,097.56 (-22.0%)	41.87 (10.8%)
Americas	United States	IXR	Consumer Staples Select Sector	IXR	USD	CME	X	1,512.52 (14.4%)	47.08 (-21.9%)
Americas	United States	INDU	Dow Jones Industrial Average	DM	USD	CBT	X	17,289.12 (1.2%)	27,372.91 (1.6%)
Americas	United States	INDU	Dow Jones Industrial Average	HWI	USD	CBT	X	409.43 (5.4%)	1,373.91 (4.9%)
Americas	United States	INDU	Dow Jones Industrial Average	FDO	JPY	TFX	--	321.68 (-16.5%)	132.41 (-9.6%)
Americas	United States	INDU	Dow Jones Industrial Average	ODA	JPY	OSE	X	230.52 (7.2%)	32.59 (-11.6%)
Americas	United States	INDU	Dow Jones Industrial Average	TJI	TWD	FTX	X	25.90 (-9.6%)	22.55 (-14.9%)
Americas	United States	DJUSRE	Dow Jones US Real Estate	DJE	USD	CBT	X	1,391.52 (0.1%)	70.85 (22.3%)
Americas	United States	IXE	Energy Select Sector	IXP	USD	CME	X	2,632.14 (10.8%)	124.70 (18.7%)
Americas	United States	IXM	Financial Select Sector	IXA	USD	CME	X	3,928.04 (0.9%)	56.40 (-11.2%)
Americas	United States	IXV	Health Care Select Sector	IXC	USD	CME	X	1,647.76 (-19.6%)	55.04 (15.3%)
Americas	United States	IXI	Industrial Select Sector	IXI	USD	CME	X	1,560.36 (-6.4%)	43.89 (24.3%)
Americas	United States	IXB	Materials Select Sector	IXD	USD	CME	X	1,608.47 (-3.6%)	27.06 (25.8%)
Americas	United States	NU721417	MSCI USA ESG SCREENED NET Net Return USD	HRI	USD	EUX	X	221.61 (-0.8%)	0.00 (--)
Americas	United States	M2US	MSCI USA Gross Total Return USD	JHT	USD	EUX	X	8,108.34 (4.4%)	2.40 (--)
Americas	United States	M2US	MSCI USA Gross Total Return USD	WQP	USD	NYF	X	10.40 (-93.9%)	3.28 (8.5%)
Americas	United States	M2USSC	MSCI USA Small Cap Gross Total Return USD Index	MBY	USD	NYF	X	7.32 (-69.4%)	0.07 (-54.1%)
Americas	United States	NDX	NASDAQ-100	NQ	USD	CME	X	86,548.89 (5.5%)	209,119.78 (7.0%)
Americas	United States	NDX	NASDAQ-100	HWB	USD	CME	X	3,038.60 (-28.0%)	35,417.32 (1.9%)
Americas	United States	NDX	NASDAQ-100	FNP	JPY	TFX	--	79.94 (-13.9%)	33.87 (-31.0%)
Americas	United States	NDX	NASDAQ-100	TND	TWD	FTX	X	64.24 (-2.4%)	73.75 (-11.0%)
Americas	United States	XNDX	NASDAQ-100 Total Return Index	QAR	USD	CME	X	572.06 (2.2%)	0.00 (--)
Americas	United States	NYFANG	NYSE FANG+	FNS	USD	NYF	X	324.19 (114.3%)	196.29 (-18.8%)
Americas	United States	SOX	Philadelphia Stock Exchange Semiconductor Index	SWO	USD	CME	X	167.39 (--)	0.00 (--)
Americas	United States	SOX	Philadelphia Stock Exchange Semiconductor Index	SOA	TWD	FTX	X	0.68 (--)	1.13 (--)
Americas	United States	IXRE	Real Estate Select Sector	XAR	USD	CME	--	326.31 (-25.2%)	7.58 (-5.1%)
Americas	United States	RIY	Russell 1000	RSY	USD	CME	X	813.75 (-19.9%)	18.11 (119.2%)
Americas	United States	RLG	Russell 1000 Growth	RGY	USD	CME	X	973.12 (54.5%)	19.36 (79.4%)
Americas	United States	RLV	Russell 1000 Value	RVY	USD	CME	X	1,929.59 (76.1%)	24.41 (129.9%)
Americas	United States	RTY	Russell 2000	RTY	USD	CME	X	47,853.29 (-4.7%)	20,721.42 (18.5%)
Americas	United States	RTY	Russell 2000	HWR	USD	CME	X	200.41 (-2.4%)	702.40 (16.8%)
Americas	United States	RTY	Russell 2000	FRA	JPY	TFX	--	21.91 (--)	15.78 (--)
Americas	United States	RUO	Russell 2000 Growth	RGL	USD	CME	X	212.33 (-25.6%)	0.00 (--)
Americas	United States	RU20INTR	Russell 2000 Total Return	RAR	USD	CME	X	764.46 (48.1%)	0.00 (--)
Americas	United States	RUJ	Russell 2000 Value	RVL	USD	CME	X	202.98 (-15.7%)	0.00 (--)
Americas	United States	MID	S&P 400 MidCap	FA	USD	CME	X	9,848.71 (-5.0%)	3,344.63 (18.9%)



Exhibit 3: Exchange listed equity index futures with Americas regional exposure

*To help see the trend, in the final two columns are percentage changes in open interest and volume from the prior quarter. Data from 2-Oct-23 to 29-Dec-23.

Regional Information		Contract Details						Liquidity Information	
Region	Country	Index Ticker	Index Name	Futures Ticker	CCY	Exch.	CFTC	3M Median Daily Open Interest (USD Mn)*	3M Median Daily Volume (USD Mn)*
Americas	United States	MID	S&P 400 MidCap	LVL	USD	CME	X	2.35 (--)	0.11 (--)
Americas	United States	SPX	S&P 500	ES	USD	CME	X	494,608.37 (-2.7%)	399,428.33 (16.5%)
Americas	United States	SPX	S&P 500	HWA	USD	CME	X	3,535.22 (-28.1%)	19,103.05 (-0.9%)
Americas	United States	SPX	S&P 500	BSP	USD	BMF	X	2,186.45 (-8.0%)	338.53 (8.0%)
Americas	United States	SPX	S&P 500	WSP	USD	BMF	X	432.41 (11.0%)	227.45 (-1.8%)
Americas	United States	SPX	S&P 500	TSY	TWD	FTX	X	6.66 (-31.9%)	2.17 (-15.5%)
Americas	United States	SPXESUP	S&P 500 ESG Index	SLB	USD	CME	X	3,319.56 (-8.1%)	137.71 (29.9%)
Americas	United States	SPXT	S&P 500 TR	AXR	USD	CME	X	89,781.46 (6.7%)	1,166.10 (165.6%)
Americas	United States	SPXT	S&P 500 TR	SRT	USD	CME	X	13,066.32 (-2.4%)	0.00 (--)
Americas	United States	SPSIBI	S&P Biotechnology Select Industry	SVE	USD	CME	X	23.08 (66.1%)	1.46 (110.6%)
Americas	United States	SPSIOP	S&P Oil & Gas Exploration and Production Select Industry	SVO	USD	CME	X	93.19 (1328.2%)	0.81 (60.0%)
Americas	United States	SPSIRBK	S&P Regional Banks Select Industry	SVW	USD	CME	X	109.49 (73.5%)	1.59 (32.9%)
Americas	United States	SPSIRE	S&P Retail Select Industry	SWL	USD	CME	X	18.54 (-62.2%)	0.27 (28.1%)
Americas	United States	IXT	Technology Select Sector	IXT	USD	CME	X	2,381.90 (17.2%)	76.36 (51.4%)
Americas	United States	IXU	Utilities Select Sector	IXS	USD	CME	X	2,086.16 (-24.9%)	77.37 (28.6%)

Source: BofA Global Research

BofA GLOBAL RESEARCH



Asia Pacific Region

Exhibit 4: Exchange listed equity index futures with Asia-Pac regional exposure

*To help see the trend, in the final two columns are percentage changes in open interest and volume from the prior quarter. Data from 2-Oct-23 to 29-Dec-23.

Regional Information				Contract Details				Liquidity Information	
Region	Country	Index Ticker	Index Name	Futures Ticker	CCY	Exch.	CFTC	3M Median Daily Open Interest (USD Mn)*	3M Median Daily Volume (USD Mn)*
Asia-Pac	Australia	MBAU	MSCI Australia NR (USD)	ZTO	USD	EUX	X	1,899.76 (-21.6%)	0.48 (-93.1%)
Asia-Pac	Australia	AS51	S&P/ASX 200	XP	AUD	SFE	X	26,415.44 (-13.0%)	5,325.38 (3.9%)
Asia-Pac	Australia	AS51PROP	S&P/ASX 200 A-REIT	VPA	AUD	SFE	--	29.35 (-76.0%)	0.57 (-53.4%)
Asia-Pac	China	CSI1000	CSI 1000	IFD	CNY	CFF	--	39,251.05 (14.3%)	12,543.46 (19.6%)
Asia-Pac	China	SHSN300	CSI 300	IFB	CNY	CFF	--	40,006.48 (-0.8%)	13,962.01 (-7.1%)
Asia-Pac	China	SH000905	CSI Smallcap 500	FFD	CNY	CFF	--	45,540.44 (-3.0%)	10,915.87 (-1.7%)
Asia-Pac	China	XIN01	FTSE China 50 HKD	RFC	USD	SGX	X	41.36 (-55.7%)	34.48 (-30.3%)
Asia-Pac	China	XIN9I	FTSE China A50	XU	USD	SGX	X	10,226.62 (-7.8%)	2,966.90 (1.8%)
Asia-Pac	China	MXCNA50C	MSCI China A 50 Connect Price CNH	MCY	USD	HKG	X	809.84 (-5.7%)	572.61 (10.8%)
Asia-Pac	China	M1CN	MSCI China Net Total Return USD	MUR	USD	EUX	X	2,236.96 (-21.0%)	40.29 (-39.8%)
Asia-Pac	China	M1CN	MSCI China Net Total Return USD	CJE	USD	HKG	X	929.35 (163.5%)	0.67 (-11.3%)
Asia-Pac	China	M1CN	MSCI China Net Total Return USD	MBC	USD	NYF	X	69.19 (-34.1%)	0.57 (-40.0%)
Asia-Pac	China	SSE50	Shanghai Stock Exchange 50 A Share	FFB	CNY	CFF	--	13,413.19 (-9.4%)	5,385.54 (-15.3%)
Asia-Pac	Hong Kong	HSI	Hang Seng	HI	HKD	HKG	X	15,656.54 (1.2%)	12,953.36 (-16.3%)
Asia-Pac	Hong Kong	HSI	Hang Seng	HU	HKD	HKG	X	455.79 (-3.7%)	1,807.58 (-16.3%)
Asia-Pac	Hong Kong	HSCEI	Hang Seng China Enterprises	HC	HKD	HKG	X	23,152.65 (-9.0%)	4,999.20 (-14.0%)
Asia-Pac	Hong Kong	HSCEI	Hang Seng China Enterprises	MHC	HKD	HKG	X	46.72 (-10.3%)	58.44 (-20.4%)
Asia-Pac	Hong Kong	HSTECH	Hang Seng TECH	HCT	HKD	HKG	X	6,582.02 (19.9%)	2,271.39 (-10.1%)
Asia-Pac	Hong Kong	M1HK	MSCI Hong Kong USD Net	ZSS	USD	EUX	X	534.40 (-2.3%)	4.91 (-45.3%)
Asia-Pac	Hong Kong	M1HK	MSCI Hong Kong USD Net	HLC	USD	HKG	X	141.49 (-2.2%)	0.00 (-100.0%)
Asia-Pac	India	MXIN	MSCI India	HRT	USD	HKG	X	125.20 (86.7%)	160.48 (94.6%)
Asia-Pac	India	M1IN	MSCI India Net Total Return USD	ZVL	USD	EUX	X	7,098.83 (-4.1%)	71.81 (25.4%)
Asia-Pac	India	M1IN	MSCI India Net Total Return USD	LZW	USD	NYF	X	582.00 (-27.2%)	2.56 (71.0%)
Asia-Pac	India	M1IN	MSCI India Net Total Return USD	HJD	USD	HKG	X	450.20 (77.6%)	0.00 (--)
Asia-Pac	India	NMIDSELP	Nifty Midcap Select (PR)	RNS	INR	NSE	--	70.37 (726.4%)	28.83 (239.7%)
Asia-Pac	India	NSEBANK	NSE Nifty Bank	AF	INR	NSE	--	1,381.22 (9.9%)	1,242.48 (-23.7%)
Asia-Pac	India	NSEFIN	NSE Nifty Financial Services	FIE	INR	NSE	--	17.00 (-11.8%)	19.37 (-11.7%)
Asia-Pac	India	SPBSSSIP	S&P BSE SENSEX 50	KGS	USD	BGC	--	9.45 (0.9%)	43.95 (273.9%)
Asia-Pac	India	NIFTY	S&P CNX Nifty	JGS	USD	NGC	X	9,216.53 (5.7%)	1,590.93 (-3.3%)
Asia-Pac	India	NIFTY	S&P CNX Nifty	NZ	INR	NSE	X	2,953.30 (-2.5%)	1,504.48 (-6.0%)
Asia-Pac	India	SENSEX	Sensex	SHY	INR	BBX	X	0.02 (--)	0.02 (--)
Asia-Pac	Indonesia	WIIDN	FTSE Indonesia	XFI	USD	SGX	--	26.62 (18.9%)	14.50 (-5.0%)
Asia-Pac	Indonesia	MOID	MSCI Indonesia NR (USD)	ZSR	USD	EUX	X	304.66 (-4.5%)	1.86 (-11.2%)
Asia-Pac	Japan	FBLSMJPR	FTSE Blossom Japan Price Return JPY Index	JPE	JPY	SGX	X	114.71 (--)	0.45 (--)
Asia-Pac	Japan	JPNK400	JPX Nikkei 400	JPW	JPY	OSE	X	999.31 (8.0%)	136.11 (9.9%)
Asia-Pac	Japan	M1JP	MSCI Japan Net Total Return USD	FMI	USD	EUX	X	6,352.66 (4.7%)	9.45 (-37.0%)
Asia-Pac	Japan	NKYTR	Nikkei 225 Total Return Index	NR	JPY	SGX	X	427.45 (-0.8%)	0.00 (--)
Asia-Pac	Japan	NKY	Nikkei-225	NK	JPY	OSE	X	60,340.63 (-10.5%)	12,598.07 (1.3%)
Asia-Pac	Japan	NKY	Nikkei-225	NI	JPY	SGX	X	13,111.20 (-21.8%)	4,314.52 (-2.7%)
Asia-Pac	Japan	NKY	Nikkei-225	NO	JPY	OSE	X	9,367.19 (-19.1%)	20,536.03 (4.8%)
Asia-Pac	Japan	NKY	Nikkei-225	NH	JPY	CME	X	5,562.38 (-4.5%)	3,468.71 (20.3%)
Asia-Pac	Japan	NKY	Nikkei-225	NX	USD	CME	X	2,513.91 (-5.9%)	1,181.82 (13.2%)
Asia-Pac	Japan	NKY	Nikkei-225	FNY	JPY	TFX	--	1,735.24 (-7.1%)	1,493.33 (31.0%)
Asia-Pac	Japan	NKY	Nikkei-225	N8	USD	SGX	X	113.13 (-27.8%)	0.00 (--)
Asia-Pac	Japan	NKY	Nikkei-225	JAI	JPY	OSE	X	88.07 (55.7%)	435.70 (68.7%)
Asia-Pac	Japan	NKY	Nikkei-225	MNI	JPY	SGX	X	0.07 (--)	0.02 (--)
Asia-Pac	Japan	TSEREIT	Tokyo Stock Exchange REIT	TRE	JPY	OSE	X	1,168.52 (0.3%)	6.82 (80.1%)
Asia-Pac	Japan	TPNBK	Tokyo Stock Exchange TOPIX Banks	TZ	JPY	OSE	--	1,113.61 (38.5%)	0.00 (--)



Exhibit 4: Exchange listed equity index futures with Asia-Pac regional exposure

*To help see the trend, in the final two columns are percentage changes in open interest and volume from the prior quarter. Data from 2-Oct-23 to 29-Dec-23.

Regional Information				Contract Details				Liquidity Information	
Asia-Pac	Japan	TPX	TOPIX	TP	JPY	OSE	X	84,236.99 (3.7%)	9,878.98 (1.9%)
Asia-Pac	Japan	TPX	TOPIX	TPY	JPY	CME	X	776.49 (43.6%)	227.00 (382.6%)
Asia-Pac	Japan	TPX	TOPIX	TMI	JPY	OSE	X	682.25 (-11.3%)	406.11 (8.1%)
Asia-Pac	Japan	TPX	TOPIX	YTP	TWD	FTX	--	6.27 (-22.1%)	3.36 (-12.1%)
Asia-Pac	Japan	TSEMOTHR	TSE Growth Market 250 Index	MRO	JPY	OSE	X	189.59 (-2.5%)	37.26 (36.5%)
Asia-Pac	Korea	KOSDAQ150	KOSDAQ 150	KST	KRW	KFE	X	2,515.65 (-24.2%)	1,008.72 (-22.4%)
Asia-Pac	Korea	KOSPI2	KOSPI 200	KM	KRW	KFE	X	21,355.83 (-8.6%)	15,190.97 (8.2%)
Asia-Pac	Korea	KOSPI2	KOSPI 200	KMS	KRW	KFE	X	910.76 (-20.0%)	968.78 (-6.6%)
Asia-Pac	Korea	KOSPI2	KOSPI 200	FZY	KRW	EUX	X	0.00 (--)	1,079.68 (38.7%)
Asia-Pac	Korea	KRX300	KRX 300	AKR	KRW	KFE	X	22.47 (-7.2%)	0.36 (-98.9%)
Asia-Pac	Malaysia	FBMKLCI	FTSE Bursa Malaysia KLCI	IK	MYR	MDE	X	638.76 (-2.5%)	117.98 (5.0%)
Asia-Pac	Malaysia	M1MY	MSCI Malaysia Net Total Return USD	ZVO	USD	EUX	X	262.72 (-9.7%)	1.66 (-33.3%)
Asia-Pac	Saudi Arabia	M1SAP	MSCI Prov/ Saudi Arabia Net Total Return USD	HSY	USD	EUX	X	666.11 (-13.0%)	4.01 (3.7%)
Asia-Pac	Singapore	SIMSCI	MSCI Singapore Free	QZ	SGD	SGX	X	3,106.54 (-0.2%)	596.40 (-3.8%)
Asia-Pac	Singapore	M1SGE	MSCI Singapore USD Net Total Return EOD	FPP	USD	EUX	--	506.54 (6.6%)	0.00 (--)
Asia-Pac	Taiwan	FTCRTWRP	FTSE Taiwan RIC Capped Price Return TWD	TWT	USD	SGX	X	6,054.67 (-5.4%)	3,239.01 (9.5%)
Asia-Pac	Taiwan	WITWNTUR	FTSE Taiwan USD Net Tax	ATC	USD	SGX	X	268.99 (--)	0.00 (--)
Asia-Pac	Taiwan	TWF4GTTE	FTSE4Good TIP Taiwan ESG Index	IES	TWD	FTX	--	0.58 (-46.6%)	0.71 (122.2%)
Asia-Pac	Taiwan	TWOTCI	GreTai Securities Market	QT	TWD	FTX	X	1.82 (7.5%)	0.30 (-4.5%)
Asia-Pac	Taiwan	NDEUSTW	MSCI Emerging Markets Taiwan NR (USD)	FPO	USD	EUX	--	3,591.16 (6.1%)	17.97 (273.6%)
Asia-Pac	Taiwan	TAMSCI	MSCI Taiwan	HJA	USD	HKG	--	1,004.57 (11.5%)	209.28 (-17.1%)
Asia-Pac	Taiwan	M1TW	MSCI Taiwan Net Total Return USD	HJB	USD	HKG	--	398.56 (-38.0%)	0.00 (--)
Asia-Pac	Taiwan	TWIX0103	TIP Taiwan Market Biotechnology and Medical Care	BES	TWD	FTX	--	0.21 (-70.5%)	0.06 (-38.5%)
Asia-Pac	Taiwan	IX0154	TIP Taiwan Semiconductor Total Market Select 30	SOL	TWD	FTX	--	3.31 (-12.3%)	1.32 (19.4%)
Asia-Pac	Taiwan	TPEX200	TPEX 200	TPB	TWD	FTX	X	2.02 (-4.7%)	1.26 (-5.3%)
Asia-Pac	Taiwan	TWSE	TWSE	FT	TWD	FTX	X	9,063.97 (13.7%)	13,733.04 (-7.7%)
Asia-Pac	Taiwan	TWSE	TWSE	MX	TWD	FTX	X	1,625.06 (8.0%)	6,226.65 (-7.8%)
Asia-Pac	Taiwan	TWSE	TWSE	T5	TWD	FTX	--	16.66 (41.3%)	18.02 (-5.0%)
Asia-Pac	Taiwan	TWSE	TWSE	T4	TWD	FTX	X	14.55 (-8.6%)	26.37 (40.1%)
Asia-Pac	Taiwan	TWSE	TWSE	T1	TWD	FTX	--	12.37 (120.6%)	17.95 (104.1%)
Asia-Pac	Taiwan	TWSEEELEC	TWSE Electronics	TE	TWD	FTX	--	128.79 (-19.0%)	123.19 (-31.8%)
Asia-Pac	Taiwan	TWSEEELEC	TWSE Electronics	MTI	TWD	FTX	--	31.05 (-24.4%)	53.15 (-18.3%)
Asia-Pac	Taiwan	TWSEBKI	TWSE Financial and Insurance Industry	TB	TWD	FTX	--	75.86 (-27.7%)	35.63 (-13.4%)
Asia-Pac	Taiwan	TWSEBKI	TWSE Financial and Insurance Industry	MTB	TWD	FTX	--	9.14 (-8.6%)	22.06 (8.4%)
Asia-Pac	Taiwan	TWSENFNE	TWSE Non-Financial and Non-Electronics	QE	TWD	FTX	X	6.11 (-21.8%)	2.55 (-20.0%)
Asia-Pac	Thailand	WITHATUR	FTSE Thailand USD Net Tax	ATP	USD	SGX	X	259.44 (8.0%)	0.00 (--)
Asia-Pac	Thailand	M1TH	MSCI Thailand Net Total Return USD	ZWO	USD	EUX	X	481.11 (44.0%)	2.42 (383.2%)
Asia-Pac	Thailand	SET50	SET 50	BC	THB	TEF	X	3,464.50 (0.0%)	1,292.97 (-1.5%)
Asia-Pac	Vietnam	FIVNM30	FTSE Vietnam 30 Price Return	XFA	USD	SGX	--	14.76 (-11.0%)	8.13 (-11.7%)
Asia-Pac	Vietnam	VN30	HOSE VN-30	VNC	VND	HNX	--	243.95 (-10.3%)	1,130.04 (12.4%)

Source: BofA Global Research

BofA GLOBAL RESEARCH



Europe, Middle East, and Africa (EMEA) Region

Exhibit 5: Exchange listed equity index futures with EMEA regional exposure

*To help see the trend, in the final two columns are percentage changes in open interest and volume from the prior quarter. Data from 2-Oct-23 to 29-Dec-23.

Regional Information		Contract Details						Liquidity Information	
Region	Country	Index Ticker	Index Name	Futures Ticker	CCY	Exch.	CFTC	3M Median Daily Open Interest (USD Mn)*	3M Median Daily Volume (USD Mn)*
EMEA	Austria	ATX	Vienna Stock Exchange Austrian Traded Index	ATT	EUR	EUX	--	258.96 (-10.6%)	0.40 (188.9%)
EMEA	Denmark	OMXC25	OMX Copenhagen 25	OMW	DKK	COP	X	57.93 (-2.8%)	1.35 (55.9%)
EMEA	Europe	BEZ50P	Cboe Eurozone 50	VTA	EUR	CBD	--	0.57 (123.6%)	2.40 (497.7%)
EMEA	Europe	SCXE	ESTX Sml € Pr	SXE	EUR	EUX	X	141.81 (32.7%)	2.52 (22.3%)
EMEA	Europe	SXXE	EURO STOXX	SXI	EUR	EUX	X	189.41 (8.4%)	2.62 (112.5%)
EMEA	Europe	SX5E	EURO STOXX 50	VG	EUR	EUX	X	128,535.77 (-6.2%)	36,591.07 (3.6%)
EMEA	Europe	SX5E	EURO STOXX 50	KES	KRW	KFE	--	489.90 (--)	0.00 (--)
EMEA	Europe	SX5E	EURO STOXX 50	MZT	EUR	EUX	X	25.55 (-24.3%)	4.00 (-12.6%)
EMEA	Europe	SX5EESG	EURO STOXX 50 ESG Price EUR	XSS	EUR	EUX	X	699.00 (-2.0%)	1.83 (66.5%)
EMEA	Europe	SX5GT	EURO STOXX 50 Gross Return	VHO	EUR	EUX	X	93,764.53 (3.6%)	1,482.06 (11.6%)
EMEA	Europe	SXAE	EURO STOXX Automobiles & Parts	EB	EUR	EUX	--	50.15 (-34.9%)	1.48 (37.3%)
EMEA	Europe	SX7E	EURO STOXX Banks	CA	EUR	EUX	X	5,977.14 (-9.6%)	1,022.38 (18.7%)
EMEA	Europe	SX7E	EURO STOXX Banks	IUI	EUR	EUX	X	2,758.33 (2.4%)	0.00 (--)
EMEA	Europe	SXPE	EURO STOXX Basic Resources	DA	EUR	EUX	--	12.60 (17.8%)	0.62 (-17.5%)
EMEA	Europe	SX4E	EURO STOXX Chemicals	CU	EUR	EUX	--	6.18 (-41.5%)	0.08 (-49.3%)
EMEA	Europe	SXOE	EURO STOXX Construction & Materials	AW	EUR	EUX	--	42.53 (5.4%)	0.61 (220.2%)
EMEA	Europe	SX3E	EURO STOXX Food & Beverage	BN	EUR	EUX	--	12.45 (71.1%)	0.24 (834.9%)
EMEA	Europe	SXDE	EURO STOXX Health Care	HO	EUR	EUX	--	32.98 (-38.9%)	1.57 (-4.0%)
EMEA	Europe	SXNE	EURO STOXX Industrial Goods & Services	BW	EUR	EUX	X	2.11 (--)	0.05 (--)
EMEA	Europe	SXIE	EURO STOXX Insurance	VO	EUR	EUX	--	31.39 (-15.0%)	2.27 (-5.9%)
EMEA	Europe	LCXE	EURO STOXX Large Price EUR	SXC	EUR	EUX	X	8.30 (--)	0.74 (--)
EMEA	Europe	MCXE	EURO STOXX Mid	SXD	EUR	EUX	X	203.13 (5.7%)	4.71 (64.6%)
EMEA	Europe	SXEE	EURO STOXX Oil & Gas	QR	EUR	EUX	--	274.75 (279.0%)	4.62 (25.1%)
EMEA	Europe	SXQE	EURO STOXX Personal & Household Goods	DW	EUR	EUX	--	101.28 (49.9%)	0.50 (-5.7%)
EMEA	Europe	SX86E	EURO STOXX Real Estate (Price) EUR	SRI	EUR	EUX	--	36.53 (-25.3%)	1.62 (359.4%)
EMEA	Europe	SXRE	EURO STOXX Retail	JA	EUR	EUX	--	2.12 (-87.8%)	0.03 (-3.5%)
EMEA	Europe	SD3E	EURO STOXX Select Dividend 30	SDI	EUR	EUX	X	1,640.31 (-0.6%)	79.78 (-6.4%)
EMEA	Europe	SX8E	EURO STOXX Technology	UA	EUR	EUX	--	57.81 (68.5%)	4.23 (61.4%)
EMEA	Europe	SXKEDA	EURO STOXX Telecommunications DVP A	DTE	EUR	EUX	--	431.63 (0.4%)	0.00 (--)
EMEA	Europe	SX6E	EURO STOXX Utilities	IT	EUR	EUX	--	293.17 (-5.3%)	8.70 (43.7%)
EMEA	Europe	M7EM	MSCI EMU Net Return EUR Index	FJI	EUR	EUX	X	1,675.37 (182.3%)	3.90 (33.0%)
EMEA	Europe	MXERCLNE	MSCI EUROPE CLIMATE PARIS ALIGNED Net EUR Index	MTE	EUR	NYF	X	239.19 (15.8%)	0.00 (--)
EMEA	Europe	NE721416	MSCI Europe ESG SCREENED NET Return EUR	AUE	EUR	EUX	X	287.85 (16.6%)	0.00 (--)
EMEA	Europe	M7EU	MSCI Europe NR (EUR)	ZRP	EUR	EUX	X	2,188.95 (-4.3%)	44.99 (-5.3%)
EMEA	Europe	NDDUE15	MSCI Europe NR (USD)	FJL	USD	EUX	X	8,511.28 (8.8%)	0.00 (-100.0%)
EMEA	Europe	NDDUE15	MSCI Europe NR (USD)	WQO	USD	NYF	X	1,008.33 (150.1%)	0.00 (--)
EMEA	Europe	NCEDE15	MSCI Europe Small Cap Net TR EUR	OHB	EUR	EUX	X	106.95 (17.9%)	0.81 (656.4%)
EMEA	Europe	M7EU000V	MSCI Europe Value Net Return EUR	KAY	EUR	EUX	X	138.38 (-13.1%)	0.00 (--)
EMEA	Europe	MBWO	MSCI World Net EUR	RSW	EUR	EUX	X	9,332.00 (-20.2%)	127.17 (9.9%)
EMEA	Europe	SXAP	STOXX 600 Automobiles & Parts	SX	EUR	EUX	--	912.96 (27.7%)	63.18 (18.3%)
EMEA	Europe	SX7P	STOXX 600 Banks	BJ	EUR	EUX	X	839.95 (-19.3%)	44.61 (-4.1%)
EMEA	Europe	SXPP	STOXX 600 Basic Resource	JS	EUR	EUX	--	1,402.39 (14.6%)	75.02 (-13.7%)
EMEA	Europe	SX4P	STOXX 600 Chemicals	TX	EUR	EUX	--	176.46 (-16.0%)	5.42 (-16.6%)
EMEA	Europe	SXOP	STOXX 600 Construction & Materials	OG	EUR	EUX	--	107.87 (-16.7%)	4.66 (-17.1%)
EMEA	Europe	SXFP	STOXX 600 Financial Services	OQ	EUR	EUX	--	160.61 (58.9%)	5.27 (13.1%)
EMEA	Europe	SX3P	STOXX 600 Food and Beverage	PF	EUR	EUX	--	375.21 (-8.2%)	8.60 (-33.6%)
EMEA	Europe	SXDP	STOXX 600 Health Care	HG	EUR	EUX	--	519.05 (-27.6%)	44.74 (2.2%)
EMEA	Europe	SXNP	STOXX 600 Industrial Goods and Services	QB	EUR	EUX	X	439.22 (24.5%)	28.34 (4.3%)



Exhibit 5: Exchange listed equity index futures with EMEA regional exposure

*To help see the trend, in the final two columns are percentage changes in open interest and volume from the prior quarter. Data from 2-Oct-23 to 29-Dec-23.

Regional Information		Contract Details						Liquidity Information	
Region	Country	Index Ticker	Index Name	Futures Ticker	CCY	Exch.	CFTC	3M Median Daily Open Interest (USD Mn)*	3M Median Daily Volume (USD Mn)*
EMEA	Europe	SXIP	STOXX 600 Insurance	JV	EUR	EUX	X	373.74 (-3.1%)	13.30 (18.7%)
EMEA	Europe	SXMP	STOXX 600 Media Supersector	OM	EUR	EUX	X	55.65 (0.9%)	1.29 (-15.9%)
EMEA	Europe	SXEP	STOXX 600 Oil & Gas	KG	EUR	EUX	--	1,930.72 (0.7%)	132.16 (21.8%)
EMEA	Europe	SXQP	STOXX 600 Personal & Household	RH	EUR	EUX	X	143.86 (-9.9%)	2.61 (-0.8%)
EMEA	Europe	SX86P	STOXX 600 Real Estate	SRD	EUR	EUX	X	292.44 (19.9%)	18.55 (27.3%)
EMEA	Europe	SXRP	STOXX 600 Retail	QK	EUR	EUX	--	166.25 (36.9%)	2.47 (62.4%)
EMEA	Europe	SX8P	STOXX 600 Technology	UL	EUR	EUX	--	383.43 (-5.5%)	35.46 (48.5%)
EMEA	Europe	SXKP	STOXX 600 Telecommunications	WQ	EUR	EUX	--	364.17 (-3.9%)	12.70 (4.1%)
EMEA	Europe	SXTP	STOXX 600 Travel & Leisure	QO	EUR	EUX	X	155.85 (26.7%)	2.02 (-51.7%)
EMEA	Europe	SX6P	STOXX 600 Utilities	GP	EUR	EUX	X	825.82 (2.3%)	37.66 (4.3%)
EMEA	Europe	SX5P	STOXX Europe 50	VH	EUR	EUX	X	550.40 (-18.0%)	19.98 (22.5%)
EMEA	Europe	SXXP	STOXX Europe 600	SXO	EUR	EUX	X	12,413.53 (6.4%)	1,763.18 (-8.9%)
EMEA	Europe	SXXPESGX	STOXX Europe 600 ESG-X PR	FUE	EUR	EUX	X	1,314.53 (-16.1%)	55.06 (17.3%)
EMEA	Europe	LCXP	STOXX Large	SXP	EUR	EUX	X	44.91 (72.5%)	0.77 (13.7%)
EMEA	Europe	MCXP	STOXX Mid	SXR	EUR	EUX	X	105.09 (19.8%)	4.40 (165.5%)
EMEA	Europe	SCXP	STOXX Small	SXT	EUR	EUX	X	298.98 (-30.1%)	13.72 (39.6%)
EMEA	Europe	SXKE	STOXX Telecommunications	WZ	EUR	EUX	--	27.12 (-5.1%)	1.35 (-31.9%)
EMEA	Finland	HEX25	OMX Helsinki 25	OT	EUR	EUX	--	136.11 (68.0%)	0.10 (110.8%)
EMEA	France	C4SD	CAC 40 Synthetic Dividend	TRC	EUR	EOP	X	12,383.20 (-6.7%)	0.00 (--)
EMEA	France	CAC	CAC-40	CF	EUR	EOP	X	14,509.68 (-7.4%)	4,416.37 (-8.6%)
EMEA	France	CAC	CAC-40	CMS	EUR	EOP	X	0.67 (-6.1%)	0.10 (-53.3%)
EMEA	Germany	DAX	DAX	GX	EUR	EUX	X	23,312.67 (-0.6%)	25,725.43 (4.1%)
EMEA	Germany	DAX	DAX	DFW	EUR	EUX	X	1,024.99 (26.1%)	3,329.61 (-6.7%)
EMEA	Germany	DAX	DAX	MZS	EUR	EUX	X	70.47 (3.7%)	349.80 (-6.7%)
EMEA	Germany	DAX	DAX	FDS	JPY	TFX	--	20.48 (-10.0%)	7.29 (-4.4%)
EMEA	Germany	DAX	DAX	DXR	EUR	BMF	--	4.48 (167.9%)	0.16 (73.7%)
EMEA	Germany	DDAXX	DivDax	FDI	EUR	EUX	--	47.91 (-0.8%)	0.29 (77.0%)
EMEA	Germany	MDAX	German DAX Mid-Cap	MFL	EUR	EUX	X	188.66 (-9.4%)	10.44 (29.0%)
EMEA	Germany	TDXP	TecDax Performance	DP	EUR	EUX	X	45.45 (10.5%)	0.85 (-15.1%)
EMEA	Greece	FTASE	FTSE/ASE 20	AJ	EUR	ADE	--	22.18 (-22.4%)	5.27 (-30.6%)
EMEA	Greece	ASEDTR	FTSE/Athex Banks	AQY	EUR	ADE	--	28.42 (-13.3%)	0.30 (-45.5%)
EMEA	Italy	FTSEMIB	FTSE MIB	ST	EUR	MIL	X	15,658.75 (9.3%)	2,690.60 (15.5%)
EMEA	Italy	FTSEMIB	FTSE MIB	SW	EUR	MIL	X	525.43 (62.8%)	182.95 (-3.5%)
EMEA	Italy	FTSEMIB	FTSE MIB	SZO	EUR	MIL	X	30.62 (42.5%)	6.55 (1.1%)
EMEA	Netherlands	AEX	AEX	EO	EUR	EOE	X	4,360.15 (-10.2%)	2,274.67 (-9.2%)
EMEA	Netherlands	AEX	AEX	MFO	EUR	EOE	X	0.29 (20.6%)	0.07 (-33.5%)
EMEA	Netherlands	BNL25P	Cboe Netherlands 25	VTE	EUR	CBD	X	1.54 (--)	1.60 (--)
EMEA	Norway	OBX	OBX	OI	NOK	OBX	--	172.01 (13.9%)	3.38 (-37.5%)
EMEA	Norway	OMXO20GI	OMX Oslo 20 GI	OMO	NOK	SSE	--	138.77 (-9.0%)	5.09 (52.4%)
EMEA	Poland	MIDWIG	mWIG40	BM	PLN	WSE	--	39.69 (1.1%)	2.16 (41.6%)
EMEA	Poland	WIG20	WIG20	KRS	PLN	WSE	X	713.52 (-2.4%)	353.75 (35.4%)
EMEA	Qatar	M1QAR	MSCI QATAR Net Total Return USD	ZRD	USD	EUX	--	120.47 (9.7%)	0.00 (--)
EMEA	Russia	IMOEX	MOEX Russia	XMC	RUB	RTS	--	458.21 (0.1%)	132.24 (-18.9%)
EMEA	Russia	IMOEX	MOEX Russia	XMB	RUB	RTS	--	96.90 (-12.0%)	25.47 (-23.3%)
EMEA	Russia	RTSIS	Russian Trading System	VE	USD	RTS	--	167.76 (-20.8%)	151.90 (-24.4%)
EMEA	Russia	RTSIS	Russian Trading System	VEY	USD	RTS	--	0.20 (-15.6%)	0.15 (-27.4%)
EMEA	South Africa	TOP40	FTSE/JSE Africa Top40	AI	ZAR	SAF	X	2,710.50 (11.4%)	705.91 (1.0%)
EMEA	South Africa	TOP40	FTSE/JSE Africa Top40	MAL	ZAR	SAF	X	4.52 (1.2%)	1.12 (-22.2%)
EMEA	South Africa	J430TR	FTSE/JSE Capped Shareholder Weighted Top 40 Total Return	DCR	ZAR	SAF	--	2,264.11 (-0.8%)	44.16 (3.9%)



Exhibit 5: Exchange listed equity index futures with EMEA regional exposure

*To help see the trend, in the final two columns are percentage changes in open interest and volume from the prior quarter. Data from 2-Oct-23 to 29-Dec-23.

Regional Information		Contract Details						Liquidity Information	
Region	Country	Index Ticker	Index Name	Futures Ticker	CCY	Exch.	CFTC	3M Median Daily Open Interest (USD Mn)*	3M Median Daily Volume (USD Mn)*
EMEA	South Africa	J430PR	FTSE/JSE Capped SWIX Top 40	DCP	ZAR	SAF	--	1,020.97 (-4.7%)	22.30 (26.6%)
EMEA	South Africa	JSHR40	FTSE/JSE Shareholder Weighted Top 40	DV	ZAR	SAF	--	159.72 (38.7%)	3.62 (67.7%)
EMEA	South Africa	M1ZA	MSCI South Africa Net USD	ZWL	USD	EUX	X	566.13 (-6.7%)	0.23 (62.3%)
EMEA	Spain	IBEX	IBEX 35	IB	EUR	MFM	X	6,695.64 (6.9%)	1,202.63 (11.1%)
EMEA	Spain	IBEX	IBEX 35	ID	EUR	MFM	X	31.67 (5.6%)	22.48 (-9.0%)
EMEA	Sweden	OMX	OMX Stockholm 30	QC	SEK	SSE	--	7,503.26 (-0.1%)	1,921.28 (21.5%)
EMEA	Sweden	OMX	OMX Stockholm 30	QCA	SEK	SSE	--	1.53 (8.9%)	0.24 (-12.1%)
EMEA	Sweden	OMX30ESG	OMX Stockholm 30 ESG Responsible	OMT	SEK	SSE	X	1,074.81 (37.6%)	16.73 (92.1%)
EMEA	Switzerland	SMIM	SMI Mid	S1	CHF	EUX	X	106.63 (-33.6%)	2.86 (17.6%)
EMEA	Switzerland	SMI	Swiss Market	SM	CHF	EUX	--	16,866.89 (-0.4%)	3,352.05 (9.0%)
EMEA	Switzerland	SMI	Swiss Market	MZY	CHF	EUX	--	8.08 (643.5%)	0.18 (-16.1%)
EMEA	Türkiye	X10XB	BIST LIQUID 10 EX BANKS	XBP	TRY	IST	--	0.25 (20.8%)	0.05 (-47.5%)
EMEA	Türkiye	XLBNK	BIST LIQUID BANKS	XBE	TRY	IST	--	3.59 (55.2%)	1.57 (-18.8%)
EMEA	Türkiye	XU030	Istanbul Stock Exchange National 30	A5	TRY	IST	X	812.41 (19.2%)	572.46 (-8.4%)
EMEA	United Kingdom	UKX	FTSE 100	Z	GBP	ICF	X	46,818.62 (-12.5%)	8,929.29 (3.4%)
EMEA	United Kingdom	UKX	FTSE 100	IUA	GBP	EUX	X	1,493.18 (-72.6%)	5.05 (-96.6%)
EMEA	United Kingdom	UKX	FTSE 100	IUE	GBP	EUX	X	87.47 (1350.7%)	0.00 (-100.0%)
EMEA	United Kingdom	UKX	FTSE 100	FSY	JPY	TFX	--	17.50 (-25.9%)	3.35 (-29.6%)
EMEA	United Kingdom	UKX	FTSE 100	FES	TWD	FTX	X	1.15 (-65.6%)	1.14 (31.7%)
EMEA	United Kingdom	TUKXG	FTSE 100 Total Return Index GBP	HBA	GBP	ICF	--	1,479.45 (1.1%)	0.00 (-)
EMEA	United Kingdom	MCX	FTSE 250	YBY	GBP	ICF	X	1,211.76 (-13.4%)	38.02 (29.9%)
EMEA	United Kingdom	NDDUUK	MSCI UK Net Total Return USD	QBS	USD	EUX	X	1,077.27 (-12.1%)	0.00 (-)

Source: BofA Global Research

BofA GLOBAL RESEARCH



Equity Index Dividend Futures

Exhibit 6: Exchange listed equity index dividend futures with various regional exposure

*To help see the trend, in the final two columns are percentage changes in open interest and volume from the prior quarter. Data from 2-Oct-23 to 29-Dec-23.

Regional Information		Contract Details						Liquidity Information	
Region	Country	Index Ticker	Index Name	Futures Ticker	CCY	Exch.	CFTC	3M Median Daily Open Interest (USD Mn)*	3M Median Daily Volume (USD Mn)*
Americas	Canada	TXDPA	S&P/TSX 60 Dividend Points Index (Annual)	SDW	CAD	MSE	--	272.64 (3.5%)	0.00 (--)
Americas	United States	NDXDIV	NASDAQ-100 Dividend Point Index	ODL	USD	CME	X	171.47 (--)	0.06 (--)
Americas	United States	R2000DIV	Russell 2000 Dividend	RDI	USD	CME	X	342.07 (-8.6%)	1.52 (606.1%)
Americas	United States	SPXDIVAN	S&P 500 Dividend Points (Annual)	ASD	USD	CME	X	4,363.41 (18.5%)	54.52 (-19.6%)
Americas	United States	SPXDIV	S&P 500 Quarterly Dividend Points	ISD	USD	CME	X	836.12 (33.0%)	6.90 (25.4%)
Asia-Pac	Hong Kong	HSCEIDPI	HSCEI Dividend Point	DHC	HKD	HKG	--	127.13 (5.6%)	0.00 (--)
Asia-Pac	Japan	NKYDIV	Nikkei Stock Average Dividend Point	MND	JPY	SGX	--	490.07 (4.2%)	4.47 (102.8%)
EMEA	Europe	SX5ED	EURO STOXX 50 Dividend Points	DED	EUR	EUX	--	11,775.91 (4.0%)	301.73 (41.5%)
EMEA	Europe	SX7EDA	EURO STOXX Banks DVP Annual	DBE	EUR	EUX	--	1,080.62 (18.1%)	21.18 (28.6%)
EMEA	Europe	SD3ED	EURO STOXX Select Dividend 30 Dividend Points	DSD	EUR	EUX	--	722.97 (7.1%)	4.99 (350.1%)
EMEA	Europe	MIBDIV	FTSE MIB Dividend	FMD	EUR	MIL	--	156.96 (16.6%)	0.00 (--)
EMEA	France	CACDI	CAC 40 Dividend Point	XFD	EUR	EOP	--	151.95 (16.0%)	0.00 (-100.0%)
EMEA	United Kingdom	F1DV	FTSE 100 Dividend	UKD	GBP	ICF	--	690.15 (21.5%)	3.95 (47.2%)

Source: BofA Global Research

BofA GLOBAL RESEARCH



Equity Index Block Futures

Exhibit 7: Exchange listed block equity index futures with various regional exposure

*To help see the trend, in the final column is percentage change in volume from the prior quarter. Data from 2-Oct-23 to 29-Dec-23. Block futures do not have open interest and instead settle into the underlying equity index future.

Regional Information		Contract Details							Liquidity Information	
Region	Country	Index Ticker	Index Name	Futures Ticker	CCY	Exch.	CFTC		3M Median Daily Open Interest (USD Mn)*	3M Median Daily Volume (USD Mn)*
Global	Global	MXEA	MSCI EAFE	MFP	USD	NYF	X	--	--	186.03 (34.8%)
Global	Global	MXEF	MSCI Emerging Markets	MMI	USD	NYF	X	--	--	314.49 (-21.2%)
Americas	Canada	SPTSX60	S&P/TSX 60	BPT	CAD	MSE	X	--	--	63.95 (-47.1%)
Americas	United States	INDU	Dow Jones Industrial Average	YMT	USD	CBT	X	--	--	199.11 (-9.1%)
Americas	United States	DJUSRE	Dow Jones US Real Estate	RHS	USD	CBT	X	--	--	14.35 (104.5%)
Americas	United States	IXE	Energy Select Sector	XEY	USD	CME	X	--	--	10.57 (450.9%)
Americas	United States	NDX	NASDAQ-100	QNT	USD	CME	X	--	--	1,629.56 (3.7%)
Americas	United States	RIY	Russell 1000	YSR	USD	CME	X	--	--	9.58 (--)
Americas	United States	RLG	Russell 1000 Growth	YGR	USD	CME	X	--	--	1.38 (--)
Americas	United States	RLV	Russell 1000 Value	YVR	USD	CME	X	--	--	10.41 (--)
Americas	United States	RTY	Russell 2000	RLB	USD	CME	X	--	--	552.33 (64.8%)
Americas	United States	MID	S&P 400 MidCap	MET	USD	CME	X	--	--	13.92 (-16.2%)
Americas	United States	SPX	S&P 500	STE	USD	CME	X	--	--	10,432.83 (1.5%)
Americas	United States	SPXESUP	S&P 500 ESG Index	SLD	USD	CME	X	--	--	21.37 (21.4%)
Americas	United States	SPXT	S&P 500 TR	AXW	USD	CME	X	--	--	1,233.27 (166.3%)
Americas	United States	IXT	Technology Select Sector	XKS	USD	CME	X	--	--	1.87 (--)
Americas	United States	IXU	Utilities Select Sector	XUT	USD	CME	X	--	--	7.03 (--)

Source: BofA Global Research

BofA GLOBAL RESEARCH



Disclosures

Important Disclosures

Due to the nature of the market for derivative securities, the issuers or securities recommended or discussed in this report are not continuously followed. Accordingly, investors must regard this report as providing stand-alone analysis and should not expect continuing analysis or additional reports relating to such issuers and/or securities. BofA Global Research personnel (including the analyst(s) responsible for this report) receive compensation based upon, among other factors, the overall profitability of Bank of America Corporation, including profits derived from investment banking. The analyst(s) responsible for this report may also receive compensation based upon, among other factors, the overall profitability of the Bank's sales and trading businesses relating to the class of securities or financial instruments for which such analyst is responsible.

Other Important Disclosures

Prices are indicative and for information purposes only. Except as otherwise stated in the report, for any recommendation in relation to an equity security, the price referenced is the publicly traded price of the security as of close of business on the day prior to the date of the report or, if the report is published during intraday trading, the price referenced is indicative of the traded price as of the date and time of the report and in relation to a debt security (including equity preferred and CDS), prices are indicative as of the date and time of the report and are from various sources including BofA Securities trading desks. The date and time of completion of the production of any recommendation in this report shall be the date and time of dissemination of this report as recorded in the report timestamp.

Recipients who are not institutional investors or market professionals should seek the advice of their independent financial advisor before considering information in this report in connection with any investment decision, or for a necessary explanation of its contents.

Officers of BofAS or one or more of its affiliates (other than research analysts) may have a financial interest in securities of the issuer(s) or in related investments.

Refer to [BofA Global Research policies relating to conflicts of interest](#).

'BofA Securities' includes BofA Securities, Inc. ('BofAS') and its affiliates. Investors should contact their BofA Securities representative or Merrill Global Wealth Management financial advisor if they have questions concerning this report or concerning the appropriateness of any investment idea described herein for such investor. 'BofA Securities' is a global brand for BofA Global Research.

Information relating to Non-US affiliates of BofA Securities and Distribution of Affiliate Research Reports:

BofAS and/or Merrill Lynch, Pierce, Fenner & Smith Incorporated ("MLPF&S") may in the future distribute, information of the following non-US affiliates in the US (short name: legal name, regulator): Merrill Lynch (South Africa): Merrill Lynch South Africa (Pty) Ltd., regulated by The Financial Service Board; MLI (UK): Merrill Lynch International, regulated by the Financial Conduct Authority (FCA) and the Prudential Regulation Authority (PRA); BofASE (France): BofA Securities Europe SA is authorized by the Autorité de Contrôle Prudentiel et de Résolution (ACPR) and regulated by the ACPR and the Autorité des Marchés Financiers (AMF). BofA Securities Europe SA ("BofASE") with registered address at 51, rue La Boétie, 75008 Paris is registered under no 842 602 690 RCS Paris. In accordance with the provisions of French Code Monétaire et Financier (Monetary and Financial Code), BofASE is an établissement de crédit et d'investissement (credit and investment institution) that is authorised and supervised by the European Central Bank and the Autorité de Contrôle Prudentiel et de Résolution (ACPR) and regulated by the ACPR and the Autorité des Marchés Financiers. BofASE's share capital can be found at www.bofam.com/BofASEdisclaimer; BofA Europe (Milan): Bank of America Europe Designated Activity Company, Milan Branch, regulated by the Bank of Italy, the European Central Bank (ECB) and the Central Bank of Ireland (CBI); BofA Europe (Frankfurt): Bank of America Europe Designated Activity Company, Frankfurt Branch regulated by BaFin, the ECB and the CBI; BofA Europe (Madrid): Bank of America Europe Designated Activity Company, Sucursal en España, regulated by the Bank of Spain, the ECB and the CBI; Merrill Lynch (Australia): Merrill Lynch Equities (Australia) Limited, regulated by the Australian Securities and Investments Commission; Merrill Lynch (Hong Kong): Merrill Lynch (Asia Pacific) Limited, regulated by the Hong Kong Securities and Futures Commission (HKSF); Merrill Lynch (Singapore): Merrill Lynch (Singapore) Pte Ltd, regulated by the Monetary Authority of Singapore (MAS); Merrill Lynch (Canada): Merrill Lynch Canada Inc, regulated by the Canadian Investment Regulatory Organization; Merrill Lynch (Mexico): Merrill Lynch Mexico, SA de CV, Casa de Bolsa, regulated by the Comisión Nacional Bancaria y de Valores; Merrill Lynch (Argentina): Merrill Lynch Argentina SA, regulated by Comisión Nacional de Valores; BofAS Japan: BofA Securities Japan Co., Ltd., regulated by the Financial Services Agency; Merrill Lynch (Seoul): Merrill Lynch International, LLC Seoul Branch, regulated by the Financial Supervisory Service; Merrill Lynch (Taiwan): Merrill Lynch Securities (Taiwan) Ltd., regulated by the Securities and Futures Bureau; BofAS India: BofA Securities India Limited, regulated by the Securities and Exchange Board of India (SEBI); Merrill Lynch (Israel): Merrill Lynch Israel Limited, regulated by Israel Securities Authority; Merrill Lynch (DIFC): Merrill Lynch International (DIFC Branch), regulated by the Dubai Financial Services Authority (DFSA); Merrill Lynch (Brazil): Merrill Lynch S.A. Corretora de Títulos e Valores Mobiliários, regulated by Comissão de Valores Mobiliários; Merrill Lynch KSA Company: Merrill Lynch Kingdom of Saudi Arabia Company, regulated by the Capital Market Authority.

This information: has been approved for publication and is distributed in the United Kingdom (UK) to professional clients and eligible counterparties (as each is defined in the rules of the FCA and the PRA) by MLI (UK), which is authorized by the PRA and regulated by the FCA and the PRA - details about the extent of our regulation by the FCA and PRA are available from us on request; has been approved for publication and is distributed in the European Economic Area (EEA) by BofASE (France), which is authorized by the ACPR and regulated by the ACPR and the AMF; has been considered and distributed in Japan by BofAS Japan, a registered securities dealer under the Financial Instruments and Exchange Act in Japan, or its permitted affiliates; is issued and distributed in Hong Kong by Merrill Lynch (Hong Kong) which is regulated by HKSF; is issued and distributed in Taiwan by Merrill Lynch (Taiwan); is issued and distributed in India by BofAS India; and is issued and distributed in Singapore to institutional investors and/or accredited investors (each as defined under the Financial Advisers Regulations) by Merrill Lynch (Singapore) (Company Registration No 198602883D). Merrill Lynch (Singapore) is regulated by MAS. Merrill Lynch Equities (Australia) Limited (ABN 65 006 276 795), AFS License 235132 (MLEA) distributes this information in Australia only to 'Wholesale' clients as defined by s.761G of the Corporations Act 2001. With the exception of Bank of America N.A., Australia Branch, neither MLEA nor any of its affiliates involved in preparing this information is an Authorised Deposit-Taking Institution under the Banking Act 1959 nor regulated by the Australian Prudential Regulation Authority. No approval is required for publication or distribution of this information in Brazil and its local distribution is by Merrill Lynch (Brazil) in accordance with applicable regulations. Merrill Lynch (DIFC) is authorized and regulated by the DFSA. Information prepared and issued by Merrill Lynch (DIFC) is done so in accordance with the requirements of the DFSA conduct of business rules. BofA Europe (Frankfurt) distributes this information in Germany and is regulated by BaFin, the ECB and the CBI. BofA Securities entities, including BofA Europe and BofASE (France), may outsource/delegate the marketing and/or provision of certain research services or aspects of research services to other branches or members of the BofA Securities group. You may be contacted by a different BofA Securities entity acting for and on behalf of your service provider where permitted by applicable law. This does not change your service provider. Please refer to the [Electronic Communications Disclaimers](#) for further information.

This information has been prepared and issued by BofAS and/or one or more of its non-US affiliates. The author(s) of this information may not be licensed to carry on regulated activities in your jurisdiction and, if not licensed, do not hold themselves out as being able to do so. BofAS and/or MLPF&S is the distributor of this information in the US and accepts full responsibility for information distributed to BofAS and/or MLPF&S clients in the US by its non-US affiliates. Any US person receiving this information and wishing to effect any transaction in any security discussed herein should do so through BofAS and/or MLPF&S and not such foreign affiliates. Hong Kong recipients of this information should contact Merrill Lynch (Asia Pacific) Limited in respect of any matters relating to dealing in securities or provision of specific advice on securities or any other matters arising from, or in connection with, this information. Singapore recipients of this information should contact Merrill Lynch (Singapore)



Pte Ltd in respect of any matters arising from, or in connection with, this information. For clients that are not accredited investors, expert investors or institutional investors Merrill Lynch (Singapore) Pte Ltd accepts full responsibility for the contents of this information distributed to such clients in Singapore.

General Investment Related Disclosures:

Taiwan Readers: Neither the information nor any opinion expressed herein constitutes an offer or a solicitation of an offer to transact in any securities or other financial instrument. No part of this report may be used or reproduced or quoted in any manner whatsoever in Taiwan by the press or any other person without the express written consent of BofA Securities.

This document provides general information only, and has been prepared for, and is intended for general distribution to, BofA Securities clients. Neither the information nor any opinion expressed constitutes an offer or an invitation to make an offer, to buy or sell any securities or other financial instrument or other derivative related to such securities or instruments (e.g., options, futures, warrants, and contracts for differences). This document is not intended to provide personal investment advice and it does not take into account the specific investment objectives, financial situation and the particular needs of, and is not directed to, any specific person(s). This document and its content do not constitute, and should not be considered to constitute, investment advice for purposes of ERISA, the US tax code, the Investment Advisers Act or otherwise. Investors should seek financial advice regarding the appropriateness of investing in financial instruments and implementing investment strategies discussed or recommended in this document and should understand that statements regarding future prospects may not be realized. Any decision to purchase or subscribe for securities in any offering must be based solely on existing public information on such security or the information in the prospectus or other offering document issued in connection with such offering, and not on this document.

Securities and other financial instruments referred to herein, or recommended, offered or sold by BofA Securities, are not insured by the Federal Deposit Insurance Corporation and are not deposits or other obligations of any insured depository institution (including, Bank of America, N.A.). Investments in general and, derivatives, in particular, involve numerous risks, including, among others, market risk, counterparty default risk and liquidity risk. No security, financial instrument or derivative is suitable for all investors. Digital assets are extremely speculative, volatile and are largely unregulated. In some cases, securities and other financial instruments may be difficult to value or sell and reliable information about the value or risks related to the security or financial instrument may be difficult to obtain. Investors should note that income from such securities and other financial instruments, if any, may fluctuate and that price or value of such securities and instruments may rise or fall and, in some cases, investors may lose their entire principal investment. Past performance is not necessarily a guide to future performance. Levels and basis for taxation may change.

This report may contain a short-term trading idea or recommendation, which highlights a specific near-term catalyst or event impacting the issuer or the market that is anticipated to have a short-term price impact on the equity securities of the issuer. Short-term trading ideas and recommendations are different from and do not affect a stock's fundamental equity rating, which reflects both a longer term total return expectation and attractiveness for investment relative to other stocks within its Coverage Cluster. Short-term trading ideas and recommendations may be more or less positive than a stock's fundamental equity rating.

Futures and options are not appropriate for all investors. Such financial instruments may expire worthless. Before investing in futures or options, clients must receive the appropriate risk disclosure documents. Investment strategies explained in this report may not be appropriate at all times. Costs of such strategies do not include commission or margin expenses.

BofA Securities is aware that the implementation of the ideas expressed in this report may depend upon an investor's ability to "short" securities or other financial instruments and that such action may be limited by regulations prohibiting or restricting "shortselling" in many jurisdictions. Investors are urged to seek advice regarding the applicability of such regulations prior to executing any short idea contained in this report.

Foreign currency rates of exchange may adversely affect the value, price or income of any security or financial instrument mentioned herein. Investors in such securities and instruments, including ADRs, effectively assume currency risk.

BofAS or one of its affiliates is a regular issuer of traded financial instruments linked to securities that may have been recommended in this report. BofAS or one of its affiliates may, at any time, hold a trading position (long or short) in the securities and financial instruments discussed in this report.

BofA Securities, through business units other than BofA Global Research, may have issued and may in the future issue trading ideas or recommendations that are inconsistent with, and reach different conclusions from, the information presented herein. Such ideas or recommendations may reflect different time frames, assumptions, views and analytical methods of the persons who prepared them, and BofA Securities is under no obligation to ensure that such other trading ideas or recommendations are brought to the attention of any recipient of this information.

In the event that the recipient received this information pursuant to a contract between the recipient and BofAS for the provision of research services for a separate fee, and in connection therewith BofAS may be deemed to be acting as an investment adviser, such status relates, if at all, solely to the person with whom BofAS has contracted directly and does not extend beyond the delivery of this report (unless otherwise agreed specifically in writing by BofAS). If such recipient uses the services of BofAS in connection with the sale or purchase of a security referred to herein, BofAS may act as principal for its own account or as agent for another person. BofAS is and continues to act solely as a broker-dealer in connection with the execution of any transactions, including transactions in any securities referred to herein.

Copyright and General Information:

Copyright 2024 Bank of America Corporation. All rights reserved. iQDatabase® is a registered service mark of Bank of America Corporation. This information is prepared for the use of BofA Securities clients and may not be redistributed, retransmitted or disclosed, in whole or in part, or in any form or manner, without the express written consent of BofA Securities. BofA Global Research information is distributed simultaneously to internal and client websites and other portals by BofA Securities and is not publicly-available material. Any unauthorized use or disclosure is prohibited. Receipt and review of this information constitutes your agreement not to redistribute, retransmit, or disclose to others the contents, opinions, conclusion, or information contained herein (including any investment recommendations, estimates or price targets) without first obtaining express permission from an authorized officer of BofA Securities.

Materials prepared by BofA Global Research personnel are based on public information. Facts and views presented in this material have not been reviewed by, and may not reflect information known to, professionals in other business areas of BofA Securities, including investment banking personnel. BofA Securities has established information barriers between BofA Global Research and certain business groups. As a result, BofA Securities does not disclose certain client relationships with, or compensation received from, such issuers. To the extent this material discusses any legal proceeding or issues, it has not been prepared as nor is it intended to express any legal conclusion, opinion or advice. Investors should consult their own legal advisers as to issues of law relating to the subject matter of this material. BofA Global Research personnel's knowledge of legal proceedings in which any BofA Securities entity and/or its directors, officers and employees may be plaintiffs, defendants, co-defendants or co-plaintiffs with or involving issuers mentioned in this material is based on public information. Facts and views presented in this material that relate to any such proceedings have not been reviewed by, discussed with, and may not reflect information known to, professionals in other business areas of BofA Securities in connection with the legal proceedings or matters relevant to such proceedings.

This information has been prepared independently of any issuer of securities mentioned herein and not in connection with any proposed offering of securities or as agent of any issuer of any securities. None of BofAS or any of its affiliates or their research analysts has any authority whatsoever to make any representation or warranty on behalf of the issuer(s). BofA Global Research policy prohibits research personnel from disclosing a recommendation, investment rating, or investment thesis for review by an issuer prior to the publication of a research report containing such rating, recommendation or investment thesis.

Any information relating to the tax status of financial instruments discussed herein is not intended to provide tax advice or to be used by anyone to provide tax advice. Investors are urged to seek tax advice based on their particular circumstances from an independent tax professional.

The information herein (other than disclosure information relating to BofA Securities and its affiliates) was obtained from various sources and we do not guarantee its accuracy. This information may contain links to third-party websites. BofA Securities is not responsible for the content of any third-party website or any linked content contained in a third-party website. Content contained on such third-party websites is not part of this information and is not incorporated by reference. The inclusion of a link does not imply any endorsement by or any affiliation with BofA Securities. Access to any third-party website is at your own risk, and you should always review the terms and privacy policies at third-party websites before submitting any personal information to them. BofA Securities is not responsible for such terms and privacy policies and expressly disclaims any liability for them.

All opinions, projections and estimates constitute the judgment of the author as of the date of publication and are subject to change without notice. Prices also are subject to change without notice. BofA Securities is under no obligation to update this information and BofA Securities ability to publish information on the subject issuer(s) in the future is subject to applicable quiet periods. You should therefore assume that BofA Securities will not update any fact, circumstance or opinion contained herein. Certain outstanding reports or investment opinions relating to securities, financial instruments and/or issuers may no longer be current. Always refer to the most recent research report relating to an issuer prior to making an investment decision. In some cases, an issuer may be classified as Restricted or may be Under Review or Extended Review. In each case, investors should consider any investment opinion relating to such issuer (or its security and/or financial instruments) to be suspended or

withdrawn and should not rely on the analyses and investment opinion(s) pertaining to such issuer (or its securities and/or financial instruments) nor should the analyses or opinion(s) be considered a solicitation of any kind. Sales persons and financial advisors affiliated with BofAS or any of its affiliates may not solicit purchases of securities or financial instruments that are Restricted or Under Review and may only solicit securities under Extended Review in accordance with firm policies. Neither BofA Securities nor any officer or employee of BofA Securities accepts any liability whatsoever for any direct, indirect or consequential damages or losses arising from any use of this information.



Research Analysts

Global

Benjamin Bowler

Equity-Linked Analyst

BofAS

benjamin.bowler@bofa.com

America

Nitin Saxena

Equity-Linked Analyst

BofAS

nitin.saxena@bofa.com

Chintan Kotecha

Equity-Linked Analyst

BofAS

+1 646 855 5478

chintan.kotecha@bofa.com

Nicholas Dunne

Equity-Linked Analyst

BofAS

+1 646 855 2631

nicholas.dunne@bofa.com

Michael Youngworth, CFA

CBs, Pfds & Derivs Strategist

BofAS

michael.youngworth@bofa.com

Gonzalo Asis

Equity-Linked Analyst

BofAS

gonzalo.asis@bofa.com

Matthew Welty

Equity-Linked Analyst

BofAS

matthew.welty@bofa.com

Arjun Goyal

Equity-Linked Analyst

BofAS

arjun.goyal@bofa.com

Europe

Abhinandan Deb >>

Equity-Linked Analyst

MLI (UK)

abhinandan.deb@bofa.com

Riddhi Prasad >>

Equity-Linked Analyst

MLI (UK)

riddhi.prasad@bofa.com

Vittoria Volta >>

Equity-Linked Analyst

BofASE (France)

vittoria.volta@bofa.com

Robin Marin >>

Equity-Linked Analyst

BofASE (France)

robin.marin@bofa.com

Rupert Ansbro >>

Equity-Linked Analyst

MLI (UK)

rupert.ansbro@bofa.com

Christopher Cho >>

Research Analyst

MLI (UK)

christopher.cho@bofa.com

Asia

Lars Naeckter >>

Equity-Linked Analyst

Merrill Lynch (DIFC)

lars.naeckter@bofa.com

Zhenhua Xue >>

Equity-Linked Analyst

Merrill Lynch (Hong Kong)

zhenhua.xue@bofa.com

Trading ideas and investment strategies discussed herein may give rise to significant risk and are not suitable for all investors. Investors should have experience in relevant markets and the financial resources to absorb any losses arising from applying these ideas or strategies.

>> Employed by a non-US affiliate of BofAS and is not registered/qualified as a research analyst under the FINRA rules.

Refer to "Other Important Disclosures" for information on certain BofA Securities entities that take responsibility for the information herein in particular jurisdictions.

