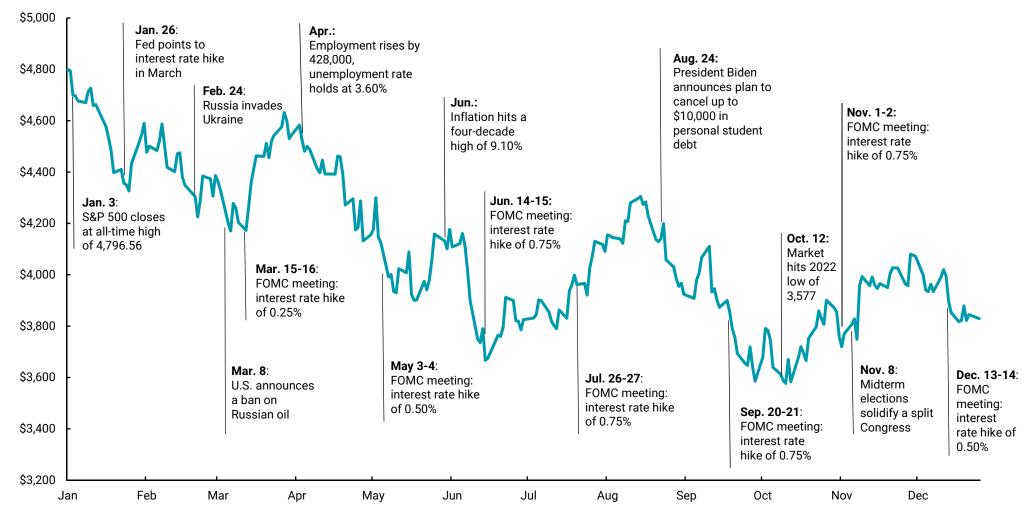
INVESTMENT MANAGEMENT

Weekly market update



Chart of the week (Dec. 30, 2022)



S&P 500 Performance and Headlines 2022

Source: Bloomberg

BOK Financial® is a trademark of BOKF, NA. Member FDIC. Equal Housing Lender.

INVESTMENT MANAGEMENT

Weekly market update



Commentary (Dec. 30, 2022)

Domestic Equities

- U.S. stocks closed their worst year since 2008, with the S&P 500 Index down 18% in 2022. The index fell from its all-time high of 4,766 at the end of 2021 to a low of 3,577 on Oct. 12, then rallied some toward the end of the year, closing at just over 3,800.
- Growth underperformed value by over 20% for the year. Sectors with larger weights in growth indices, like communication services and technology, were the worst performing for the year. The energy sector was up over 60% for the year, and a 2% return for utilities made it the only other positive sector for the year.
- The biggest force impacting the stock movement has been the Fed raising rates in the face of persistent inflation. The Fed remains in the spotlight as investors look to next year and try to determine how high rates will go and if the U.S. economy will have a recession as a result.

Bonds

- After years of dovish monetary policy, global central banks shifted to a more hawkish policy stance in an effort to curtail the worst inflationary pressures facing developed markets since the 1970s. In the U.S., the Federal Reserve increased the federal funds target rate by 4.25% from 0.00%-0.25% to 4.25%-4.50%, representing the fastest change in the central bank's primary policy rate in over 30 years.
- The more restrictive monetary/economic backdrop had a particularly negative impact on higher-quality longer-duration fixed-rate bonds, with many indices, including the Bloomberg U.S. Aggregate Bond Index, experiencing their worst annual drawdown on record.
- Sectors with less interest rate risk, such as bank loans and asset-backed securities (ABS), outperformed on a relative basis but were still negative, with spreads rising across both corporate and securitized credit.

International Equities

- Global investors endured heightened levels of volatility throughout the year as inflation rates around the world soared to historically high levels, prompting global central banks to aggressively increase interest rates.
- Foreign developed markets dropped approximately 14% in 2022, with European markets experiencing the largest losses. Russia's invasion of Ukraine disrupted energy supplies already in high demand as pandemic restrictions eased, sending inflation higher and putting pressure on stock prices.
- Emerging markets fell over 20% for the year, led by weakness in Asian and Eastern European markets. The Latin America region was the lone bright spot, with Brazil posting double-digit gains. China, the largest emerging market, struggled as it faced economic challenges primarily due to its zero-COVID policy hurting its economy.

Economics

- The Consumer Price Index (CPI), which was 7.10% entering 2022, peaked in Jun. at 9%, and receded to 7.10% as of Nov. 2022. Core CPI, which excludes food and energy, was 5.50% entering 2022, peaking at 6.60% in Sep., and ending the year at 6%. The Federal Reserve's preferred measure of inflation, personal consumption expenditures (PCE), peaked at 7% in Jun. and declined to 5.50% in Nov.
- Jobs growth continued in 2022, as employment increased by 4.3 million, ending the year with 153.5 million employees, exceeding the pre-pandemic level of 152.5 million employees. The unemployment rate trended down to 3.70%, and the labor force participation rate increased from 61.90% to 62.10% throughout the year. Despite the improvements, job openings remain widespread, with 10.3 million available job openings, 3.3 million more than pre-pandemic levels.



Weekly Market Update

For Week Endin	g December 30, 2022
-----------------------	---------------------

Last Release

Year Ago

Markets					Equi	ty Style							
	Last Price	Change From Prior Week	Change From Year End	Change From Year Ago	520	0 ¬							
Capital Markets	20011.1100		1001 2110	i cui rigo				S&P 500					
Dow Jones Industrial Avg	33,147.25	-0.2%	-6.9%	-7.0%	470	10 - 24		An					
S&P 500 Index	3,839.50	-0.1%	-18.1%	-18.3%	400	ر ا	my	and the second s		0			
NASDAQ	10,466.48	-0.3%	-32.5%	-32.9%	420	10 -	* 44	ખ	m.	~~~ \ 	4		0.4
S&P 400 Midcap Index	2,430.38	-0.1%	-13.1%	-13.0%	370	0 -			m		20	M	" Ley
S&P 600 Smallcap Index	1,157.53	-0.2%	-16.1%	-16.1%	0/0						~	W .	
MSCI EAFE	6,583.36	0.1%	-14.5%	-14.4%	320	0 - 0							
MSCI Emerging Markets	486.06	0.3%	-20.1%	-19.5%									
Bloomberg US Agg	2,048.73	-0.7%	-13.0%	-12.9%	270	0 - 0							
Bloomberg Municipal 5 Yr	468.67	-0.1%	-5.3%	-5.3%	220								
Bloomberg US Corporate	2,968.20	-0.7%	-15.8%	-15.6%	220	Dec-21) kun 00	^ .	- 00	Oct-22	
Bloomberg Glb Agg ex US Hdg	521.46	-0.6%	-9.8%	-9.7%		Dec-21	Feb-22	2 Apr-22	2 Jun-22	AL	ıg-22	UCI-22	Dec-
Bloomberg High Yield	2,186.03	-0.9%	-11.2%	-11.2%									
MSCI US REIT Index	1,914.60	-0.4%	-25.4%	-25.2%			1 Month'	r			Y	ear to Dat	te*
Bloomberg Commodity Index	245.89	0.3%	16.1%	15.8%		Value	Core	Growth			Value	Core	Grow
bioomberg commonly index	243.09	0.3%	10.1%	13.0%	e	value	Core	Growth		e	value	Core	GIOW
K	Last Price/Yield	Prior Week	Year End	Year Ago	Large	-3.93	-5.77	-7.62	> 10%	Large	-5.25	-18.13	-29.4
Key Rates	4 500		0.050	0.050	-					_			
Fed Funds Target	4.50%	4.50%	0.25%	0.25%	σ			6.00		σ	7.04	10.04	10
3-Month Treasury	4.34%	4.28%	0.03%	0.03%	Mid	-5.05	-5.54	-6.02	0% - 10%	Mid	-7.01	-13.06	-19.0
1-Year Treasury	4.69%	4.63%	0.38%	0.36%									
2-Year Treasury	4.43%	4.32%	0.73%	0.72%	≣					=			
5-Year Treasury	4.00%	3.86%	1.26%	1.26%	Small	-6.54	-6.71	-6.91	<0%	Small	-11.09	-16.10	-21.7
7-Year Treasury	3.97%	3.83%	1.44%	1.43%						0			
10-Year Treasury	3.87%	3.75%	1.51%	1.51%		S&P Indices	5						
30-Year Treasury	3.96%	3.82%	1.90%	1.92%	Fixe	d Incon	ne Style						
Consumer Rates							ie otyle						
30-Year Mortgage	6.66%	6.56%	3.27%	3.27%	5.0	[%]]			Yield Curv	e			
Prime Rate	8.25%	8.25%	4.00%	4.00%	4.5	% -							
3-Month LIBOR	4.77%	4.73%	0.21%	0.21%	4.0	% -							
o					3.5								
Commodities	1 00 4 00	1 700 00	1 000 00	1014 (7	3.0		_	-Current					
Gold	1,824.02	1,798.20	1,829.20	1,814.67	2.5	% -							
Crude Oil (WTI)	80.26	79.56	68.76	70.37	2.0	% -	_	—1 Year Ag	10				-
Gasoline	3.20	3.23	3.38	3.51	1.5	2							
Natural Gas	4.48	4.98	3.98	3.90									
Copper	3.81	3.81	4.39	4.33	1.0 [°]								
					0.0		\sim						
	P/E Forward	P/E Trailing	Price to Book	Current Div Yield		3	Мо	2 Yr	5 Yr	7 Yr	1	0 Yr	30 Yr
Index Characteristics	FUIWdIU	rrannig	BOOK	rielu	1		1 Month	ł				ear to Dat	to*
Dow Jones Industrial Avg	18.20	18.73	4.44	2.10	1	Short	Interm.	Long			Short	Interm.	Lon
S&P 500	18.20	18.73	4.44	1.72		Short	incenti.	Long			Short	ancerrit.	201
S&P 500 Value	17.32	17.79	2.66	2.09	Govt	0.18	-0.24	-1.69	> 10%	Govt	-3.82	-7.73	-29.1
S&P 500 Value S&P 500 Growth	17.12	19.26	6.62	1.38	ы	0.10	-0.24	-1.09	>10%	ő	-3.62	-7.73	-29.
NASDAO	15.26	15.87	3.74		1 3				-				
				2.09	9	0.24	-0.47	1.15		e	-3.32	-15 79	-25.
S&P Midcap 400	12.96	14.19	2.24	1.75	Corp	0.24	-0.47	-1.15	0% - 10%	Corp	-3.32	-15.72	-25.0
S&P Smallcap 600	13.33	14.19	1.74	1.48	!								
MSCIEAFE	12.31	13.59	1.68	3.44		0.04	0.05	0.05		~		10.54	-
MSCI Emerging Markets	11.37	10.70	1.51	3.41	Η	-0.26	-0.65	0.05	<0%	Η	-4.13	-10.54	-22.7
					1	Bloomherr	Indices		-				

	Last Nelease	i cai Ago
Inflation		
CPI Headline Inflation	7.1%	6.8%
CPI Core Inflation	6.0%	4.9%
Personal Consumption Exp (PCE) Core	4.7%	4.8%
Jobs		
Unemployment Rate (U3)	3.7%	4.2%
Broader Unemployment Rate (U6)	6.7%	7.7%
JOLT Survey (in millions)	10.33	11.09
Jobless Claims (000's)	225	211
Change in Non-Farm Payroll (000's)	263	647
Average Hourly Earnings (Y/Y % Change)	5.1%	5.3%
Consumer & Spending		
Consumer Confidence (Conf Board)	108.3	115.2
Consumer Spending (\$ Bil)	17.828	16.558
Consumer Credit (\$ Bil)	4,729	4,376
Retail Sales (\$ Bil)	689	648
ousing		
Housing Housing Starts (000's)	1 407	1 70/
Case-Shiller Home Price Index	1,427 298.99	1,706 273.69
ase-Shiller Home Price Index	298.99	2/3.09
U.S. Productivity		
Real Gross Domestic Product (\$ Bil)	20,055	19,673
Quarter over Quarter Change	3.2%	2.7%
Year Over Year Change	1.9%	5.0%
ISM Manufacturing	49.00	60.60
Capacity Utilization	79.66	78.98
Markit US Composite PMI	44.60	57.00
J.S. General		
Leading Economic Indicators	113.5	118.8
Trade Weighted Dollar Index	122.3	115.6
EUR / USD	1.07	1.133
JPY / USD	131.12	115.08
CAD / USD	0.74	0.79
AUD / USD	0.68	0.73
S&P 500 Sector Returns		

S&P 500	Sector	Returns
---------	--------	---------

Economic Data

Oct-22 Dec-22

Year to Date* Core Growth

-29.41

-19.01

-21.13

50 11		1 Month	YTD
e*	Energy	-2.94%	65.72%
Long	Utilities	-0.53%	1.57%
	Consumer Staples	-2.82%	-0.62%
-29.19	Health Care	-1.91%	-1.95%
	Industrials	-2.97%	-5.48%
	Financials	-5.23%	-10.53%
-25.62	Materials	-5.56%	-12.27%
	Real Estate	-4.83%	-26.13%
-22.18	Information Technology	-8.37%	-28.19%
	Consumer Discretionary	-11.26%	-37.03%
	Communication Services	-7.84%	-39.89%
	-		

Source: Bloomberg

© 2022 BOK Financial Corp. Services provided by BOKF, NA, Member FDIC. BOKF, NA is the banking subsidiary of BOK Financial Corporation. BOK Financial Corporation (BOKF) offers wealth management and trust services through various affiliate companies and non-bank subsidiaries including advisory services offered by BOKF, NA and its subsidiary Cavanal Hill Investment Management, Inc., an SEC registered investment adviser. BOKF offers additional investment services and products through its subsidiary BOK Financial Securities, Inc., a broker/dealer, member FINRA/SIPC, and an SEC registered investment adviser and BOK Financial Private Wealth, Inc., also an SEC registered investment adviser. The information in the report was prepared by (SIA) Strategic Investment Advisors of BOKF, NA which is a division of BOK Financial Corporation.

*Bloomberg Indices

This report is not to be considered a recommendation of any particular security, strategy or investment product, nor is it intended to provide personal investment advice. It does not take into account any specific investment objectives, financial situations, or particular needs of any specific person who may receive this report. The information provided in this presentation is for informational purposes only and is not an offer to sell or a solicitation of an offer to buy any securities in any jurisdiction. Investors should seek financial advice regarding the appropriateness of investing in any securities, other investment strategies discussed in this report and should understand that statements regarding future prospects may not be realized. Information contained herein has been obtained from sources believed to be reliable, but not guaranteed.

Investments are not insured by the FDIC and are not guaranteed by any bank or bank affiliate. Investments are subject to risks, including the possible loss of the principal amount invested. This report may not be reproduced, redistributed, retransmitted or disclosed, or referred to in any publication, in whole or in part, or in any form or manner, without the express written consent of BOKF. Any unauthorized use or disclosure is prohibited.



The information provided herein was prepared by the Investment Management team of BOKF, NA. BOKF, NA is the bank subsidiary of BOK Financial Corporation (BOKF), a financial services holding company (NASDAQ:BOKF). BOKF offers trust and wealth management services through its subsidiaries including BOKF, NA (and its banking divisions Bank of Oklahoma, Bank of Texas, Bank of Albuquerque, and BOK Financial) and investment advisory services through its non-bank subsidiaries, Cavanal Hill Investment Management, Inc., and BOK Financial Private Wealth, Inc., each an SEC registered investment adviser, and BOK Financial Securities, Inc., also an SEC registered investment adviser and registered broker/dealer, member FINRA/SIPC (each an "Investment Affiliate") (collectively, "BOKF"). Distribution of this document is intended for informational purposes. Information contained herein has been obtained from sources believed to be reliable, but not guaranteed. The opinions expressed herein reflect the judgment of the author(s) as of the date prepared and are subject to change without notice and are not a complete analysis of any sector, industry, or security regardless of the date on which the reader may receive or access the information. The information provided is intended to be educational in nature and not advice relative to any investment or portfolio offered through an Investment Affiliate, and does not constitute any form of regulated financial, legal, or tax advice, or other regulated financial service. The content provided herein is not a solicitation for the investment management services of any Investment Affiliate, nor is it intended to constitute a recommendation for, or advice to, any specific person on behalf of any Investment Affiliate, as it does not take into account the financial objectives, situation, or needs of any specific person. This information is provided on the understanding that the recipient has sufficient knowledge and experience to be able to understand and make their own evaluation of said content, any risks associated therewith, and any related legal, tax, accounting, or other material considerations. Recipients should not solely rely on this material in making any future investment decision. To the extent that the recipient has any questions regarding the applicability of any specific issue discussed above to their specific portfolio or situation, they are encouraged to consult with a qualified lawyer, accountant, or financial professional.

This document may contain forward-looking statements that are based on management's beliefs, assumptions, current expectations, estimates, and projections, the securities and credit markets and the economy in general. Words such as "anticipates," "believes," "estimates," "expects," "forecasts," "plans," "projects," variations of such words and similar expressions are intended to identify such forward-looking statements. Management judgments relating to and discussion of the value and potential future value or performance of any security, group of securities, type of security or market segment involve judgments as to expected events and are inherently forward-looking statements. These statements are not guarantees of future performance. Likewise, past performance is not a guarantee of future results. This content is prepared for the use of the Investment Affiliates and their clients and prospective clients, and may not be reproduced, redistributed, retransmitted or disclosed, or referred to in any publication, in whole or in part, or in any form or manner, without the express written consent of BOKF or BOKF, NA. Any unauthorized use or disclosure is prohibited. Receipt and review of this document constitutes your agreement not to redistribute, retransmit, or disclose to others the contents, opinions, conclusion, or information contained herein. This report should not be distributed without the attached disclosures, and is considered incomplete if the disclosures are not attached.

*This chart is for illustrative purposes only and not indicative of any actual investment.

Asset allocation, diversification, and rebalancing do not ensure a profit or protect against loss in declining markets. Investing involves risks, including possible loss of principal, and there is no guarantee that investment objectives will be achieved.

BOK Financial® is a trademark of BOKF, NA. Member FDIC. Equal Housing Lender. 2022 BOKF, NA.

INVESTMENT AND INSURANCE PRODUCTS ARE: NOT FDIC INSURED | NOT GUARANTEED BY THE BANK OR ITS AFFILIATES | NOT DEPOSITS | NOT INSURED BY ANY FEDERAL GOVERNMENT AGENCY | MAY LOSE VALUE