LIVIAN & CO.
INVESTMENT AND WEALTH MANAGEMENT

2022 ANNUAL LETTER

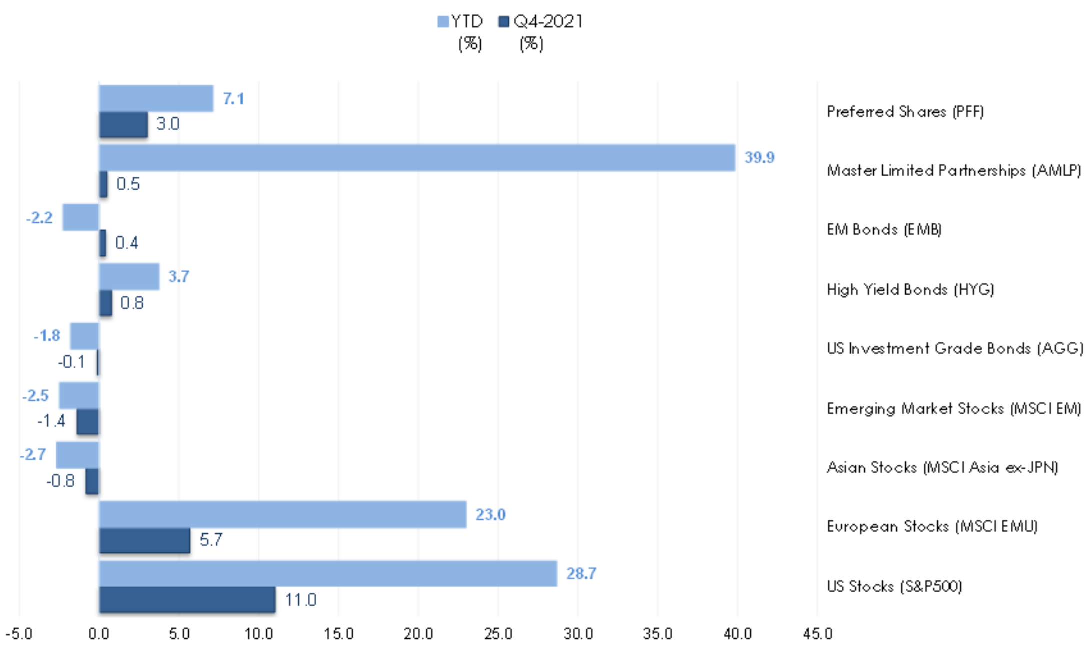
2021 REVIEW

An Extraordinary Year for the Economy and the Markets

In 2021, the US and world economy continued to recover strongly from the pandemic-related shock. The gradual reopening of the economies from the lockdowns, the pent-up consumer demand, and ongoing aid from governments all contributed to above-trend GDP growth. Following a better than 6% annualized gain in the first half of the year, real US GDP growth slowed to 2.1% in the third quarter, as supply-chain issues impeded both production and consumer spending.

The economic recovery (estimated real US GDP growth of 5.6%), corporate profit growth (S&P500 EPS grew an estimated +45% year-over-year), and ultra-low interest rates continued to fuel a rally in equities and risky assets. US stocks were the best performing asset class in 2021, followed by international stocks. Conversely, US Treasury bonds posted negative returns along with gold.

Graph 1 - 2021 Asset Class Performance
An extraordinary year for stocks comes at a cost for bonds



The Pandemic Lingers

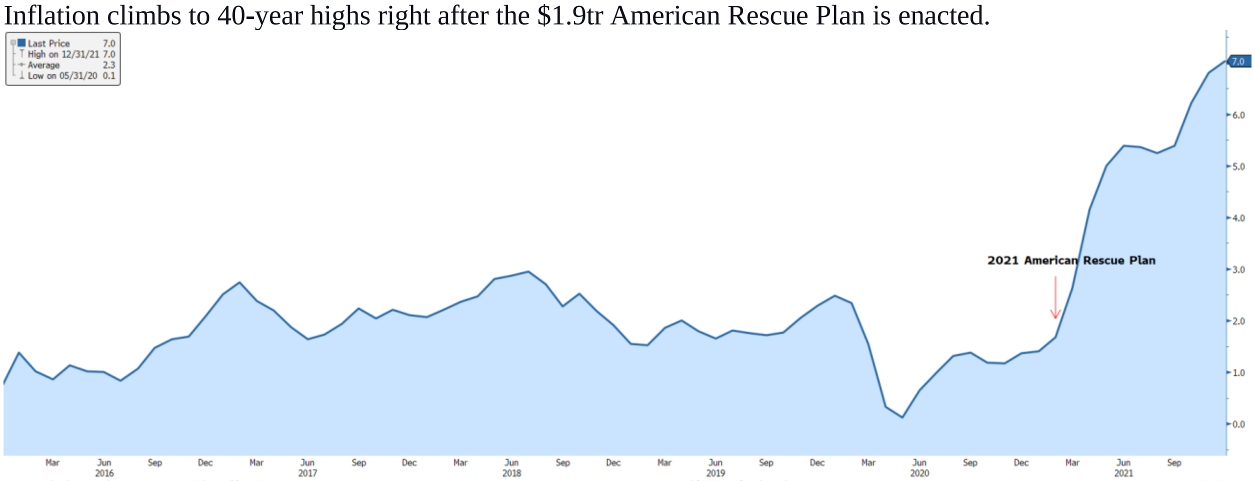
On the pandemic front, despite the significant progress towards herd immunity and new therapeutics, the rise of each new covid variant seems to negate what has been achieved. To most, it feels as though we will run out of Greek letters (after which each variant is named) before the virus is finally contained. Nevertheless, despite intermittent lockdowns, mask mandates, travel restrictions, recurring vaccinations, and annoying nasal swabs, most scientists believe we may be living the final act of this terrible contagion. It is very likely that in 2022 the crisis will be downgraded to an endemic and the world will no longer be in a constant state of emergency. After all, every pandemic in history ended, once there were fewer susceptible people than those who were infected/immune.

Inflation Hits 40 Year High

Inflation was in a secular decline since the 1990s. This disinflationary trend worried the Federal Open Market Committee members so much that in 2019, Chairman Jerome Powell announced they would abandon their 2% inflation target. Instead, the Fed would let inflation run a little "hotter" to counter deflation.

Then Covid-19 happened. The world shut down in 2020. The Federal Reserve and Congress correctly adopted in short order wartime fiscal and monetary expansive policies. However, a year later, in 2021, while vaccines were becoming available and the economy was reopening, the newly elected US administration made a significant policy mistake. Prominent economists, including many from the Democratic party (the most vocal being the former President Obama Treasury Secretary, Larry Summers[1]), warned about the inflationary impact of a third Covid relief package. Nonetheless, in March 2021, the Biden Administration signed into law the $1.9 trillion American Rescue Plan.

Graph 2 – Consumer Price Index Year-over-Year Change
Inflation climbs to 40-year highs right after the $1.9tr American Rescue Plan is enacted.

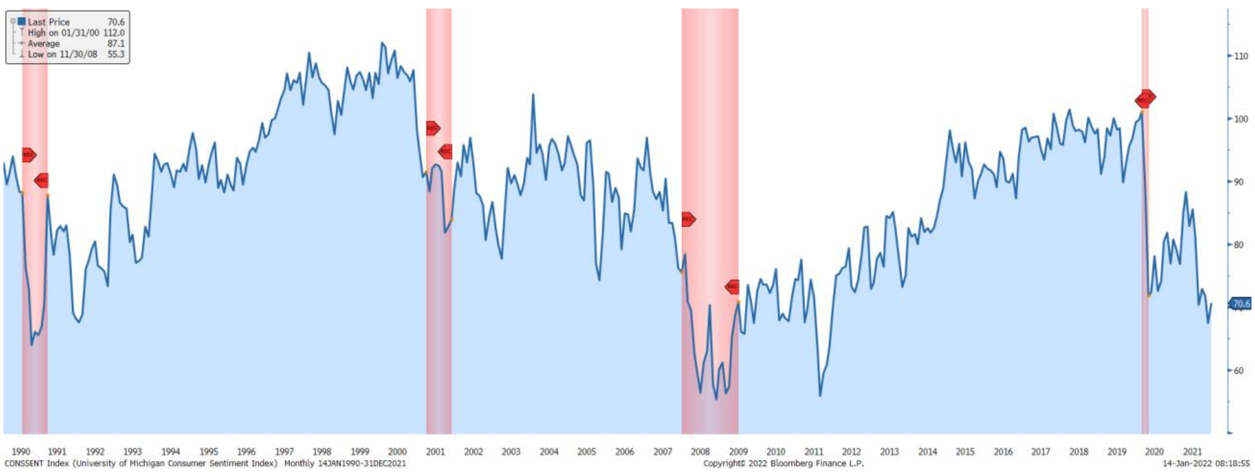


[1] *Opinion: The Biden Stimulus is Admirably Ambitious. But it Brings Some Big Risks, Too*, Lawrence Summers, Washington Post, February 4, 2021

At a time when many factories around the world were still partially idled, global shipping was disrupted, and many workers were still at home because of Covid-19 or parental duties. Americans found their pockets fuller to spend on goods that were not available. This disconnect between an overstimulated demand for goods and a disrupted supply ignited an incendiary price increase spiral. The increases that originally affected only items in short supply rapidly spread to most goods and services. Labeled initially as "transitory," inflation was no longer considered so by the Federal Reserve and US Treasury by November 2021.

Despite the strong economy, rebounding employment picture, and ebullient stock and housing markets, rising inflation caused the widely followed University of Michigan Consumer Sentiment Index to collapse in 2021 to levels typically seen around recessions. The most notable components of this extreme pessimism involved the ability of surveyed consumers to purchase cars and homes.

Graph 3 - University of Michigan Consumer Sentiment Index
Despite strong employment, rising stock prices and home values, consumer sentiment is at recessionary levels because of inflation.



Inflation in Asset Prices Too

The ultra-stimulative monetary policies also contributed to greatly inflated prices of assets that would otherwise have no investment merits. With inflation running high and interest rates near zero (producing negative real interest rates), investors armed with significant excess savings and time have been feeding a speculative frenzy reminiscent of the late 1990s. Trading SPACs (Special Purpose Acquisition Companies), crypto-currencies, NFTs (non-fungible tokens), meme stocks, and IPOs of profitless (sometimes revenue-less) companies became a favorite national pastime in 2021.

2022 OUTOOK

Macro-economic Outlook for 2022

Our base-case scenario for 2022 is one in which the pandemic recedes to an endemic, the worlds' economy fully reopens and grows at or above trend, supply-chain disruptions are worked out, and, consequently, inflation trends lower but stays above the long-term target of 2%.

The reasons for our optimisms on the pandemic are:

(1) The growing number of immunizations globally, because of both infections and vaccinations.
(2) The introduction of the new Pfizer (Paxlovid™) and Merck (Mulnupiravir™) anti-viral pills.
(3) Historical parallels.[2] (Pandemics end and new virus variants tend to become more infectious but less severe.)

The fundamental picture of the US economy remains robust, with most leading indicators that we track pointing to a continuation of growth[3], albeit at a slower pace than in 2021. Excess savings, a massive "wealth effect" from a rising housing and stock market, and strong employment should continue to fuel consumer demand, especially once the health risk is downgraded. The strong consumer demand should offset the *fiscal drag* of a shrinking federal deficit.

The longer-term components of inflation remain benign. Velocity of money is near historically low levels and long-term inflation expectations are anchored. The 2021 price increases were compared to 2020 levels (when the world was locked down). As a reminder, one should note the recent path of oil prices. During the depths of the lockdowns the price per barrel of oil fell to zero, only to bounce back to $80 within a year. Once the supply-chain issues are solved (depending on how the pandemic evolves), price increases should start to moderate. A significant area of concern remains housing. Rents, which represent nearly a third of CPI, are likely to rise because of new home shortages and diminished homebuyer affordability.

In our opinion, the Federal Reserve will only remove its foot from the gas pedal, not press the brakes. In 2022, we expect 3-4 Fed Funds rate hikes of 0.25% starting at the end of Q1. With inflation likely to edge down to 4%, real interest rates remain deeply negative and stimulative to the economy.

The main risks that we see to our base case scenario are: (1) Further delays in the reopening of the global economy, because of the pandemic. 2) Persistent high inflation that results in a Federal

[2] The 1918-1920 "Spanish Flu" (H1N1 Influenza A) is considered the deadliest pandemic in history. Allegedly, 500 million people were infected and informal estimates were that between 50 million to 100 million people died. Between 1918 and 1920 there were four deadly waves of contagion before the pandemic evolved into an ordinary seasonal flu.

[3] We track nearly 30 different indicators to assess the health of the economy and recession risk. As of December 2021, we could not find any red flags.

Reserve hawkish pivot. Excessive monetary tightening may cause a recession. 3) A severe slowdown of the Chinese economy that may negatively affect the rest of the world. The probability of these negative outcomes in our opinion, remain modest at around 20%.

Bonds: Two Back-to-Back Negative Years?

Let us start by pointing out that bond bear markets are nothing like equity bear markets. If history is any guide, they are very "shallow." The temporary small market value loss in bonds is offset over time by higher yields/income in subsequent years. Despite bonds looking unattractive at present, they continue to deserve a place in a diversified portfolio as a volatility buffer. They are consistently one of the few investments with a negative correlation to stocks.

The Federal Reserve has already hinted that it is about to hike Fed Fund Target Rates to 0.75% in 2022 and 2% in 2023, and that FOMC members think the long-term natural rate is around 2.5%.

Some fixed income investors, including DoubleLine's CEO Jeffrey Gundlach, believe the Fed Fund rate will peak at 1.5% in this cycle before the Fed induces a recession and is forced to cut rates again. In addition, our modeling of the 10-year US Treasury bond yields suggests that the equilibrium level is around 2.5%.

In addition to rising yields on underlying Treasury obligations, rates on corporate bonds may face upward pressure from bigger credit risk premiums. Those spreads are narrow by historical standards: +98 basis points on investment-grade corporate bonds versus a 25-year average of +150 basis points and +313 basis on high yield corporate bonds points versus the 25-year average of +545 basis points, according to ICE Indices.

The currently low level of compensation for credit risk is attributable to investors accepting greater risk than they ordinarily would, in an effort to maintain their yields in a very low interest rate environment. This behavior can be expected to diminish as interest rates rise. Fortunately, the tendency for credit spreads to widen should not be compounded by a weakening of the economy, so long as the Fed successfully steers a middle course between insufficient vigilance on inflation and triggering a recession through overly aggressive rate hikes.

Last year, the bond market suffered a setback as the 10-year US Treasury yield rose from 0.91% to 1.5%. The Bloomberg Barclays Aggregate Bond Index's change was -1.8% in 2021.
BlackRock, the world's largest asset manager, observes that two negative back-to-back years for bonds are very rare (see chart). When they do occur, they are followed by a strongly positive year.

BOND MARKET RETURNS

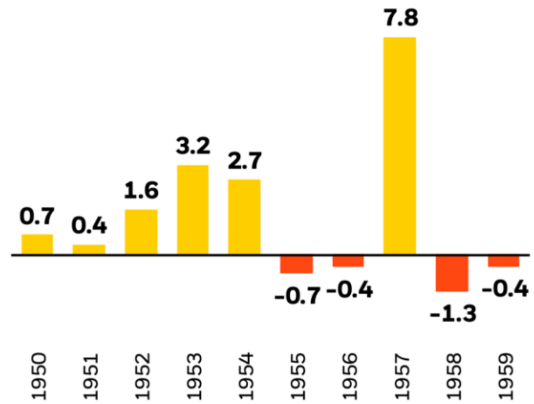
Consecutive years with negative bond returns are rare

Bonds are on pace for a negative calendar year in 2021

Bonds have not lost money in back to back years since the 1950s
(1/1/1926 – 11/30/21)

	Return	Return the following year
1994	-2.9	18.5
1931	-2.3	8.8
2013	-2.0	6.0
2021	-1.3	?
1958	-1.3	-0.4
1999	-0.8	11.6
1969	-0.7	16.9
1955	-0.7	-0.4
1956	-0.4	7.8
1959	-0.4	11.8

The 1950s had two periods with back to back years where bonds lost money
Bond returns buy calendar year, 1950 - 1959



Source: Morningstar as of 11/30/21. U.S. bonds represented by the BbgBarc U.S. Agg Bond TR Index from 1/3/89 to 11/30/21 and the IA SBBI US Gov IT Index from 1/1/26 to 1/3/89. Past performance does not guarantee or indicate future results. Index performance is for illustrative purposes only. You cannot invest directly in the index.

Source: BlackRock

The outlook for inflation, interest rates, and credit spreads justify a defensive stance on fixed income. We will strive to minimize price impairment from rising rates and keep cash available to take advantage of potentially higher yields later in 2022. Short-term, high-quality instruments and adjustable-rate securities can facilitate these strategies, balanced against clients' desire to maintain current income.

For investors looking for income, preferred shares continue to be the most attractive category. Many of these securities sport tax advantaged (QDI) current yields between 5% and 6%. Issuers are predominantly financial institutions, most of which currently have pristine balance sheets and strong capital positions. Higher interest rates will only further strengthen their profits and capital.

Equities: On Balance Still Positive Outlook

Equities remain more attractive than most other investment categories in relative terms, especially if the real interest rate remains low. Let us first list the main market tail and headwinds before we draw our conclusions:

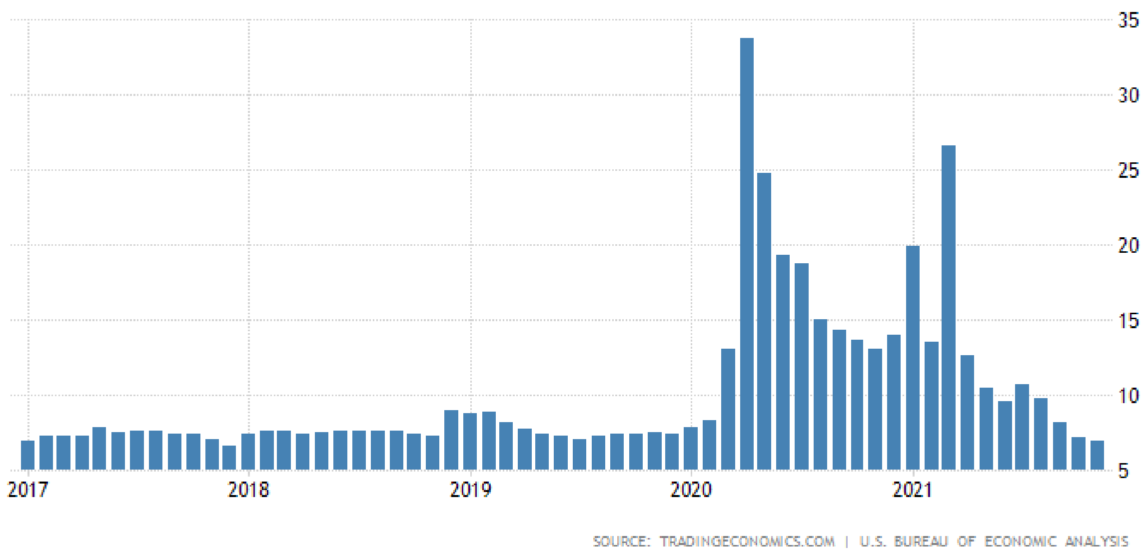
Tailwinds	Headwinds
▪ Strong consumer balance sheet and employment	▪ Valuations
▪ Bullish market technical and internals	▪ High earnings growth expectations
▪ Favorable credit environment and low interest rates	▪ Rising interest rates

Strong consumer balance sheet and employment

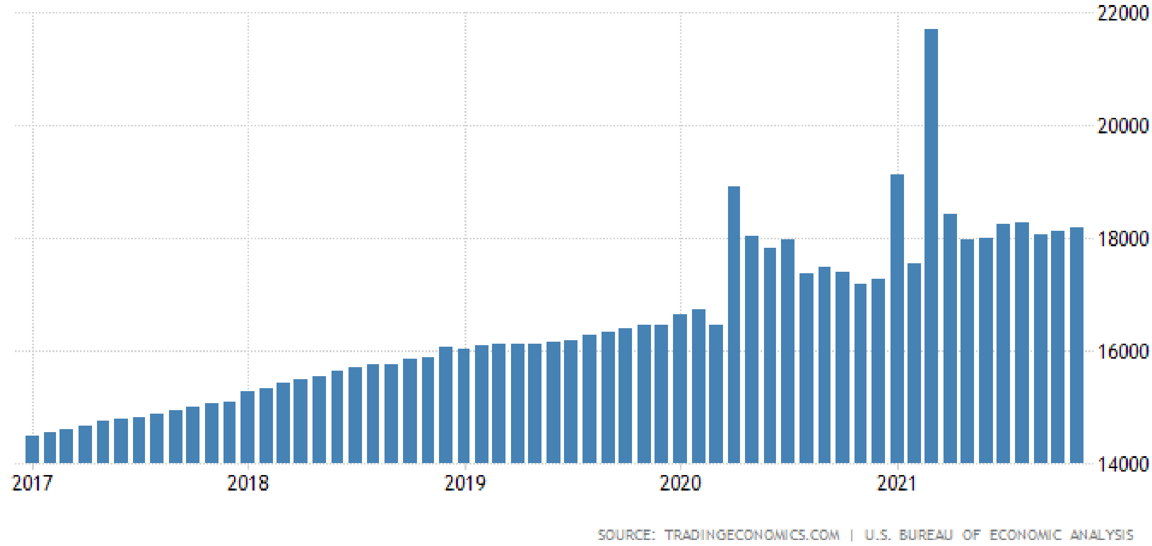
Consumers' savings have been buoyed by stimulus checks, wage growth, and reduced spending on discretionary and leisure activities. Savings allow for future spending and while consumer savings rates have gone down to pre-pandemic levels, disposable personal income has continued its upward trend. That will allow for spending on big ticket items, such as homes, cars, home improvement, vacations, and satisfy other pent-up demand.

Unemployment has been persistently low during the Covid-19 pandemic, dropping below 4.0% in the year's final month. That coincided with a low labor participation rate and wage growth of 4.7% on a year-over-year basis. A strong labor market provides a solid foundation for economic growth and stability, allowing consumers to purchase goods and services consistently. Wage growth bodes well for the economy, since consumers are saving money and creating wealth, which drives future growth and consumption.

Graph 4 – Consumer Saving Rate
The stimulus checks in 2020 and 2021 and the lack of opportunities to spend contributed to an increase in saving rate which gradually decreased as the economy reopened.



Graph 5 – Disposable Personal Income
Disposable personal income has risen steadily well above the pre-pandemic levels.



Record amounts in money market funds, earning zero interest rates, represent cash on the sidelines ready to be invested in a likely "buy-the-dip" environment.

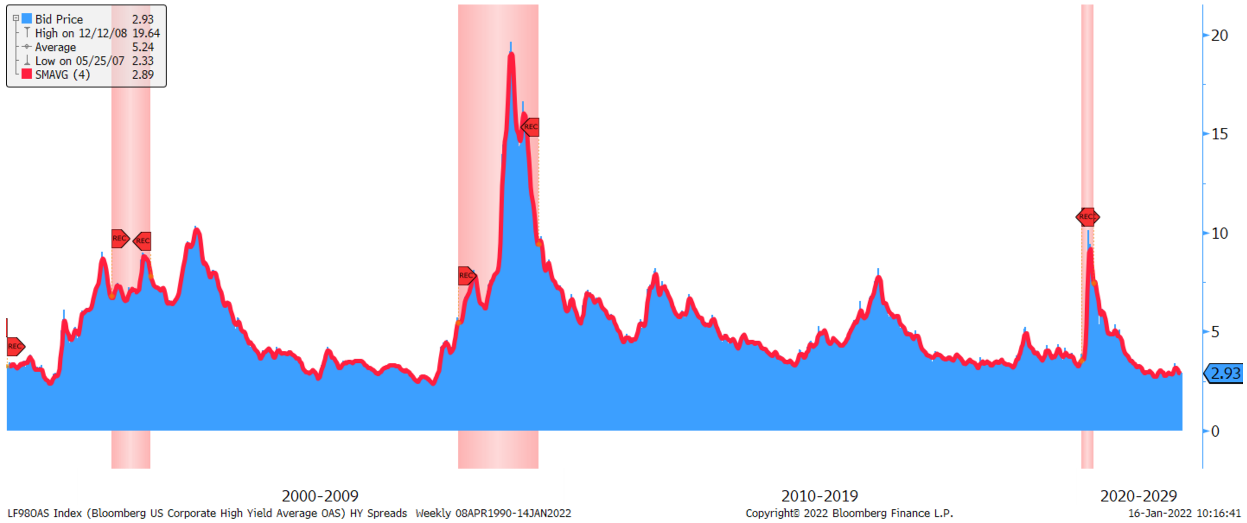
Market technicals

The market charts still display a solid bullish formation. The 10-day S&P500 exponential moving average (EMA) is above its 200-day EMA. Despite some recent dwindling, market breadth remains supportive as most of the companies within the S&P500 are trading above their 200- and 50-day moving averages.

Favorable credit environment and yield curve

Credit conditions represent one of the most consequential variables upon which the stock market rallies rely. All metrics indicate a benign credit environment, including credit spreads on high yield bonds. A positively sloped yield curve also indicates economic growth and well-supported equity markets.

Graph 6 – Bloomberg High Yield Corporate Bond Index Option Adjusted Spread
The disposable personal income has continued to rise above the pre-pandemic levels.



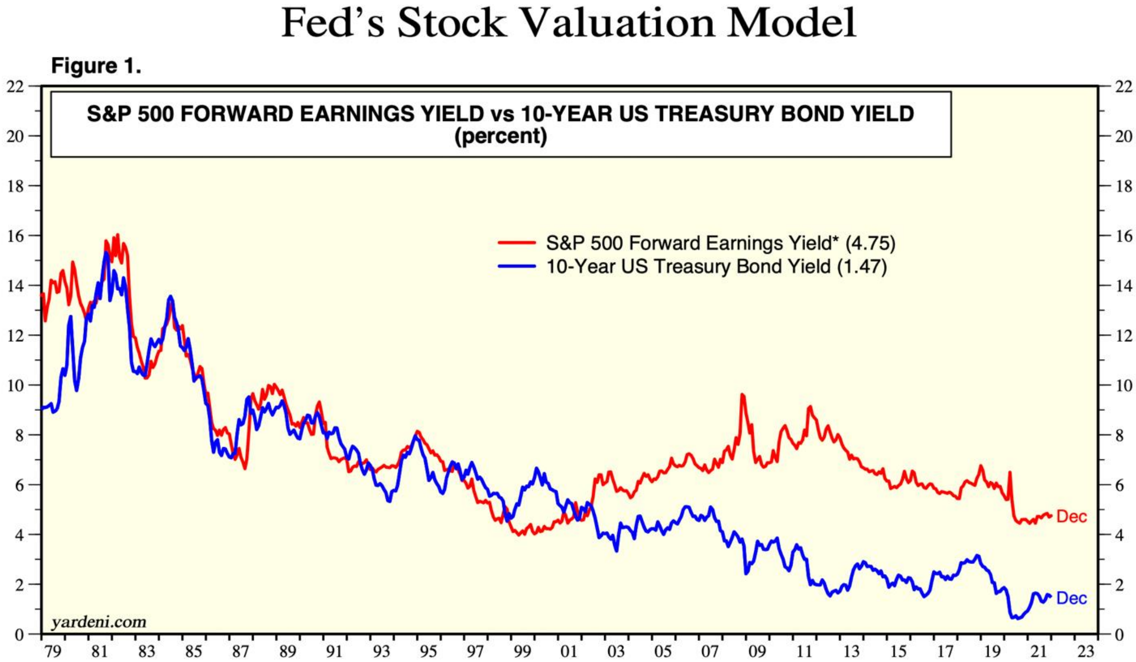
Headwinds

Valuations

Contrary to popular belief, equity market valuations (P/E ratios) do not offer reliable guidance on either short-term prospective market returns or the timing or depth of a possible market correction. Historically, market P/Es provide only a useful gauge of long-term expected returns.

If compared to the historical averages, current valuations remain a significant headwind, with the S&P500 index's P/E near a historical high at 21.3x. However, if we compare these valuations to the level of nominal and real (net of inflation) interest rates, equities do not seem expensive. The unknown for 2022 is how stocks will behave in a modestly rising real rate environment.

Graph 7 – S&P500 Index Earnings Yield (E/P) versus 10-year US Treasury Bond Yields
Stocks do not look expensive if compared to US Treasury bonds.



* S&P 500 12-month forward consensus expected operating earnings divided by S&P 500 stock price index.
Source: Standard & Poor's and Federal Reserve Board.

Throughout the current bull market, we have seen growth stocks outperform value stocks, driven by seemingly unending Federal Reserve support and cheap credit. If the recent shift from growth to value stocks, continues fueled by Fed rate hikes in 2022, we could see a reversal of fortunes for value and international stocks.

High earnings expectations for 2022

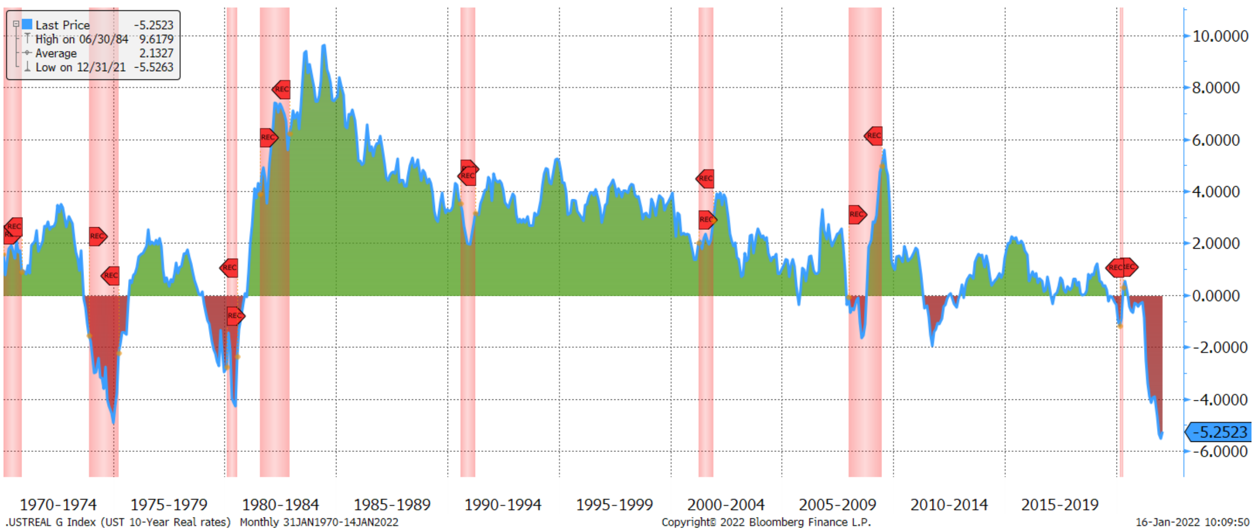
As rich as current valuations may look, they may be justified by continued corporate earnings growth. Earnings are facing a tough year-over-year comparison but continued pent-up demand for goods and services, as well as easing of supply chain bottlenecks and inflation, may provide upside to the corporate bottom line. In December 2021, FactSet reported optimistic analyst consensus expected growth of 7.2% for S&P500 revenue and 9% for earnings for 2022, above the ten-year average. Companies have been able to defend their margins by passing along higher costs to consumers, but 2022 may be the year where those limits are tested. Failing to meet such high bars may result in temporary market sell-off and increased volatility around earnings seasons.

Inflation and rising interest rates

Inflation has reared its (ugly) head after 40 years, due to a tight labor market, unprecedented economic stimulus, and demand for (limited) goods and services. Even though the world has progressed tremendously during the last 40 years, it seems that our tools to fight inflation have not. The Federal Reserve is about to embark on a series of Fed Fund Target Rate increase, its favored method to reverse inflation. We see opportunities in this type of environment with good, quality companies that can absorb higher cost of capital and still grow their top and bottom lines. However, the overall equity market is likely to become more volatile, which presents challenges and opportunities.

Graph 8 – Real interest rates measured as the difference between 10-year US Treasury Bond Yields minus CPI year-over-year changes

Real interest rates are the most negative in 50 years. History shows they usually turn positive, either because of lower inflation rate or higher bond yields (or both).

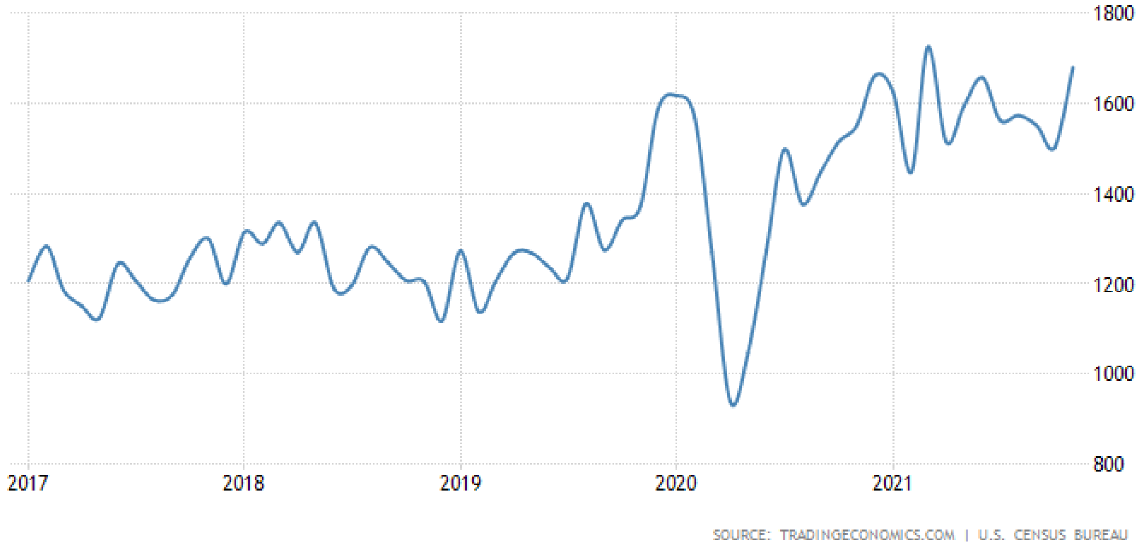


From an equity perspective, investors should look primarily towards profitability. This outlook favors a tilt towards value stocks and companies with strong financial attributes. We continue to favor several investment themes that are driven by long-term demographic factors which are unlikely to reverse.

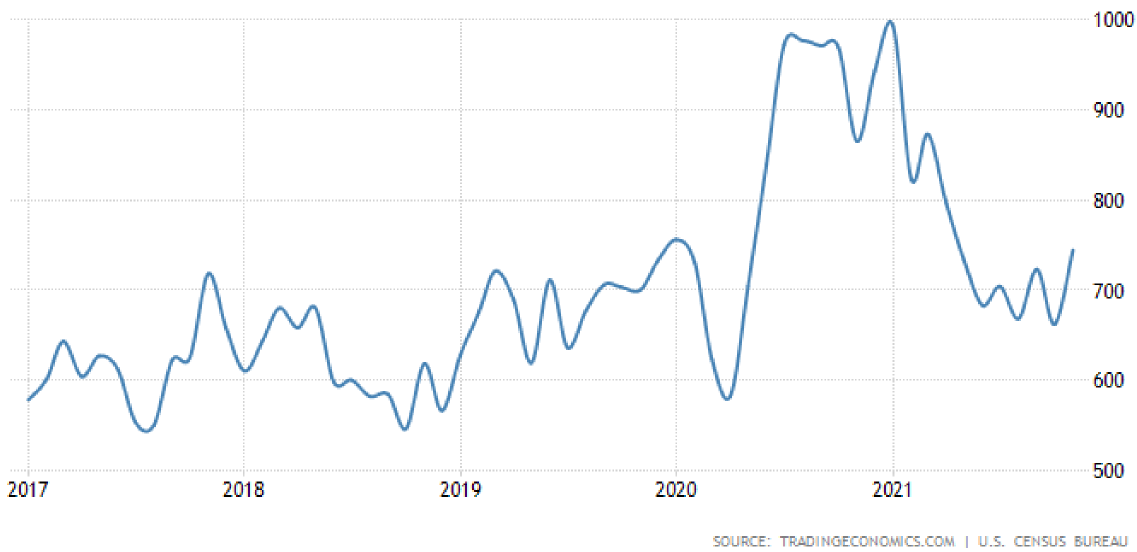
Structural Housing Shortage

The housing market has experienced a fundamental dislocation between demand and supply of housing stock. Following the 2008 Great Recession, the United States has not kept housing supply in line with demand and is consequently facing a chronic housing shortage, exacerbated by millennials finally starting families and looking to buy homes. Existing Home Sales Inventory is 1.25M vs. 3.8M in 2007, with low production of new housing being a huge factor.

Graph 9 – Housing Starts
The demand for new homes remains elevated, as evidenced by the permit requests data.



Graph 10 – New Home Sales
New home sales dropped because of lack of supply of new houses.



Millennial consumers

Millennials, the generation born between 1980 and 1995, constitute the fastest-growing population segment and represent massive spending power. Millennials have embraced a new lifestyle and way of doing things. They are spending on experiences (especially the ones that can be shared through social media), embracing e-commerce and rapidly evolving technology trends, and being keenly aware of social and sustainability issues. Convenience in their commercial transaction is a key factor in their decision making. Millennials have also started embracing homeownership, belatedly compared to prior generations.

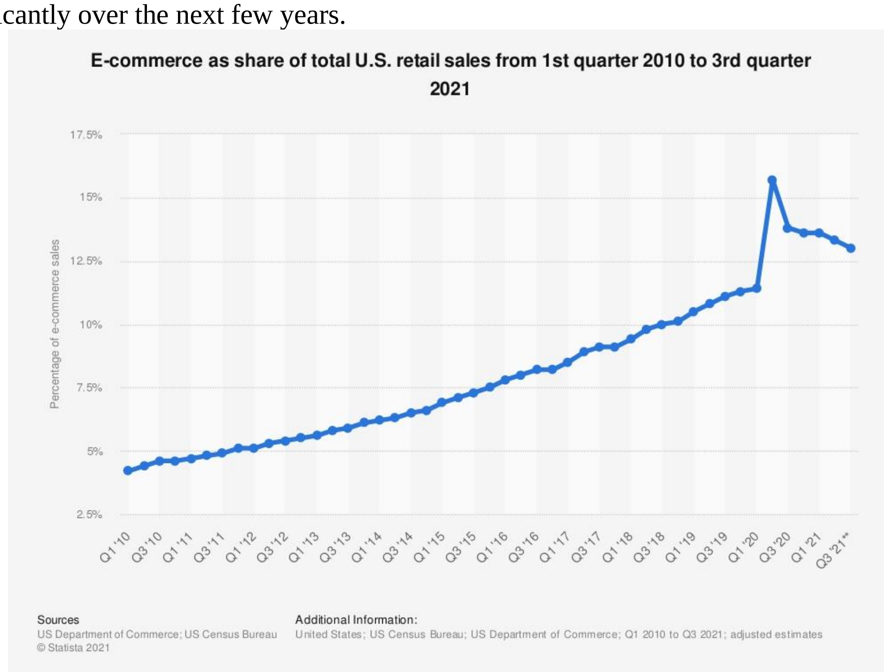
De-carbonization of the economy

Addressing climate change has become one of the most pressing issues of our time. De-carbonization of the economy is an irreversible process, not because of the will of governments, but more due to the demands from society. Investors, consumers, and industries are increasingly aligned with governments on this topic. The five biggest sources of greenhouse emissions are: 1) transportation, 2) power, 3) manufacturing, 4) construction, and 5) agriculture. The economy is becoming more electrified, moving away from fossil fuels and toward renewable and more sustainable energy sources. This change will have a profound impact on mobility, power generation, storage, and distribution. We view favorably electric vehicle manufacturers; expansion and fortification of our electric grid infrastructure; raw materials producers; and the automation of factories, warehouses, and low skill jobs with technologies such as delivery robots).

Digital economy

An outgrowth of or driver of electrification is the digital economy. It entails the way businesses and their customers transact, pay and otherwise interact. E-commerce as a percentage of sales has steadily grown.

Graph 10 – E-commerce as percentage of total retail sales in the US
Online sales growing quickly as percentage of retail sales. Many analysts believe this percentage is likely to increase significantly over the next few years.



The pandemic has compressed trends that would have played out over 10 or 15 years into merely 12 months. For example, consumers who never would have thought of purchasing groceries online have embraced it.

Growth of the digital economy has also necessitated the move to the cloud. Business tools, data storage, and analysis have migrated on a large scale from "on-premises" (think your computer hard drive, localized server) to a central server that is hosted by Amazon web services, Microsoft, or Google. Traditional software companies have begun offering their applications in the form of "software as a service," whereby they generate recurring revenues. This move to the cloud allows for more efficient business tool deployment and better data analysis but has also necessitated a new way of protecting business data. Cloud applications and security were a big growth driver for the NASDAQ in 2021. We continue to be very constructive on the entire digital economy infrastructure, including cloud computing, payment systems, social media, on-line marketing, digital business enablers, data centers, cell phone towers, physical storage, and cyber-security.

Aging Population and Healthcare Needs

The world's population is living longer and aging, thanks to scientific progress. This increased longevity is for all to rejoice but brings about several challenges: most prominently, seniors' care and the cost of healthcare in general.

Commodities

We ordinarily stay away from commodity investing because of the boom-and-bust nature of commodity cycles. Given the bout of inflation experienced in 2021, however, we feel compelled to opine on some of the major commodities as they may affect our overall outlook.

In 2021, oil and gas prices rebounded from their ultra-depressed 2020 levels. The demand for oil has grown back to near pre-pandemic levels. However, the supply has been slower to come back online, despite increased production from OPEC+. WTI Crude Oil trading back at around $80 per barrel has translated into a large inflationary hit. Part of this jump in prices is cyclical and part reflects deeper transformations in the industry. Partly pushed by unhappy investors and partly by hostile US state and federal authorities pursuing climate change policies, US oil and gas exploration companies refrained from investing in new capacity and have been depleting the existing proven reserves. If we add the geopolitical complications with Russia and Iran, the energy market remains highly vulnerable to shocks. Long-term, there is no question that cleaner and renewable sources of energy will gradually replace fossil fuels. In the interim, we may be in for a period of what some call "greenflation." We expect WTI Crude Oil to remain within a trading range around $80/barrel.

Similarly, the past decade has witnessed a dramatic copper under exploration. Copper, among its other applications, is the most important raw material in the de-carbonization and electrification of the economy. Electric cars and new power grids equally require large amounts of this metal. The

Chinese economic slowdown certainly represents a significant headwind for copper, but beyond that most analysts project a serious shortage of the material for the rest of the decade.

Gold, in our opinion, is at an important inflection point. It has not proven so far to be an effective shield against inflation. In 2021, the precious metal lost 4% of its value. Empirical evidence shows that gold thrives when real interest rates decline and in times of financial distress. As real interest rates start their inevitable rise after touching multi-decade lows, the support for gold prices may diminish.

Just a Few words about Cryptos, Web3, and the Metaverse

The topic of *crypto assets* (or, as we prefer to call them, *digital assets*) has become so prominent that it cannot be ignored, even if one does not invest in them. Digital assets are either tradable *crypto-currencies* (assets that are viewed as a pure medium of payment/store of value, Bitcoin being the largest one) or *crypto-tokens* (assets that also include some cryptographic function, such as Ether, Solana, and Chainlink). Most notable among tokens are Non-Fungible Tokens (NFTs). These offer exclusive claims to digital art (pictures, video, and audio).

Crypto assets, in general, are growing in conjunction with two major industry revolutions, Web3 and the Metaverse.

Web3[4] is, as described by industry insiders, a new decentralized internet architecture built on the blockchain technology, on smart contracts, and on peer-to-peer networks (“nodes”). The benefits of Web3 are its faster speed, better privacy, and lack of centralized control.

The idea of Web 3 begs the question of what exactly the first two iterations were and why they may be replaced. Web 1.0 represented the first workings of the internet, embodying the optimistic ideal that users would all host and uphold their own servers for their own websites, emails, and any further function they would wish to use. Web 2.0 came along with companies that offered to host these servers for a multitude of users and platforms that were able to create new services. Web 2.0 coincided with the advent of social media, cloud computing, big data (and breaches of privacy).

The Metaverse is a relatively abstract concept of an infinite 3D virtual space primarily, but not exclusively, accessed through virtual and augmented reality headsets, where individuals can virtually interact for leisure or work and conduct everyday activities such as exercising, watching movies, having meetings, and so forth. As futuristic as it may seem, the metaverse already exists and is well on its way. Digital assets are equivalent to your ownership contract in the metaverse.

[4] New York Times, “We see a world where the best start-ups of tomorrow are all built on web3 blockchain infrastructure,” Shan Aggarwal of Coinbase.

Our view is that digital assets are currently in a phase equivalent to the gold rush. Most investors will find their wealth decimated by them, while very few will make an enduring fortune. The people who make the “picks and shovels” will be the one that will thrive, no matter what.

CONCLUSIONS

- Our base case macro-economic outlook calls for continued economic growth, albeit at a slower pace, and a moderation in inflation. Under this scenario equities should deliver single digit returns, while bonds may offer much more modest returns. We will likely experience a rare second consecutive negative year for bonds in 2022.
- An adverse scenario may materialize if the pandemic lingers, inflation does not subside, and the Federal Reserve engages in muscular policy tightening. A sharp slowdown in China may contribute to further weakening of the western economies.
- Preferred shares issued by solid financial institutions remain our favorite avenue for income generation, especially if the income is tax advantaged.
- During an interest rate tightening cycle, we expect increased market volatility across asset classes. We expect long-dated bond yields to peak well before the Fed ends it tightening. Real interest rates are likely to rise, but for the most part they will remain highly stimulative for the markets.
- Equity markets will become more volatile and a rotation from growth toward value and international stocks may begin. We continue to favor high-quality companies benefiting from one of our five secular investment themes: 1) digital business enablers and digitization of the economy 2) millennial consumers 3) US housing shortage and aging 4) de-carbonization of the economy 5) aging population and healthcare needs.
- Among the main commodities, we find copper most interesting, despite the high volatility.
- We watch with attention and curiosity developments in the crypto space, Web3 and the metaverse. Although we are not active investors in this space, we can accommodate specific client requests.

Sincerely,

Livian & Co. Team