Equity Market Summary

U.S. Equity Markets	4Q'21	1 Year	Top/Bottom Sectors	4Q'21	1 Year
S&P 500	11.0%	28.7%	Real Estate	17.5%	46.0%
Russell 1000 Growth	11.6%	27.6%	Technology	16.7%	34.7%
Russell 1000 Value	7.8%	25.2%	Materials	15.2%	27.2%
Russell 2000	2.1%	14.8%	Comm. Svcs.	0.0%	21.7%
Russell 2000 Growth	0.0%	2.8%	Financials	4.6%	35.0%
Russell 2000 Value	4.4%	28.3%	Energy	8.0%	54.8%

Non-US Equity Markets (in USD)	4Q'21	1 Year	Non-US Regions (in USD)	4Q'21	1 Year
MSCI AC World Ex U.S.	1.8%	7.8%	Developed Americas	7.0%	26.7%
MSCI EAFE (Developed)	2.7%	11.3%	Developed Asia	-2.8%	2.9%
MSCI Emerging Markets	-1.3%	-2.5%	Developed Europe	5.5%	16.7%
MSCI China	-6.2%	-21.3%	Emerging Americas	-2.9%	-7.5%
MSCI United Kingdom	5.5%	18.6%	Emerging Asia	-1.2%	-5.3%
MSCI Brazil	-6.8%	-16.7%	Emerging EMEA	-2.3%	18.1%

Source: MSCI, S&P Global, FTSE Russell; Jan. 1, 2021- Dec. 31, 2021

Market Review:

True to form the September Swoon gave way to a Santa Claus Rally with the S&P 500 notching up new highs in the final week of the year. The 11.0% fourth quarter return for the S&P 500 just put an exclamation point on a 28.7% outcome for the year. It was a year of records: 70 new highs for the S&P 500, $5.8 trillion of M&A deals, and $12 trillion raised in private equity. Operating company IPOs collected $118 billion, doubled previous highs, SPAC IPOs raised $162 billion, and cryptocurrencies notched multiple highs, to name a few. But it was a painful year for the disruptor darlings that surged in 2020. The ARK Innovation ETF ended the year with a -24% loss, but still had $9 billion of new inflows, indicative of the buy-the-dip mentality of innovation investors. Among more traditional investors many spent the year waiting for a buyable correction. Those that focused on the S&P 500 index met with a year of frustration as dips were short and shallow with the largest drawdown -5.2%. This is a reflection of the index dominance of a few large companies and their relative strength. Apple (+35% total return), Microsoft (+52%), Amazon (+2%), Alphabet (+65%), Tesla (+50%), Meta (+23%), and NVIDIA (+125%) combine to make up 27% of the index market cap and contributed one-third of the annual index return. Within the index constituents there has been a rolling correction taking place. As evidence 37% of S&P 500 stocks were trading more than -10% below their high at the end of the year. Small cap stocks were a bit more volatile with a -12.4% maximum drawdown, the NASDAQ 100 saw one of -10.9% in March, and MSCI Emerging Markets had a tough year with a trough -15.4% below its high, largely because of a Chinese swoon. All S&P 500 sectors were positive for the quarter and the year. Energy and Real Estate flipped from worst performers in 2020 to best in 2021. Real Estate finished strong leading the way in the fourth quarter. Results were a bit more mixed in the Russell 2000 where Health Care was particularly hard hit. Large Cap Growth extended its comeback in the quarter by virtue of a rally in high market cap Information Technology stocks and their large weighting in the group.

Real GDP is looking healthier for the current quarter than in the third quarter. Q3 featured a slowdown induced by supplier bottlenecks and the Delta Covid-19 outbreak, therefore the 2.3% result in that quarter was not much of a surprise. The Atlanta Fed Nowcast had muted expectations ahead of the report. But now it is on the rise reaching 7.6% indicating a fairly robust fourth quarter. If that proves correct real GDP is on pace to exceed the pre-Covid trendline this quarter. U.S. and Global Citi Economic Surprise indices bottomed in September and turned positive in November so rising expectations are consistent with that data. Jobless claims are back to healthy levels. At the end of the year the 4-week average for continuing claims is back to March 2020 levels, before the bottom fell out, and the 4-week average for initial claims is the lowest it has been since 1969. The department of labor reports job openings 57% higher than pre-Covid levels and quits 21% higher. Yes, the number of employed persons is still almost 4 million below the peak because some workers have chosen to leave the workforce for a variety of reasons. But those qualified workers that want jobs seem to be able to find one. Businesses are being held back by staffing issues but have still managed to find ways to produce more with less bodies. That may help explain the robust investment in industrial equipment where orders are averaging 21% higher than pre-Covid level and shipments 17% higher. Consumers say they are cautious but have not cut back on spending. E-commerce sales are still running about 40% ahead of pre-Covid levels, while brick-and-mortar retail sales are 14% above that level. Even eating and drinking establishments have recovered to previous levels. Granted, December may have seen some

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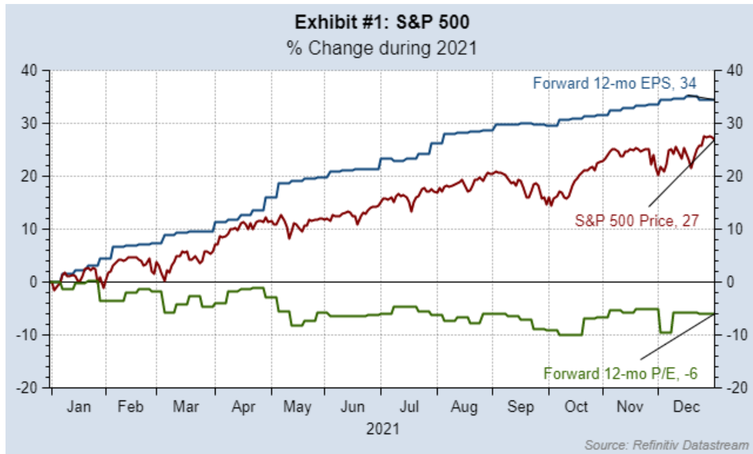
slowing due to a new wave of infections. However, the resilience of the economy after the Delta variant ran its course lends some credence to the idea that a new deceleration could be short-lived, especially if predictions of a short, sharp peak and recovery in infections proves true.

Market Outlook:

The past two years have taught us that predicting the direction and magnitude of the market with all of the moving parts in the contemporary environment is at best difficult and could be described as folly. We don't recall anyone that accurately predicted either 2020 or 2021.

Revisions to 2022 earnings outlook are once again rising, as they did for most of the last year. In fact, they have risen faster than stock prices so the S&P 500 price/earnings ratio is more reasonable today than it was at the beginning of 2021 (Exhibit #1). Investors are most worried about the possibility that inflation remains high and central banks are compelled to be more aggressive in reigning it in. The hawkish turn by central bankers during the quarter lends some credence to that argument. Tolerance for higher prices seems to be running short. If quantitative easing was a tailwind for risk assets, then quantitative tightening is a headwind. But keep in mind that even if the amount of Fed bond purchases is reduced it is still quantitative easing as long as they are still buying any amount and is not actually tightening until they start reducing the balance sheet. An orderly withdrawal of quantitative easing, followed by rate increases then some reduction in the balance sheet is probably not the death knell for stock prices as long as the economy and earnings continue to expand. The inflation risk is if it remains hot and forces central bankers to get more aggressive, which can throw values into question. But we think there is a reasonable chance that inflation numbers begin to moderate in 2022 using the logic detailed below. If that is the case, the Fed will have some cover to take the punchbowl away in an orderly fashion.



Source: Refinitiv Datastream; Jan. 1, 2021- Dec. 31, 2021

Fed tightening in 2022 is really a valuation issue. The impact on the economy is probably a 2023 issue. Valuations remain full despite moderating during the past year. While valuation rather than earnings momentum is likely to decide the direction of the market in the coming year it has never been a good predictor of a market top or bottom.

Wholesale inflation is a risk to earnings if companies are not able to pass on costs to customers or find efficiencies to offset them. The discussion below looks at prices from a consumer perspective, but many of the same principles apply. It is easy to project the most recent increases into the future. But the probability of a repeat of the past year is pretty low. The other risk to earnings is a worse hit to activity from new variants of Covid-19 than currently foreseen. The world is getting better at learning to live with the virus. Consumers might be nervous about the virus but activity is no longer coming to a screeching halt. Just look at the airport activity over the holidays. Staffing is probably the bigger issue for those industries requiring workers to operate. Just look at the airport cancelations board for evidence. Against that backdrop is a cashed up consumer with pent-up demand. Bottlenecks have held back production and consumption in 2021 and they are likely to continue to hold it back in 2022, but probably to a lesser degree. Absent unforeseen issues we think earnings can continue to grow in the year ahead and may even surprise on the upside again.

Inflation - The Subject on Investor Minds:

Since investors identify inflation and central bankers reaction to it as their single largest concern for 2022 it bears an in-depth look. The Fed has retired the word "transitory" to describe their view of inflation and admitted that some of the drivers of price rises have persisted longer than they expected. However, they still believe those drivers will abate before inflationary expectations become entrenched in economic decision-making. Nevertheless, even the alternative inflation measures that remove the most volatile components are looking more worrisome. The Omicron Covid variant may be a near-term risk if it disrupts the supply chain recovery in a more dramatic way than it does the demand for goods, exacerbating the mismatch between supply and demand. Ports and suppliers in Asia could experience shutdowns that would be globally felt. These are all very legitimate concerns and could prove troublesome. But a case can still be made for moderating inflation if you dig into the detail.

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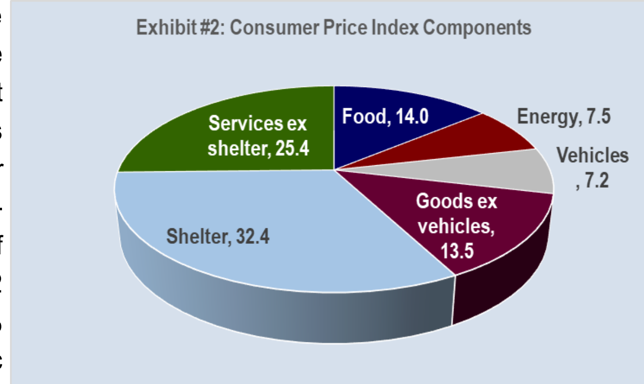

Source: U.S. Bureau of Labor Statistics; Dec. 31, 2021

The biggest inflation bogeyman over the past year has been energy prices where the CPI component notched up a 33% rise in the 12-months to November. See Exhibit #2 for a breakdown of CPI components. Gasoline is the largest component in energy and up the most so let's take a look at history. The national average gas price started the year 20% below the 15-year average and peaked in November 20% above average. It moved up 40% in the first seven months and has only added another 5% in the final five months. The current price is in the 74th percentile of prices over the last 15 years. For this component to have a similar impact in 2022 the current price would need to rise another 45% to just under $5/gallon, or 18% higher than any time in the last 15 years. That does not seem achievable. Electric vehicle carmakers are the only stakeholder that would welcome that outcome. Consumers would cutback demand and suppliers would open the spigots. Some increase is not out of the question. But the trend was lower at the end of the year and equilibrium between supply and demand is looking more likely.

Consumers also have felt considerable pain at the meat counter and in the entrée prices at their favorite restaurant. Beef prices are up 21% in the year to November, pork is up 17%, with chicken up 9%. Demand is not rising so supply must be the issue. Beef is the largest component of the category and is up the most. Due to plant shutdowns in 2020 the number of cattle processed in the U.S. fell -3%, while exports rose 7% and imports fell -13%. This left processed inventory down -9% at the end of the year. Production head count has returned to a pre-Covid pace in 2021 and imports have recovered. But while inventory is not worsening it remains tight. Using average hamburger prices as a benchmark there has been a clear rising trend over the years. The average at the beginning of the 2021 was -7% below the trend line and as of November was +8% above, in the 82nd percentile of that comparison. Another 21% rise in 2022 would put the price of hamburger 26% above trend line, which is unprecedented in the last 20 years. Tight inventories with little excess production available probably means prices will not fall back to earth soon, but a repeat of the last 12 months is also unlikely given the move already experienced.

The largest sub-component of the CPI is shelter, which is largely owners' equivalent rent at 24% of the total. This input is only up 3.5% over the past year, but the annualized rate of increase is 5.7% over the last 3 months. Rents are up a similar amount. Because shelter is such a large wallet share of consumer expenditures, if the cost of putting a roof over your head continues to escalate inflation could be more persistent. Admittedly, this component is very volatile. Spikes in the growth rate are fairly common. But extended periods of sustained high price increases are rare. In the last 25 years the annualized 3-month average increase has been above 4% seven times and stayed there an average of 3.7 months. After the peak it returned to below 3% on average within 6 months. Currently this rate has already been above 4% for 3 months. Will it soon peak and fall back to below 3%? Given the dynamics of the costs going into homeownership and rent escalations it may stay elevated for a number of months. But if history repeats those cost pressures quickly abate allowing a more modest trajectory.

The scales have tipped in favor of the employee in wage negotiations. Wages are on the rise as businesses compete for qualified workers. While a wide swath of businesses are effected, the most direct impact is in the service sector, which makes up about 25% of the CPI if you exclude shelter and energy services. There is still a lot of noise in the headline wage numbers so we looked at some more specific groups indicative of the situation. The first is non-supervisory leisure and hospitality workers whose average weekly earnings have jumped 19% in 2021. But they are only 13% above pre-Covid levels, which works out to be about a 7.3% annual rate. So 2021 wage increases reflect the difficulty in hiring, but also some make up for lost wage increases in 2020. Retail hourly workers similarly are enjoying weekly earnings about 13% above pre-Covid levels, but the rise was more evenly distributed between 2020 and 2021. While not the headline catching levels some employers are bemoaning at present these increases are certainly more painful for businesses and their patrons than the 3-3.5% gains in the previous five years. Looking forward it is tempting to correlate future wage increases with consumer inflationary expectations. The University of Michigan consumer survey noted 5-year inflation expectations at 2.9%, not too far off the long-term average, and a New York Fed survey indicated a 4.0% inflation expectation over the next 3 years. But wage growth is much more correlated with job openings, which continue to run high and may continue to do so without a greater return to the workforce by those presently sitting on the sidelines. Thus wages will likely continue to be a force pushing service prices up if employers are not able to gain productivity and attempt to

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pass the higher cost on to patrons. The same can be said for goods manufacturers and retailers but employment is a smaller portion of their cost base. Having said that the rise in prices in services ex. energy has been tame at 3.4% relative to the 12-month headline number.

The supply chain has also garnered much attention. Shortages and shipping costs are impacting businesses that rely on ships, trucks, trains or offshore suppliers to help them offer goods for sale. Considerable effort has been put in to enhance the current state of play with some success. CPI components like apparel and new vehicles come to mind. The purchasing manager mantra of "just in time" has been replaced by "just in case". But when you add all of the CPI components together that could be impacted by logistics it only totals about 12% of the index. As we have said in the past, some of these bottlenecks take time to get worked out. In fact, looking at quarterly goods imports relative to 2019 it appears there is already progress being made. First quarter goods imports were 5.2% higher than the same quarter in 2019, the second quarter was 6.2% higher, and the third quarter was 6.7% higher. Incremental improvement indicates steps are being taken to address the situation.

None of this is intended to imply that inflation is not a risk. It most certainly is and should be taken seriously. The point is really that higher inflation is not the foregone conclusion that some would have you believe. Is momentum the key element in the future direction of inflation or is reversion to the mean? Human nature is to focus on the former when the later is generally a much stronger force.

Does Higher Inflation equal Negative Stock Returns:

Conventional wisdom is that higher inflation must equate to a market correction. But history does not necessarily support that view. We looked at various inflationary scenarios going back to 1964. Exhibit #3 shows that inflation less then 3% is clearly the best environment for stock returns. But higher inflation did not necessarily lead to negative returns. It certainly is not a linear relationship. All inflationary environments had positive returns at least half the time. The lowest return and percentage positive was when inflation was between 6% and 7%. We also looked at rising inflation in Exhibit #4. Positive returns tended to be lower and less likely. But the only threshold yielding average negative returns was crossing the 6% threshold. Some of these data buckets are a bit small and returns are only averages. However, it is difficult to conclude from this data there is a tight relationship between higher inflation and negative returns. Inflation is only one piece of the puzzle that impacts stock returns.

Exhibit #3: S&P 500 Next 12-month Returns During Inflationary Periods since 1964

When 3-mo Annualized Inflation is;	Ave. Total Return	# Periods	% Positive
Less than 3%	11.9%	312	84%
between 3% and 4%	7.5%	121	77%
between 4% and 5%	5.5%	77	61%
between 5% and 6%	4.0%	53	55%
between 6% and 7%	1.1%	32	53%
between 7% and 8%	9.2%	15	80%
greater than 8%	4.7%	74	61%

Source: Refinitiv Datastream; Jan. 1, 1964 - Dec. 31, 2021

Exhibit #4: S&P 500 Next 12-month Returns During Rising Inflation since 1964

When 3-mo Annualized Inflation rises;	Ave. Total Return	# Periods	% Positive
above 4% threshold	4.2%	42	60%
above 5% threshold	2.9%	32	56%
above 6% threshold	-2.0%	18	44%
above 7% threshold	3.4%	14	64%

Source: Refinitiv Datastream; Jan. 1, 1964 - Dec. 31, 2021

We do not profess to have greater foresight than the experts. But we do think it prudent to consider a range of outcomes rather than settle on a single point of view.