

The background of the slide is a blurred image of a financial market display. It features several overlapping line charts with various colored lines (green, blue, yellow, red) and a bar chart. The overall aesthetic is modern and data-driven, with a dark blue and green color palette. The text is overlaid on the left side of the image.

KROLL

Capital Markets Insights

Winter 2023 – A Look Back at 2022

Capital Markets

2022 Highlights

- Major U.S. indices declined in 2022 as the Federal Reserve raised interest rates in response to inflation.
- The DJIA decreased 8.8%, the S&P 500 declined 19.4% and the NASDAQ decreased 33.1% since December 31, 2021.
- U.S. companies raised \$180 billion in IPOs in 2022, 61% lower than in 2021.
- Approximately 170 SPACs went public in 2022, compared to 771 in 2021, as the SEC increased their scrutiny of blank check companies.
- Initial jobless claims came in at 204,000 for the week ended December 31, 2022, a comparable level to the 224,000 in early January 2022.
- The yield on 10-year U.S. Treasury notes increased from 1.51% as of December 31, 2021, to 3.87% as of December 31, 2022.
- The CBOE Volatility Index (“VIX”) closed at 21.67 on December 31, 2022, a 25.8% increase since December 31, 2021.
- The value of the U.S. dollar strengthened as investors sought a safe haven.

Capital Markets

Top News Stories - Wall Street Journal/Financial Times

February 24, 2022: Russia Invades Ukraine

- “Russian missiles and airstrikes hit Ukraine’s capital, Kyiv, and more than a dozen other cities, minutes after Russian leader Vladimir Putin announces the invasion.”

March 2, 2022: Oil Prices Surge

- “U.S. oil prices close above \$110 a barrel for the first time since 2011 as the war in Ukraine starts to scramble the world’s oil flows.”

March 16, 2022: Fed Begins Raising Rates

- “Federal Reserve officials vote to lift interest rates to slow inflation and pencil in six more increases by year’s end, the most aggressive pace in more than 15 years.”

April 7, 2022: Supply-Chain Strains Grow

- “Manufacturers are struggling to keep some of their China operations going as Covid-19 lockdowns choke off supplies and clog up truck routes and ports.”

June 15, 2022: The Fed Goes Big

- “The Fed raises rates by 0.75 percentage point, its largest increase since 1994, stepping up efforts to slow inflation.”

July 13, 2022: Inflation Hits 40-Year High

- “U.S. consumer inflation accelerated to 9.1% in June, the Commerce Department says, a 40-year high that adds to pressure on the Fed.”

Capital Markets

Top News Stories - Wall Street Journal/Financial Times

September 23, 2022: U.K. in Disarray

- “The government of new Prime Minister Liz Truss unveils big tax cuts and new spending to spur growth, but the plan sparks a financial-markets crisis that will lead to emergency intervention by the Bank of England.”

November 3, 2022: Fed Keeps Raising Rates

- “The Federal Reserve lifts interest rates by 0.75 percentage point for the fourth consecutive time, and signals plans to keep raising them, possibly to higher levels than previously anticipated.”

November 6, 2022: Capital Dries Up

- “The Fed’s rate increases have sucked capital out of the markets, with mergers and stock and bond offerings slowing in October to the lowest level in over a decade.”

November 11, 2022: Crypto Collapse

- “Cryptocurrency platform FTX files for bankruptcy protection—a swift demise for a company seen as a trusted platform just a week earlier.”

December 13, 2022: Inflation Eases

- “Consumer prices rose 7.1% in November from a year earlier, the slowest pace since December 2021, the Labor Department reports.” On December 14, “The Federal Reserve raises rates 0.5 percentage point, down from 0.75 point for recent increases, but also raises its estimate of how high rates will go in this tightening cycle.”

Capital Markets Report – 2022 Year in Review



	Current						Change from 12/31/2021					
	3 Months	1 Year	3 Year	5 Year	10 Year	20 Year	3 Months	1 Year	3 Year	5 Year	10 Year	20 Year
U.S. Treasury Rate	4.66%	4.73%	4.22%	4.05%	3.87%	4.20%	▲ 4.53%	▲ 4.35%	▲ 3.23%	▲ 2.77%	▲ 2.37%	▲ 2.28%
20-Year Average	1.21%	1.43%	1.85%	2.25%	2.99%	3.39%						
Spread Over Treasury:												
A Rated Bonds	0.09%	0.15%	0.61%	0.79%	1.22%	1.22%	▼ 0.30%	▼ 0.42%	▼ 2.34%	▼ 0.87%	▼ 1.11%	▼ 1.72%
BBB Rated Bonds	0.52%	0.58%	1.11%	1.36%	1.86%	1.76%	▼ 0.03%	▼ 0.24%	▼ 0.40%	▼ 0.64%	▼ 0.86%	▼ 1.58%
BB Rated Bonds	1.10%	1.34%	2.42%	2.86%	3.40%	3.38%	▼ 0.49%	▼ 0.48%	▼ 0.20%	▼ 0.48%	▼ 0.79%	▼ 1.42%
B Rated Bonds	1.51%	2.08%	3.62%	4.15%	4.67%	4.76%	▼ 0.03%	▲ 0.03%	▲ 0.21%	▼ 0.21%	▼ 0.62%	▼ 1.40%

	As of 12/31/2022	Performance Since Q3 2022	Performance Since Q2 2022	Performance Since Q1 2022	1-Year Performance	3-Year Performance	5-Year Performance
Indices							
S&P 500	3,839.50	▲ 7.1%	▲ 1.4%	▼ 15.3%	▼ 19.4%	▲ 18.8%	▲ 43.6%
Dow Jones Industrial Average	33,147.25	▲ 15.4%	▲ 7.7%	▼ 4.4%	▼ 8.8%	▲ 16.1%	▲ 34.1%
NASDAQ Composite Index	10,466.48	▼ 1.0%	▼ 5.1%	▼ 26.4%	▼ 33.1%	▲ 16.6%	▲ 51.6%
FTSE 100 Index	7,451.74	▲ 8.1%	▲ 3.9%	▼ 0.9%	▲ 0.9%	▼ 1.2%	▼ 3.1%
S&P/TSX Composite Index	19,384.92	▲ 5.1%	▲ 2.8%	▼ 11.4%	▼ 8.7%	▲ 13.6%	▲ 19.6%
Hang Seng Index	19,781.41	▲ 14.9%	▼ 9.5%	▼ 10.1%	▼ 15.5%	▼ 29.8%	▼ 33.9%
Germany DAX Index	13,923.59	▲ 14.9%	▲ 8.9%	▼ 3.4%	▼ 12.3%	▲ 5.1%	▲ 7.8%
Paris CAC 40 Index	6,473.76	▲ 12.3%	▲ 9.3%	▼ 2.8%	▼ 9.5%	▲ 8.3%	▲ 21.9%
Singapore FTSE Straits Times Index	3,251.32	▲ 3.9%	▲ 4.8%	▼ 4.6%	▲ 4.1%	▲ 0.9%	▼ 4.5%
Brazil Bovespa Index	109,734.60	▼ 0.3%	▲ 11.4%	▼ 8.6%	▲ 4.7%	▼ 5.1%	▲ 43.6%
Madrid Ibex 35 Index	8,229.10	▲ 11.7%	▲ 1.6%	▼ 2.6%	▼ 5.6%	▼ 13.8%	▼ 18.1%
Volatility Index "VIX"	21.67	▼ 31.5%	▼ 24.5%	▲ 5.4%	▲ 25.8%	▲ 57.3%	▲ 96.3%

Source: S&P Capital IQ and Bloomberg

Capital Markets Report – 2022 Year in Review

Commodity prices increased in 2022 due to supply chain constraints and contributed to high levels of inflation throughout the year.



	As of 12/31/2022	Performance Since 9/30/2022	Performance Since 6/30/2022	Performance Since 3/31/2022	1-Year Performance	3-Year Performance	5-Year Performance
Commodities							
Crude Oil (\$ per bbl.)	\$80.26	▲ 2.0%	▼ 24.1%	▼ 20.0%	▲ 6.7%	▲ 31.4%	▲ 32.8%
Natural Gas (\$ per mmBTU)	\$4.10	▼ 39.3%	▼ 23.9%	▼ 27.3%	▲ 15.4%	▲ 87.6%	▲ 39.0%
Gold (\$ per troy oz.)	\$1,826.20	▲ 9.2%	▲ 1.0%	▼ 6.5%	▼ 0.1%	▲ 20.2%	▲ 39.3%
Lean Hogs (\$ per lb.)	\$0.88	▲ 15.1%	▼ 14.1%	▼ 27.3%	▲ 7.6%	▲ 22.8%	▲ 10.3%
Live Cattle (\$ per lb.)	\$1.58	▲ 7.4%	▲ 19.1%	▲ 15.2%	▲ 13.0%	▲ 25.4%	▲ 46.5%
Corn (\$ per bu.)	\$6.79	▲ 0.1%	▲ 9.5%	▼ 9.4%	▲ 14.4%	▲ 75.0%	▲ 67.8%
Soybean (\$ per bu.)	\$15.24	▲ 11.7%	▼ 2.3%	▼ 5.8%	▲ 13.8%	▲ 59.5%	▲ 55.5%
Cotton (\$ per lb.)	\$0.83	▼ 2.3%	▼ 15.7%	▼ 38.6%	▼ 26.0%	▲ 20.7%	▲ 17.7%
Sugar (\$ per lb.)	\$0.20	▲ 13.3%	▲ 8.3%	▲ 2.8%	▲ 6.1%	▲ 44.4%	▲ 26.4%
Coffee (\$ per lb.)	\$1.67	▼ 24.5%	▼ 27.3%	▼ 26.1%	▼ 26.0%	▲ 21.3%	▲ 6.5%
Currencies¹							
Euro (EUR / USD) 	1.07	▼ 8.2%	▼ 2.2%	▲ 3.9%	▲ 6.4%	▲ 5.0%	▲ 12.4%
British Pound (GBP / USD) 	1.20	▼ 7.5%	▲ 0.9%	▲ 9.1%	▲ 12.4%	▲ 9.9%	▲ 12.2%
Mexican Peso (USD / MXN) 	19.51	▼ 2.9%	▼ 3.2%	▼ 2.1%	▼ 4.9%	▲ 3.4%	▼ 0.6%
Brazilian Real (USD / BRL) 	5.29	▼ 2.3%	▲ 1.1%	▲ 11.2%	▼ 5.1%	▲ 31.5%	▲ 59.6%
Japanese Yen (USD / JPY) 	131.87	▼ 8.9%	▼ 3.0%	▲ 8.6%	▲ 14.5%	▲ 21.3%	▲ 17.1%
Canadian Dollar (USD / CAD) 	1.35	▼ 1.4%	▲ 5.1%	▲ 8.4%	▲ 6.9%	▲ 4.3%	▲ 7.9%
Chinese Renminbi (Yuan) (USD / CNY) 	6.90	▼ 3.1%	▲ 3.0%	▲ 8.8%	▲ 8.6%	▼ 0.9%	▲ 6.0%

Source: S&P Capital IQ and Bloomberg; ¹ Percentage change reflects strengthening and weakening of USD

Capital Markets Report – 2022 Year in Review

The major U.S. indices declined in 2022 due to rising interest rates and inflationary pressures. The VIX increased 25.8% over the course of the year.



		FYE 2022	FYE 2021	FYE 2020	FYE 2019	FYE 2018
Indices						
S&P 500		▼ 19.4%	▲ 26.9%	▲ 16.3%	▲ 28.9%	▼ 6.2%
Dow Jones Industrial Average		▼ 8.8%	▲ 18.7%	▲ 7.2%	▲ 22.3%	▼ 5.6%
NASDAQ Composite Index		▼ 33.1%	▲ 21.4%	▲ 43.6%	▲ 35.2%	▼ 3.9%
FTSE 100 Index		▲ 0.9%	▲ 14.3%	▼ 14.3%	▲ 12.1%	▼ 12.5%
S&P/TSX Composite Index		▼ 8.7%	▲ 21.7%	▲ 2.2%	▲ 19.1%	▼ 11.6%
Hang Seng Index		▼ 15.5%	▼ 14.1%	▼ 3.4%	▲ 9.1%	▼ 13.6%
Germany DAX Index		▼ 12.3%	▲ 15.8%	▲ 3.5%	▲ 25.5%	▼ 18.3%
Paris CAC 40 Index		▼ 9.5%	▲ 28.9%	▼ 7.1%	▲ 26.4%	▼ 11.0%
Singapore FTSE Straits Times Index		▲ 4.1%	▲ 9.8%	▼ 11.8%	▲ 5.0%	▼ 9.8%
Brazil Bovespa Index		▲ 4.7%	▼ 11.9%	▲ 2.9%	▲ 31.6%	▲ 15.0%
Madrid Ibex 35 Index		▼ 5.6%	▲ 7.9%	▼ 15.5%	▲ 11.8%	▼ 15.0%
Volatility Index "VIX"		▲ 25.8%	▼ 24.3%	▲ 65.1%	▼ 45.8%	▲ 130.3%

Source: S&P Capital IQ and Bloomberg

Top and Bottom S&P 500 Performers

Company	Ticker	Industry	Price on 12/31/2022	1-Year Performance
Top S&P 500 Performers				
Occidental Petroleum	OXY	Oil and Gas	\$62.99	▲ 117.3%
Hess Corporation	HES	Oil and Gas	\$141.82	▲ 91.6%
Exxon Mobil	XOM	Oil and Gas	\$110.30	▲ 80.3%
Marathon Petroleum	MPC	Oil and Gas	\$116.39	▲ 81.9%
Schlumberger	SLB	Oil and Gas	\$53.46	▲ 78.5%
Worst S&P 500 Performers				
Generac Holdings	GNRC	Industrials	\$100.66	▼ 71.4%
Match Group	MTCH	Entertainment	\$41.49	▼ 68.6%
Align Technology	ALGN	Health Care	\$210.90	▼ 67.9%
SVB Financial Group	SIVB	Financials	\$230.14	▼ 66.1%
Tesla	TSLA	Automotive	\$123.18	▼ 65.0%

Source: S&P Capital IQ and Bloomberg

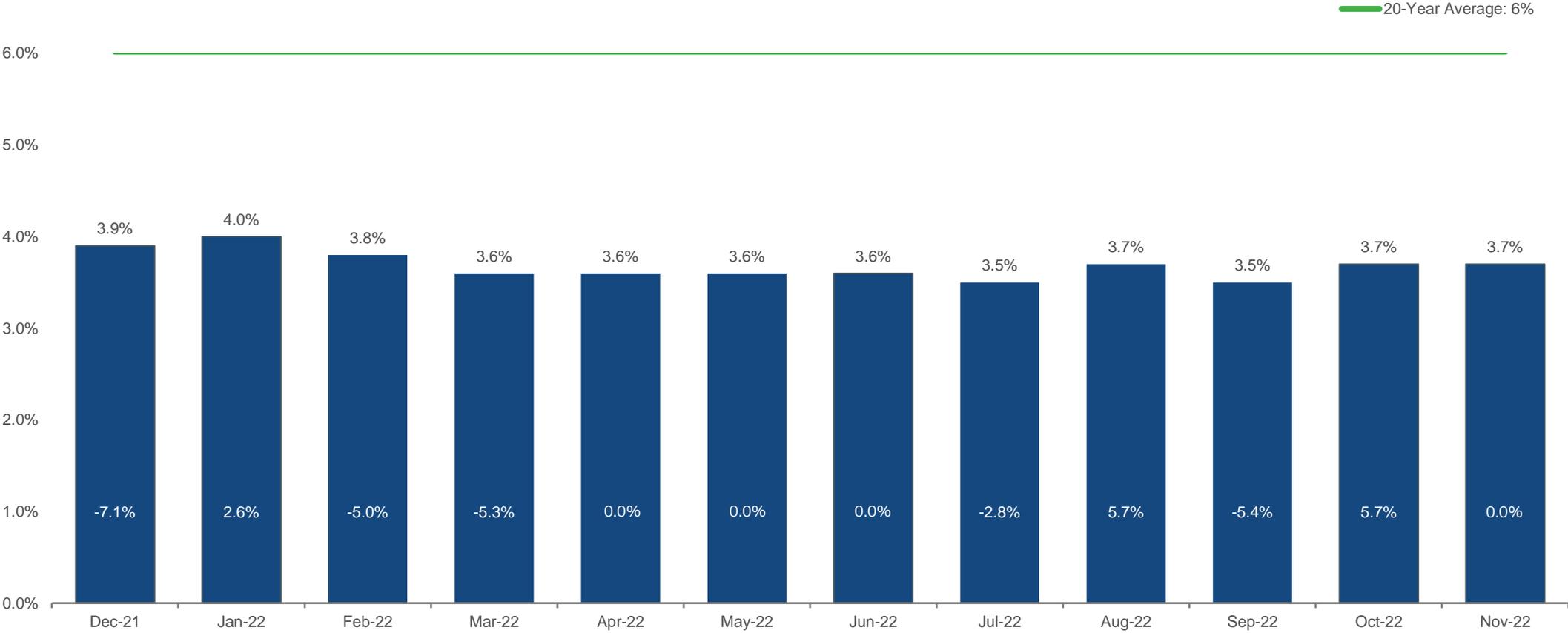
Top and Bottom DJIA Performers

Company	Ticker	Industry	Stock Price on 12/31/2022	% of 52-Week High	1-Year Performance
Top DJIA Performers					
Chevron	CVX	Oil and Gas	\$179.49	94.6%	▲ 53.0%
Merck	MRK	Pharmaceuticals	\$110.95	98.3%	▲ 44.8%
Travelers	TRV	Financials	\$187.49	98.0%	▲ 19.9%
Amgen	AMGN	Health Care	\$262.64	88.5%	▲ 16.7%
Caterpillar	CAT	Industrials	\$239.56	97.8%	▲ 15.9%
Worst DJIA Performers					
Intel	INTC	Technology	\$26.43	47.0%	▼ 48.7%
Salesforce	CRM	Technology	\$132.59	51.6%	▼ 47.8%
Walt Disney	DIS	Entertainment	\$86.88	54.2%	▼ 43.9%
3M	MMM	Industrials	\$119.92	66.0%	▼ 32.5%
Apple	AAPL	Technology	\$129.93	71.0%	▼ 26.8%

Source: S&P Capital IQ and Bloomberg

Unemployment

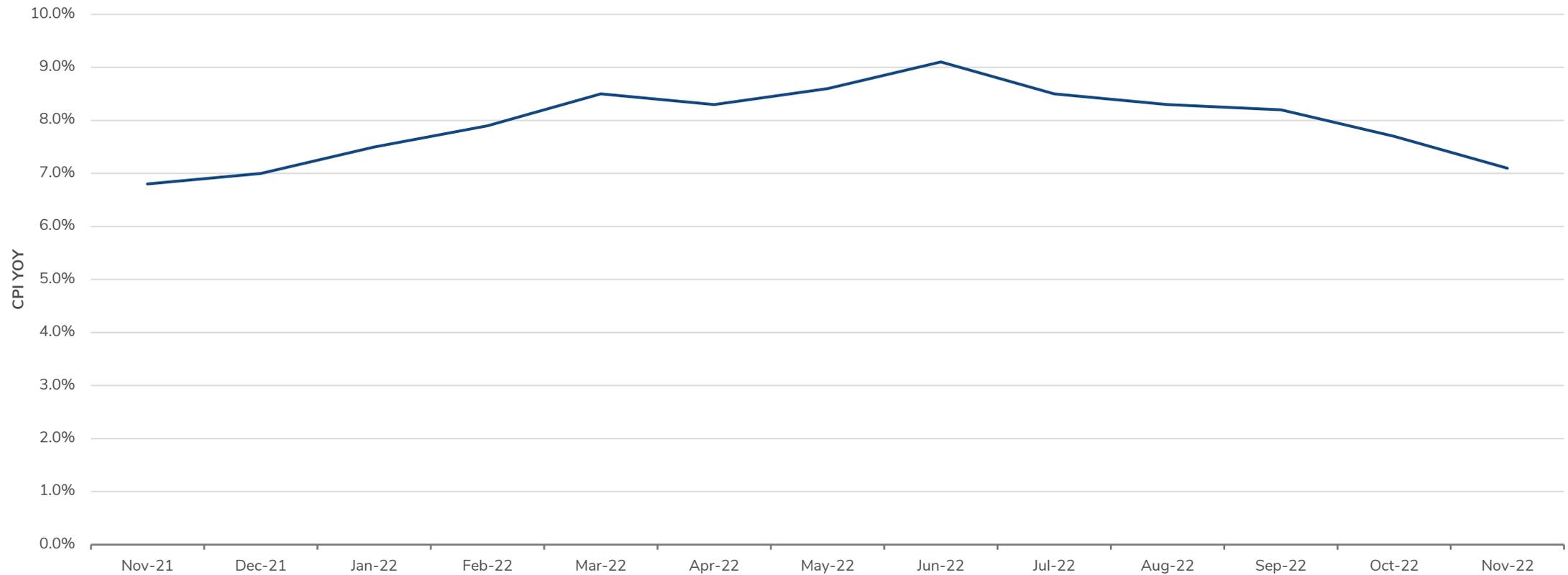
The unemployment rate decreased 0.2% compared to December 2021. The November rate of 3.7% was just above the 5-year low of 3.5%.



Source: Federal Reserve Economic Data

CPI

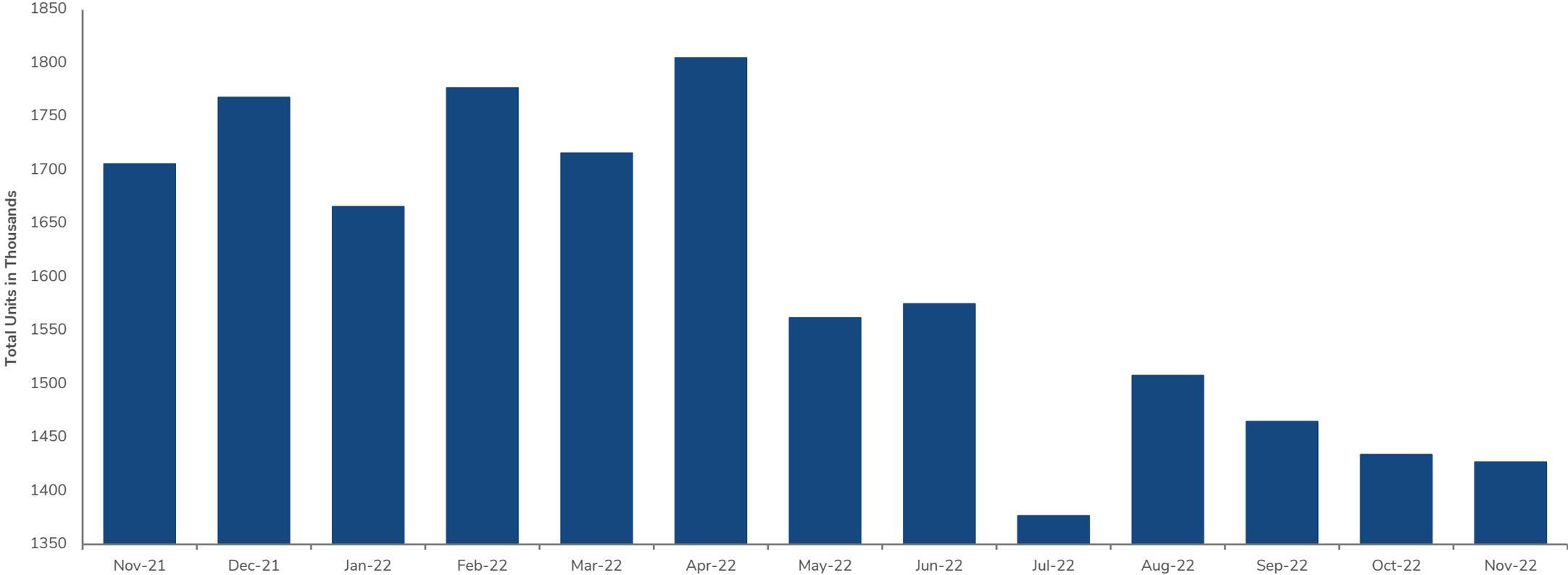
CPI year-over-year growth increased 7.1% for the 12 months ending November. The increase of 9.1% in June was the largest increase since November 1981.



Source: Bureau of Labor Statistics

Housing Starts

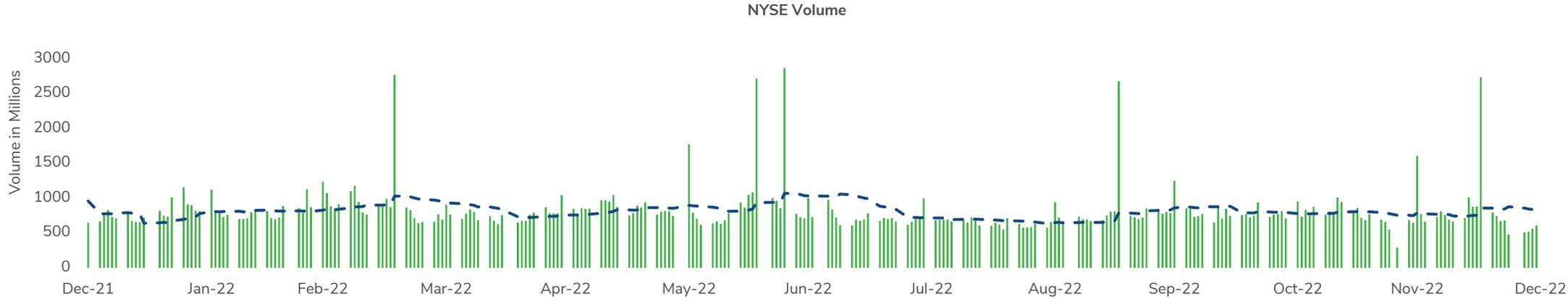
New, privately owned housing starts were approximately 1.4 million units in November 2022, about 16% lower than November 2021.



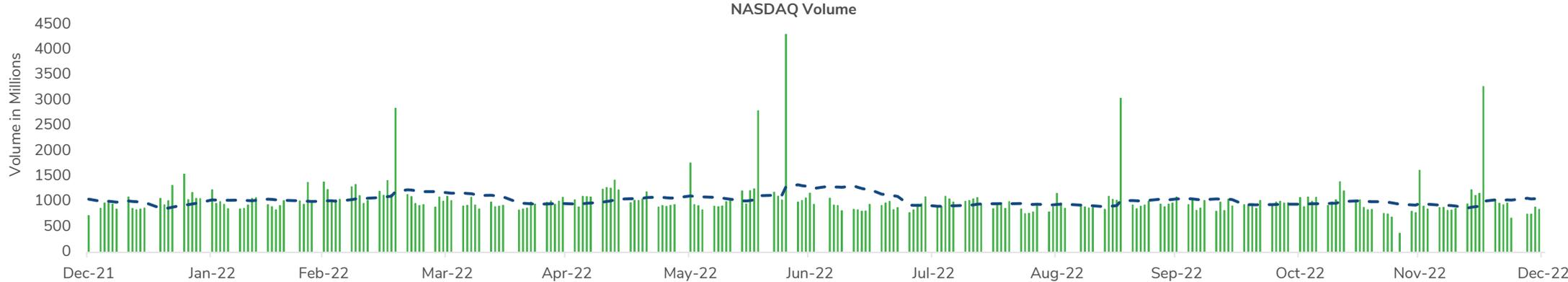
Source: Federal Reserve Bank of St. Louis

Trading Volume

NYSE trading volumes decreased by 1% on average while NASDAQ trading volumes decreased by 12% on average when compared to 2021 levels.



--- 30-Day Moving Average Volume



--- 30-Day Moving Average Volume

Notable M&A Deals

Target	Acquirer	Announced	Transaction Value (\$ in millions)	Target's Revenue	P/E Multiple
Albertsons Companies	The Kroger Co.	10/14/2022	\$34,011	\$75,342	12.9x
Horizon Therapeutics Public Limited Company	Amgen Inc.	12/12/2022	\$30,246	\$3,701	47.2x
Toshiba Corporation	Japan Industrial Partners, Inc.	11/7/2022	\$19,110	\$23,751	9.3x
Abiomed, Inc.	Johnson & Johnson	11/1/2022	\$18,977	\$1,074	65.1x
Vantage Towers AG	KKR & Co. Inc.; Global Infrastructure Management, LLC	11/9/2022	\$17,541	\$1,037	42.7x
Climate Technologies Business of Emerson	Blackstone Inc.; GIC Private Limited; Abu Dhabi Investment Authority	10/31/2022	\$14,000	\$5,000	NA
Chr. Hansen Holding A/S	Novozymes A/S	12/12/2022	\$12,443	\$1,227	48.2x
HSBC Bank Canada	Royal Bank of Canada	11/29/2022	\$11,450	\$1,692	NA
City Practice Group of New York, LLC	Village Practice Management Company, LLC	11/7/2022	\$8,900	NA	NA
IAA, Inc.	Ritchie Bros. Holdings Inc	11/7/2022	\$8,533	\$2,123	21.6x

Source: S&P Capital IQ, Mergermarket, and Bloomberg; Note: Represents announced transactions

Notable IPOs

In 2022, businesses raised nearly \$180 billion worldwide through stock market listings, which is 61% lower than the proceeds raised from deals in 2021.

Company	Industry	Ticker	Exchange	IPO Date	IPO Proceeds Raised (\$ in millions)	# of Shares Offered	Offering Price	First Trading Day Closing Price	Price as of 12/31/22	First Day vs. Offering Price	12/31/22 vs Offering	12/31/22 vs. First Day
Corebridge Financial, Inc.	Financials	CRBG	NYSE	9/15/2022	\$1,680	80,000,000	\$21.00	\$20.72	\$20.06	-1.3%	-4.5%	-3.2%
TPG Inc.	Financials	TPG	NasdaqGS	1/13/2022	\$1,000	33,900,000	\$29.50	\$32.79	\$27.83	11.2%	-5.7%	-15.1%
Mobileye Global Inc.	Automotive	MBLY	NasdaqGS	10/26/2022	\$861	41,000,000	\$21.00	\$27.00	\$35.06	28.6%	67.0%	29.9%
Bausch + Lomb Corporation	Health Care	BLCO	NYSE	5/6/2022	\$630	35,000,000	\$18.00	\$20.00	\$15.51	11.1%	-13.8%	-22.5%
Excellerate Energy, Inc.	Oil and Gas	EE	NYSE	4/13/2022	\$384	16,000,000	\$24.00	\$28.00	\$25.05	16.7%	4.4%	-10.5%
ProFrac Holding Corp.	Oil and Gas	ACDC	NasdaqGS	5/13/2022	\$194	10,800,000	\$18.00	\$18.11	\$25.20	0.6%	40.0%	39.1%
HilleVax, Inc	Pharmaceuticals	HLVX	NasdaqGS	4/28/2022	\$200	11,765,000	\$17.00	\$20.06	\$16.73	18.0%	-1.6%	-16.6%
Credo Technology Group Holding Ltd	Technology	CRDO	NasdaqGS	1/26/2022	\$200	20,000,000	\$10.00	\$11.19	\$13.31	11.9%	33.1%	18.9%
CinCor Pharma, Inc.	Pharmaceuticals	CINC	NasdaqGS	1/6/2022	\$194	12,100,000	\$16.00	\$14.13	\$12.29	-11.7%	-23.2%	-13.0%
Amylyx Pharmaceuticals, Inc.	Pharmaceuticals	AMLX	NasdaqGS	1/7/2022	\$190	10,000,000	\$19.00	\$16.72	\$36.95	-12.0%	94.5%	121.0%

Source: S&P Capital IQ and Bloomberg

Notable SPACs

Over 170 SPACs were listed in 2022, totaling over \$15 billion in gross proceeds. That compares to 771 new SPACs in 2021 with gross proceeds of approximately \$172 billion. SEC scrutiny of de-SPAC transactions led to the decline.

SPAC	IPO Date	Public Records Raised (\$ in millions)	Transaction Announced	Company	Ticker	Industry	Pro Forma EV (\$ in millions)
East Stone Acquisition Corporation	11/14/2022	\$2,558	4/16/2022	NWTN Inc.	NWTN	Automobile	\$3,619
Tiga Acquisition Corp.	11/18/2022	\$1,599	5/9/2022	Grindr Inc.	GRND	Interactive Media	\$974
Adara Acquisition Corp.	NA	\$1,061	6/23/2022	Alliance Entertainment Holding Corporation	NA	Distributors	NA
Decarbonization Plus Acquisition Corporation IV	NA	\$882	9/26/2022	Hammerhead Resources Inc	NA	Oil and Gas	NA
Jack Creek Investment Corp.	NA	\$725	8/4/2022	Bridger Aerospace Group Holdings, LLC	NA	Aerospace	NA
Pono Capital Corp.	NA	\$600	9/7/2022	AERWINS Technologies Inc.	NA	Technology	NA
Kludeln I Acquisition Corp.	NA	\$575	5/19/2022	Near Intelligence, Inc.	NA	Software	NA
East Resources Acquisition Company	NA	\$555	7/19/2022	Abacus Settlements, LLC & Longevity Market Assets, LLC	NA	Insurance	NA
Legato Merger Corp. II	NA	\$498	5/25/2022	Southland Holdings LLC	NA	Construction	NA
TLG Acquisition One Corp.	NA	\$495	11/14/2022	ElectrIQ Power, Inc.	NA	Electrical	NA

Source: S&P Capital IQ, SPAC Insider, and Morning Star

Notable Bankruptcies

In 2022, the collapse of FTX led to several bankruptcies in the crypto market.

Company	Date	Industry	Assets	Liabilities
Blockfi	November 28, 2022	Financials	\$1-\$10B	\$1-\$10B
FTX	November 11, 2022	Financials	\$10-\$50B	\$10-\$50B
Celsius Network	July 13, 2022	Financials	\$4.3B	\$5.5B
Three Arrows Capital	June 27, 2022	Financials	\$1B	\$3B
Sungard Availability Services	April 11, 2022	Technology	\$1B	\$1B
GWG Holdings Inc.	April 20, 2022	Financials	\$1B	\$2B
Cypress Environmental Partners	May 8, 2022	Energy	\$97mm	\$62.4mm
Sigfox USA	March 31, 2022	Technology	84.6mm	149.6mm
ION Geophysical Corporation	April 12, 2022	Energy	36mm	166.9mm
Olympia Sports	March 2, 2022	Retail	\$10mm	\$50mm

Source: Bloomberg

Indices

Global equity indices have generally declined, as the world deals with supply chain constraints, inflation and rising interest rates.



	As of 12/31/2022	Performance Since Q3 2022	Performance Since Q2 2022	Performance Since Q1 2022	Performance Since Q4 2021
Indices					
S&P 500	3,839.50	▲ 7.1%	▲ 1.4%	▼ 15.3%	▼ 19.4%
Dow Jones Industrial Average 	33,147.25	▲ 15.4%	▲ 7.7%	▼ 4.4%	▼ 8.8%
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FTSE 100 Index 	7,451.74	▲ 8.1%	▲ 3.9%	▼ 0.9%	▲ 0.9%
Hang Seng Index 	19,781.41	▲ 14.9%	▼ 9.5%	▼ 10.1%	▼ 15.5%

Source: S&P Capital IQ and Bloomberg

S&P 500 Performance

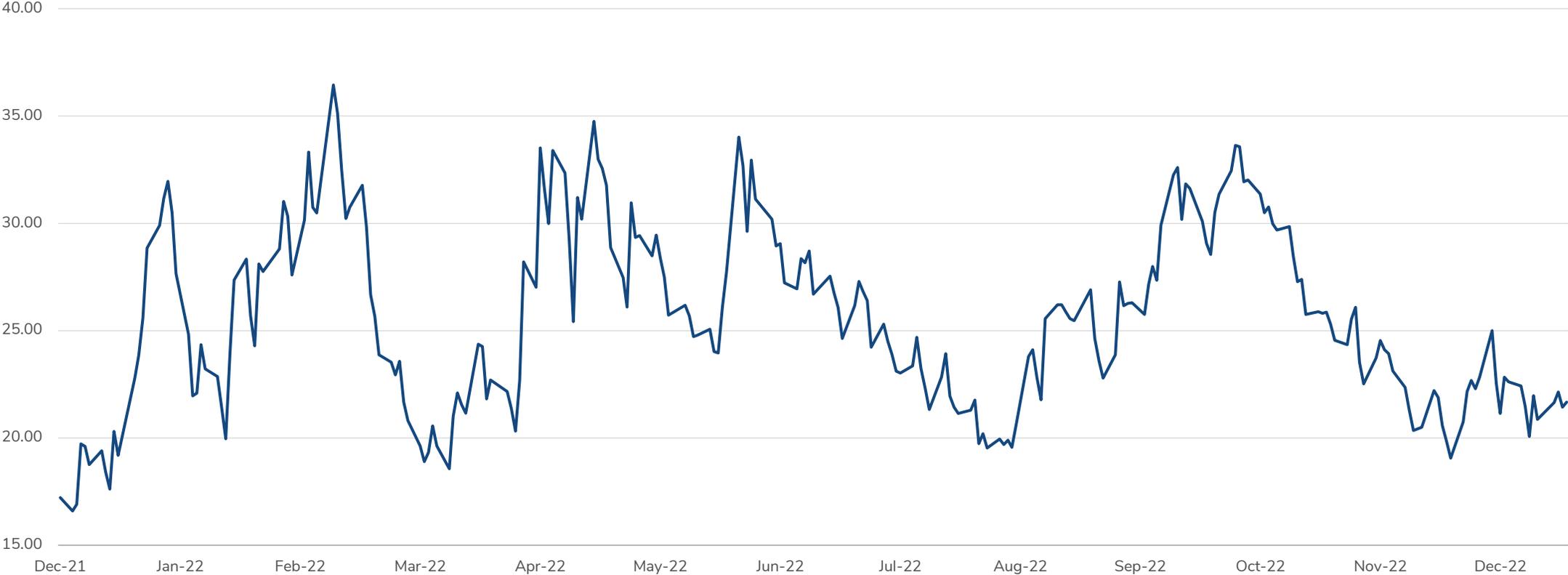
The S&P 500 saw its worst calendar year performance since 2008 as investor sentiment reflected slowdowns in economic growth, rising interest rates and an uncertain macroeconomic environment.



Source: S&P Capital IQ and Bloomberg

Volatility

The VIX closed at 21.67 on December 30, 2022, which represents a 25.8% increase since December 31, 2021, and a 40.5% decrease from its peak close in February.

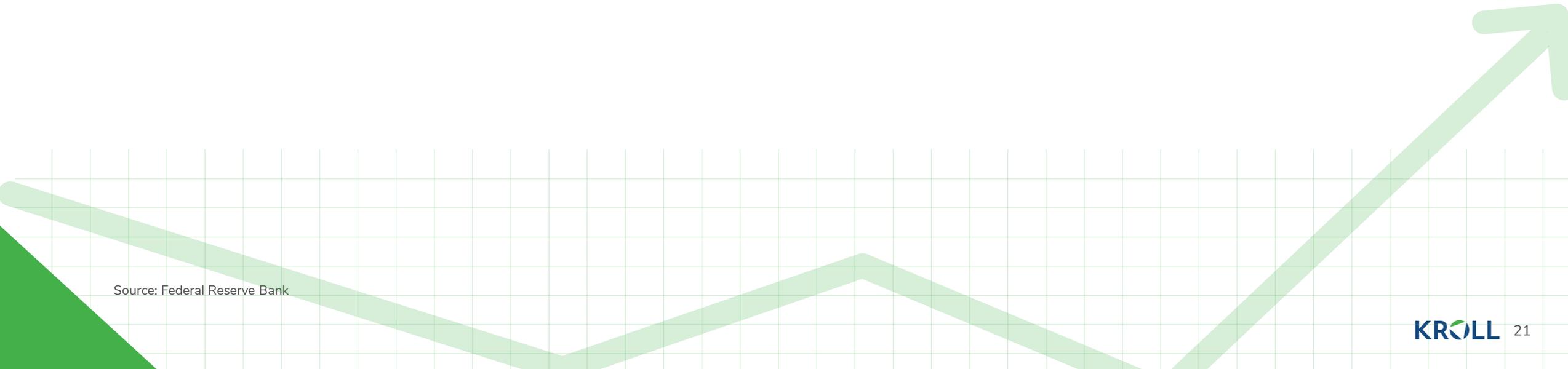


Source: S&P Capital IQ and Bloomberg

Federal Funds Effective Rate

The Federal Reserve increased the federal funds rate seven times in 2022.

FOMC Meeting Date	Rate Change (bps)	Federal Funds Rate
12/14/2022	(+50)	4.25% to 4.50%
11/2/2022	(+75)	3.75% to 4.00%
9/21/2022	(+75)	3.00% to 3.25%
7/27/2022	(+75)	2.25% to 2.5%
6/16/2022	(+75)	1.5% to 1.75%
5/5/2022	(+50)	0.75% to 1.00%
3/17/2022	(+25)	0.25% to 0.50%



Source: Federal Reserve Bank

Global Cost of Capital Inputs

Data Reaffirmed as of December 31, 2022

	Normalized Risk-Free Rate	Kroll Recommended Equity Risk Premium
U.S. (in USD)	Higher of 3.5% or Spot*	6.0%
Eurozone *** (in EUR)	Higher of 3.0% or Spot**	5.5% to 6.0%

The current Kroll Recommended Eurozone ERP remains in the range of 5.5% to 6.0%. Based on current economic and financial market conditions, we continue to believe that a 6.0% ERP is more appropriate when developing EUR-denominated discount rates as of March 14, 2022, and thereafter, until further guidance is issued.

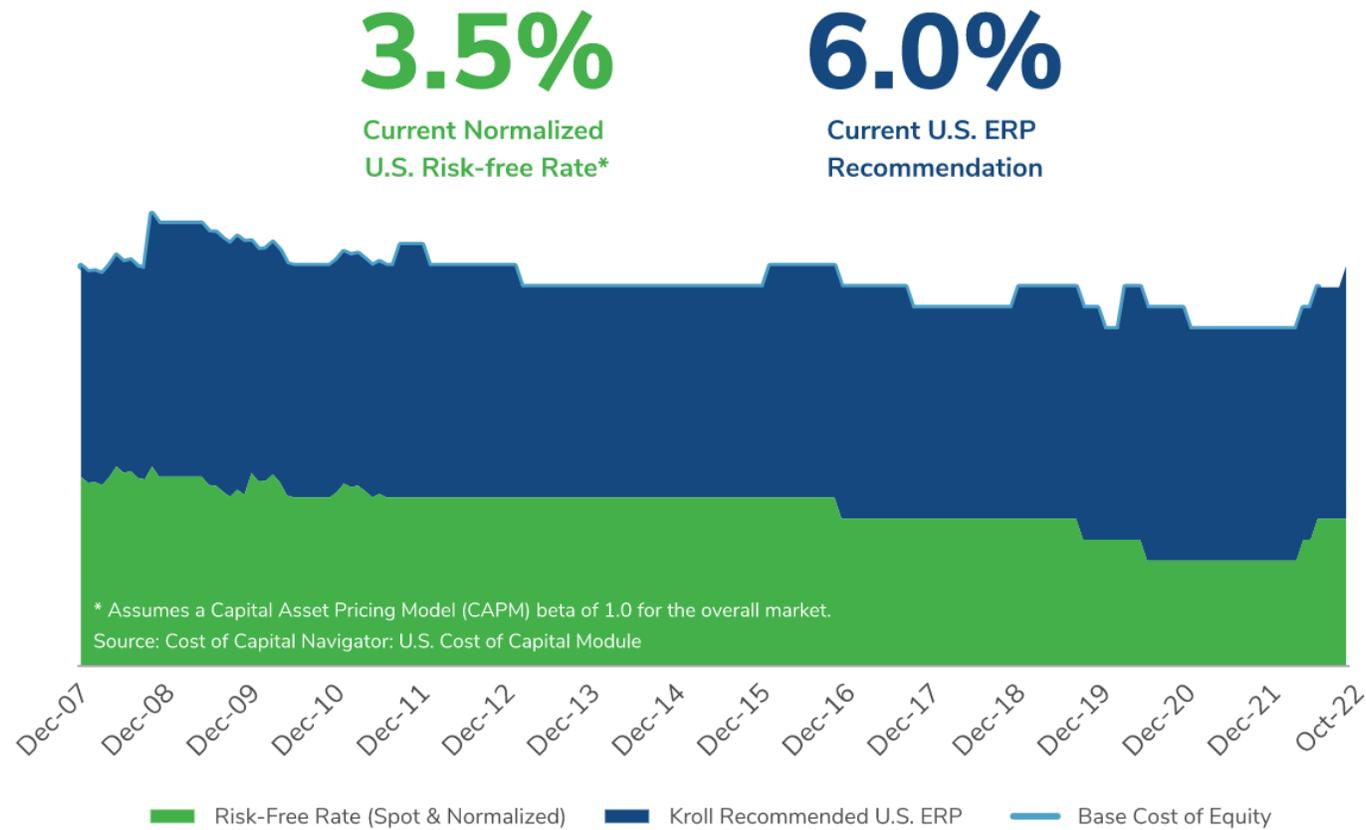
*We recommend using the spot 20-year U.S. Treasury yield as the proxy for the risk-free rate, if the prevailing yield as of the valuation date is higher than our recommended U.S. normalized risk-free rate of 3.5%. This guidance is effective when developing USD-denominated discount rates as of June 15, 2022, and thereafter.

**We recommend using the spot 15-year German government bond yield as the proxy for the risk-free rate, if the prevailing yield as of the valuation date is higher than our recommended German normalized risk-free rate of 3.0%. This guidance is effective when developing EUR-denominated discount rates as of October 18, 2022, and thereafter.

***German normalized risk-free rate and Eurozone equity risk premium (ERP) for use in EUR-denominated discount rates from a German investor perspective. Our current ERP recommendation is at the top of the range. Additional country risk adjustments may be warranted when estimating discount rates for other countries in the Eurozone.

ERP

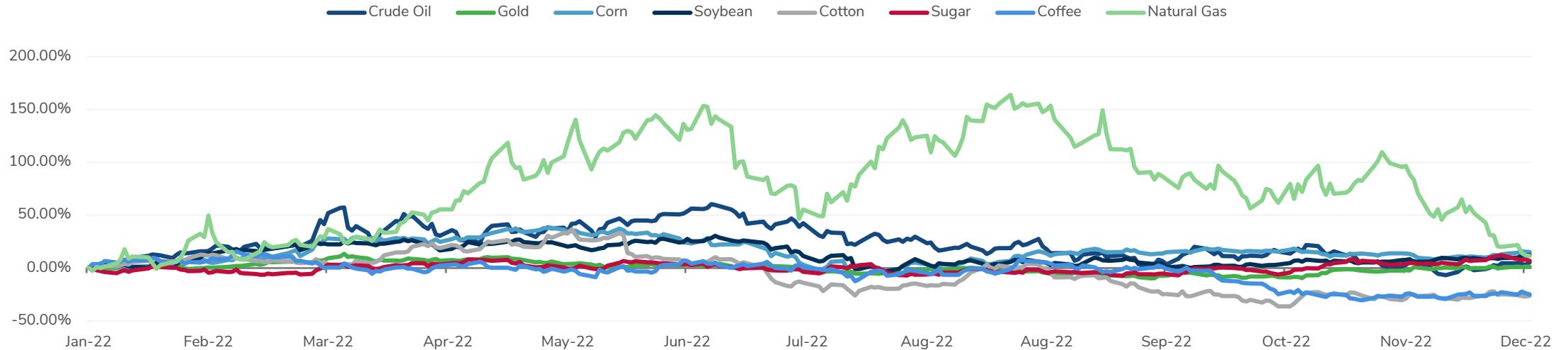
The Kroll Recommended U.S. ERP increased from 5.5% to 6.0% when developing USD-denominated discount rates as of October 18, 2022. This is matched with the higher of a normalized risk-free rate of 3.5% or the spot 20-year U.S. Treasury yield as of the valuation date.



Source: Kroll; *We recommend using the spot 20-year U.S. Treasury yield as the proxy for the risk-free rate, if the prevailing yield as of the valuation date is higher than our recommended U.S. normalized risk-free rate of 3.5%. This guidance is effective when developing USD-denominated discount rates as of June 16, 2022, and there after

Commodities

Most commodities saw increases in prices due to supply chain constraints.

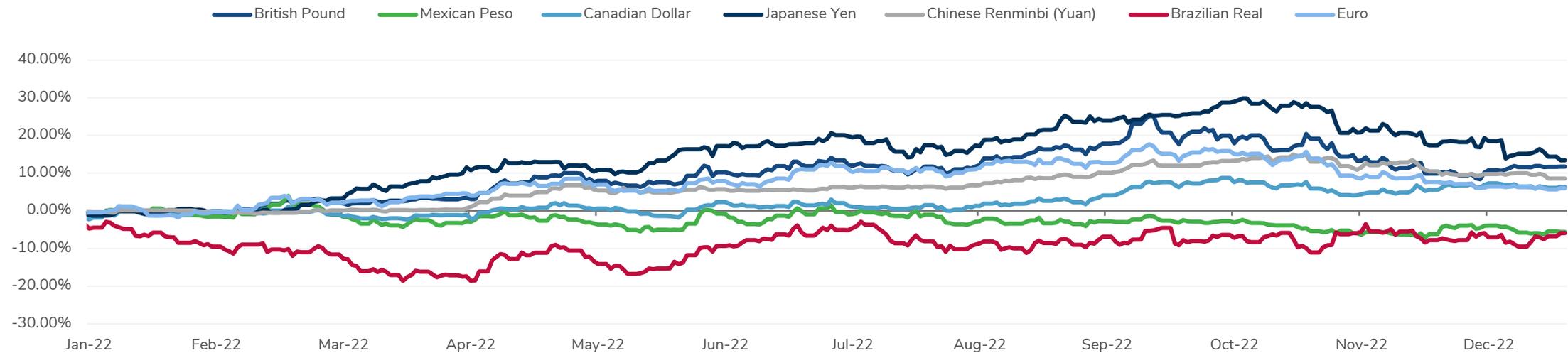


Forecast	Forecast Q1 2023	Forecast Q2 2023	Forecast Q3 2023	Forecast Q4 2023	Forecast FY 2024
Commodities					
Crude Oil (\$ per bbl.) ⁽¹⁾	\$79.17	\$75.67	\$75.67	NA	\$87.00
Natural Gas (per mmBTU) ⁽²⁾	£1.78	£1.90	£1.92	£2.20	£1.93
Gold (\$ per troy oz.)	\$1,750.00	\$1,767.00	\$1,782.00	\$1,827.00	\$1,800.00
Corn (\$ per bu.)	\$6.15	\$6.27	\$5.75	\$5.73	\$6.00
Soybean (\$ per bu.)	\$0.64	\$0.61	\$0.59	\$0.56	\$0.54
Cotton (\$ per lb.)	\$0.82	\$0.88	\$0.79	\$0.92	\$0.96
Sugar (\$ per lb.)	\$0.18	\$0.18	\$0.17	\$0.17	\$0.17
Coffee (\$ per lb.)	\$1.70	\$2.00	\$1.74	\$1.70	\$1.76

⁽¹⁾ Dubai Fateh Crude Oil; ⁽²⁾ UK National Balancing Point Natural Gas (£ per therm)

Currencies

The value of the U.S. dollar strengthened against most major currencies in 2022.



Forecast		Forecast Q1 2023	Forecast Q2 2023	Forecast Q3 2023	Forecast Q4 2023	Forecast FY 2024
Euro (EUR / USD)		1.04	1.05	1.06	1.08	1.10
British Pound (GBP / USD)		1.18	1.19	1.20	1.22	1.26
Mexican Peso (USD / MXN)		19.93	20.00	20.15	20.00	19.20
Brazilian Real (USD / BRL)		5.30	5.20	5.20	5.21	5.00
Japanese Yen (USD / JPY)		141.00	141.00	141.00	141.00	138.00
Canadian Dollar (USD / CAD)		1.36	1.32	1.33	1.30	1.25
Chinese Renminbi (Yuan) (USD / CNY)		7.04	7.00	6.92	6.85	6.73

Source: S&P Capital IQ and Bloomberg

Current P/E Multiples

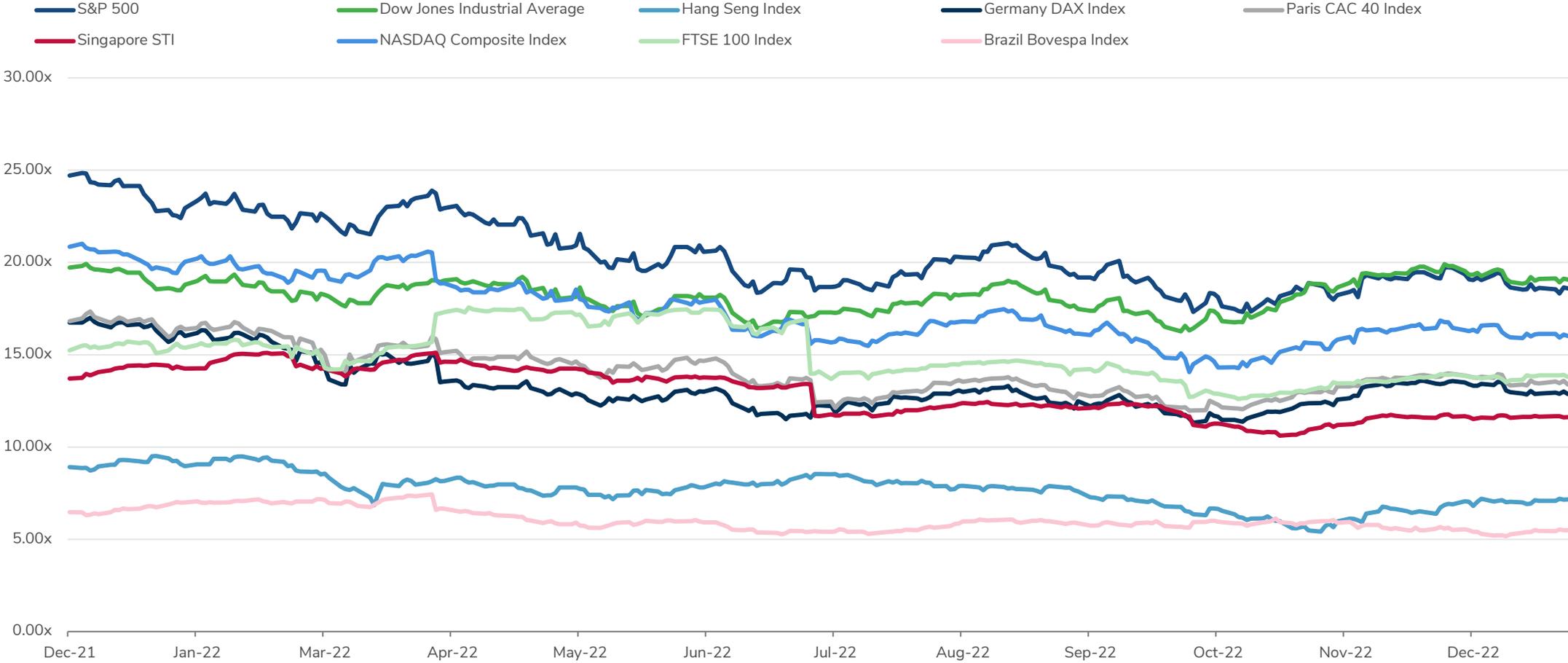
The median LTM P/E multiples decreased 5.1x for the major indices since December 31, 2021.

Index	FYE 2022	1 -Year Change	9/30/2022	6/30/2022	3/30/2022	FYE 2021	FYE 2020
S&P 500	18.5x	▼ 7.7x	17.2x	18.4x	23.6x	26.2x	30.7x
Dow Jones Industrial Average	18.7x	▼ 1.5x	16.1x	16.8x	18.7x	20.3x	25.2x
NASDAQ Composite Index	43.5x	▼ 86.7x	40.5x	42.2x	56.7x	130.2x	59.0x
FTSE 100 Index	13.8x	▼ 3.9x	12.7x	14.0x	15.7x	17.7x	85.1x
S&P/TSX Composite Index	12.8x	▼ 6.4x	12.3x	12.7x	18.6x	19.2x	27.0x
Hang Seng Index	7.2x	▼ 2.2x	6.4x	8.5x	8.3x	9.3x	14.1x
Germany DAX Index	12.9x	▼ 2.5x	11.3x	12.2x	14.9x	15.3x	67.6x
Paris CAC 40 Index	13.4x	▼ 8.3x	12.0x	12.4x	15.9x	21.7x	51.9x
Singapore FTSE Straits Times Index	11.6x	▼ 8.1x	11.2x	11.7x	15.1x	19.7x	37.7x
Brazil Bovespa Index	5.5x	▼ 1.3x	5.6x	5.4x	7.4x	6.8x	112.4x

Source: Capital IQ and Bloomberg

Current P/E Multiples

Median P/E multiples for the S&P 500 decreased 7.7x turns, while the DJIA decreased just 1.5x since December 31, 2021.



Source: Bloomberg

S&P P/E Multiples

	Actual FYE 2018	Actual FYE 2019	Actual FYE 2020	Actual FYE 2021	Actual FYE 2022	Forecast CY 2023
S&P 500	16.6x	21.2x	30.7x	26.2	18.5x	17.3x



Source: Bloomberg

EBITDA Multiples

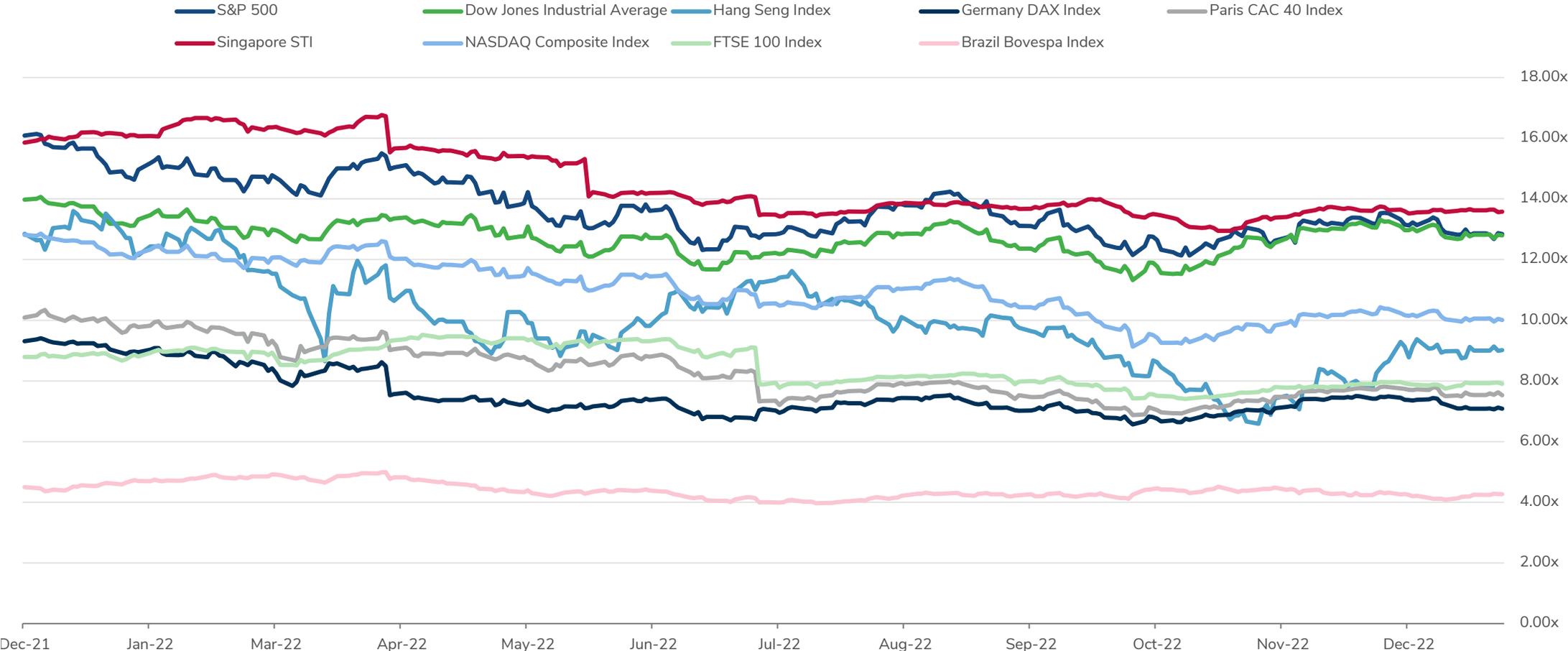
LTM EBITDA multiples decreased a median 2.1x for the major indices since December 31, 2021.

Index	LTM as of 12/31/2022	1-Year Change	9/30/2022	6/30/2022	3/31/2022	FYE 2021	FYE 2020
S & P 500	12.8x	▼ 4.4x	12.2x	12.7x	15.0x	17.2x	18.5x
Dow Jones Industrial Average	12.8x	▼ 2.1x	11.3x	12.1x	13.3x	14.9x	16.8x
NASDAQ Composite Index	10.0x	▼ 20.8x	9.1x	10.4x	12.1x	30.8x	30.5x
FTSE 100 Index	7.9x	▼ 1.7x	7.4x	7.9x	9.3x	9.6x	12.2x
Hang Seng Index	9.0x	▲ 0.2x	8.2x	11.3x	10.7x	8.8x	14.1x
Germany DAX Index	7.1x	▼ 1.7x	6.6x	7.0x	7.5x	8.8x	11.7x
Paris CAC 40 Index	7.5x	▼ 4.0x	6.9x	7.3x	9.0x	11.5x	12.5x
Singapore FTSE Straits Times Index	13.6x	▼ 12.8x	13.4x	13.5x	15.5x	26.4x	16.0x
Brazil Bovespa Index	4.3x	▼ 0.5x	4.3x	4.0x	4.8x	4.8x	11.9x

Source: Bloomberg; Note: Multiples are as of the dates shown; Source: Bloomberg

EBITDA Multiples

The EBITDA multiple for the NASDAQ Composite index decreased **20.8x** since December 31, 2021, as technology companies experienced declining multiples.

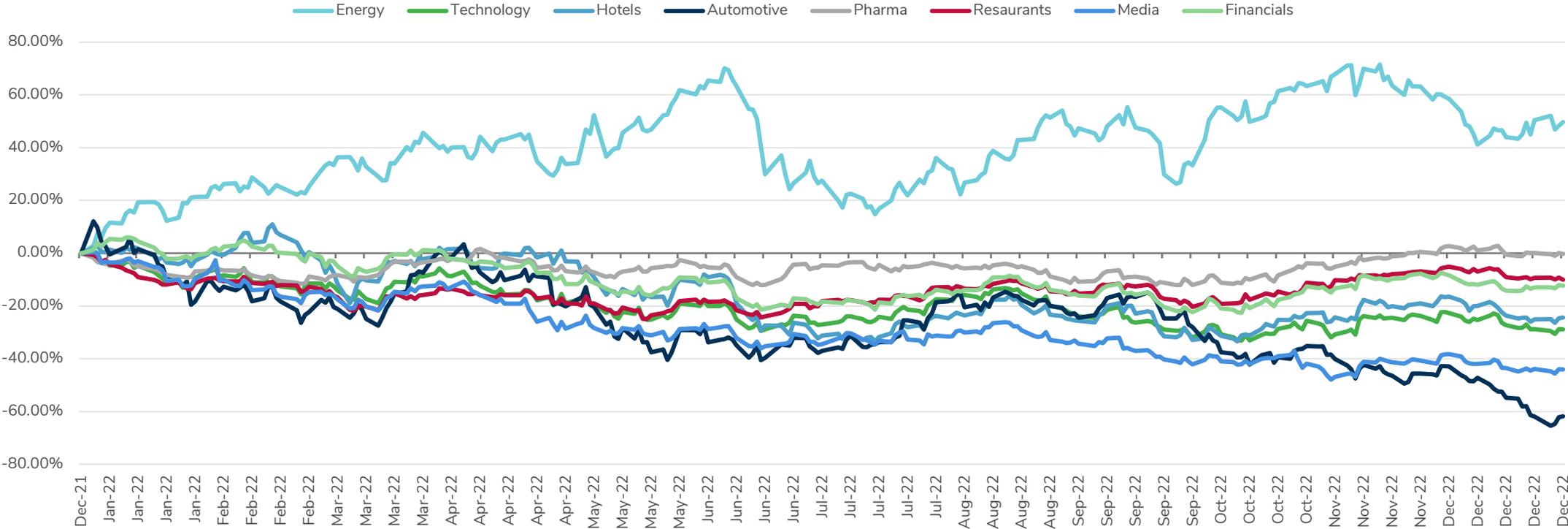


Note: Multiples are as of the dates shown; Source: Bloomberg, and Capital IQ

Sector Performance



- ▲ 49.7% Energy
- ▼ 0.3% Pharma
- ▼ 10.1% Restaurants
- ▼ 10.1% Financials
- ▼ 24.4% Hotels
- ▼ 28.9% Technology
- ▼ 44.1% Media
- ▼ 61.8% Automotive



Source: S&P Capital IQ and Bloomberg

Energy Sector



Performance of Top 10 Firms by Market Capitalization

Company	Stock Price on 12/31/2022	Market Capitalization (\$US mn)	1-Year Forward P/E Multiple	3-Year Average EV/EBITDA Multiple	LTM EV/EBITDA Multiple	1-Year Forward EV/EBITDA Multiple	2-Year Forward EV/EBITDA Multiple	1-Year Performance	3-Year Performance	5-Year Performance
Saudi Arabian Oil Company	SAR 32.10	\$1,878,361	11.1x	6.6x	6.0x	5.6x	6.1x	▼ 1.4%	▲ 0.2%	NA
Exxon Mobil	\$110.30	\$454,248	7.9x	6.9x	5.8x	4.5x	5.4x	▲ 80.3%	▲ 58.1%	▲ 31.9%
Chevron	\$179.49	\$347,069	9.4x	7.7x	6.7x	5.2x	5.7x	▲ 53.0%	▲ 48.9%	▲ 43.4%
Shell	£23.26	\$196,279	NA	4.0x	2.9x	NA	NA	▲ 43.4%	▲ 4.1%	▼ 6.2%
Reliance	INR 2,547.20	\$195,523	23.5x	15.9x	14.9x	13.3x	11.6x	▲ 7.6%	▲ 68.2%	▲ 176.6%
Total Energies	€ 58.65	\$155,681	4.3x	3.2x	2.8x	2.6x	3.0x	▲ 31.4%	▲ 19.2%	▲ 27.4%
ConocoPhillips	\$118.00	\$147,036	8.2x	5.1x	4.5x	4.2x	4.7x	▲ 63.5%	▲ 81.5%	▲ 115.0%
Equinor	NOK 351.80	\$113,138	5.1x	1.5x	1.2x	1.1x	1.4x	▲ 49.1%	▲ 100.5%	▲ 100.8%
BP	£4.75	\$103,896	3.8x	4.4x	3.9x	2.4x	3.0x	▲ 43.7%	▲ 0.7%	▼ 9.1%
Enbridge	CAD 52.92	\$79,172	18.1x	16.6x	16.2x	12.7x	12.2x	▲ 7.1%	▲ 2.5%	▲ 7.6%
Average								▲ 37.8%		

Source: S&P Capital IQ and Bloomberg

Technology Sector

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Performance of Top 10 Firms by Market Capitalization

Company	Stock Price on 12/31/2022	Market Capitalization (\$US mn)	1-Year Forward P/E Multiple	3-Year Average EV/EBITDA Multiple	LTM EV/EBITDA Multiple	1-Year Forward EV/EBITDA Multiple	2-Year Forward EV/EBITDA Multiple	1-Year Performance	3-Year Performance	5-Year Performance
Apple	\$129.93	\$2,066,942	20.9x	15.6x	15.6x	15.6x	14.8x	▼ 26.8%	▲ 77.0%	▲ 207.1%
Microsoft	\$239.82	\$1,788,218	25.1x	18.1x	17.8x	17.4x	15.0x	▼ 28.7%	▲ 52.1%	▲ 180.4%
Visa	\$207.76	\$428,271	25.1x	21.9x	21.1x	19.3x	17.1x	▼ 4.1%	▲ 10.6%	▲ 82.2%
Taiwan Semiconductor Manufacturing	TWD 448.50	\$378,561	11.5x	8.6x	7.8x	7.1x	6.8x	▼ 27.1%	▲ 35.5%	▲ 95.4%
NVIDIA	\$146.14	\$359,651	44.8x	33.7x	41.1x	34.2x	25.8x	▼ 50.3%	▲ 148.4%	▲ 202.1%
Mastercard	\$347.73	\$334,328	32.9x	27.3x	26.0x	25.6x	22.3x	▼ 3.2%	▲ 16.5%	▲ 129.7%
Samsung Electronics	KRW 55,300.00	\$295,548	10.0x	2.9x	2.9x	3.1x	3.69x	▼ 29.4%	▼ 0.9%	▲ 8.5%
Broadcom	\$559.13	\$233,653	13.7x	14.4x	13.6x	12.1x	11.6x	▼ 16.0%	▲ 76.9%	▲ 117.6%
Oracle	\$81.74	\$220,392	16.6x	16.5x	16.6x	12.3x	11.1x	▼ 6.3%	▲ 54.3%	▲ 72.9%
ASML Holding	€ 503.80	\$214,796	36.4x	30.8x	30.0x	29.0x	21.8x	▼ 28.7%	▲ 91.1%	▲ 247.1%
Average								▼ 22.1%		

Source: S&P Capital IQ and Bloomberg

Hotel Sector

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Performance of Top 10 Firms by Market Capitalization

Company	Stock Price on 12/31/2022	Market Capitalization (\$US mn)	1-Year Forward P/E Multiple	3-Year Average EV/EBITDA Multiple	LTM EV/EBITDA Multiple	1-Year Forward EV/EBITDA Multiple	2-Year Forward EV/EBITDA Multiple	1-Year Performance	3-Year Performance	5-Year Performance
Booking Holdings	\$2,015.28	\$78,171	20.7x	17.5x	15.1x	14.7x	12.3x	▼ 16.0%	▼ 1.9%	▲ 16.0%
Airbnb	\$85.50	\$54,137	33.2x	36.2x	27.8x	16.6x	14.8x	▼ 48.6%	NA	NA
Marriott International	\$148.89	\$47,130	22.7x	19.3x	16.9x	14.9x	13.6x	▼ 9.9%	▼ 1.7%	▲ 9.7%
Hiltwon Worldwide	\$126.36	\$34,175	27.9x	23.1x	20.1x	16.8x	15.0x	▼ 19.0%	▲ 13.9%	▲ 58.2%
Trip.com	\$34.40	\$22,076	NM	NM	46.0x	11.0x	3.6x	▲ 39.7%	▲ 2.6%	▼ 22.0%
Expedia	\$87.60	\$13,674	12.2x	14.8x	11.4x	6.7x	5.8x	▼ 51.5%	▼ 19.0%	▼ 26.9%
H World Group	\$42.42	\$13,652	NM	31.2x	114.4x	21.5x	4.1x	▲ 13.6%	▲ 5.9%	▲ 17.5%
Royal Caribbean Cruises	\$49.43	\$12,614	NM	NM	NM	51.5x	9.6x	▼ 35.7%	▼ 63.0%	▼ 58.6%
Carnival Corporation	\$8.06	\$9,995	NM	NM	NM	9.6x	7.6x	▼ 59.9%	▼ 84.1%	▼ 87.9%
InterContinental Hotels	£47.44	\$9,991	20.9x	18.1x	15.6x	12.7x	11.6x	▼ 0.8%	▼ 8.9%	▼ 4.5%
Average								▼ 18.8%		

Source: S&P Capital IQ and Bloomberg

Automotive Sector



Performance of Top 10 Firms by Market Capitalization

Company	Stock Price on 12/31/2022	Market Capitalization (\$US mn)	1-Year Forward P/E Multiple	3-Year Average EV/EBITDA Multiple	LTM EV/EBITDA Multiple	1-Year Forward EV/EBITDA Multiple	2-Year Forward EV/EBITDA Multiple	1-Year Performance	3-Year Performance	5-Year Performance
Tesla	\$123.18	\$388,972	30.6x	26.2x	23.4x	19.3x	14.4x	▼ 65.0%	▲ 341.7%	▲ 493.4%
Toyota	¥1,812.50	\$187,424	9.1x	11.2x	12.7x	10.8x	9.6x	▼ 13.9%	▲ 17.5%	▲ 25.6%
Porsche	€ 94.75	\$92,249	16.5x	10.7x	10.5x	9.1x	8.7x	NA	NA	NA
Volkswagen	€ 116.42	\$72,220	3.5x	7.8x	8.7x	5.2x	5.4x	▼ 34.4%	▼ 33.9%	▼ 30.1%
Mercedes-Benz	€ 61.40	\$70,202	4.8x	8.2x	8.4x	6.5x	6.7x	▼ 9.2%	▲ 24.4%	▼ 13.3%
BMW	€ 83.38	\$57,264	3.5x	8.2x	8.2x	6.6x	6.7x	▼ 5.8%	▲ 14.0%	▼ 4.0%
Stellantis	€ 13.26	\$45,551	2.6x	1.1x	1.0x	0.8x	0.9x	▼ 20.5%	NA	NA
GM	\$33.64	\$47,792	4.7x	8.8x	7.9x	7.9x	8.3x	▼ 42.6%	▼ 8.1%	▼ 17.9%
Ford	\$11.63	\$46,758	5.9x	8.9x	8.7x	8.9x	9.1x	▼ 44.0%	▲ 25.1%	▼ 6.9%
Ferrari	\$214.22	\$38,978	40.6x	27.7x	28.8x	22.3x	18.9x	▼ 17.2%	▲ 29.4%	▲ 104.3%
Average								▼ 28.1%		

Source: S&P Capital IQ and Bloomberg

Pharma Sector



Performance of Top 10 Firms by Market Capitalization

Company	Stock Price on 12/31/2022	Market Capitalization (\$US mn)	1-Year Forward P/E Multiple	3-Year Average EV/EBITDA Multiple	LTM EV/EBITDA Multiple	1-Year Forward EV/EBITDA Multiple	2-Year Forward EV/EBITDA Multiple	1-Year Performance	3-Year Performance	5-Year Performance
Johnson & Johnson	\$176.65	\$461,849	17.6x	14.2x	14.4x	13.9x	13.2x	▲ 3.3%	▲ 21.1%	▲ 26.4%
Eli Lilly and Company	\$365.84	\$347,613	47.1x	34.3x	34.7x	38.4x	34.7x	▲ 32.4%	▲ 178.4%	▲ 333.2%
Novo Nordisk	DKK 938.00	\$304,426	38.5x	29.0x	27.1x	25.7x	22.4x	▲ 27.6%	▲ 142.6%	▲ 180.4%
Pfizer	\$51.24	\$287,626	7.9x	6.9x	6.5x	6.7x	8.5x	▼ 13.2%	▲ 30.8%	▲ 41.5%
AbbVie	\$161.61	\$285,707	11.7x	11.7x	11.5x	10.7x	12.9x	▲ 19.4%	▲ 82.5%	▲ 67.1%
Merck & Co.	\$110.95	\$281,302	15.0x	13.0x	12.5x	11.9x	11.7x	▲ 44.8%	▲ 22.0%	▲ 97.2%
Roche Holding	CHF 290.50	\$259,562	14.0x	11.1x	11.1x	10.5x	10.5x	▼ 23.4%	▼ 7.5%	▲ 17.8%
Thermo Fisher Scientific	\$550.69	\$216,998	23.9x	19.2x	19.6x	20.5x	20.3x	▼ 17.5%	▲ 69.5%	▲ 190.0%
AstraZeneca	£112.18	\$209,442	20.4x	19.4x	17.5x	16.7x	14.2x	▲ 29.3%	▲ 47.5%	▲ 119.1%
Novartis	CHF 83.59	\$194,448	15.0x	10.7x	10.5x	11.8x	11.2x	▲ 4.1%	▼ 9.0%	▲ 1.4%
Average								▲ 10.7%		

Source: S&P Capital IQ and Bloomberg

Restaurant Sector

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Performance of Top 10 Firms by Market Capitalization

Company	Stock Price on 12/31/2022	Market Capitalization (\$US mn)	1-Year Forward P/E Multiple	3-Year Average EV/EBITDA Multiple	LTM EV/EBITDA Multiple	1-Year Forward EV/EBITDA Multiple	2-Year Forward EV/EBITDA Multiple	1-Year Performance	3-Year Performance	5-Year Performance
McDonald's	\$263.53	\$193,016	26.5x	19.7x	19.7x	19.8x	18.4x	▼ 1.7%	▲ 33.4%	▲ 53.1%
Starbucks	\$99.20	\$113,862	29.0x	21.5x	22.5x	19.1x	16.8x	▼ 15.2%	▲ 12.8%	▲ 72.7%
Compass Group	£19.18	\$40,517	22.7x	21.5x	19.3x	12.7x	11.5x	▲ 16.1%	▲ 1.5%	▲ 19.8%
Chipotle Mexican Grill	\$1,387.49	\$38,463	41.5x	34.3x	31.2x	27.6x	21.8x	▼ 20.6%	▲ 65.7%	▲ 380.1%
Yum! Brands	\$128.08	\$36,079	28.7x	21.4x	21.4x	20.7x	18.9x	▼ 7.8%	▲ 27.2%	▲ 56.9%
Yum China Holdings	\$54.65	\$22,871	49.9x	19.1x	18.2x	16.2x	12.1x	▲ 9.7%	▲ 13.8%	▲ 36.6%
Darden Restaurants	\$138.33	\$16,930	17.7x	15.3x	15.5x	14.4x	13.3x	▼ 8.2%	▲ 26.9%	▲ 44.1%
Sodexo	€ 89.48	\$13,959	15.6x	13.6x	12.6x	9.2x	8.5x	▲ 16.1%	▼ 15.3%	▼ 20.1%
Domino's	\$346.40	\$12,604	28.5x	22.3x	22.4x	21.2x	19.6x	▼ 38.6%	▲ 17.9%	▲ 83.3%
Americana Restaurants	AED 2.97	\$6,811	NA	25.6x	27.7x	NA	NA	NA	NA	NA
Average								▼ 5.6%		

Source: S&P Capital IQ and Bloomberg

Media Sector



Performance of Top 10 Firms by Market Capitalization

Company	Stock Price on 12/31/2022	Market Capitalization (\$US mn)	1-Year Forward P/E Multiple	3-Year Average EV/EBITDA Multiple	LTM EV/EBITDA Multiple	1-Year Forward EV/EBITDA Multiple	2-Year Forward EV/EBITDA Multiple	1-Year Performance	3-Year Performance	5-Year Performance
Alphabet	\$88.23	\$1,145,004	18.7x	11.1x	11.3x	9.6x	9.0x	▼ 39.1%	▲ 31.7%	▲ 67.5%
Tencent	HKD 334.00	\$403,029	24.5x	20.9x	21.4x	18.5x	16.5x	▼ 26.9%	▼ 11.1%	▼ 17.7%
Meta	\$120.34	\$315,555	13.3x	6.3x	6.8x	6.0x	6.3x	▼ 64.2%	▼ 41.4%	▼ 31.8%
Walt Disney	\$86.88	\$158,434	21.0x	18.4x	17.7x	13.9x	11.5x	▼ 43.9%	▼ 39.9%	▼ 19.2%
Comcast	\$34.97	\$151,190	9.7x	6.8x	6.6x	6.6x	6.6x	▼ 30.5%	▼ 22.2%	▼ 12.7%
Netflix	\$294.88	\$131,228	28.5x	22.7x	23.5x	22.6x	20.5x	▼ 51.1%	▼ 8.9%	▲ 53.6%
Activision	\$76.55	\$59,910	25.1x	20.2x	24.2x	17.3x	13.6x	▲ 15.1%	▲ 28.8%	▲ 20.9%
Charter Communications	\$339.10	\$52,619	10.7x	7.3x	7.1x	7.0x	6.9x	▼ 48.0%	▼ 30.1%	▲ 0.9%
Nintendo	¥5,532.00	\$48,839	13.9x	8.0x	7.9x	8.1x	8.4x	▼ 16.0%	▲ 25.8%	▲ 34.3%
Universal Music Group	€ 22.51	\$43,616	28.3x	38.8x	24.9x	20.8x	18.7x	▼ 9.2%	NA	NA
Average								▼ 31.4%		

Source: S&P Capital IQ and Bloomberg

Financial Sector



Performance of Top 10 Firms by Market Capitalization

Company	Stock Price on 12/31/2022	Market Capitalization (\$US mn)	1-Year Forward P/E Multiple	3-Year Average EV/EBITDA Multiple	LTM EV/EBITDA Multiple	1-Year Forward EV/EBITDA Multiple	2-Year Forward EV/EBITDA Multiple	1-Year Performance	3-Year Performance	5-Year Performance
JPMorgan Chase	\$134.10	\$393,343	11.3x	11.5x	10.4x	1.5x	1.9x	▼ 15.3%	▼ 3.8%	▲ 25.4%
Bank of America	\$33.12	\$265,703	10.5x	10.5x	9.1x	1.1x	1.6x	▼ 25.6%	▼ 6.0%	▲ 12.2%
Wells Fargo	\$41.29	\$157,335	10.7x	11.7x	8.1x	1.0x	1.2x	▼ 13.9%	▼ 23.3%	▼ 31.9%
Charles Schwab	\$83.26	\$155,425	25.2x	21.2x	17.0x	5.8x	26.6x	▼ 1.0%	▲ 75.1%	▲ 62.1%
Morgan Stanley	\$85.02	\$143,693	12.3x	13.4x	11.5x	1.6x	2.1x	▼ 13.4%	▲ 66.3%	▲ 62.0%
Royal Bank of Canada	CAD 127.30	\$130,070	11.5x	10.8x	10.0x	1.7x	2.1x	▼ 5.2%	▲ 23.9%	▲ 24.0%
HSBC	£5.16	\$122,627	8.7x	7.6x	6.4x	0.6x	0.7x	▲ 14.9%	▼ 12.9%	▼ 32.8%
Goldman Sachs	\$343.38	\$120,206	9.2x	10.2x	9.2x	1.1x	1.2x	▼ 10.2%	▲ 49.3%	▲ 34.8%
Commonwealth Bank of Australia	AUD 102.60	\$117,629	18.9x	17.0x	16.7x	2.4x	2.6x	▲ 1.6%	▲ 28.4%	▲ 27.7%
Toronto-Dominion Bank	CAD 87.67	\$117,467	9.3x	9.7x	9.1x	1.5x	1.9x	▼ 9.6%	▲ 20.4%	▲ 19.0%
Average								▼ 7.8%		

Source: S&P Capital IQ and Bloomberg

Select 2022 Transactions

Fairness Opinion



has been acquired by



Sell-side transaction

Fairness Opinion



has been acquired by



Sell side transaction

Fairness Opinion



has merged with



De-SPAC transaction

Fairness Opinion

BLUECITY 藍城兄弟

has been acquired by

Multelements Limited

Sell side transaction

Solvency Opinion



has ben spun off from



Solvency Opinion



has authorized a share repurchase program via open market repurchases

Solvency Opinion



has completed the spin-off



Public company spin-off transaction

Solvency Opinion

BARNES & NOBLE

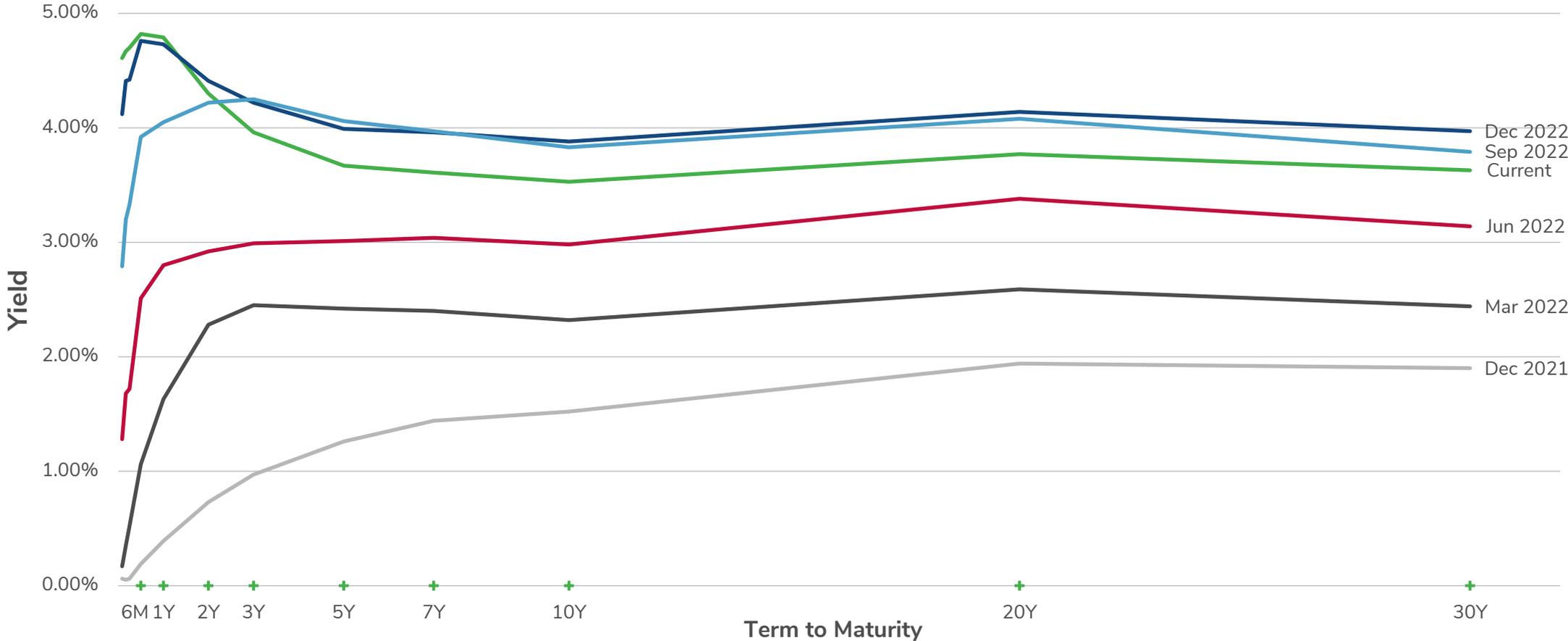
a portfolio company of



Recapitalization transaction

U.S. Treasury Yield Curve Rates

U.S. Treasury yields rose as the Federal Reserve increased the federal funds rate seven times in 2022 and once in 2023. Yields on maturities greater than one year peaked in the 4th quarter of 2022 and have begun to decline in 2023.



Source: Treasury.gov

10 Trends to Watch Heading Into 2023

10 Trends to Watch in 2023

1

Developed Markets in Recession

2

Emerging Markets: Buoying Global Growth

3

Emerging Markets Face a Sovereign Debt Crisis

4

Volatile Financial Markets and Market Dislocations

5

Developing Global Trade Tensions

6

Russia's War on Ukraine Persists

7

"Old" and "Tropical" Infectious Disease Outbreaks

8

Growth of ESG Regulation, Transparency and Scrutiny

9

Heightened Regulatory Environment

10

Increased Cyber and Social Media Risks

About Our Corporate Finance Practice

Industry Experts In:



Consumer, Food,
Restaurants and
Retail



Energy and
Mining



Healthcare and
Life Sciences



Industrials



Technology



Hospitality and
Leisure



Business Services



Aerospace
Defense
Government

We Rank:

#1

for Global Announced
Fairness Opinions for
Full Year 2022¹

Key Services

Buy-side and Sell-side M&A
Fairness and Solvency Opinions
Transaction Advisory Services
Restructuring
ESOP and ERISA Advisory

ACROSS

30

COUNTRIES AND TERRITORIES

#5

for U.S. Middle-Market
Transactions Over the Past
10 year²

Experience, including more
than

600

M&A transactions in the past
10 years

Source:

1. Refinitiv's Global Mergers & Acquisitions Review – Full Year 2022

2. Refinitiv cumulative data 2012-2021

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