1492 CAPITAL MANAGEMENT
DISCOVERING OPPORTUNITY

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IDENTIFY THEMES | FUNDAMENTAL ANALYSIS | TARGET VALUATION | GROWTH STRATEGY | VALUE STRATEGY | CORE ALPHA STRATEGY | VALUE INCOME STRATEGY

1492 Vantage Point Quarterly Newsletter

Welcome to 1492 Capital Management's newsletter for the fourth quarter of 2021. In each quarterly newsletter, we provide our perspective on the most recent quarter, preview what lies ahead, and offer a bit of market trivia.

Our corporate slogan is "Discovering Opportunity" which is our daily focus for our clients with our small cap strategies and our wealth management portfolios. Our investment professionals possess a tremendous amount of experience navigating through multiple market cycles. 1492's time-tested strategies are based on a three-step process of identifying investment themes from hundreds of meetings annually with company executives, extensive tire-kicking of the financial statements, and a rigorous valuation methodology.

Optimism Entering the Year, Pessimism on the Way Out

We entered 2021 with a healthy dose of optimism borne out of a newly elected President, a massive $1.7 trillion stimulus package, widely available COVID vaccines, and a long overdue reopening of the global economy. Liquidity from the three massive stimulus packages and the PPP program impacts of 2020 laid the groundwork for a speculative atmosphere in the markets, which led to the explosion of "meme" stocks, SPAC's, cryptocurrency, and robust early returns out of the gate for the stock market. However, optimism faded with the detection of the Delta variant early in the year which found its way to our shores by late Spring. As the year progressed, we continued to battle COVID waves, labor and equipment shortages, emerging markets tightening, China regulatory excesses, spiking energy prices, supply chain snafus, government ineptitude, Fed tightening, Omicron variant, and surging inflation. With this list of issues, you could easily see how the stock market could have declined for the year, but massive liquidity and low interest rates kept equities afloat. However, these headwinds did put the brakes on the market's early advances at the start of the year. After a 20% surge to begin the year, the Russell 2000 peaked on March 15, 2021 at a level that wouldn't be surpassed for the full year. The S&P 500 had a different plan. While the Russell 2000 jumped 20% out of the gate, the S&P 500 could only muster a 6% gain through mid-March. It looked like it was going to be a repeat of 2020 in which small caps broadly outperformed large caps. Then the tables turned, and the S&P 500 continued to grind higher for the balance of the year with leadership from the five biggest growth stocks on the planet. The pace was too fast for the Russell 2000, and by year's end the S&P 500 rose +28.71% and easily surpassed the Russell 2000 return of +14.82%.

As the calendar turns to 2022, the headwinds that we mentioned above will have to be negotiated. The largest of these issues are the persistent COVID waves (seems there is reason for optimism here), inflation (we view concerns as overstated), and the Fed. Unfortunately, we believe that the Fed is poised to repeat their mistake of 2018. We'll provide more detail on this thought later in the newsletter.

There are many wildcards ahead and we'll try to address as many of them as possible in the balance of the newsletter. Please read on to see our unique views of what's on tap for 2022, what some of the key themes are that we're investing in here at 1492, what the key stock market drivers will be, and indulge in some stock market trivia. We will be providing our strategy

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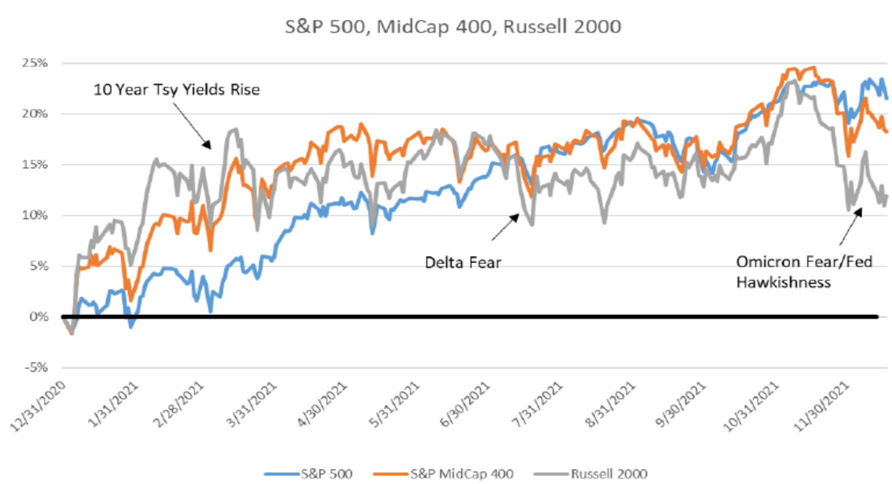
webinars and detailed performance information on 1492's strategies in a separate email in the coming week. If you would like to discuss any of our strategies with us, please contact Tim Stracka at 414-238-3398.

A Review of 2021: Optimism Entering the Year, Pessimism on the Way Out

We entered 2021 with a healthy dose of optimism borne out of a newly elected President, a massive $1.7 trillion stimulus package, widely available COVID vaccines, and a long overdue reopening of the global economy. Liquidity from the three massive stimulus packages and the PPP program impacts of 2020 laid the groundwork for a speculative atmosphere in the markets, which led to the explosion of "meme" stocks, SPAC's, cryptocurrency, and robust early returns out of the gate for the stock market. However, optimism faded with the detection of the Delta variant early in the year which found its way to our shores by late Spring. As the year progressed, we continued to battle COVID waves, labor and equipment shortages, emerging markets tightening, China regulatory excesses, spiking energy prices, supply chain snafus, government ineptitude, Fed tightening, Omicron variant, and surging inflation. With this list of issues, one could easily see how the stock market could have declined for the year, but massive liquidity and low interest rates kept equities afloat. However, these headwinds did put the brakes on the market's early advances to start the year. After a 20% surge to start the year, the Russell 2000 peaked on March 15, 2021, at a level that wouldn't be surpassed for the full year. The S&P 500 had a different plan. While the Russell 2000 jumped 20% out of the gate, the S&P 500 could only muster a 6% gain through mid-March. It looked like it was going to be a repeat of 2020 in which small caps broadly outperformed large caps. Then the tables turned, and the S&P 500 continued to grind higher for the balance of the year with leadership from the five biggest growth stocks on the planet. The pace was too fast for the Russell 2000 and by year's end the S&P 500 rose +28.71% and easily surpassed the Russell 2000 return of +14.82%. The chart below shows how large (blue), mid (orange), and small caps (grey) progressed throughout the year. Notice small caps roared out of the blocks strongly only to tread water for the balance of the year as Delta variant concerns came to light. Meanwhile, large caps continued to power higher on the strength of the "big five" market cap stocks.

2021 - A Positive Year for Equities, Large Caps Underperform Early in the Year, Then Outperform Later in the Year

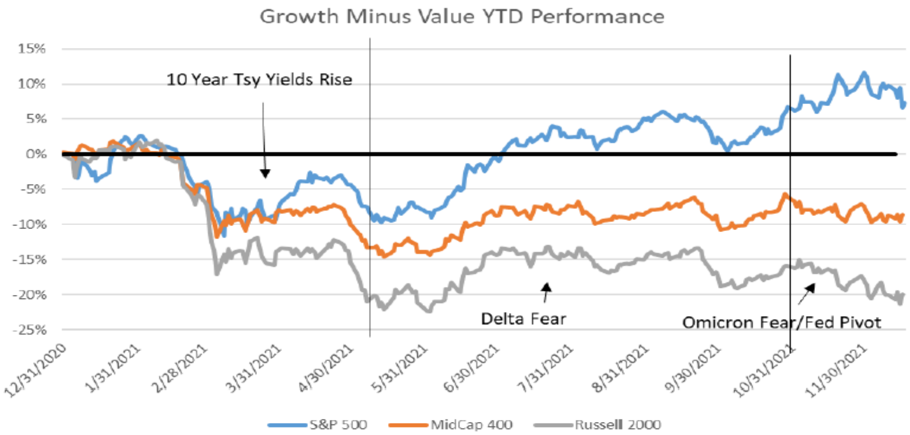


- **1Q21:** 10-year Treasury yield rises by ~80 bps, equity performance driven by small and mid caps.
- **April – September:** Equity market trades sideways broadly, but large caps outperform and catch up as the delta variant creates global investor fear.
- **October:** Small/mid caps regain leadership as delta fear recedes and rates increase to near year highs.
- **November/December:** Omicron emerges and "Powell pivot" jolts the equity markets, hurting small/mid caps more than large caps.

Source: FactSet, Raymond James research

It was a strange year for the stock market from a value vs. growth perspective as well. The S&P 500's return for the year was skewed to growth stock outperformance whereas value led the small and mid-caps. This occurrence is unusual as either growth or value tends to lead up and down the market cap spectrum. The chart below shows the performance of growth stocks minus value stocks. The disparity is quite striking when you view the S&P 500 versus the Russell 2000.

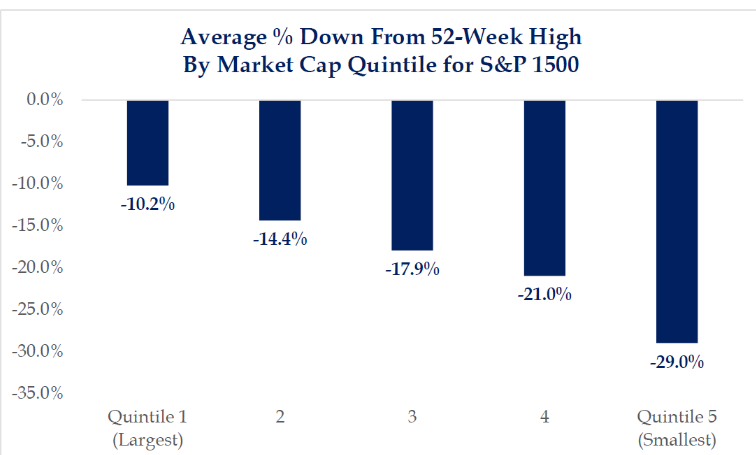
Growth or Value Leadership is In the Eye of the Beholder



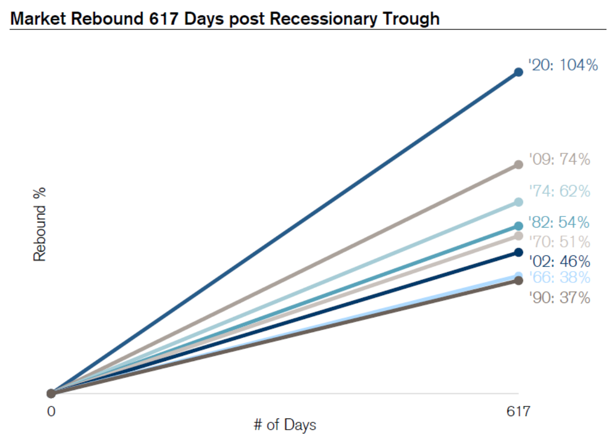
- Growth sold off across all indexes as the 10-year Treasury yield increased in 1Q21.
- Then as Delta fear gripped the world, growth outperformed in large cap indexes, but no definable trend in growth vs. value in small/mid cap indexes.
- Since omicron/"Powell Pivot", there has not been a definite growth vs. value trend except in small caps where growth has meaningfully underperformed.

Source: FactSet, Raymond James research

Underneath the hood of the market, there was a major correction that happened late in the year as concerns mounted in the fourth quarter about Fed tightening and Omicron. As the chart below left shows, many small cap stocks entered bear market territory (down more than -20% from their highs). The chart shows the 1,500 largest stocks in the U.S. stock market and how the stocks corrected more as you moved down market. This fact explains why the Russell 2000 couldn't keep up with the S&P 500 as the year progressed. On the right is a chart that shows that the market rebound since the recessionary trough in 2020 is by far the best coming off the bottom at this point in the recovery.

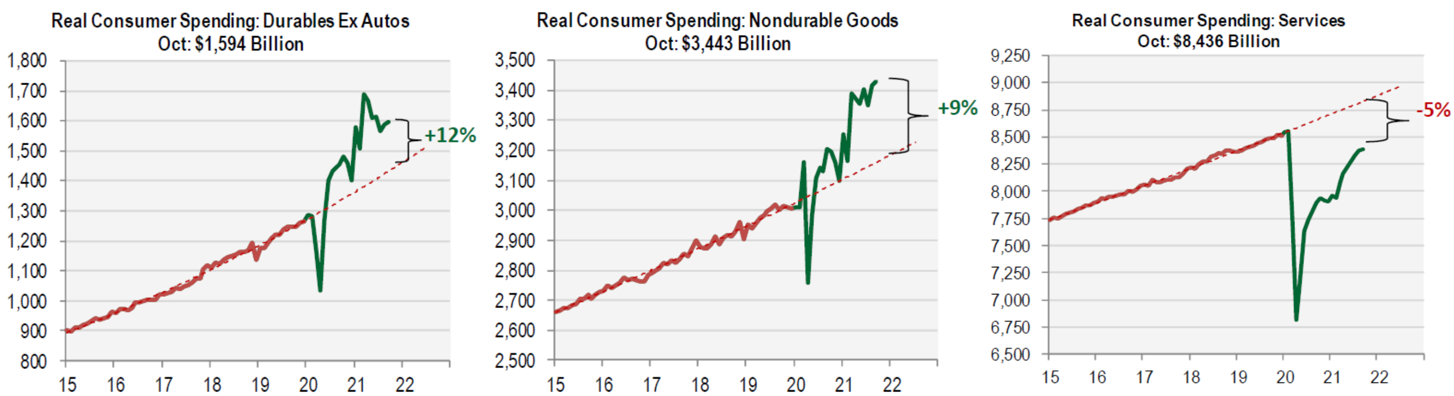


Source: Strategas Research



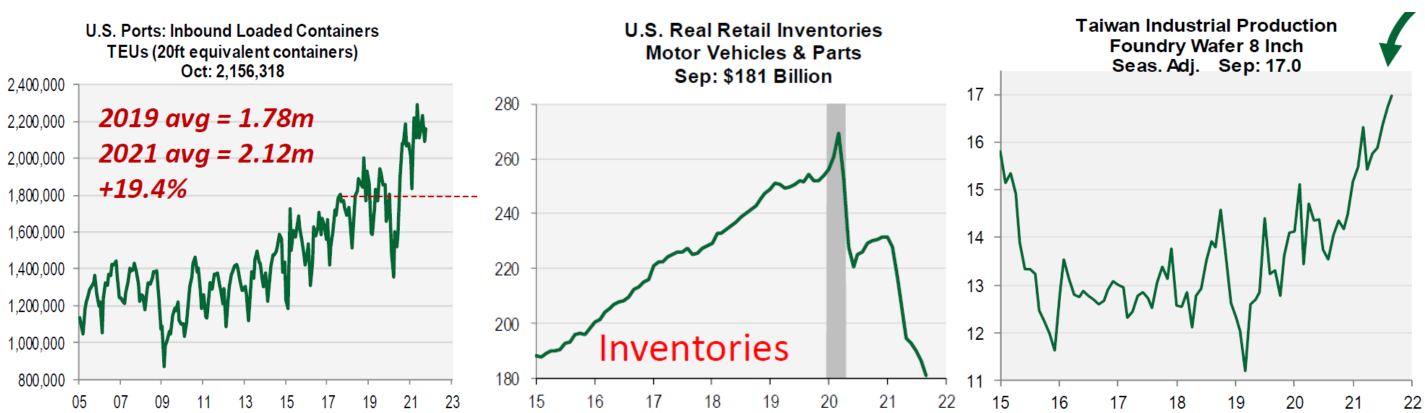
Note: Price return
Source: Standard & Poor's, Haver Analytics®, Credit Suisse

Stimulus in the form of checks, extended unemployment benefits, and low interest rates kept the economy humming despite COVID and supply chain issues that created shortages. Consumer discretionary stocks tied to ecommerce and to retail stores saw booming business as Americans decided to spend on goods given that many in-person services were either shut down due to COVID or unavailable due to lack of staffing. The three charts below show how significantly demand veered off trend. The first two charts below left show how much demand for both durable and non-durable goods lifted above trend. Cornerstone Macro research estimates that the demand for goods may have been pulled forward by 3.5 years. This thought may create a hangover into 2022 and beyond as demand retreats to trend. On the far right is a chart that shows spending on services. This includes travel, hotels, restaurants, hair styling, etc. This spending is much larger than the goods side in dollar terms so the 5% decline from trend is massive. We would expect this demand path to return to trend as COVID fades, and economies open globally.



Source: Cornerstone Macro

Investors and talking heads spent much of the year worrying about supply chains and being able to get all the widgets necessary to make the final goods required to meet end demand. Many blamed the transportation industry, in particular the ports, for not processing goods fast enough. Contrary to popular opinion, U.S. ports unloaded more containers in 2021 than any year in history as can be seen in the chart below left. However, with the pull forward in demand for goods as we highlighted above, a semiconductor chip shortage developed. This shortage caused a massive backup in the production of cars and trucks in the U.S. Third quarter GDP growth was weak relative to expectations due almost entirely to reduced auto production. U.S. consumers accelerated their demand for cars instead of using mass transit due to COVID concerns. Additionally, many people moved to suburban or remote locations which required alternative transportation. Thus, demand surged just as supply waned and caused a run on used cars. The middle chart below shows the decline in car and truck inventories as demand accelerated. The key to unlocking the automotive supply chain is shown in the chart on the right - semiconductor chips. As the chart shows, semiconductor chip production is rapidly accelerating in Taiwan which should alleviate some of the supply/demand imbalance as we head into 2022.



Source: Cornerstone Macro

Despite the two steps forward and one step back economic progress this year and all the concerns we highlighted above, the S&P 500 still hit 70 new all-time highs during 2021. This advance just shows the power of liquidity and of low interest rates which kept a bid under the stock market and will be a key linchpin for equities into 2022. As can be seen in the table below, for the third quarter in a row the returns for the stock market in the fourth quarter were stronger for the larger market caps with the S&P 500 up double digits and with small caps just above breakeven. For the year, small cap's returns look modest when compared with the S&P 500. However, the Russell 2000 Value Index return was right in line with the S&P 500. The Russell 2000 Growth Index had a miserable return compared with the other indices as higher valued secular growth stocks were sold off in the second half of the year. Interestingly, growth stocks in the large cap indices led the way with the mega caps like Microsoft and Alphabet posting strong returns. The best performing index in the quarter and the year was the S&P 500, which ended the NASDAQ Composite leadership streak. As inflation surged, so did many basic material, industrial, and financial stocks which are more heavily weighted in the value indices.

Index Returns		
Index	Fourth Qtr. 2021 Return	2021 YTD Return
Russell 2000	+2.14%	+14.82%
Russell 2000 Growth	+.01%	+2.83%
Russell 2000 Value	+4.36%	+28.27%
S&P 500	+11.03%	+28.71%
Dow Jones Industrials	+7.37%	+18.73%
NASDAQ Composite	+8.45%	+22.18%

Source: 1492 Capital Management, LLC and FactSet

From a style perspective, the Russell 2000 Value Index (+28.3%) crushed the Russell 2000 Growth Index (+2.8%) for the year as there was a major rotation into more cyclically oriented sectors like Energy, Materials, and Industrials. COVID shutdowns and rising interest rates dragged down Commercial Services (-11.3%) and Health Care (-9.9%) in the fourth quarter. Healthcare has the highest weighting in the Russell 2000 Growth Index, and it was the only sector that finished the year in the red (-16.7%). In the latter part of the year, growth stocks that heretofore were to be owned at any price received a price check when the Fed announced that they were going to accelerate the tapering process and potentially begin hiking interest rates as soon as March 2022. Nearly every highly valued growth stock swallowed a 30% haircut at a minimum. Defensive sectors like Staples (+9.2%) and Utilities (+12.6%) were beneficiaries of Fed speak and the Omicron variant outbreak in the fourth quarter. For the year, the best performing sector by far was Energy (+67.2%). The worst performer and the only sector that was down on the year was Healthcare (-16.7%). The table immediately below highlights the performance of the Russell 2000 and style indices by sector for the fourth quarter and full year 2021.

Table 1 - Index Performance by Sector

	Russell 2000			Russell 2000 Growth			Russell 2000 Value		
GICS Sector	**December**	**4Q2021**	**2021**	**December**	**4Q2021**	**2021**	**December**	**4Q2021**	**2021**
Com Serv	-2.7	-11.3	13.6	-1.1	-10.0	-10.9	-3.9	-12.0	36.5
Discretionary	0.1	1.5	26.1	-1.1	-0.5	16.4	2.2	5.4	38.2
Staples	8.8	9.2	21.9	7.6	5.9	19.9	10.4	13.6	25.4
Energy	-0.5	-4.1	67.2	-2.3	-1.0	70.3	0.1	-5.1	66.4
Financials	3.8	5.8	27.9	0.0	9.0	18.0	4.6	5.1	29.3
Health Care	0.1	-9.9	-16.7	-1.0	-11.4	-21.2	2.9	-6.2	5.6
Industrials	2.0	9.5	25.2	0.8	9.7	21.2	3.2	9.3	28.4
Info Tech	1.6	6.1	15.8	1.0	5.1	13.4	3.8	10.1	24.7
Materials	4.7	5.1	23.8	0.4	2.7	11.4	7.7	6.9	30.3
Real Estate	8.0	10.2	29.3	9.6	13.9	25.3	7.5	9.2	31.7
Utilities	7.6	12.6	10.4	3.3	14.2	22.3	7.9	12.5	10.3

Source: Jefferies

Returns across the international markets were mixed at best as Europe markets were nicely positive, but emerging market countries like China and Brazil dipped due to slowing growth, interest rate hikes, and bad regulations. India was nicely positive for the full year as they emerged from their COVID lockdown, but the market was down slightly in the fourth quarter. The U.S. bond market was a modest loser for the year but posted minor gains in the fourth quarter on the back of the Fed comments that they were poised to tighten faster. The real action was in the commodity sector where there were big winners for the year like crude oil and natural gas, which the reopening of many regional economies around the globe spurred. Other winners included lumber that rebounded in the fourth quarter and ended the volatile year up more than +30%. Volatility was notably lower in the fourth quarter after concern surrounding the Fed's next move subsided. Like the U.S. markets, many international stock markets are pressing near all-time highs as well.

Index	Fourth Qtr. 2021 Return	2021 YTD Return
France	+9.86%	+28.9%
Germany	+4.8%	+15.8%
Brazil	-7.2%	-11.9%
India	-0.9%	+21.7%
China- A Shares	+2.0%	+4.8%
China- Shenzhen A Shares	+5.6%	+8.6%
Japan	+0.1%	+4.9%
Long-Term Treasuries (TLO)	+2.1%	-6.6%
Investment Grade Corp Bonds	+0.2%	-1.2%
Gold	+4.1%	-3.5%
Volatility- VIX index	-25.6%	-24.3%
Oil	+0.2%	+55.0%
Natural Gas	-39.3%	+40.8%
Lumber	+82.9%	+31.5%

Source: 1492 Capital Management, LLC

A Look Back: Predictions and Prognostications for 2021 – How Did We Do?

While we aren't in the business of making formal forecasts on the economy or on the stock market, we thought it would be interesting to review our 2021 outlook from a year ago and see where our prognostications hit or missed the mark. Our predictions/prognostications from our fourth quarter 2020 newsletter are in italics below.

> *"Assuming a successful and timely rollout of the COVID-19 vaccines, there will undoubtedly be many green shoots that investors will be able to point to in the global economy as businesses and borders reopen around the globe. The question in our mind is what's already priced in, and in our view, it is quite a bit. However, this thought doesn't mean that the market can't advance from here. It's just going to depend on how quickly economies turn back on after pandemic lockdowns."*

As it turns out, the deployment of tens of millions of COVID-19 vaccines and the Biden administration's round of stimulus in March 2021, which we didn't contemplate going into 2021, added a boost to an already recovering economy following the lockdowns of 2020. The market roared out of the gate to a 20% gain, and the Russell 2000 peaked simultaneously with the payment of the last stimulus check and word that a new "Delta variant" was detected on March 15, 2021. The Russell 2000 would languish for the remainder of the year as the S&P 500 powered ahead due to the "big five" – no longer FAANGM- Microsoft, Apple, Google (Alphabet), Nvidia, and Tesla. We'll coin the term MAGNeT as these five stocks certainly act as magnets for money flows. These five powerhouse companies now represent more than 25% of the S&P 500, and they almost singlehandedly launched the S&P 500 index higher in 2021.

> *"If the far left drives his policies, the stock market may retreat as there is concern over higher spending and inflation. Inflation is still the one bogey man that most investors fear due to the massive stimulus measures launched around the globe. It's clearly low now, but any significant increase is likely to spook the market. The Federal Reserve has stated that they have no intention of raising interest rates until after 2022 and if this view changes, then watch out below. Their interest rate policy coupled with stimulus have been the two key drivers of the current stock market bounce."*

As we all know now, inflation became the topic du jour as the year continued. As we stated above, the Fed had no intention of raising interest rates prior to the end of 2022. Now, not only have they begun their tapering process, but it appears that they are headed down the path of several interest rate hikes, which may start as early as the first quarter of 2022. The market hasn't been very receptive to this thought as low interest rates, along with stimulus, have been the lifeblood of equities since the pandemic began. As Fed Chair Jerome Powell indicated at the latest Fed meeting, they now view inflation as a problem. The stock market did not react kindly to this tightening and to the discovery of the Omicron variant as the year came to a close. Our caution expressed above now seems prudent as the Fed is seemingly accelerating the timeline for tightening monetary policy.

> *"Bringing it back to small caps, the growth expectations for this asset class in 2021 look compelling but too high in our opinion, as the economy recovers post-pandemic. Regardless of how overstated the expectations may be, in our opinion, small caps will still show outsized growth compared to large caps as long as the economy continues to normalize as COVID-19 recedes. …. This growth is the likely reason that small caps have outperformed large caps late in 2020 as the market is sniffing out the growth disparity ahead. Therefore, our prediction is that the stock market will likely digest gains in the first half of the year as it looks for any setbacks in COVID-19 vaccine deployments and Biden administration surprises. As we move through the second half, inflation expectations will be key as we may begin to see a "Roaring 20's" effect. The Roaring 20's came at the conclusion of the Spanish Flu Pandemic of 1918 and there was a tremendous amount of pent-up demand for going out and having fun once the pandemic subsided. We see a high likelihood of this effect taking shape in the second half of the year which could send the sectors that were heavily impacted by COVID-19 (travel and leisure to name a few) skyrocketing. This event will be a nice offset to those sectors of our economy that were beneficiaries of the pandemic like the "work from home" industries of software and all things involved with the accelerated digitization of our economy. We expect the stock market to grind higher in the second half of the year as uncertainties dissipate. The small cap valuation gap versus large caps has been narrowed somewhat due to small cap's late 2020 outperformance, but it was the largest differential that we've seen in almost 20 years and we expect that to continue to narrow. This position leaves advances for large caps approaching mid-to-high single digits as valuation levels are unlikely to expand significantly from here with interest rates poised to move higher, and small caps will outperform and yield returns in the low double digits."*

Timing is always an issue when making predictions. We were certainly wrong on the first half being a waiting game, when in fact, it was when the bulk of the market's returns, particularly for small caps, were made. However, we were correct in stating that the market expectations were overstated. As it turns out, GDP growth decelerated as we moved through the year due to such things as a chip shortage and supply chain issues. We were spot on in our inflation assessment and the "Roaring 20's effect" as inflation became the focal point for the stock and bond markets and for the Fed. Most "reopening trades" like hotels and restaurants had strong stock returns for the year. We were correct about the stock market grinding higher in the second half of the year, but we predicted that small caps would outperform large caps and that the valuation gap between the two would narrow in favor of small caps. They did not as the Delta and Omicron variants made sure of that. Lastly, we were wrong on the magnitude of the market returns. If we were going to be wrong on anything, we're glad we were wrong on the expectation for high-single to low-double digit returns as they were better than that for both large and small caps alike. We'll take that any day.

2022 Outlook: EV's Are All the Rage but in Our View EV's Stands for Extreme Valuations

Electric Vehicles or EV's have been all the rage this year, not only on the road, but in the stock market as well. They are being viewed as one of the ways to battle climate change and achieve zero carbon emissions, and the industry has tremendous governmental support around the globe to help ensure their success. Any stock with a remote tie-in to EV's was on fire at some point in 2021. It started with the derivative of the SPAC (special purpose acquisition company) boom, where nearly every SPAC that came public early on targeted private companies with ties to the EV market for acquisition. There were plays on building, charging, and supplying componentry to EV's. They were all red hot for a time this year. However, we hate to be the one to pour cold water on the group, but from where we sit, EV stands for "Extreme Valuation". It's not that we aren't believers in the EV revolution. We are. However, we think the stock market is in the midst of a mania that shows no regard for sane valuations and believes that the entire auto and truck market will accrue to the new generation of auto/truck manufacturers like Tesla and Rivian. Stock market history is littered with companies that were anointed as the next "great thing" and that were going to overthrow the legacy providers of said "great thing". Automobiles aren't a new market like a computer was when Microsoft became the de facto winner of the operating system race and became the dominant software company of the last 45 years. Automobiles have been around for nearly 140 years, and they still used for transporting people and goods. I know, I know, I'm not looking far enough into the future where the car will be much more than just a car but a replacement for a computer, a generator to power your home, or whatever else they've promised to displace. For many years to come, they will be just a car, or a truck, and the legacy OEMs aren't sitting still.

The table below shows the market valuations of Tesla (green circle) compared to the entirety of the legacy OEMs from around the globe (red circle). Note that Tesla's market cap exceeds that of the total market cap of all the other major OEMs and this value is after the recent 25% drop in Tesla's stock price that removed it from the exclusive $1 trillion market cap club. The market is implying that Tesla will take at least half of the auto market. Rivian, the newly public manufacturer of an EV pickup truck, SUV, and a promised delivery van, sported a market value shortly after its IPO of $125 billion. Now the valuation of Rivian only hovers around $95 billion after some of the IPO fluff dissipated from the stock. This valuation is for a company that is forecast to deliver 1,000 vehicles by the end of 2021. As a reminder, global auto manufacturers produce roughly 95 million cars per year globally and Rivian's market cap exceeds every major OEM except for Toyota which sold 9.5 million cars globally in 2020.

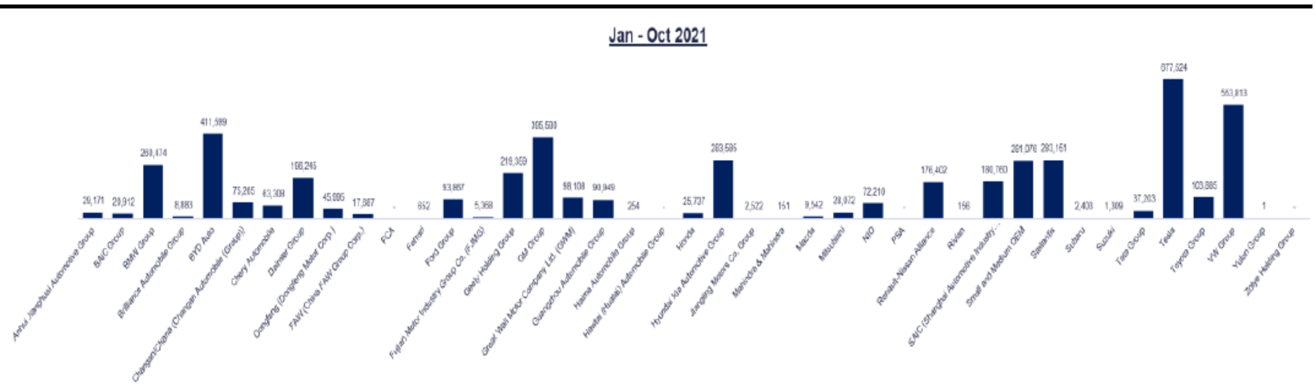
Figure 3: TSLA and top 10 automotive OEMs | December 17, '21

	Ticker	LAST	Mkt Cap(M)	Cash (M)	Debt (M)	EV (M)	Shares (M)
Tesla Inc	TSLA	$933	$936,547	$16,422	$10,126	$930,251	1004
Toyota Motor Corp Sponsored ADR	TM	$184	$255,079	$44,408	$220,657	$431,328	1386
Volkswagen AG Pref	VOW3-DE	$198	$99,484	$66,055	$244,600	$278,029	501
General Motors Company	GM	$55	$80,085	$26,782	$109,928	$163,231	1452
Daimler AG	DDAIF	$77	$82,591	$29,188	$151,490	$204,893	1070
Bayerische Motoren Werke AG	BMW-DE	$98	$64,648	$19,836	$117,630	$162,441	660
Stellantis N.V.	STLA	$18	$57,296	$49,497	$37,189	$44,987	3133
Honda Motor Co., Ltd. Sponsored ADR	HMC	$28	$50,466	$23,475	$69,352	$96,343	1811
Ford Motor Company	F	$20	$77,605	$46,426	$145,873	$177,052	3925
Nissan Motor Co., Ltd.	NSANF	$5	$20,956	$13,738	$64,078	$71,296	4221
Hyundai Motor Company Sponsored GDR R	HYMTF	$41	$11,432	$27,526	$91,632	$75,538	277
Total Market Cap (ex. TSLA)			$799,642				

Source: FactSet, December 17 close

Rivian, in their IPO roadshow, helped make our point. They claimed that there hasn't been a single car model that has sold more than one million units in the U.S. since the Chevy Impala did it in 1966. The only car model that sold more than one million units globally recently is the Toyota Corolla which sold just over one million last year. Rivian's stated goal is to take 30% share in the global auto market over time. By their own math, even if they have an uber-successful model, they will need to replicate that 30 times over to reach 30% market share. This target seems almost impossible given that Toyota, after decades of winning customers over with great performing and cost-effective vehicles, still only produces 9.5 million vehicles annually. Yes, both Rivian and Tesla are targeting the burgeoning EV market which is ripe for dislocation. However, there are currently 370 EV and PHEV (plug in hybrid EV's) models available around the globe. Statista estimates that there will be another 250 models available by 2024. Nobody is standing still and conceding the market to Tesla and Rivian. In fact, as the chart below shows, there are several legacy OEM's whose unit sales are nearing Tesla which has the early unit leadership.

Figure 6: EV/PHEV unit sales by OEM, January-October 2021



Source: Rho Motion, Canaccord Genuity

The other limiting factor to how quickly the entire EV industry can grow in the near term is battery technology. All the current battery technologies, of which there are only two, NMC and LFP (NMC = Nickel Manganese Cobalt, and LFP = Lithium Iron

Phosphate), require tremendous amounts of rare earth metals, lithium, and cobalt. The table below shows the tonnage of these metals that Tesla would require to produce 20 million cars. As you can see, at current levels of the metals availability, the industry couldn't even produce that number of EV's as there would be shortages of certain metal inputs. At 1492 Capital Management, we've made the concerted effort to invest in the suppliers to the EV industry at this point. These suppliers could win, we believe, regardless of who wins the EV wars that are likely to be upon us for decades to come. Lastly, from a valuation standpoint, remember we're talking about the auto industry that has been plagued with low margins and labor issues for decades, which aren't conducive to high valuations in the stock market.

METALS TESLA NEEDS TO BUILD 20M CARS A YEAR

Tesla Production @ 20m	Material Required (t)	Production 2019 (t)	% of Production
Graphite	1,028,775	1,100,000	94%
Nickel	750,410	2,460,000	31%
Lithium	127,302	77,000	165%
Copper (vehicle)	1,820,000	21,000,000	9%
Manganese	20,811	19,000,000	+0%
Cobalt	68,315	122,000	56%
Aluminum (battery)	16,544	64,000,000	+0%
Aluminum (vehicle)	3,380,000	64,000,000	5%
MagREO (NdPr, Dy, Tb)	18,000	46,000	39%

Battery graphite, nickel, cobalt, lithium, manganese, MagREO (NdPr, Dy, Tb): Adamas Intelligence
Production: USGS, BMO, Morgan Stanley, BP. Fitch, Excl. synthetic graphite
Copper, aluminum (vehicle): UBS estimates of Chevy Volt

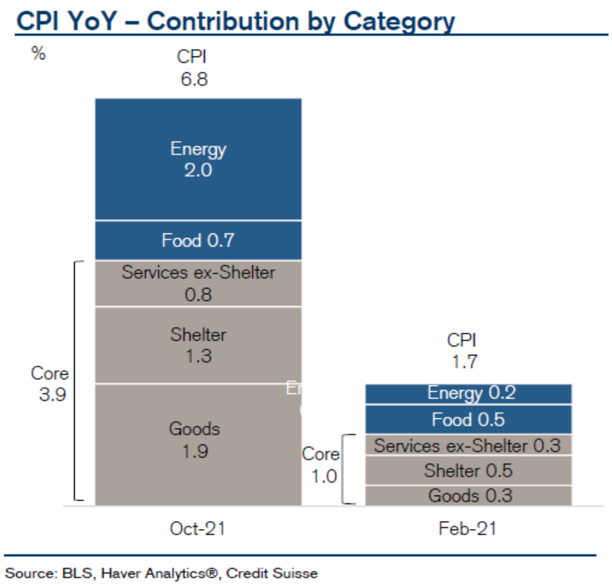
MINING.COM EVMETAL INDEX

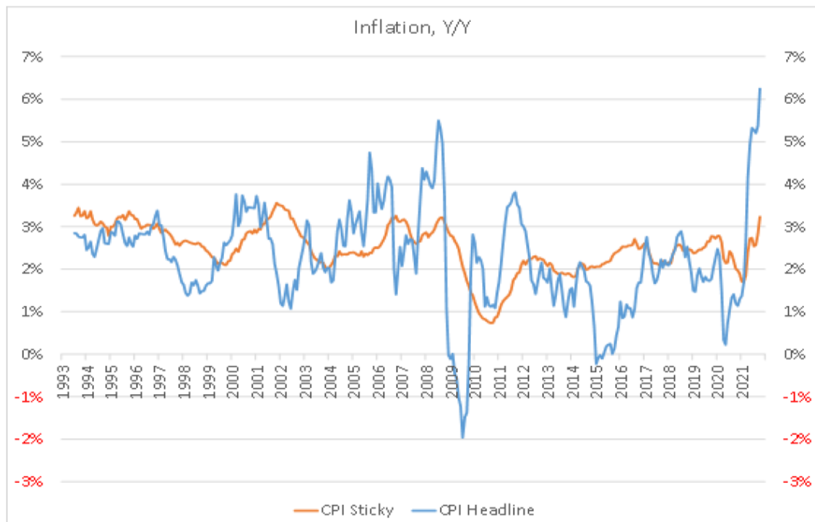
2022 Outlook: Fed Take Note - Those Who Cannot Learn from History are Doomed to Repeat It

We'll start with the punchline. *The Fed is about to make the same mistake that they did in 2018*. They are about to tighten interest rates just as the economy begins to slow and inflation cools dramatically. In 2018, the Fed made a major policy blunder when they hiked interest rates aggressively with inflation just peaking above 2% for the first time in almost a decade. By the way, 2% was their stated inflation target for years and a level that they couldn't attain despite easy monetary policies. Then Fed Chair Powell made a series of rapid rate hikes which led to a nearly 30% decline in the stock market in the fourth quarter of 2018. With the encouragement of many market prognosticators and politicians alike who are afraid of the inflation bogey man, it appears that the Fed is once again poised to hike interest rates three times in 2022 and another three times in 2023 according to their recent dot plots, post the most recent Fed meeting.

Inflation - it's just simple math - but it appears that nobody wants to look at what the underlying cause is for the historically high inflation numbers that we're experiencing currently. We've written about inflation quite a bit in our quarterly newsletters this year. We're on the record saying that in our view commodity inflation is likely transitory but wage inflation is likely not and this is where the focus should be. With the media and the Fed having abandoned inflation being "transitory", they all have jumped on the interest rate hiking bandwagon. First, when did the meaning of transitory become three months? Per Webster's Dictionary, the definition of transitory is "not permanent" or "temporary". Looking at the math behind the government's inflation calculations, they are comparing this year's prices to the those from the same time last year, which was a period that included massive pandemic lockdowns around the globe. Using the price of oil as an example, the commodity hit a low of $6.50 in April 2020, which was a level that we haven't seen in the last 50 years. It then rebounded to a saner $40 per barrel for much of the rest of 2020. The price of oil as I write this newsletter is $74 per barrel. Therefore, the year-over-year price change is +85% ($74/$40). If this math was the only input into our inflation rate calculation, then the inflation rate would be +85%. Clearly there are other inputs, but this makes our point. We should be concerned about what lies ahead and not about comparing against the ridiculously low pandemic-era prices that were anything but normal. Further let's assume oil pushes higher over the next year to $85 per barrel, which was the average price level from 2010-2014. The oil inflation number a year from now will be about +15% and a far cry from the +85% that we're currently seeing. Oil is obviously one of the most volatile commodities, and, therefore, we should expect larger swings compared with other, more stable commodities.

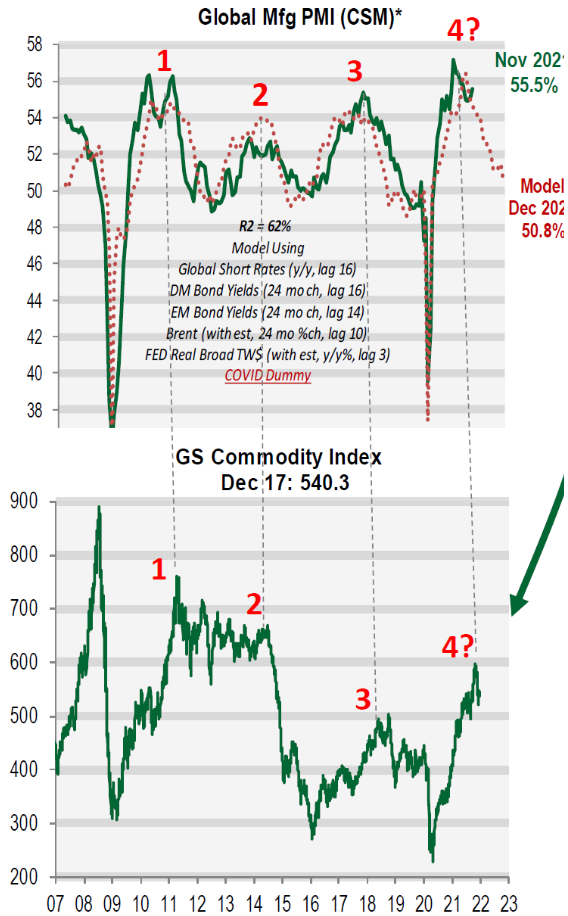
The chart below left shows the components of inflation (CPI) in both February and October 2021. Note the inflation reading from February 2021 was just 1.7% as it compared to February 2020 (pre-pandemic). The column on the left is the reading from October 2021. The headline reading advanced from 1.7% to 6.8% in eight months. Note that the energy component accounts for nearly two points of the increase. Remember too that energy is an input to the other categories like shelter and goods, but it's not explicitly identified. The chart on the right shows the headline inflation number (blue line) and the sticky inflation number (wages and other non-transitory inputs - orange line). We believe that the sticky inflation number is what we should be focused on because as we've stated earlier, commodity inflation tends to be transitory. There is no doubt wage inflation is occurring but as this chart shows, sticky inflation has been at this level or higher on several occasions in the past 30 years. The offset to wage inflation that many aren't considering is productivity. Productivity is the measure of being able to do more with the same level of inputs. Productivity is currently running at a very strong and increasing level of 2.5%. This offset takes a 4% wage inflation rate and reduces it to 1.5% in real world economics. It's hard to believe that the Fed doesn't understand this concept.





Source: Furey Research

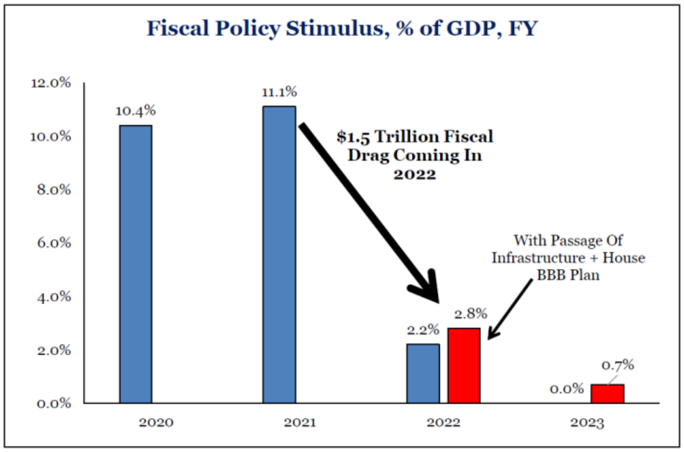
Interest rate hikes have already occurred around the globe, particularly in emerging market countries where inflation has typically run more rampant. For example, in Brazil, they've raised rates six times for a total of 500 basis points since the start of 2021. There have been numerous other countries that have made similar moves. These global rate hikes have historically been highly correlated with slowing the global economy. One of our favorite charts is shown below. The top panel shows what happens when global short rates are hiked (red dotted line - inverted). There is a lagged effect to the global economy as it takes some time for the rate hikes to impact. This chart shows that the PMI (purchasing manager index) is expected to slow dramatically as we progress through 2022. Many PMIs around the globe are projected to be well below 50 (line of demarcation between growing and shrinking) by the end of next year. The second panel below shows the corresponding levels of the Goldman Sachs Commodity Index as the global economy ebbs and flows. Note that the commodity index level in point 4 below is already turning down. In a nutshell, we are concerned that the Fed will be hiking rates in 2022 into a slowing economy (top panel) and as inflation begins to fall. Hopefully they won't repeat the mistakes of the past.



Source: Cornerstone Macro

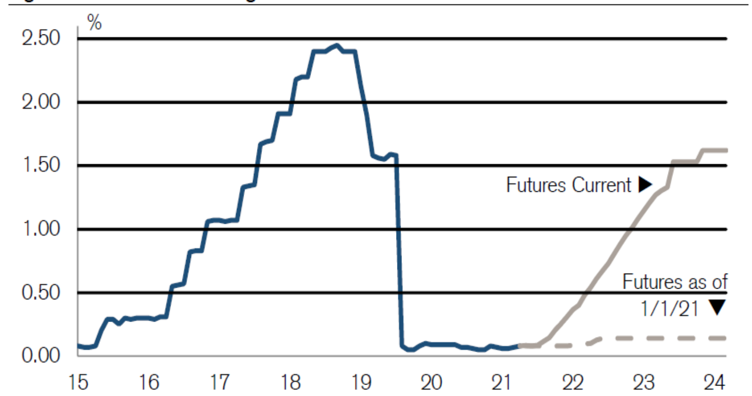
Our Fearless Forecast for 2022: With PMI's Peaking and Fed Hiking Rates, It's Going to Be Tough Sledding

While we're not in the business of making predictions, we always present some directional views on where we think the market will trend over the next year. Comparing any year to 2021 is going to present its problems because last year was a near perfect year in the U.S. stock market. Returns for the S&P 500 exceeded 25%, and there was only one pullback of just over 5% which is unheard of in any year. To be clear, in 2022 we should prepare ourselves for more volatility as a starting point, period, end of story. Since the start of the pandemic, stimulus programs have been the buffer and accelerant for the stock market. As we know, those stimulus programs are behind us with personal income peaking in the first quarter of 2021. The Fed's actions will suck liquidity out of the market as we move forward. Even if the Biden Administration gets their "Build Back Better" plan passed early in 2022, the fiscal drag between 2021 and 2022 is going to be an enormous $1.5 trillion drag as shown in the chart below left. Additionally, as we stated earlier, the Fed appears to be hell bent on raising interest rates, possibly as early as March. The chart below right shows how the Fed Fund Futures have changed with the Fed's posturing from the beginning of 2021 to the current timeframe in which the market is pricing in six rate hikes over the next two years. This combo platter of lower fiscal spending and tighter monetary conditions would pose problems for any stock market, let alone one that is entering the year at record highs.



Source: Strategas Research

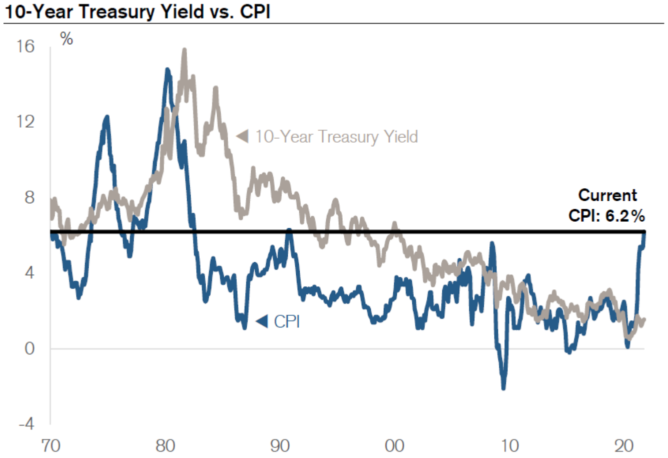
Figure 1: Federal Funds Target Rate with Futures



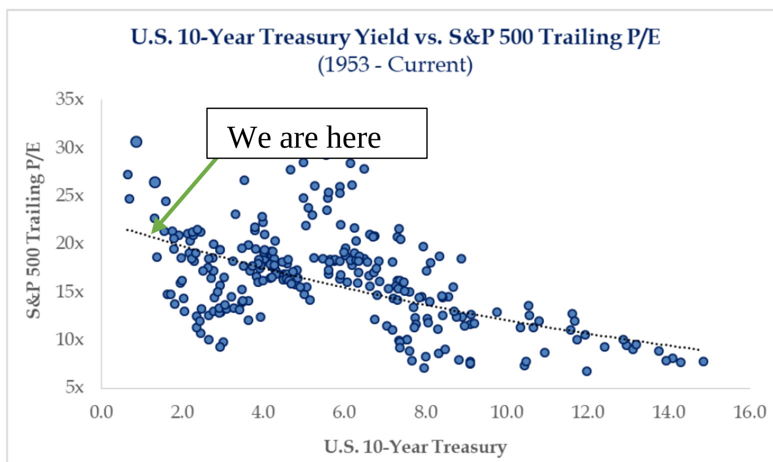
Source: FRB, the BLOOMBERG PROFESSIONAL™ service, Credit Suisse

Before you think that we are writing the obituary for the stock market in 2022, we are not. It's just going to be tougher sledding than what we've seen the last two years. Valuations for the stock market are currently historically on the high end. However, as we've been talking about for years, interest rates are extraordinarily low currently, which is the key driver to support higher valuation levels. Many market prognosticators are calling for the benchmark 10-Year Treasury yield to rise substantially in 2022 due to inflationary pressures, which would impede valuations on the stock market from advancing. We are taking the other side of that bet. As the chart below left shows, the 10-Year Treasury yield typically follows inflation over time. However, as you'll notice on this chart, the 10-year yield has not mimicked the recent spike in inflation as measured by CPI. Has the bond market lost their marbles?? No, we believe that the bond market sees right through this inflation spike, and as we stated earlier, they believe it's transitory, too. The chart on the right shows that there is a clear linkage between interest rates and P/E (price/earnings ratio) valuation for the S&P 500. The current yield on the 10-Year Treasury note is about 1.5% which is very supportive of historically high P/E ratios. If we are right about interest rates being relatively static, then the stock market should still have significant valuation support.

10-Year Treasury Yield vs. CPI

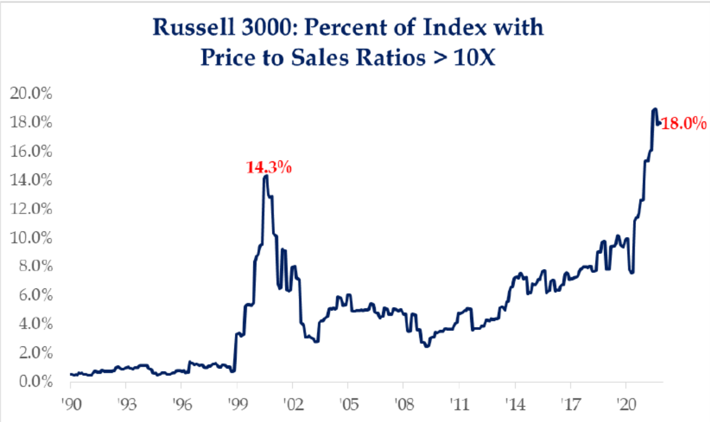


Source: Federal Reserve, BLS, the BLOOMBERG PROFESSIONAL™ service, Credit Suisse

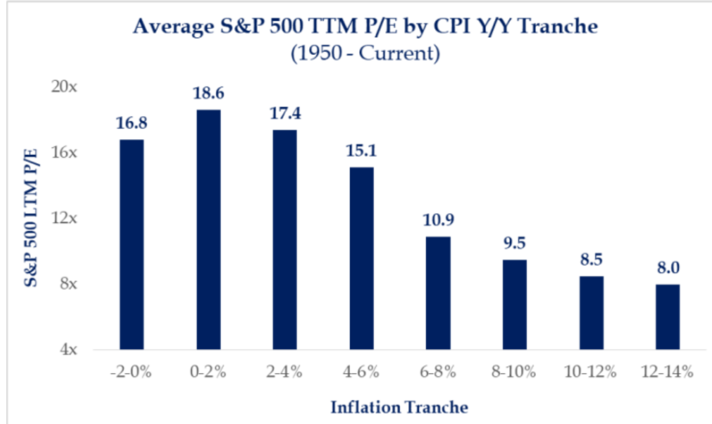


Source: Strategas Research

Before we leave the topic of valuation, there are a few more points to be made. Within the stock market, there is a current set of stocks (namely high growth software, ecommerce and biotech stocks) that currently maintain extraordinarily high valuation levels. The chart below left shows this phenomenon. Currently 18% of the Russell 3000 stocks (largest 3000 stocks in the U.S. market) have valuations higher than 10 times sales, which is a higher percentage than the level during the tech bubble of 2000. Low interest rates and high secular growth support these valuations, but it is hard to argue that this segment of the market will see their valuation level expand, particularly if inflation doesn't cool as we suspect. As the chart on the right shows, there is a distinct linkage between valuation levels and inflation rates which ultimately translates to interest rates. The latest reading on CPI was 6.8%. If this were to be sustained, it would argue for much lower P/E ratios due to higher interest rates. We again believe we'll see inflation cool to the 2-4% range in 2022 which should be supportive of maintaining the current valuation parameters.

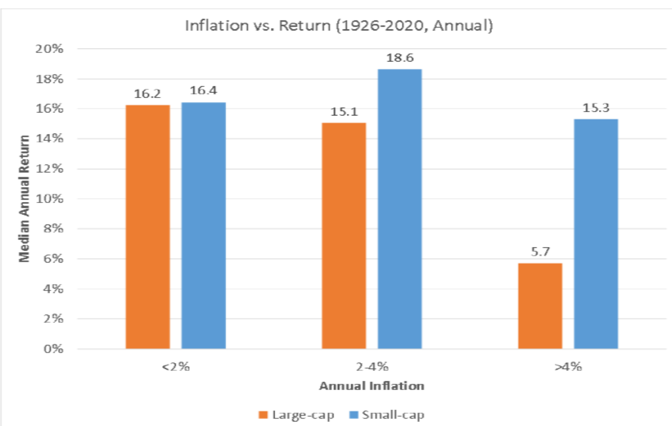


Source: Strategas Research

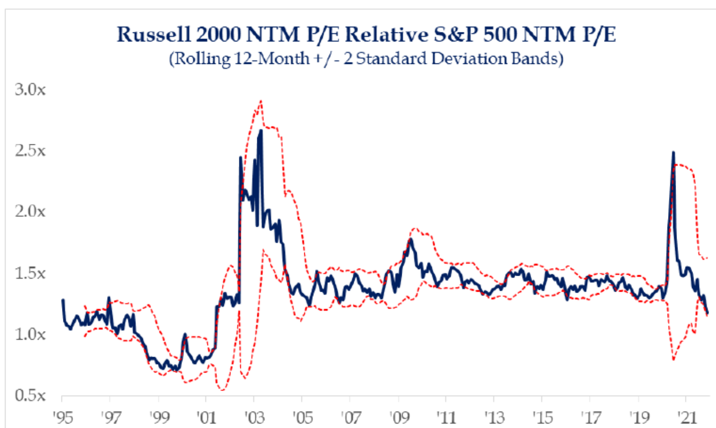


Source: Strategas Research

If we are correct on our 2-4% inflation call, this trend should bode well for stock market returns broadly and small cap returns in particular. As the chart below left shows, small caps generally perform better than large caps when inflation is running hotter (> 2%). This performance clearly wasn't the case in 2021 as the persistent waves of COVID variants pushed investors to seek growth with some protection that large caps can provide. However, if the pandemic wanes, we should see small cap stock returns exceed those of large cap stocks. We have even more conviction on this call given where relative valuations stand between small and large cap stocks. As the chart below right shows, the relative valuation of the Russell 2000 small cap index and the S&P 500 large cap index is at a level that we haven't seen since coming out of the tech bubble in 2000. Small caps had a great relative period of outperformance following the tech bubble bursting. To help the small cap cause, they should have higher earnings growth than large caps in 2022 based on current consensus estimates.

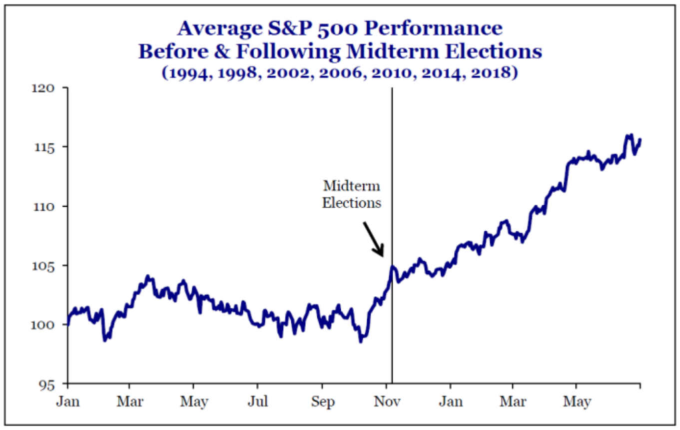


Source: Furey Research

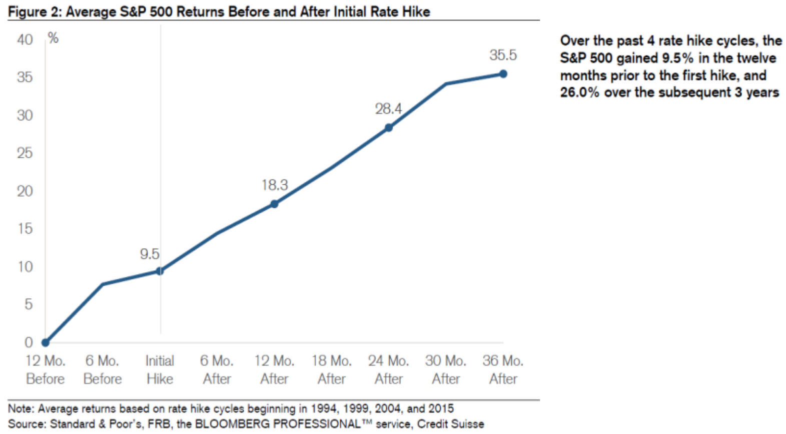


Source: Strategas Research

While this may sound much like our 2021 prediction, the drivers for 2022 are much different as we've highlighted above. The tone early in the year is likely to be somewhat cautious as our government gets back to debating the merits of the BBB bill. If it finally passes, it would likely be a modest positive if the dollars allocated to it are reasonable and it appears that Senator Joe Manchin alone will likely make that happen. The Omicron variant will also be center stage. We've heard from several epidemiologists who have predicted that given the speed at which it is spreading and the lesser negative attributes it seems to be imparting, that the virus could burn itself out by April. We'd view this as a major positive due to the start/stop impact COVID is having on the global economy currently. On the political front, 2022 is a mid-term election year. Mid-term election years tend to be very back-end loaded from a return perspective due to the uncertainty of which political party is going to gain the upper hand. The chart below left shows the average performance of the S&P 500 in a mid-term election year. Currently, betting odds predict that the Republican party will take back control of both the house and senate. If the Fed hikes interest rates as the market anticipates, the historic average return for the year following interest rate hikes is about 9% as shown in the chart below right. In 2022 the S&P 500 earnings are expected to grow 8% while the Russell 2000 earnings growth is currently projected at 16%. These estimates, particularly for small caps, tend to be a bit optimistic early in the year. With small caps having better projected earnings growth coupled with lower relative valuations, we think that small caps could outperform large caps, although valuation levels will be capped due to higher interest rates. We predict large caps could advance mid-to-high single digits with small caps approaching double digit returns for the year.



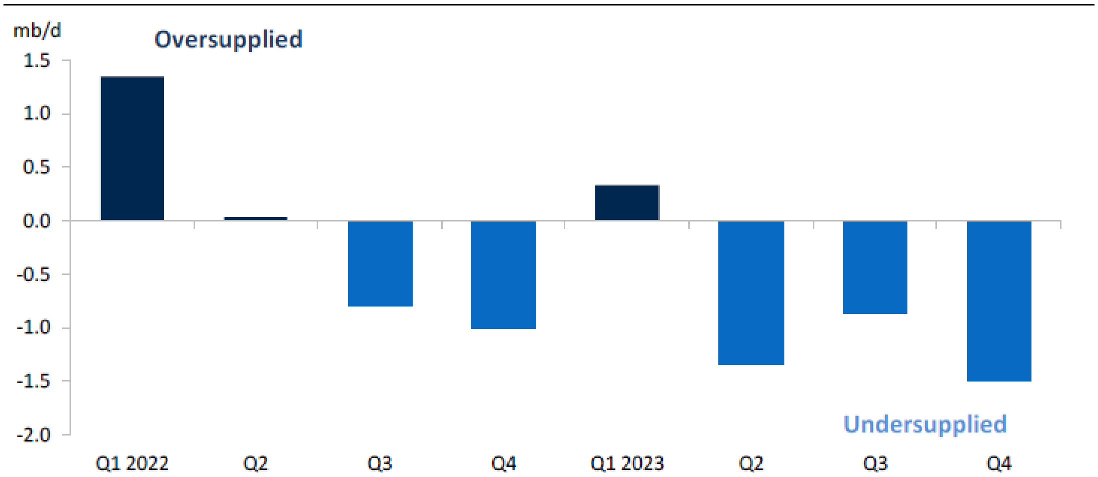
Source: Strategas Research



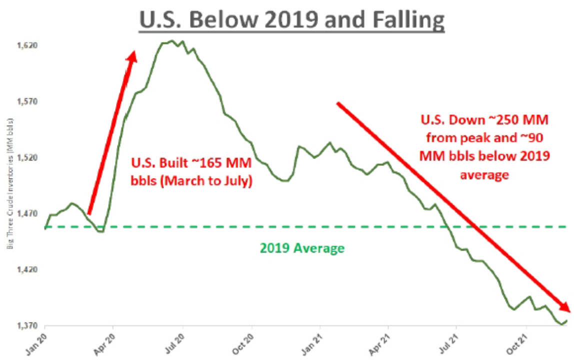
Thematic Investing: 2022 Oil Market – It's Not How You Start It's How You Finish!

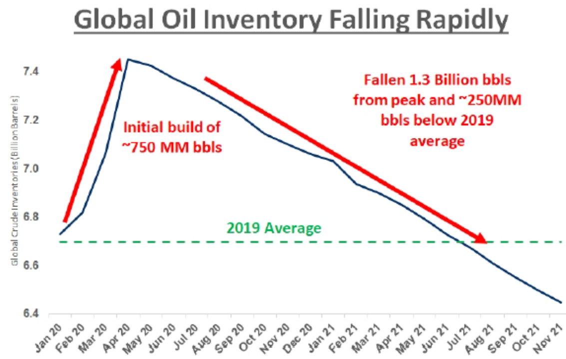
With two years of great performance from the energy sector in 2020-2021, the question on many investors' minds is what does 2022 have in store for us? Since May of 2021, OPEC and Russia have been gradually adding oil production to the market at a current quota rate of 400 thousand barrels per day (k b/d) each month and expect to continue this pace, excluding any Omicron related demand destruction, into late 2022. What is interesting to note is that there are individual country quotas that sum to that 400k b/d number, and each month the real production that has been restored is in the 200-290k b/d range as underinvestment has plagued several countries ability to return to their "normal" output levels. With these output gains and a return to 2019 global demand of roughly 101 million b/d, the oil market sets up in a very interesting fashion for 2022. As seen in the table below from RBC, we find ourselves oversupplied in the first quarter of 2022 which should help to build oil inventories off of the low levels at the end of 2021 as seen below and prevent a demand destroying spike in prices.

Figure 1 - Global Oil Supply and Demand Balance



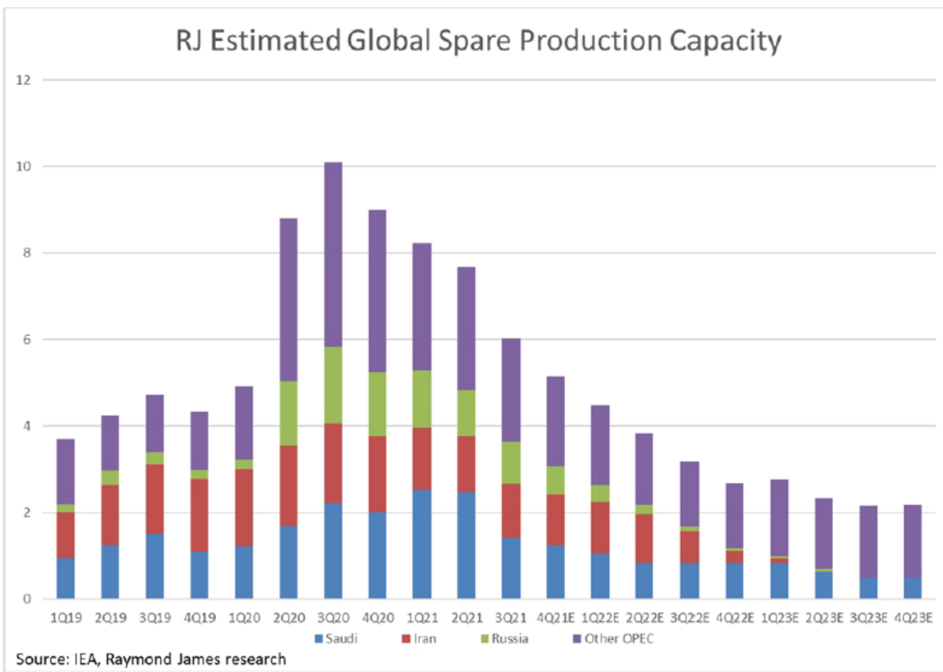
Source: RBC Capital Markets, Petro-Logistics SA, IEA, EIA, JODI, Company and Government Sources





Source: Raymond James

Assuming the market is forward looking and views the deficits to come in the second half of the year and the completion of OPEC+ production additions positively, any first quarter 2022 selloff in energy equities, in our opinion, may provide interesting investment opportunities for the rest of the year. As the year progresses and OPEC+ spare capacity dwindles to levels below 2019 as seen in the chart below, we have less supply cushion which should create a pricing premium in the market as long as U.S. oil and gas producers remain committed to investment discipline and free cash flow versus production growth at any cost.



If the proverbial $64,000 question is whether the U.S. and non-OPEC producers can maintain financial discipline, we like what we have seen so far. Among the integrated oils, ESG pressure is resulting in low levels of exploration capital spending. According to analysis from Rystad Energy, global oil and gas discoveries in 2021 were at their lowest levels in 75 years. While the time period for moving an exploration find into production is multiple years, the number of large slugs of non-OPEC production should be waning in the future, and the integrated oils' capital spending plans continue to shift toward renewable energy projects.

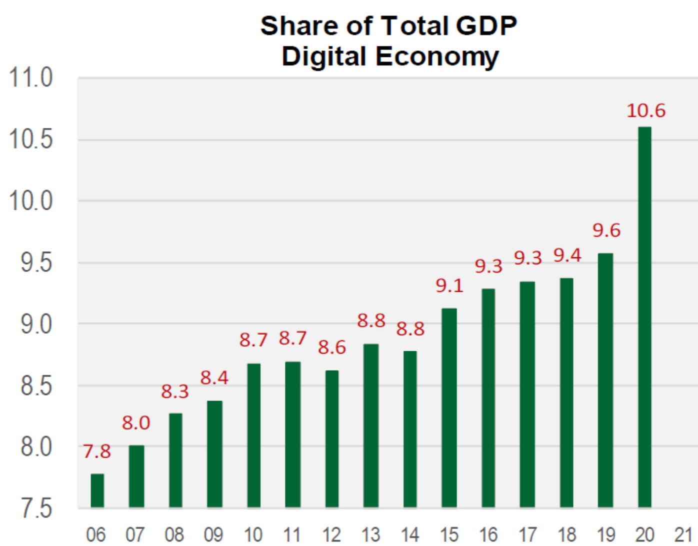
When the U.S. domestic oil and gas industry lacked financial discipline in 2018 and 2019, they were able to be the swing producer for the global oil demand growth. Since the pandemic, they have adopted a focus on free cash flow, dividends, and investment discipline over production growth. In the U.S., we are utilizing roughly one half of the number of drilling rigs that were deployed pre-COVID. Less drilling translates to less production growth from the former swing producer, and drilling new wells will be more expensive in 2022 vs 2021 due to inflation in steel, labor, chemicals, and trucking costs. According to work from Raymond James, the U.S has had an unprecedented reduction in drilled but uncompleted wells (DUCs) as operators have gone back to the fields to complete the wells for production but have not replaced this inventory with new DUCs. In fact, they estimate that since mid-2020 the U.S. DUCs have declined by roughly 3,300 wells in roughly one year, which is the largest drawdown in history, and are back to levels seen in 2017. In an industry that drills its best prospects first, faces steep production declines from horizontal wells in their first year, and is focused on free cash flow growth, U.S. oil producers will have more mundane growth rates in the future. With their improved balance sheets, U.S. E&P equities should focus more on dividends in 2022 as well.

With OPEC+ production additions ending in late 2022, the return to 2019 or better oil demand levels along with disciplined volume growth from the U.S. should provide an attractive investment environment in our domestic shale oil theme, in our opinion, as the year progresses from an oversupplied oil market in the first quarter to an undersupplied one in the second half of 2022.

2022 Outlook: A Picture is Worth a Thousand Words

We articulated our 2022 outlook above and the key issues and drivers for the stock market. Yet, we believe that there are other topics that we haven't spent a great deal of time on that deserve some mention. In order to provide you with a shorter read, as everyone's time is valuable, we decided to express it in pictures. As they say, a picture is worth a thousand words, and we'll let you interpret what we view as some compelling charts. We'll provide a bullet point or two of explanation as to why we think the chart or graphic is important.

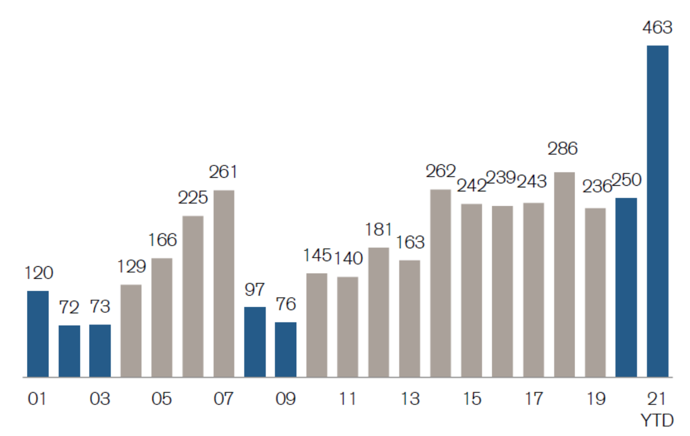
COVID appears to have accelerated the already inevitable shift in our economy to a digital one. From ecommerce to social media platforms to the cloud, these trends have been accelerated since the start of the pandemic.



Source: Cornerstone Macro

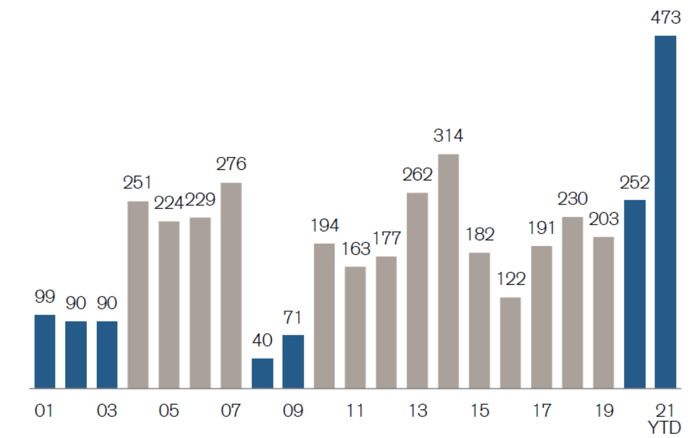
Investment bankers are once again lining up to collect massive bonuses as merger and acquisition activity was white hot in 2021 due in great part to the explosion of SPAC's. 2021 deal activity easily surpassed all prior years as seen on the chart on the left. The chart on the right shows a similar situation for the IPO market which an enormous number of SPAC IPO's propelled.

M&A Activity – Annual



Note: Includes all transactions over US$1 billion in North America
Source: MergerStat, FactSet, Credit Suisse

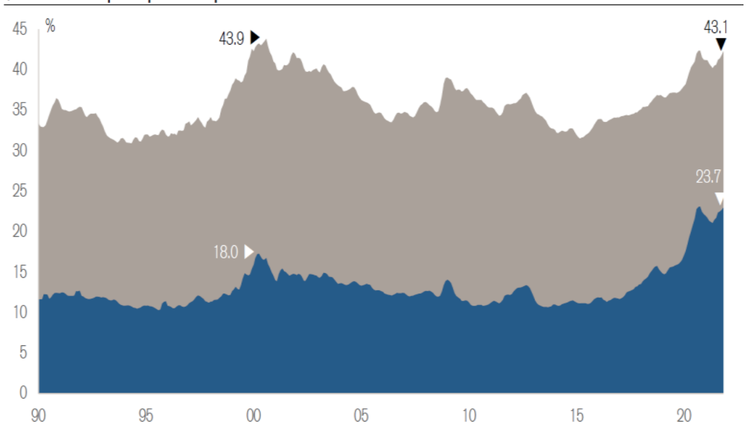
IPO Listings – Annual



Note: Includes all listings priced on U.S. exchanges. Special Purpose Acquisitions are excluded.
Source: FactSet, Credit Suisse

The five largest stocks now represent nearly 24% of the entire market cap of the U.S. stock market as shown on the left. The current top five dwarf the top five from 2000 during the tech boom. The top five of both eras are shown in the table on the right.

% of Market Cap – Top 5 and top 25 Stocks



Source: Standard & Poor's, FactSet, Credit Suisse

Top 5 Companies

Current

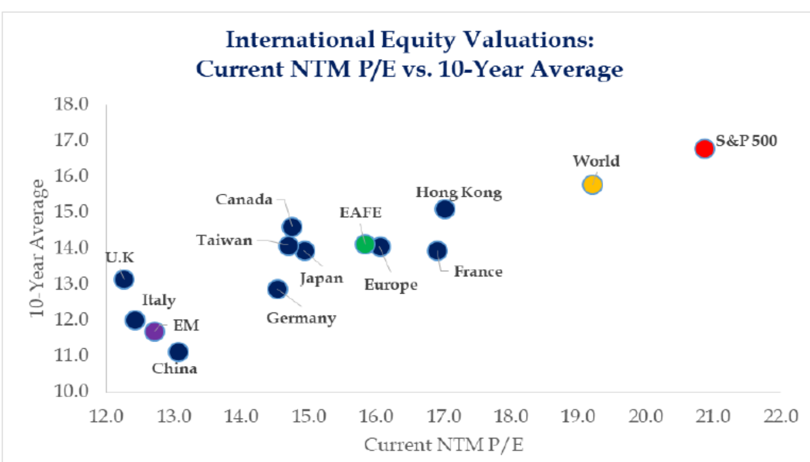
Tickers	% of Total Weight	% of Total Earnings	EPS Growth	NTM P/E	PEG
AAPL	6.7	4.9	3.1	28.5	9.3
MSFT	6.4	3.9	14.4	33.9	2.4
GOOGL	4.3	3.5	6.9	25.5	3.7
AMZN	3.9	1.2	24.1	68.9	2.9
TSLA	2.4	0.3	39.3	143.2	3.6
Top 5 companies	23.7	13.8	9.4	35.6	3.8

March 2000

Tickers	% of Total Weight	% of Total Earnings	EPS Growth	NTM P/E	PEG
MSFT	4.3	1.9	16.5	56.7	3.4
CSCO	4.1	0.8	33.6	126.7	3.8
GE	4.0	2.4	14.6	40.5	2.8
INTC	3.4	1.9	22.9	43.5	1.9
XOM	2.1	2.3	35.8	21.7	0.6
Top 5 companies	18.0	9.3	23.0	46.9	2.0

Note: GOOGL represents total company
Source: Standard & Poor's, Thomson Financial, FactSet and Credit Suisse

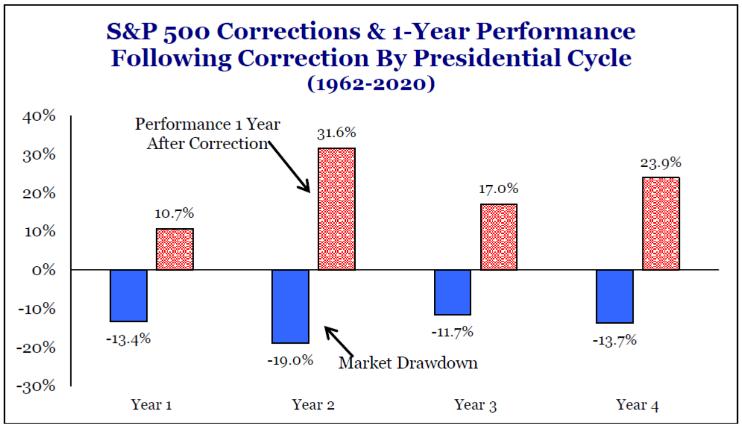
The chart below shows the current valuations of stock markets around the globe. The U.S. market is by far the highest valued.



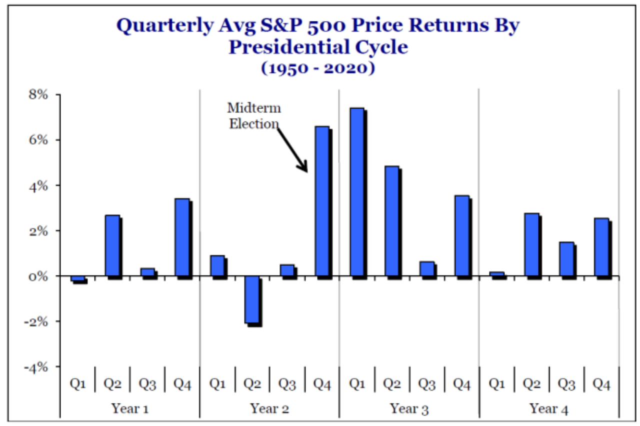
Source: Strategas Research

Stock Market Trivia

Each quarter we offer a piece of market trivia that we believe is interesting or timely, or both. This quarter we focus on stock market returns during a mid-term election year. As the chart below left shows, the second year of a presidential term tends to have the largest average drawdown or decline of the four years in the Presidential cycle. Much of this is likely due to the mid-term election which happens in November. Part of the drawdown can also be blamed on the fact that a tremendous amount of optimism is present when a new President takes office and its typical for them to push through their major policy initiatives in the first year. As the chart on the right shows, much of the average return for year two of a Presidential cycle occurs in the fourth quarter following the mid-term elections. It wouldn't surprise us if 2022 plays out in this pattern.



Source: Strategas Research



Source: Strategas Research

We hope that you found our fourth quarter 2021 review and 2022 outlook newsletter to be insightful and interesting. Stay safe and healthy and we wish you a happy and prosperous 2022!! Should you have any questions about anything discussed herein or would like more information about 1492 Capital Management, please call us at 414-276-1492.

Joe Frohna Adam France Nancy Frohna Tim Stracka

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