

Q3

Quarterly Market Review

Third Quarter 2022

Quarterly Market Summary

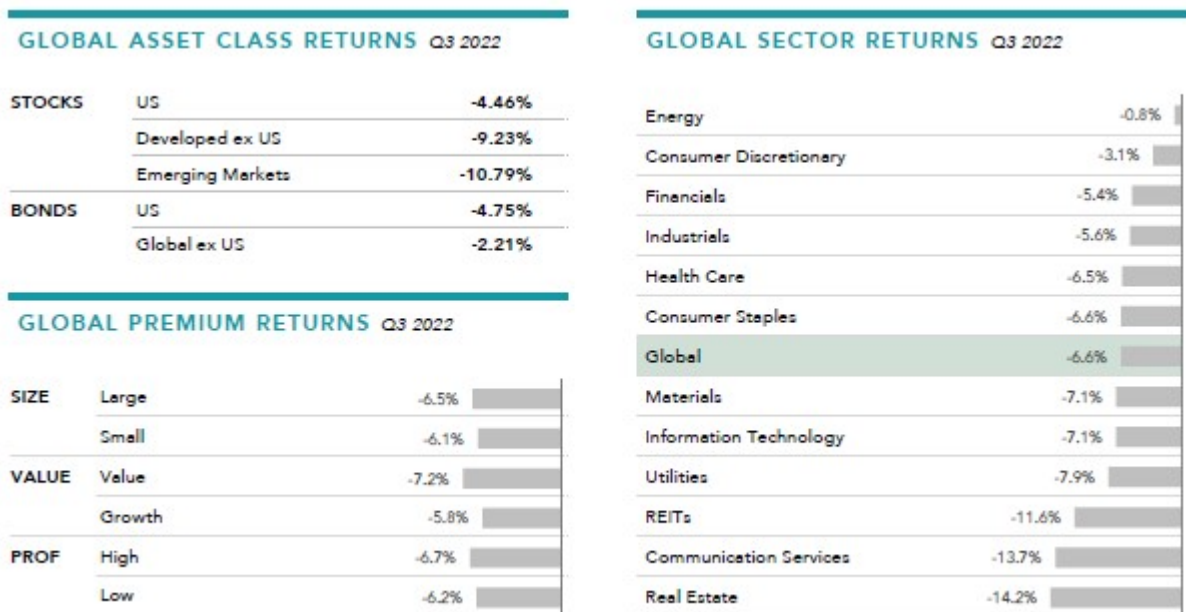
GLOBAL SLOWDOWN CONTINUES

The global economy continued to slow amid the backdrop of 40-year high inflation, tight labor markets, and continued aggressive tightening by the Federal Reserve. Financial conditions continued to tighten in the form of higher borrowing costs, which is beginning to slow demand, most notably in the housing market.

U.S. stocks bounced off their June 16 lows but still finished the quarter down **-4.46** percent. Internationally Developed and Emerging Market stocks fared worse, down **-9.20** and **-11.5** percent respectively.

On a year-to-date basis through the end of the third quarter, U.S. stocks were down **-23.9**, Internationally Developed **-26.8** and Emerging Markets **-27.9** percent respectively.

Small and large cap stocks have performed about the same. However, on a relative basis, Large Cap U.S. Value based stocks have significantly outperformed all other equity classes.



FIXED INCOME

The Fed continued to aggressively tighten monetary policy in the third quarter and signaled it will continue to do so to combat high inflation. Short-term Treasury yields are now higher than longer term yields resulting in an inverted yield curve.

As interest rates continue to march up, the Bloomberg U.S. Aggregate Bond Index continues to slide down, declining **-4.75** percent for the quarter and is now down **-14.61** for the year.

Quarterly Market Summary

ALTERNATIVE INVESTMENTS

Given the increasing global recession concerns and the continued strengthening of the U.S. Dollar, the Bloomberg Commodity Index extended declines from the second quarter into the third quarter, down **-4.11** percent for the period. Crude Oil and Unleaded Gas were the worst performers, returning **-21.51%** and **-20.53%** during the quarter, whereas Natural Gas and Corn were the best performers over the same period returning **+24.49%** and **+8.01%**.

Due to the continued rise in interest rates, Real Estate Investment Trusts (REITs) continued to decline and is the worst performing asset class to date in 2022, down **-10.37** percent for the quarter and **-29.32** year-to-date.

ECONOMY

After a strong rebound from the pandemic in 2021, it has been all downhill for the global economy this year. Economic activity is being hindered as the Federal Reserve deals with the hottest inflation in decades, impairments from the Ukraine war, and China's prolonged COVID lockdowns disrupting supply chains.

Last week's Consumer Price Index (CPI) report showed a 7.8 percent year-over-year increase, down from a 9 percent reading in June. A number of commodity prices (oil, steel, copper, cotton, sugar and aluminum) have been trending down for several months. These declines have been offset by higher wages and rents. We might have reached peak inflation, but it will take some time for inflation to move back down as monetary policies have a lag. Based on how the CPI is calculated, mathematically it is almost impossible for the CPI to drop into the Fed's targeted range until at least Summer of 2023.

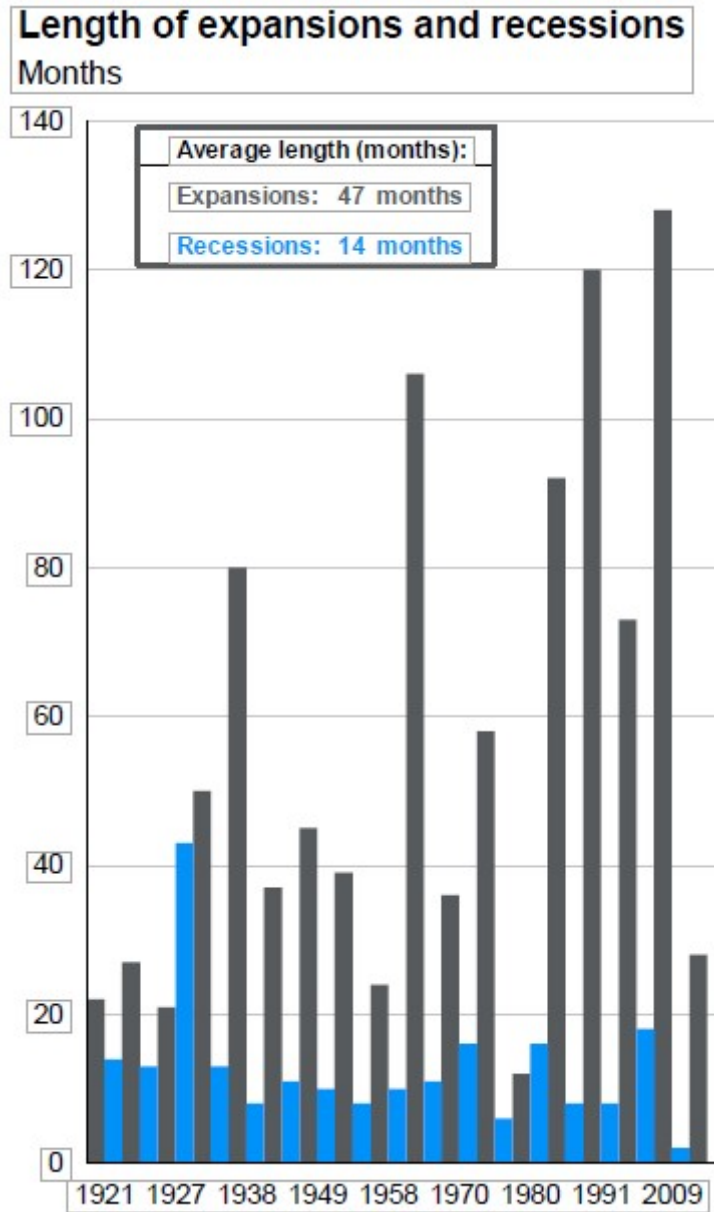
We know that each cycle is different and this one has its own characteristics. We are in uncharted territory with the unique combination of high inflation, tight labor market (3.7 percent unemployment), rapidly escalating interest rates combined with declining corporate earnings. Through its inaction in 2021, the Fed greatly damaged its credibility by allowing inflation to reach far above its target. If it were to prematurely abandon its commitment now, it would be a double blow to its integrity and difficult to restore.

The Fed has been telling us it has the tools at its disposal to adequately quell inflation without moving us into a recession. Its track record indicates a potentially different outcome.

The word "recession" is defined as generalized economic pain. Business activity slows, people lose jobs and income, and asset values fall. Not all feel the same degree of pain, but everybody feels something.

Recessions are not rare but typically do not last that long. They are part and parcel of economic cycles. As the table below shows, there have been 17 recessions in the last 100 years. The average length of a recession over this period has been 14 months, or a little over a year. As each recession is different, the question we all face as we approach the recession average is – how long and how severe will this one be?

Quarterly Market Summary



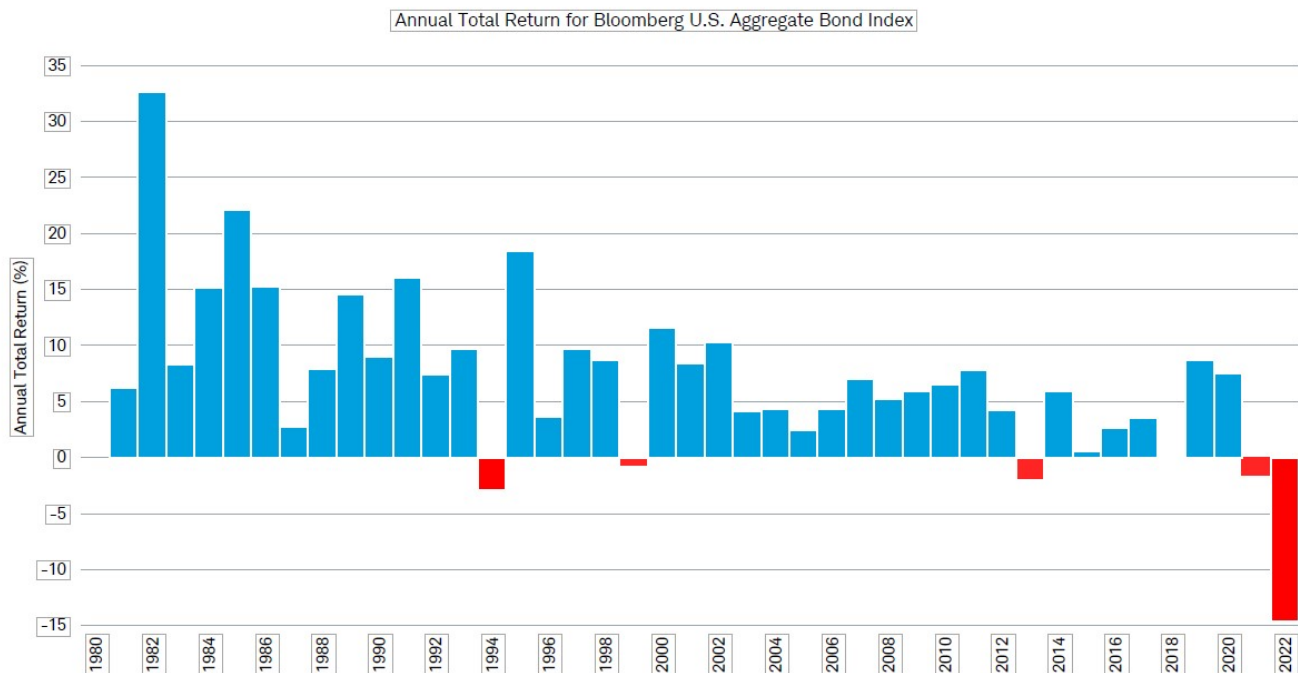
Quarterly Market Summary

LOOKING FORWARD

We are in a distinctive and trying environment with the rare combination of a decelerating economy and rising interest rates, the result of which leaves us with few good investment alternatives. That said, history provides needed perspective, and a thoughtful investment plan proves valuable now more than ever.

U.S. Treasuries are generally considered a “risk free” security and in high demand when the stock market struggles. However, as of this writing the 10-Year Treasury index is down nearly 17 percent. As the graph below illustrates, bond market losses have been rare and relatively small. Prior to 2022, it has been more than 40 years since the bond market has lost over 10 percent in one year.

Negative returns are uncommon in a diversified bond portfolio



Investors have never endured the double hit of negative returns in both equities and fixed income in the same year as they have so far in 2022. It has been 14 years since the stock market has fallen as much as it has this year (in 2008, the S&P 500 lost 37 percent). Unlike this year, Bonds returned over 20 percent in 2008 as the Fed was aggressively cutting interest rates in response to the collapse in real estate and the mortgage bond market.

Quarterly Market Summary

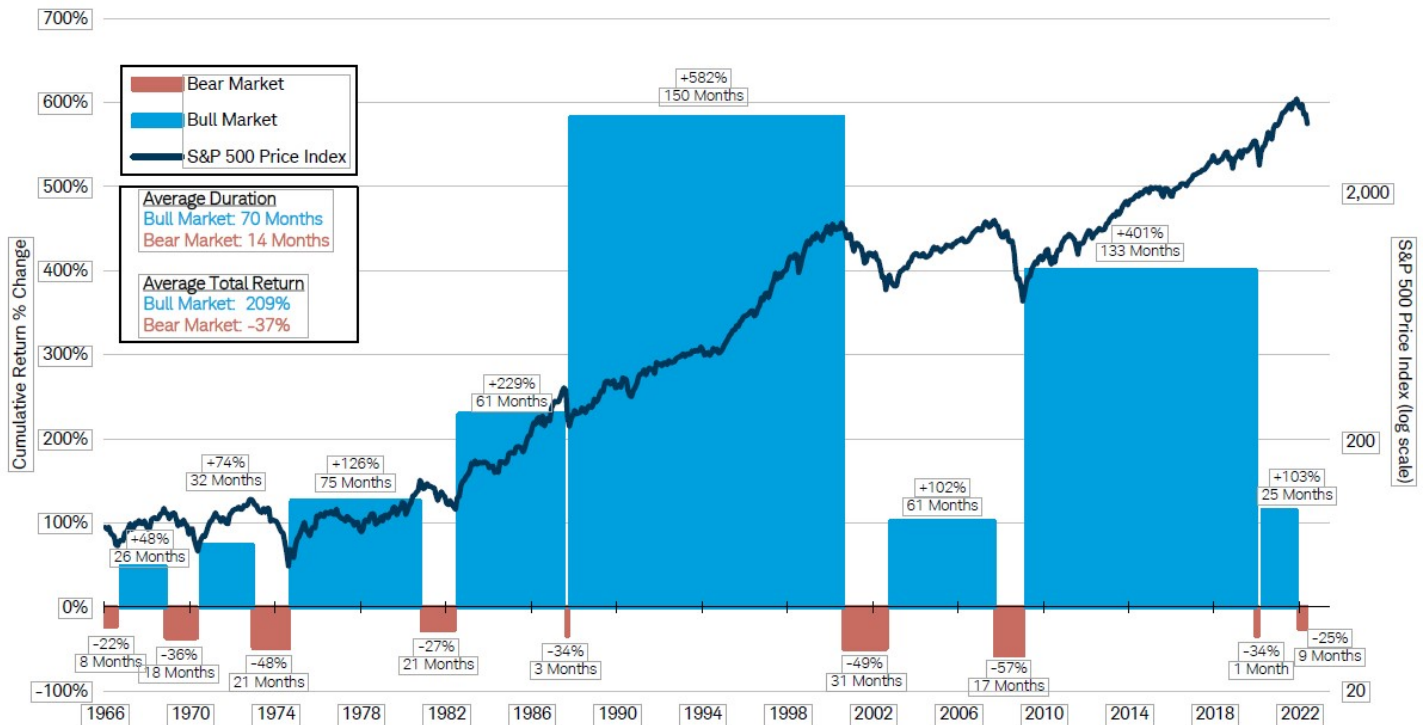
To date in 2022, the Vanguard Total Bond Market Index is down 15 percent and the S&P 500 almost 20 percent. This is the first time since 1969 (well over 50 years ago) that both equities and fixed income will be on track to deliver negative annual returns in the same year.

Markets drop, Bear markets arrive. That is an unavoidable part of investing. We can neither control what the Federal Reserve does, nor predict what happens to corporate profits. What we can control is how we **respond**.

We have included the chart below to remind us of the typical characteristics of bear markets. Similar to recessions, although a recession doesn't always lead to a bear market, there is pain but typically it does not last that long. During the last 60 years there have been nine Bear markets, on average they've lasted 14 months with an average decline of 37 percent. Looking at just the colors, what jumps out is the proliferation of Bull/Blue market years compared to the down ones.

U.S. bull and bear markets

With most markets hitting bear market territory this year, it is notable that bull markets have generally been longer in duration and greater in magnitude than bear markets, resulting in gains over time.



Quarterly Market Summary

Investing in markets has always been and continues to be uncertain. Hoping the Federal Reserve will be able to navigate a “soft landing” as it continues to tighten (raise) interest rates into an economic slowdown, we are reminded that “hope” is not a strategy nor is it an investment process.

Investing is as much about managing risks as it is managing returns. As we say often, risk happens slowly and then all at once. It is why we remain rooted and focused on a deliberate process we map out with each of you rather than reacting to market fluctuations.

HAVE AN INVESTMENT PLAN

An investment philosophy serves as a compass to guide you through turbulent times. When you have a compass, it doesn't take drastic directional changes to find your way. Establishing and adhering to a well thought out investment plan, ideally agreed upon in advance of periods of volatility, you can remain confident and calm during periods of short-term uncertainty.

ALIGN PORTFOLIO RISK WITH GOALS

As investors, our collective appetite for risk often changes based on the market environment we are in. You want to have a plan in place that gives you peace of mind regardless of the market conditions.

STAY DISCIPLINED / BE PATIENT

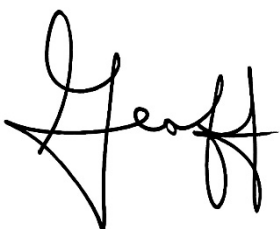
Financial downturns are unpleasant for all market participants. While no one has a crystal ball, adopting a long-term perspective can help change how you view market volatility.

Remember, we're here to help. This also is where the time invested upfront with each of you shows its value. Formulating a solid and adaptable financial plan together and discussing liquidity, cash flows, and reserves, provides the solid footing needed for times like these with many changing facets.

We appreciate the opportunity to work with each of you. We recognize that each client's situation is unique and incorporates different factors into their investment and financial plan.

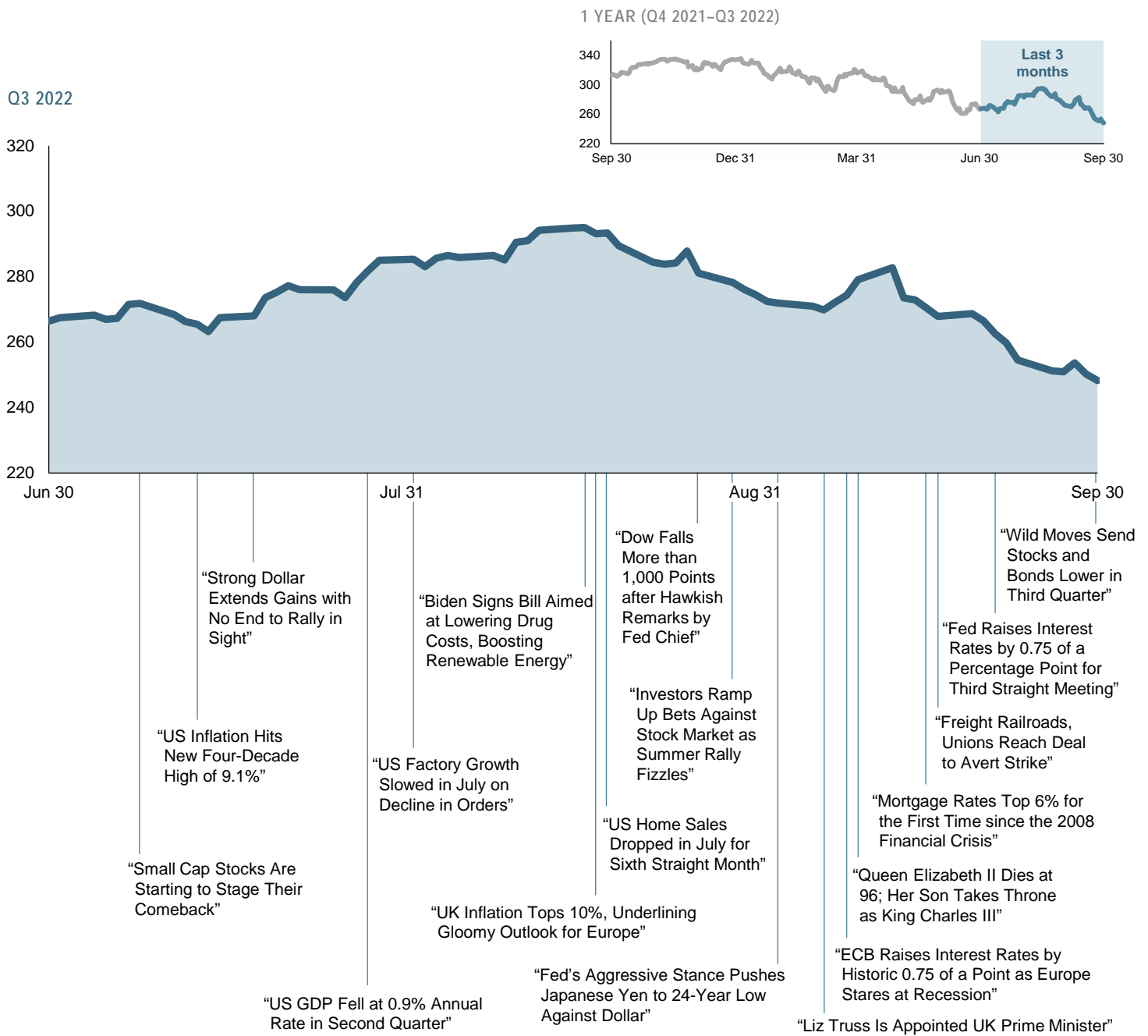
As always, if you have any questions or concerns about current market trends and the impact on your personal situation and plan, please contact us and we would be happy to discuss.

All the best,



World Stock Market Performance

MSCI All Country World Index with selected headlines from Q3 2022

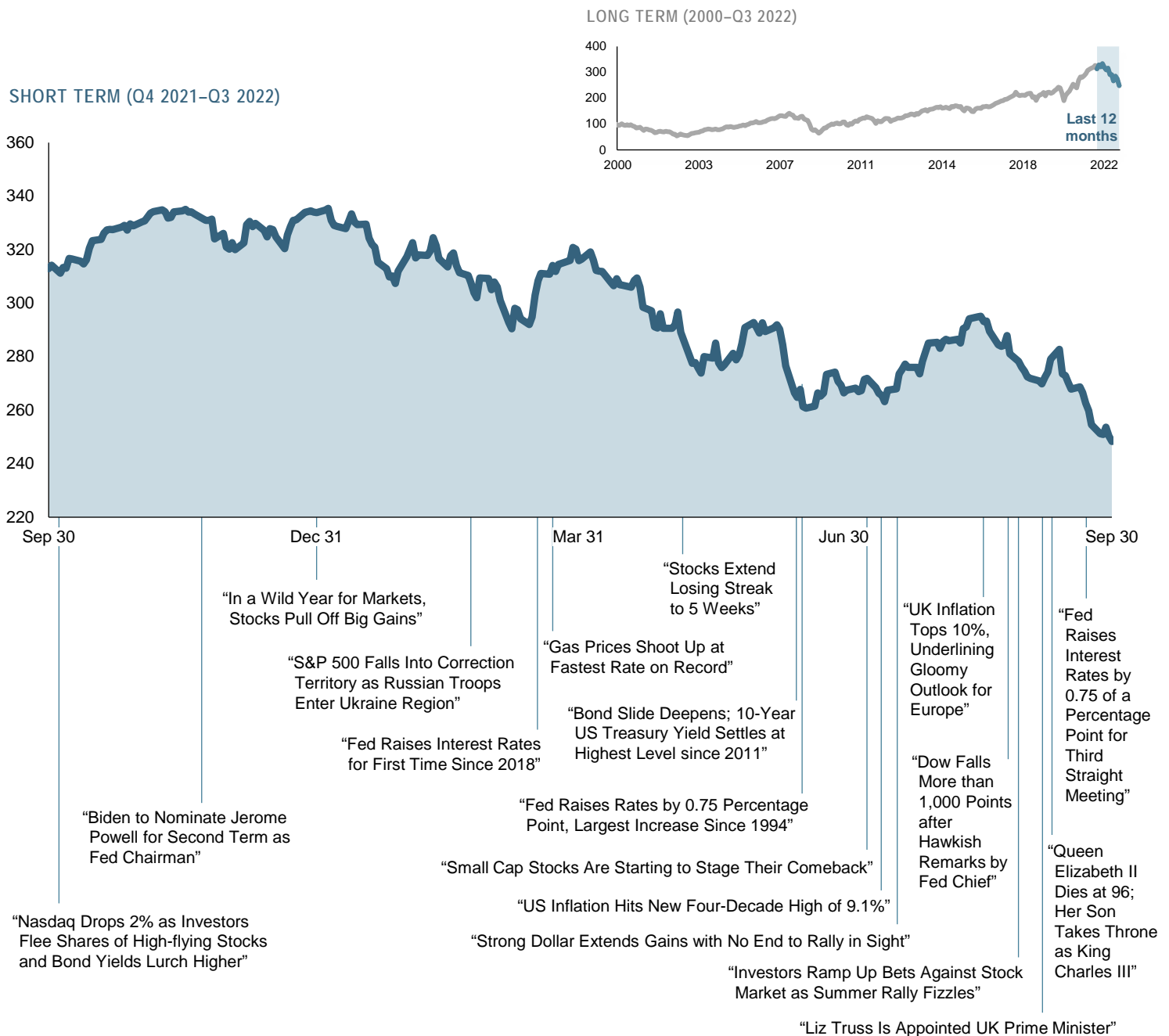


These headlines are not offered to explain market returns. Instead, they serve as a reminder that investors should view daily events from a long-term perspective and avoid making investment decisions based solely on the news.

Graph Source: MSCI ACWI Index (net dividends). MSCI data © MSCI 2022, all rights reserved.
It is not possible to invest directly in an index. Performance does not reflect the expenses associated with management of an actual portfolio.
Past performance is not a guarantee of future results.

World Stock Market Performance

MSCI All Country World Index with selected headlines from past 12 months



These headlines are not offered to explain market returns. Instead, they serve as a reminder that investors should view daily events from a long-term perspective and avoid making investment decisions based solely on the news.

Graph Source: MSCI ACWI Index (net dividends). MSCI data © MSCI 2022, all rights reserved.

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US Stocks

Third quarter 2022 index returns

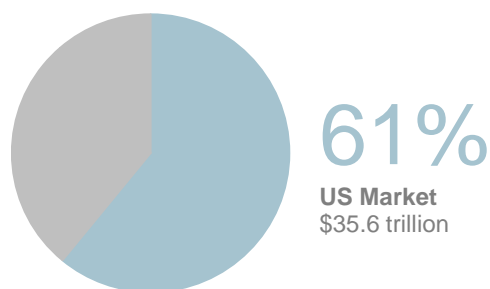
The US equity market posted negative returns for the quarter and outperformed both non-US developed and emerging markets.

Value underperformed growth.

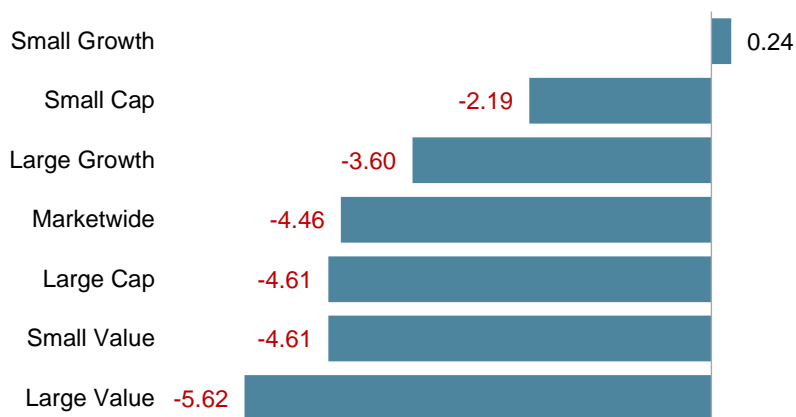
Small caps outperformed large caps.

REIT indices underperformed equity market indices.

World Market Capitalization—US



Ranked Returns (%)



Period Returns (%)

Asset Class	* Annualized					
	QTR	YTD	1 Year	3 Years*	5 Years*	10 Years*
Small Growth	0.24	-29.28	-29.27	2.94	3.60	8.81
Small Cap	-2.19	-25.10	-23.50	4.29	3.55	8.55
Large Growth	-3.60	-30.66	-22.59	10.67	12.17	13.70
Marketwide	-4.46	-24.62	-17.63	7.70	8.62	11.39
Large Cap	-4.61	-24.59	-17.22	7.95	9.00	11.60
Small Value	-4.61	-21.12	-17.69	4.72	2.87	7.94
Large Value	-5.62	-17.75	-11.36	4.36	5.29	9.17

Past performance is not a guarantee of future results. Indices are not available for direct investment. Index performance does not reflect the expenses associated with the management of an actual portfolio. Market segment (index representation) as follows: Marketwide (Russell 3000 Index), Large Cap (Russell 1000 Index), Large Value (Russell 1000 Value Index), Large Growth (Russell 1000 Growth Index), Small Cap (Russell 2000 Index), Small Value (Russell 2000 Value Index), and Small Growth (Russell 2000 Growth Index). World Market Cap represented by Russell 3000 Index, MSCI World ex USA IMI Index, and MSCI Emerging Markets IMI Index. Russell 3000 Index is used as the proxy for the US market. Dow Jones US Select REIT Index used as proxy for the US REIT market. Frank Russell Company is the source and owner of the trademarks, service marks, and copyrights related to the Russell Indexes. MSCI data © MSCI 2022, all rights reserved.

International Developed Stocks

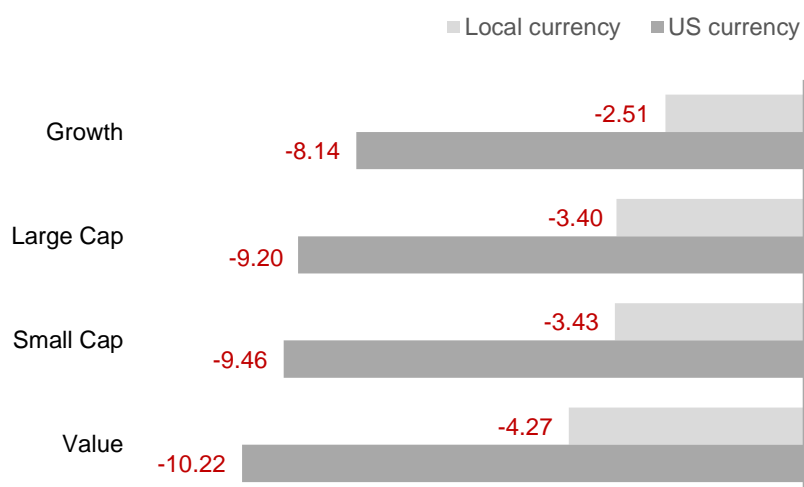
Third quarter 2022 index returns

Developed markets outside of the US posted negative returns for the quarter and underperformed the US market, but outperformed emerging markets.

Value underperformed growth.

Small caps underperformed large caps.

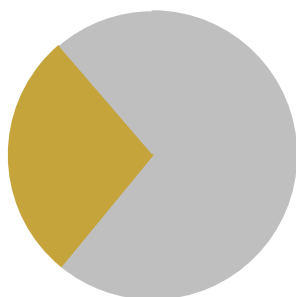
Ranked Returns (%)



World Market Capitalization— International Developed

28%

International
Developed Market
\$16.2 trillion



Period Returns (%)

Asset Class	* Annualized					
	QTR	YTD	1 Year	3 Years*	5 Years*	10 Years*
Growth	-8.14	-32.33	-29.44	-1.14	0.85	4.46
Large Cap	-9.20	-26.23	-23.91	-1.21	-0.39	3.62
Small Cap	-9.46	-31.07	-30.80	-1.27	-1.24	4.78
Value	-10.22	-20.10	-18.58	-1.97	-2.08	2.53

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Emerging Markets Stocks

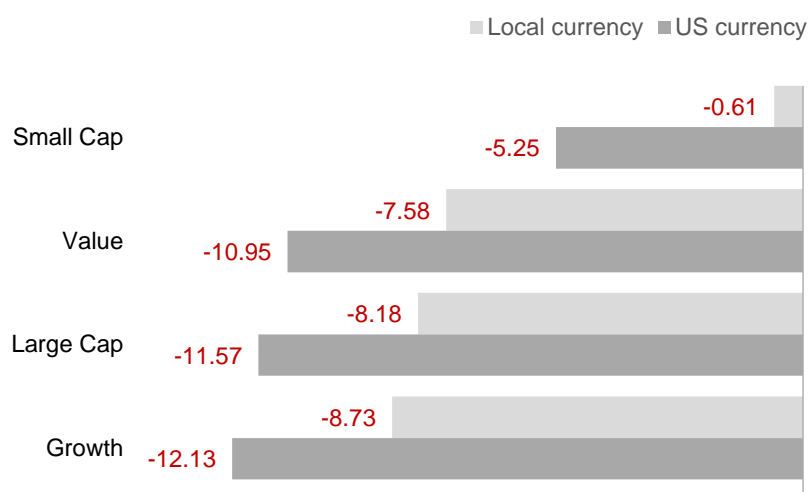
Third quarter 2022 index returns

Emerging markets posted negative returns for the quarter and underperformed both US and non-US developed markets.

Value outperformed growth.

Small caps outperformed large caps.

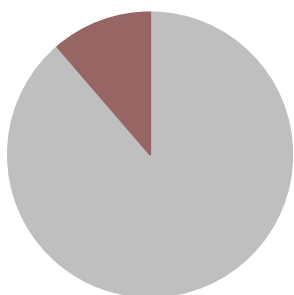
Ranked Returns (%)



World Market Capitalization— Emerging Markets

11%

Emerging
Markets
\$6.6 trillion



Period Returns (%)

Asset Class	* Annualized					
	QTR	YTD	1 Year	3 Years*	5 Years*	10 Years*
Small Cap	-5.25	-24.23	-23.23	5.54	1.25	2.91
Value	-10.95	-23.32	-23.63	-2.57	-2.13	-0.41
Large Cap	-11.57	-27.16	-28.11	-2.07	-1.81	1.05
Growth	-12.13	-30.65	-32.09	-1.75	-1.64	2.38

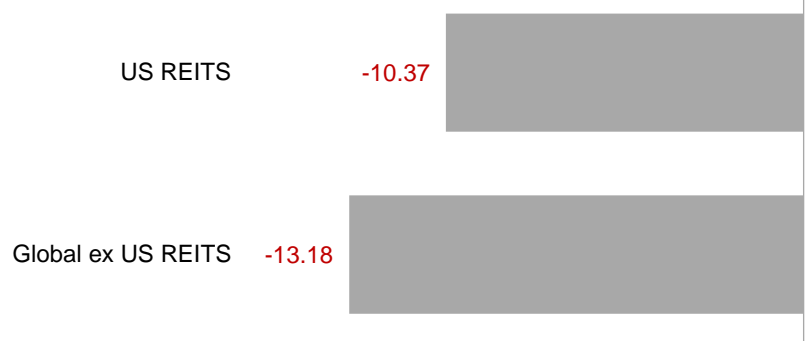
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Real Estate Investment Trusts (REITs)

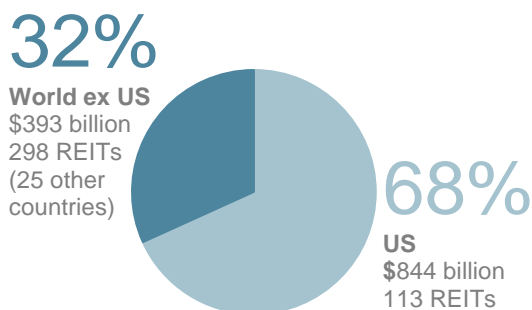
Third quarter 2022 index returns

US real estate investment trusts outperformed non-US REITs during the quarter.

Ranked Returns (%)



Total Value of REIT Stocks



Period Returns (%)

Asset Class	* Annualized					
	QTR	YTD	1 Year	3 Years*	5 Years*	10 Years*
US REITS	-10.37	-29.32	-17.15	-3.29	1.95	5.49
Global ex US REITS	-13.18	-30.48	-27.32	-9.72	-3.01	1.12

Past performance is not a guarantee of future results. Indices are not available for direct investment. Index performance does not reflect the expenses associated with the management of an actual portfolio. Number of REIT stocks and total value based on the two indices. All index returns are net of withholding tax on dividends. Total value of REIT stocks represented by Dow Jones US Select REIT Index and the S&P Global ex US REIT Index. Dow Jones US Select REIT Index used as proxy for the US market, and S&P Global ex US REIT Index used as proxy for the World ex US market. Dow Jones and S&P data © 2022 S&P Dow Jones Indices LLC, a division of S&P Global. All rights reserved.

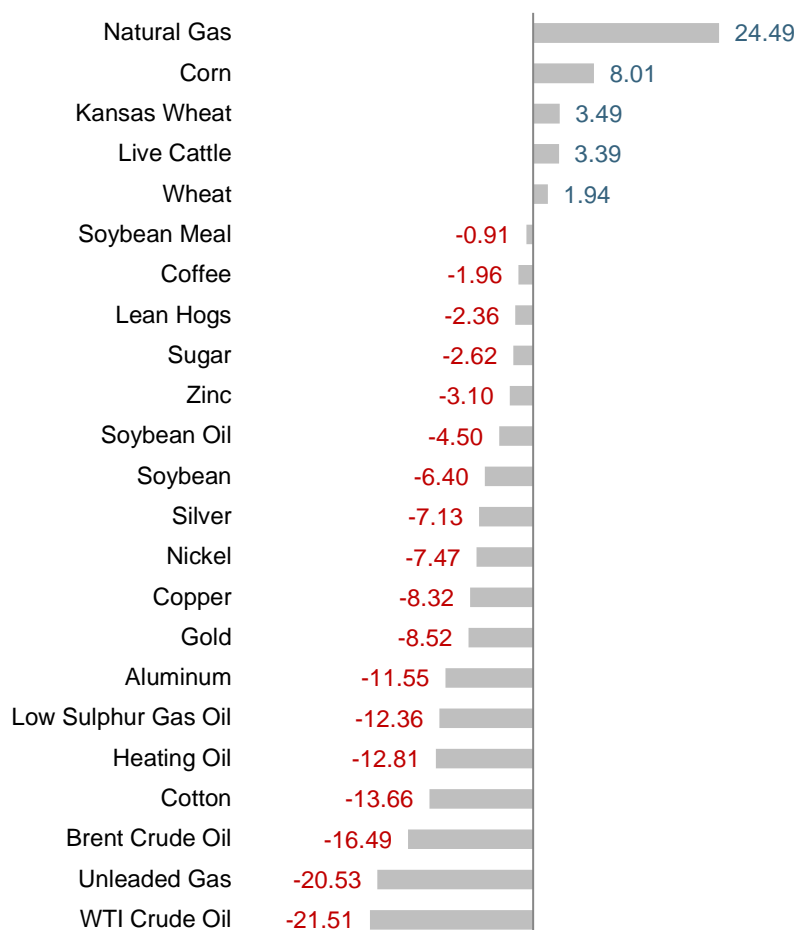
Commodities

Third quarter 2022 index returns

The Bloomberg Commodity Total Return Index returned -4.11% for the third quarter of 2022.

WTI Crude Oil and Unleaded Gas were the worst performers, returning -21.51% and -20.53% during the quarter, respectively. Natural Gas and Corn were the best performers, returning +24.49% and +8.01% during the quarter, respectively.

Ranked Returns (%)



Period Returns (%)

* Annualized

Asset Class	QTR	YTD	1 Year	3 Years*	5 Years*	10 Years*
Commodities	-4.11	13.57	11.80	13.45	6.96	-2.14

Past performance is not a guarantee of future results. Index is not available for direct investment. Index performance does not reflect the expenses associated with the management of an actual portfolio. Commodities returns represent the return of the Bloomberg Commodity Total Return Index. Individual commodities are sub-index values of the Bloomberg Commodity Total Return Index. Data provided by Bloomberg.

Fixed Income

Third quarter 2022 index returns

Interest rates increased across all bond maturities in the US Treasury market for the quarter.

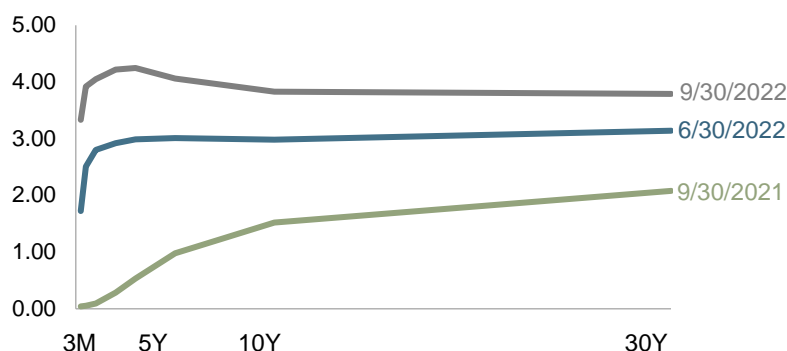
The yield on the 5-Year US Treasury Note increased 105 basis points (bps) to 4.06%. The yield on the 10-Year US Treasury Note increased 85 bps to 3.83%. The yield on the 30-Year US Treasury Bond increased 65 bps to 3.79%.

On the short end of the yield curve, the 1-Month US Treasury Bill yield increased 151 bps to 2.79%, while the 1-Year US Treasury Bill yield increased 125 bps to 4.05%. The yield on the 2-Year US Treasury Note increased 130 bps to 4.22%.

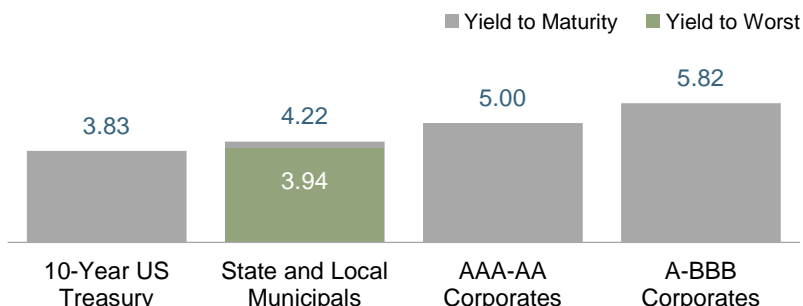
In terms of total returns, short-term corporate bonds returned -1.94% and intermediate-term corporate bonds returned -3.11%.¹

The total return for short-term municipal bonds was -1.88% and -2.65% for intermediate-term municipal bonds. Within the municipal fixed income market, general obligation bonds outperformed revenue bonds, returning -3.30% vs -3.62%, respectively.²

US Treasury Yield Curve (%)



Bond Yields Across Issuers (%)



Period Returns (%)

Asset Class	QTR	YTD	1 Year	*Annualized		
				3 Years*	5 Years*	10 Years*
ICE BofA US 3-Month Treasury Bill Index	0.46	0.61	0.62	0.59	1.15	0.68
ICE BofA 1-Year US Treasury Note Index	-0.50	-1.77	-1.95	0.18	0.94	0.67
Bloomberg U.S. High Yield Corporate Bond Index	-0.65	-14.74	-14.14	-0.45	1.57	3.94
FTSE World Government Bond Index 1-5 Years (hedged to USD)	-1.79	-5.03	-5.53	-0.87	0.63	0.96
Bloomberg Municipal Bond Index	-3.46	-12.13	-11.50	-1.85	0.59	1.79
Bloomberg U.S. Aggregate Bond Index	-4.75	-14.61	-14.60	-3.26	-0.27	0.89
FTSE World Government Bond Index 1-5 Years	-4.77	-12.10	-13.34	-3.33	-1.83	-1.74
Bloomberg U.S. TIPS Index	-5.14	-13.61	-11.57	0.79	1.95	0.98
Bloomberg U.S. Government Bond Index Long	-9.60	-28.77	-26.60	-8.48	-1.62	0.60

1. Bloomberg US Corporate Bond Index.

2. Bloomberg Municipal Bond Index.

One basis point (bps) equals 0.01%. Past performance is not a guarantee of future results. Indices are not available for direct investment. Index performance does not reflect the expenses associated with the management of an actual portfolio. Yield curve data from Federal Reserve. State and local bonds, and the Yield to Worst are from the S&P National AMT-Free Municipal Bond Index. AAA-AA Corporates represent the ICE BofA US Corporates, AA-AAA rated. A-BBB Corporates represent the ICE BofA Corporates, BBB-A rated. Bloomberg data provided by Bloomberg. US long-term bonds, bills, inflation, and fixed income factor data © Stocks, Bonds, Bills, and Inflation (S&BI) Yearbook™, Ibbotson Associates, Chicago (annually updated work by Roger G. Ibbotson and Rex A. Sinquefeld). FTSE fixed income indices © 2022 FTSE Fixed Income LLC, all rights reserved. ICE BofA index data © 2022 ICE Data Indices, LLC. S&P data © 2022 S&P Dow Jones Indices LLC, a division of S&P Global. All rights reserved. Bloomberg data provided by Bloomberg.

What Drives Investment Returns? Start with Ingenuity.

Third quarter 2022

Weston Wellington, Vice President, Dimensional Fund Advisors

A recent news item reported that Frederick Smith intended to step down as Chairman and Chief Executive Officer of FedEx Corp., the largest air freight firm in the world.

As a Yale undergraduate in 1965, Smith wrote a term paper for his economics course outlining an overnight air delivery service for urgently needed items such as medicines or computer parts. His professor was not much impressed with the paper, but after a stint in the Air Force, Smith sought to put his classroom idea into practice. He founded Federal Express (now FedEx) in 1971, and one evening in April 1973, 14 Dassault Falcon jets took off from Memphis airport with 186 packages destined for 25 cities.

In retrospect, it was not an auspicious time to launch a new venture requiring expensive aircraft consuming large quantities of jet fuel. Oil prices rose sharply later that year following the Arab states' oil embargo, and the US economy fell into a deep recession. Most airlines struggled during the 1970s, and Federal Express was no exception.

But Smith's idea found favor with customers, and 49 years after its initial deliveries, the firm is a global colossus with over 650 aircraft, including 42 Boeing 777s—each of which can fly more cargo than 100 Falcons. Although it took over two years to turn its first profit, FedEx became the first start-up in American history to generate over \$1 billion in revenue in less than 10 years without relying on

mergers or acquisitions. The journey has proved rewarding for investors as well—100 shares purchased at the initial offering price of \$24 in 1978 has mushroomed to 3,200 shares worth over \$718,000 as of May 31, 2022.¹

Fred Smith's idea is just one example of ingenuity that humans have exhibited for centuries. Sticks and stones led to hammers and spears, the wheel and axle, the steam engine, and eventually semiconductors and jet aircraft. The invention of writing made it possible to store and hand down information from one generation to the next, enabling ingenuity to compound into an ever-increasing body of knowledge. Although we often associate innovation with clever new technology, some remarkable developments have required little more than astute powers of observation. The curse of smallpox, for example, has afflicted humans with death or disfigurement for thousands of years. English doctor Edward Jenner noticed that milkmaids who had previously experienced cowpox did not catch smallpox, and in 1796, he took material from a milkmaid's cowpox sore and inoculated James Phipps, the nine-year-old son of his gardener. Later exposed to the virus, Phipps never developed smallpox, and Jenner published a treatise on vaccination in 1801. Smallpox vaccines gradually eliminated the disease in countries around the world, and the last known case was reported in Somalia in 1977.

1. Stock split information sourced from FedEx investor relations website. Stock price information provided by Bloomberg. This is not taking into account cash dividends or any reinvestment.

What Drives Investment Returns? Start with Ingenuity.

One innovation often paves the way for others:

- Charles Lindbergh took off from Long Island for his historic transatlantic flight to Paris on May 20, 1927. That same day, J. Willard Marriott opened a nine-stool lunch counter serving cold A&W root beer in Washington, D.C. Ten years later he began to supply box lunches to airlines flying from nearby Hoover airport and 20 years later opened the world's first motor hotel in Arlington, Virginia. Today, Marriott is the world's leading travel firm, with over 8,000 hotel properties in 139 countries.
- The now-ubiquitous microwave oven can trace its roots to a happy accident. While working on radar equipment in 1945 for Massachusetts-based Raytheon, electronics engineer Percy Spencer noticed that the chocolate bar in his pocket had suddenly melted. His curiosity led to the introduction of commercial-grade water-cooled microwave ovens in 1947 costing thousands and ultimately to countertop units available today for \$99.
- Frustrated by lengthy delays associated with loading and unloading cargo ships, trucking firm owner Malcolm McLean launched a shipping service in 1956 using standardized steel containers of his own design. Met with great skepticism when first introduced, his idea for theftproof stackable cargo boxes eventually transformed the global shipping industry—and world trade—by slashing dockside loading costs over 90%.
- On June 26, 1974, cashier Sharon Buchanan inaugurated the era of barcode inventory tracking when she scanned a pack of Juicy Fruit gum bearing a Universal Product Code at Marsh Supermarket in Troy, Ohio. Barcode scanners eliminated the drudgery and inevitable mistakes associated with manual entry by checkout clerks and provided store managers with powerful tools to track sales trends. As retailers such as Home Depot, Ross Stores, and Walmart expanded throughout the country in recent decades, barcode technology played a key role in matching inventory with local preferences at each location.
- In March 2022, a 20-year-old woman born with a small and misshapen right ear received a 3D-printed ear implant made from her own cells and shaped to precisely match her other ear. Although experimental, the procedure represented a significant advance in tissue engineering and could eventually lead to artificial organs such as lungs or kidneys.

The benefits of innovation are widely dispersed throughout the economy, often in unpredictable ways. Apple Inc. became one of the world's most valuable companies based on its clever marriage of the computer and the telephone; both iPhone users and Apple shareholders reaped substantial rewards.

On the other hand, suppose your fairy godmother had told you in 1935, at the dawn of commercial air travel, that this tiny sector of the

What Drives Investment Returns? Start with Ingenuity.

economy would eventually become a gigantic industry with millions of passengers flying every year—including some flying from breakfast in New York to Los Angeles for dinner. What would your prediction be for industry pioneers such as TWA or Pan American? Most likely, bountiful prosperity and rewarding stock market performance. The millions of passengers materialized. The profits did not. Both firms went bankrupt. So innovation itself does not ensure prosperity in every case.

That's why it makes sense to diversify. Investors are often tempted to focus their attention on firms that appear poised to benefit from innovation. But it's difficult to predict which ideas will prove successful, and even if we could, it's unclear which firms will benefit and to what extent. Software giant Microsoft has been a big winner for investors, with the share value soaring more than 100-fold over the 30-year

period ending May 31, 2022. Discount retailer Ross Stores proved even more rewarding, as the stock price multiplied over 189 times during the same period. One firm developed powerful computer technology and the other applied it.

Civilization is a history of innovation—curious minds seeking to improve upon existing ways of meeting mankind's wants and needs. Public securities markets are just one example of such creativity, and they have a history of rewarding investors for the capital they supply to fund such innovation. But a significant fraction of the wealth created in public equity markets typically comes from only a small number of firms; therefore, we believe owning a broad universe of stocks is the most effective way to participate in the rewards of ingenuity and innovation, wherever and whenever it takes place.

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