Market & Portfolio Commentary
Q3 2022

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Third Quarter Market Review and Commentary

Fed Focused on Lowering Inflation

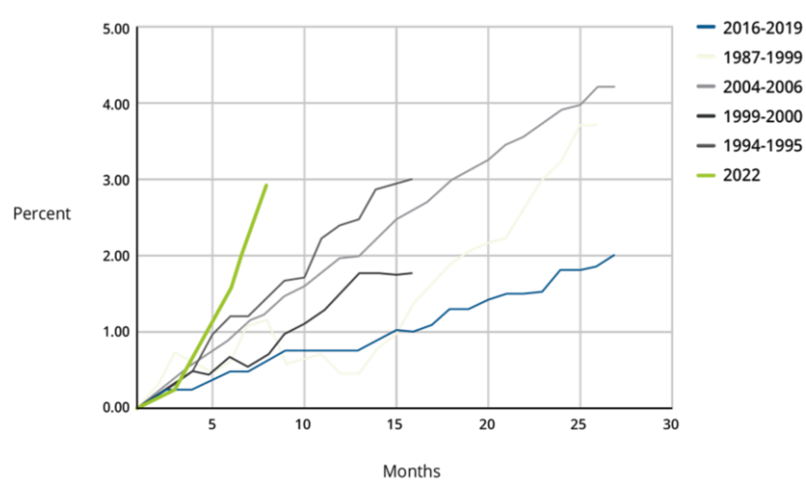
Global markets declined in the third quarter as inflation remained high, geopolitical tensions escalated, and the Federal Reserve continued to hike interest rates.

The Federal Reserve's main priority right now is to bring down inflation, which is running near its highest levels since the early 1980s.

At the latest meeting in September, the Fed raised the benchmark interest rate 75 basis points to 3.25% and signaled the intention to further hike until it reaches the terminal rate of 4.6% sometime in 2023. The Fed is hoping that raising borrowing costs will lead to lower demand for goods and services which will ultimately put downward pressure on prices.

Notably, rates have risen at a faster rate than any time in recent history, which has intensified the market selloff. The effect of the higher interest rate environment has been a reduction in the value of financial assets. The values of both stocks and bonds are determined by the future cash flows that they produce. These cash flows become less valuable when discounted at higher rates. In addition to the rapid rise in rates, there is a growing fear in the markets that our economy is headed towards a recession, which would lead to lower corporate earnings.

Change in the federal funds rate during the past six tightening cycles.



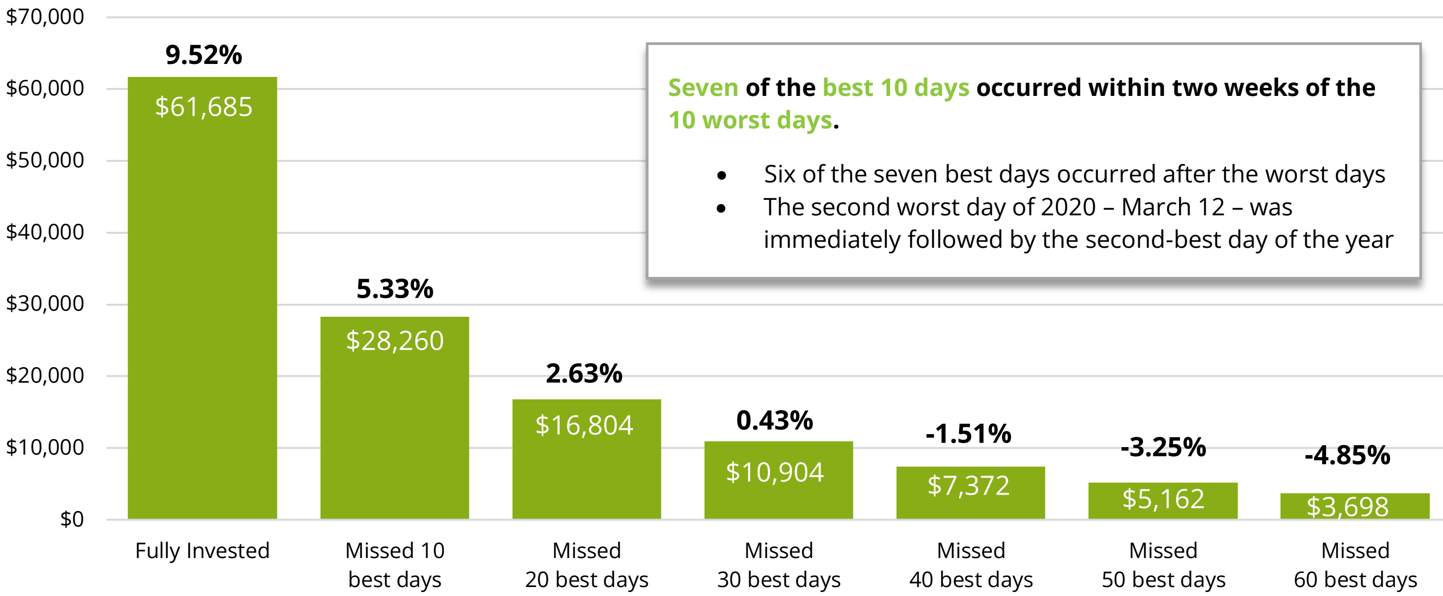
Source: FederalReserve.gov, 2022

Through the end of September 2022, the S&P 500 had one of its worst performance starts in its history, falling nearly 25%.

There is a host of negativity currently in the markets and economy. Stock and bond prices have fallen, inflation is running high, interest rates are rising, and the economy is looking like it could fall into a recession. Why not sell everything and wait in cash until things look more favorable? The short answer is that market timing is nearly impossible.

> ***"People who exit the stock market to avoid a decline are odds-on favorites to miss the next rally."***
>
> *Peter Lynch, Fidelity Magellan Fund manager (1977-1990)*

Performance of a $10,000 investment between January 1, 2002 and December 31, 2021



Source: J.P. Morgan Asset Management analysis using data from Bloomberg. Returns are based on the S&P 500 Total Return Index, an unmanaged, capitalization-weighted index that measures the performance of 500 large capitalization domestic stocks representing all major industries. Indices do not include fees or operating expenses and are not available for actual investment. The hypothetical performance calculations are shown for illustrative purposes only and are not meant to be representative of actual results while investing over the time periods shown. The hypothetical performance calculations are shown gross of fees. If fees were included, returns would be lower. Hypothetical performance returns reflect the reinvestment of all dividends. The hypothetical performance results have certain inherent limitations. Unlike an actual performance record, they do not reflect actual trading, liquidity constraints, fees and other costs. Also, since the trades have not actually been executed, the results may have under- or overcompensated for the impact of certain market factors such as lack of liquidity. Simulated trading programs in general are also subject to the fact that they are designed with the benefit of hindsight. Returns will fluctuate and an investment upon redemption may be worth more or less than its original value. Past performance is not indicative of future returns. An individual cannot invest directly in an index. Data as of December 31, 2021.

Historically, the stock market goes through periods of recalibration; afterward there typically comes a few years of good performance. No one knows how long or exactly when these begin and end until after it happens. We view these recalibration periods as necessary, even though the process is unpleasant.

We think in terms of multiple years when we invest in stocks. Looking back at history, the longer the investing time period, the greater probability the market return has been positive.

As long-term investors, we recognize that there will ***always*** be uncertainty in the economy and the stock market. Since nobody can predict interest rates or the future direction of the economy, our attention is focused on the companies in which we've invested.

The investment time horizon is a powerful tool for managing volatility

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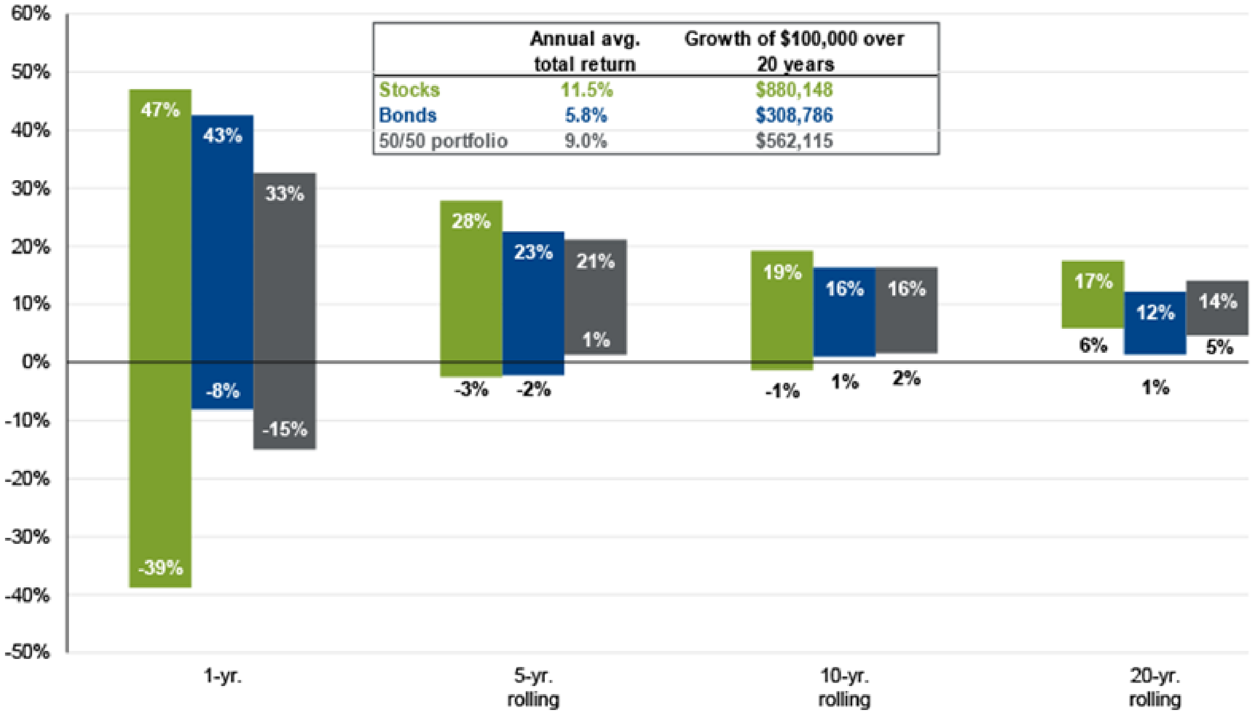
Range of stock, bond and blended total returns
Annual total returns, 1950 - 2021



	Annual avg. total return	Growth of $100,000 over 20 years
Stocks	11.5%	$880,148
Bonds	5.8%	$308,786
50/50 portfolio	9.0%	$562,115

Source: Bloomberg, FactSet, Federal Reserve, Robert Shiller, Strategas/Ibbotson, J.P. Morgan Asset Management.
Returns shown are based on calendar year returns from 1950 to 2021. Stocks represent the S&P 500 Shiller Composite and Bonds represent Strategas/Ibbotson for periods from 1950 to 2010 and Bloomberg Aggregate thereafter. Growth of $100,000 is based on annual average total returns from 1950 to 2021.
Guide to the Markets – U.S. Data are as of May 20, 2022.

J.P.Morgan
ASSET MANAGEMENT

We look to purchase stocks in companies that have growing businesses that are well managed for the benefit of shareholders. We purchase them only when their price is below our estimate of intrinsic value.

Then we patiently wait for the stock price and value to converge.

Following recent sharp declines, we believe much of the bad news has been discounted at current prices. While the market could certainly fall further, we often find that these times offer great opportunities to pick up bargains left behind by investors who are panicking. During periods of decline, we look for ways to capitalize on opportunities to locate discounted shares of our favorite companies. Remember, equities have historically been one of the best performing asset classes despite the occasional painful bear markets. We believe that will continue to be the case.

John Heinlein

Managing Director,
Chief Investment Officer

Q3-2022

Company Spotlights

Fair Isaac Corporation (FICO)

Our credit scores have a significant influence on our quality of life. They factor into our access to housing, automobiles, credit cards, internet/cellular service, and much more. Yet, despite their ubiquity and importance, the company powering these scores flies below the radar, quietly operating one of the most economically efficient enterprises we have encountered.

Fair Isaac Corporation (FICO) owns and operates the FICO Score – a standardized three-digit number that summarizes a consumer's propensity to repay debt. In exchange for a small royalty, FICO licenses its scoring algorithms to the credit bureaus which then distribute the scores to entities that initiate credit pulls (e.g., banks). This business unit requires fewer than 200 employees and virtually no tangible capital to operate, yet it generates more than $700 million in revenue. Consequently, its margins and returns on capital are among the highest we have ever seen. Such a high-quality franchise is desirable, but only if there is an economic moat to protect it over time. It is in this area that FICO excels, as it enjoys an amalgamation of moat sources that we believe are durable and continuously improving.

The consumer lending ecosystem requires a standardized scoring system to ensure that risk management is consistent, cost-effective, and communicable between all stakeholders. The FICO Score serves that purpose, as it is used by banks to underwrite loans, investors to evaluate loan portfolios, regulators to enforce capital requirements, consumers to understand loan refusals, and numerous other parties, including mortgage insurers, loan servicers, and the GSEs. This deep entrenchment in a complex, regulated multi-trillion-dollar ecosystem places FICO in a formidable competitive position. We think displacement of the FICO Score would require each of these parties to simultaneously transition to a new risk metric, which is a risky proposition in itself. Additionally, the incentive for them to do so is minimal, given that the scores are often priced in cents for loans that are in the thousands.

There are some investor concerns that the FHFA will change FICO's role as the sole scoring methodology for mortgages delivered to the GSEs. While such an outcome would be suboptimal for FICO shareholders, this regulatory mandate only dictates a high-single-digit percentage of FICO's total revenue. Further, we believe any transition to a second score will meet enormous friction from lenders, investors, and consumers. We think the market is overweighting this risk.

In addition to the Scores business, FICO operates a lower-margin software business that mostly serves financial institutions. Its legacy software products enjoy high switching costs, which we think should give them staying power. Additionally, within this software unit is a burgeoning decisioning platform which we believe is close to reaching critical mass. In a best-case scenario, we see a significant opportunity for the company to expand into new verticals through this platform. Meanwhile, we think the downside is ownership of valuable technological assets that can be divested to a strategic buyer.

FICO continues to lower its share count through share repurchases, funded by free cash flow and incremental debt. In our view, this is a desirable, tax-efficient use of capital for such a capital-light business. It also allows us to own more of this wonderful business over time without buying additional shares.

Louis Foxwell, CFA

Senior Equity Analyst/
Assistant Portfolio Manager

Mastercard Inc. (MA)

Mastercard is one of the world's largest payment companies. Its ubiquitous credit and debit networks and branded cards give consumers access to payment options and ATMs worldwide. Mastercard and Visa form a duopoly that serves as the rails of the payment industry.

Mastercard operates an "open-loop network" where it functions as a middleman between four parties – the consumer, the merchant, and each of their respective banks. The network facilitates communication between the four parties while ensuring sufficient funds are available and everything is properly settled on the backend. For its role, Mastercard charges a small, fixed fee and keeps a percentage of the transaction, which can be much larger if the transaction crosses borders or involves more than one currency. The company also offers payment-related solutions such as consulting, data analytics, fraud prevention, and cybersecurity services to round out its primary sources of revenue.

When we evaluate a company, the two criteria we spend the most time analyzing are the quality of the business and the strength and durability of its economic moat. We believe that the best investments should rate well in both quality and moat, but we generally find that most companies are stronger in one or the other. Mastercard is one of the rare businesses we believe excels in both.

Some of the most attractive businesses helped to build and define their industries – positioning them as essential participants as it evolves. We think of these as "facilitators" since they enable others to conduct business. Phrases like "they are the plumbing, backbone, or rails of an industry" are often used to describe these companies. We frequently find this in platform, franchise, and marketplace-based models. Companies positioned as picks-and-shovel providers and those able to collect a toll on aggregate commerce also fit into this category.

Another commonality is that these are generally not the most exciting businesses – but this tedium can make them very lucrative and sustainably strong. We find that facilitator businesses often have structural advantages that show up in our qualitative analysis. For example, Mastercard is a facilitator of digital commerce, and as such, it benefits from having demand funneled to its network from multiple external drivers. Specifically, the volume Mastercard processes grows as global spending grows. In addition, secular tailwinds like the migration away from cash, the prevalence of eCommerce, mobile payments, and a more connected economy also funnel more volume to Mastercard's network. Therefore, as long as Mastercard maintains or expands its market share, it will simply collect a toll on this incremental volume.

Furthermore, since these drivers are mostly exogenous, the company does not have to invest heavily to capture this incremental spending and will participate in this growth by default. This combination is a great recipe for robust profit margins and high returns on capital – meaning Mastercard's assets intrinsically have very strong earning power. Compare this to others in the payment value chain, like processors, hardware providers, or card-issuing banks. These companies take more active roles in the payment ecosystem. As such, these industries are more competitive and have lower margins and added business risks – making them much lower-quality businesses.

Quantitatively, we look for high returns on capital sustained over long periods – which is often indicative of a wide economic moat. Mastercard checks this box, which is unsurprising given its dominant position in an industry it helped to create. Removing Mastercard from the ecosystem would make the payment processing chain highly inefficient and potentially catastrophic. Further, by facilitating commerce between consumers and merchants, Mastercard benefits from inherent two-sided network effects. Consumers want to use cards that are accepted everywhere they shop, and merchants want to accept payments from cards that most consumers carry. This creates a potent flywheel effect where each side supports and strengthens the other, which is very difficult to disrupt once established.

Matthew Holman, CFA

Senior Equity Analyst/
Assistant Portfolio Manager

We are here to support you and your wealth management objectives.

Especially now, we invite you to connect with your advisory team to discuss the markets, inflation, or your personalized wealth management strategy. We remain committed to your goals, both near and long-term.

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