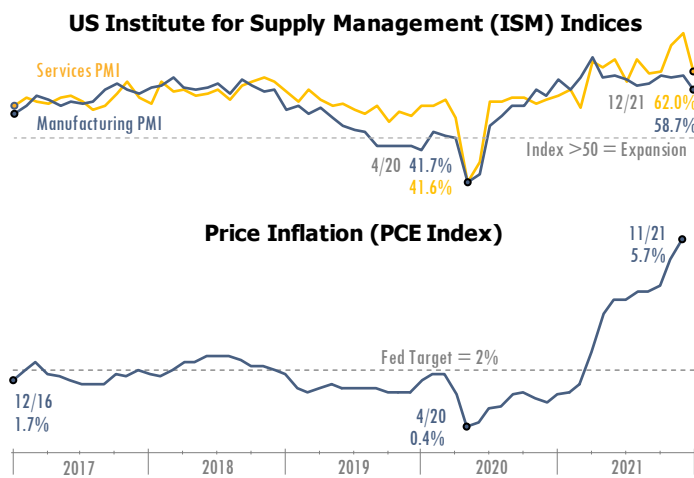
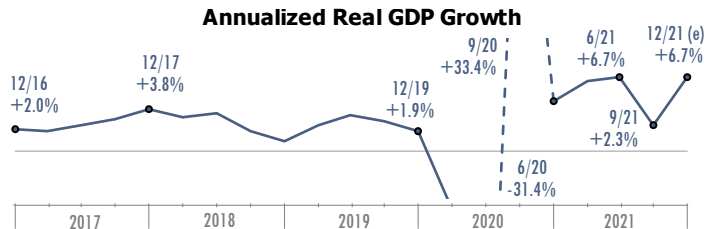


MARKET Recap

The US Economy: “Anticipating Liftoff”

Real economic growth slowed in Q3 driven by supply chain issues, but the pace of growth surprised to the upside. Personal consumption expenditures slowed, particularly for durable goods as opposed to services. However, the latter showed resilience driven primarily by commercial transportation. The Atlanta Fed’s GDPNow model forecasts a resumption in the pace of growth for Q4, albeit data on holiday sales and activity are limited at this time.



The presence of real growth (growth in excess of inflation) is encouraging, indicating pent-up demand and gradual abatement of supply chain issues. The ISM Services PMI index registered an all-time high in November before easing back to trend, as supplier deliveries accelerated and Omicron impacted activity. Inflation increased, with the producer prices exceeding 13% year-over-year, pulling up consumer prices.

It is unsurprising, given the data, that the Federal Reserve would adopt a more hawkish stance. At their December meeting, they announced that supportive bond purchases would be curtailed at a faster pace, and began discussing the possibility of initial balance sheet reductions. The median projection of key Fed officials now stands at 3 interest rate hikes in 2022, with a year-end level of 0.9%. Growth is projected to ease back to pre-COVID levels.

Initially, it was elevated employment compensation for Q3 that caught the Fed’s attention. While unemployment has fallen to 4.2%, the labor force participation rate remains depressed and will likely stay that way – for reasons we first discussed in June, and Chairman Powell acknowledged in the December press conference. However, other factors including elevated rents and strong demand are also creating inflation pressures, and are not likely to subside as supply chain conditions improve. Pricing in the futures market has largely come into line with the short-term outlook for Fed action.

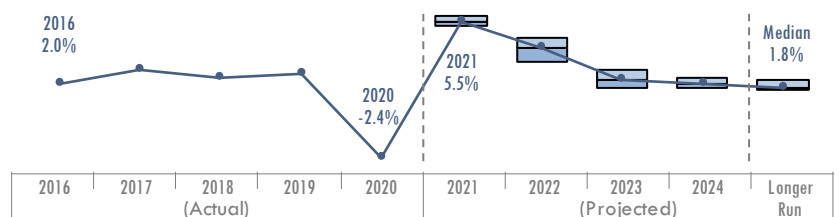
Beyond 2022, the market appears skeptical that the rate hikes will continue to the conclusion forecast by the Fed. Although the longer run expectation of 2.5% is still very low by historical standards, declining long-term Treasury yields and implied Fed Funds rates in the futures market suggest a bias toward slower growth than forecast by Fed leadership, possibly a recession, leading to termination or slowing of the rate hike program.

Rising interest rates in isolation are bad for inflated asset markets. Real economic growth and moderate inflation are positives, setting up a tug-of-war scenario for stocks. Liftoff appears certain; but the risk of sputtering growth, or inflation high enough to change buying behavior, calls stage 2 into question.

12/21 Survey of Fed Board Members & Bank Presidents

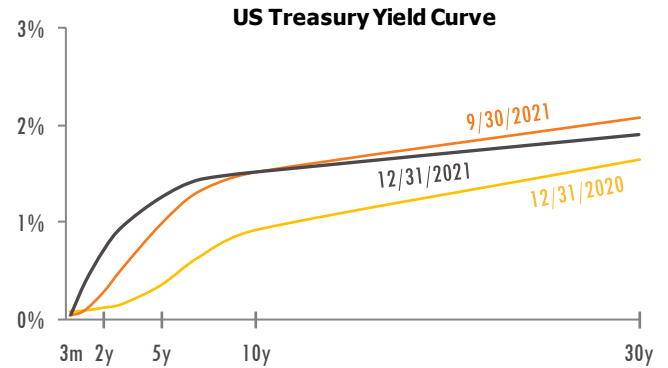
	Median				Range			
	2022	2023	2024	Longer Run	2022	2023	2024	Longer Run
Change in Real GDP	4.0	2.2	2.0	1.8	3.2-4.6	1.8-2.8	1.7-2.3	1.6-2.2
Unemployment	3.5	3.5	3.5	4.0	3.0-4.0	2.8-4.0	3.1-4.0	3.5-4.3
PCE Inflation	2.6	2.3	2.1	2.0	2.0-3.2	2.0-2.5	2.0-2.2	n/a
Fed Funds Rate	0.9	1.6	2.1	2.5	0.4-1.1	1.1-2.1	1.9-3.1	2.0-3.0

Actual/Projected Real GDP Growth



The US Bond Market

Central banks took a firmer grip of their reins on interest rates this quarter. The Fed began posturing toward a more hawkish stance in September. Yields rose in the first few weeks of the quarter as the market absorbed more inflation data. Confirmation came in mid-December as central authorities moved to buttress the economy against the specter of inflation. The Bank of England acted boldly with an unexpected hike of 25 basis points. The Fed shortened the timetable for winding down bond purchases, bringing up the first “live meeting” to March 2022. The curve responded with a decisive concave rise in yields between the 3-month bill and 7-year note, and pivoting flatter thereafter.



The Fed has been transparent about its plans to ween the market and economy off of the accommodative monetary policy enacted in response to the pandemic. The market seems to be on the Fed’s side this time and has not reacted with a repeat of the 2014 taper tantrum. Despite high headline inflation data in 2021, investors are comfortable owning 30-year paper at yields below 2%; after all, credible threats remain to credit. Supply chain snags, structural unemployment, the new shape of work, and other after-echoes of the pandemic seem to preclude full-steam-ahead economic growth.

US Bond Indices - Total Returns		
Bloomberg Idx	4Q21	2021
Aggregate	0.01%	-1.54%
Short Gov't	-0.25%	-0.16%
Interm. Gov't	-0.58%	-1.69%
Long Gov't	3.05%	-4.57%
TIPS	2.36%	5.96%
Municipal	0.72%	1.52%
Interm. Credit	-0.55%	-1.03%
Long Credit	1.52%	-1.18%
High Yield	0.71%	5.28%
(CS) Lev. Loan	0.71%	5.40%
MBS	-0.37%	-1.04%

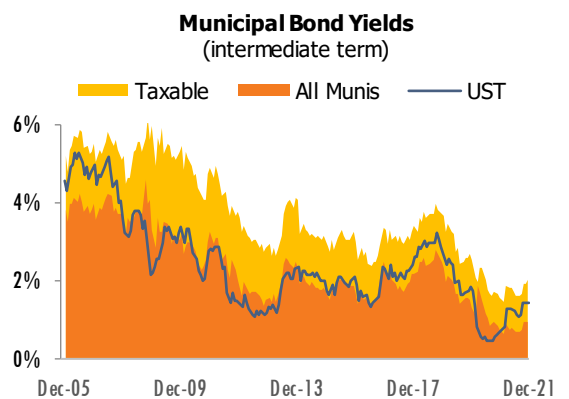
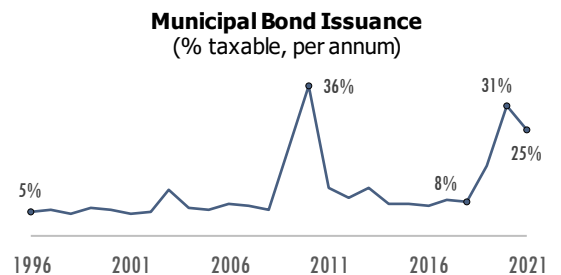
For the second consecutive quarter, credit spreads broke higher only to revert back near historical lows by quarter-end. High yield spreads widened over 60 basis points through November only to collapse in the first week of December. This was driven by the initial rapid onset of Omicron followed by news of its moderate severity compared to Delta. While high yield was not one of the best performing US bond sectors for the quarter, it was only outpaced by US TIPS and leveraged loans for the year. In contrast, most major US bond indices posted negative returns in 2021. Should inflation push rates up further in 2022, this trend would likely continue as US TIPS get repriced on inflation expectations and loans benefit from their floating rate coupons.

Investment grade and high yield corporate issuance dropped off in Q4, declining to a pre-COVID pace. Despite this, 2021 posted record high yield issuance as companies saw an increased need for financing amid record-low rates at which to borrow. Meanwhile, 2021 is set for a record-low high yield default rate of 0.5%.

Low interest rates have pushed taxable munis to become the fastest-growing segment of the municipal bond market. New issues, normally less than 10% of munis, comprised between one-quarter and one-third of municipal bonds auctioned in the last two years. The advantage of tax exemption becomes less appealing to issuers as yields compress since tax-exempt munis carry additional IRS accounting requirements.

The market for taxable munis began when the Tax Reform Act of 1986 precluded federal-tax-exempt status on certain munis. Taxable issuance last spiked in 2009-2010 during the Build America Bonds program. Taxable munis were issued to retire tax-exempt securities early, a practice no longer permitted after the Tax Cuts and Jobs Act of 2017.

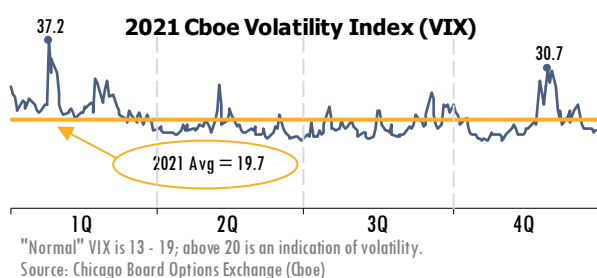
Municipal yields increased versus Treasury yields during 2008’s flight-to-quality and remained elevated as supply expanded. Taxable munis had tightened to tax-exempt munis until the recent resurgence in taxable issuance. Tax-exempt yields have stayed historically low even as Treasury yields started to increase and a record 4.3% of outstanding senior-living paper defaulted, accounting for the majority of first-time payment municipal bond defaults in 2021. Despite the default, strong demand for senior-living bonds persisted and issuance was up 21% in 2021 versus before the pandemic. The sector may see a tailwind from ESG investing going forward as the green energy, infrastructure, and social benefits funded by municipal bonds are seen as ESG-friendly.



The US Stock Market

The US stock market turned in a year of solid double-digit returns across almost all major indices as the fourth quarter marked a return to strong performance. Throughout 2021, investors largely remained sanguine through a host of issues that threatened to significantly impact markets. These included a contested presidential election and ensuing assault on the Capitol, unrelenting supply chain disruption coupled with a persistent shortage of semiconductors, evidence that inflation was not, in fact, transitory, and an omnipresent and evolving global pandemic. But if one experience stood out above all others, it was the meme stock phenomenon. While the frenzy in this space has abated somewhat, many of the targeted names ended 2021 still well ahead of where they started.

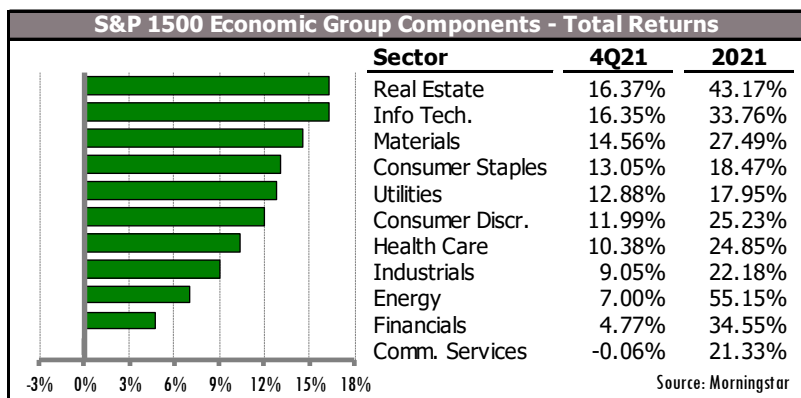
US Stock Indices - Total Returns					
	4Q21	2021		4Q21	2021
Largecap Stocks			Midcap Stocks		
S&P 500	11.03%	28.71%	S&P Midcap 400	8.00%	24.76%
Russell 1000	9.78%	26.45%	Russell Midcap	6.44%	22.58%
Growth	11.64%	27.60%	Growth	2.85%	12.73%
Value	7.77%	25.16%	Value	8.54%	28.34%
Broad Markets			Smallcap Stocks		
S&P 1500	10.71%	28.45%	S&P Smallcap 600	5.64%	26.82%
Russell 3000	9.28%	25.66%	Russell 2000	2.14%	14.82%
Growth	10.89%	25.85%	Growth	0.01%	2.83%
Value	7.54%	25.37%	Value	4.36%	28.27%



For the quarter, most results ultimately could be traced back to the Fed's confirmation that it would turn its attention to fighting inflation. In response to concerns over an economic slowdown, investors again sought the relative safety of established companies, and 4Q returns increased as you went up the capitalization spectrum. The quarter also saw volatility return as investors first fretted about the fallout from the Omicron variant and then reacted to the hawkish pivot by the Fed. The VIX reflected investor uncertainty by rising to levels not seen since the beginning of the year.

While growth outstripped value in largecaps for a third consecutive quarter, the reverse was again true in smallcaps and midcaps as well. Underperformance by smallcap growth was primarily attributable to the poor showing by the healthcare sector, which is one of the largest in the space. Biotech firms, which comprise close to half the sector, had a dismal quarter in double-digit negative territory. Value outperformance for the quarter was further driven by strong returns in utilities and consumer staples. These two traditionally defensive sectors are generally sought out by investors in anticipation of an economic slowdown or otherwise stressful market.

In other sectors, real estate topped the broad market chart for Q4 and was the second-best sector for 2021 overall. The FTSE Nareit All Equity REITs index had its best annual performance since 1976 riding a wave of REIT dividend hikes. Self-storage REITs, a component of the industrial REITs sector, performed especially well, driven by pandemic-increased demand. The tech sector also posted strong relative results for the quarter and the year. Semiconductors outperformed as they worked to fill the supply deficit, with NVIDIA posting a particularly impressive 42% return for the quarter and 125% for the year.



Although Q3 and Q4 relative performance was lackluster in the energy sector, it could not outweigh the chart-topping returns from the first two quarters, and the sector posted the strongest full-year results. As 2021 saw the global economy reopening, energy prices rose more than other commodities. West Texas Intermediate (WTI) crude oil, one of the main global oil benchmarks, ended 2021 at \$75 per barrel, up from \$50 per barrel at the start of the year.

Earnings growth in Q4 for S&P 500 companies is forecast at 21.3% YoY, which would be the fourth-straight quarter of earnings growth above 20% [FactSet]. For the full year, the earnings growth rate is expected to be 45.1%YoY. If this rate materializes, it would be the highest annual earnings growth rate reported for the S&P 500 since 2008, the year FactSet began tracking the metric. Strong YoY results are attributable as much to a comparison to weaker 2020 earnings as to earnings increases in 2021 themselves. While analysts again raised earnings estimates for S&P 500 companies over Q4, it was only by a small amount, as upward and downward revisions largely offset each other. Contrary to the 2021 experience, over the past 15 years, it has been more typical for analysts to reduce earnings estimates over a quarter.

International Markets

Compared to the strong rally in US equities, developed Europe posted modest gains, while emerging markets continued their downtrend, bogged down by China's underperformance.

News of the Omicron outbreak in early November turned out to be a hiccup, with cases and deaths seemingly decoupling in this wave. Despite the sharp drop-off in deaths, some countries began

imposing restrictions to fight the rapid surge in cases. Lockdowns in China and other economies sparked fears of further supply-chain issues and continued inflation pressure into 2022. With inflation still rising and turning into a more sustained worry, developed market yields are on track to end 2021 higher. Most major central banks, barring the ECB, have clearly signaled that markets should view 2022 as a year of tightening. Emerging markets, on the other hand, saw a flurry of central bank activity through Q4, continuing a trend of smaller central banks acting more proactively than major players.

Foreign Stock & Bond Indices - Total Returns					
MSCI Stocks	4Q21	2021	Bloomberg Bonds	4Q21	2021
ACWI ex-US	1.82%	7.82%	Global Aggregate	-0.67%	-4.71%
EAFE (Developed)	2.69%	11.26%	Pan-Euro	-1.69%	-9.02%
Emerging Markets	-1.31%	-2.54%	Asian-Pacific	-0.92%	-5.04%
Europe	5.66%	16.30%	Eurodollar	-0.36%	0.31%
Japan	-3.96%	1.71%	Euro-Yen	-2.57%	-13.18%
China	-6.06%	-21.72%	Other Currencies	0.55%	-10.76%
Latin America	-2.69%	-8.09%	(Unhedged)		

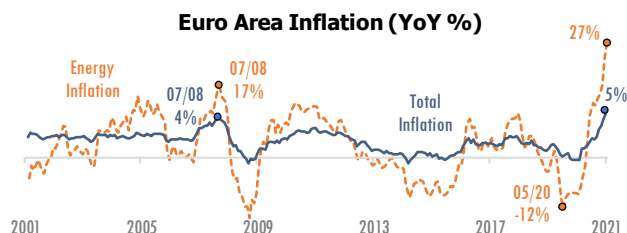
Europe

European equities led international markets in the fourth quarter, capping off a strong year for the region. The MSCI Europe index gained 5.7% in Q4, ending 2021 up 16.3% and driving a bulk of international gains. A major contributor in the fourth quarter was the beaten-down utilities sector; soaring power and gas prices, at decade-high levels, helped the sector post double-digit gains. This helped break a trend of sustained underperformance since lockdowns dampened demand. Its impact on the broader economy remains to be seen, as well as whether high prices can be sustained.

For the year, technology and energy names led European indices higher, with financials and industrials also recording strong gains. European technology exposure differs materially from the US, with a much larger weight towards electronics and hardware manufacturers, particularly in the semiconductor space. The widely reported surge in semiconductor demand propelled the sector higher, given that semiconductor-related names make up nearly 50% of the technology index.

While still in expansionary mode, flash PMIs in December signaled softening economic activity, particularly in services. The Euro Composite PMI fell to 53.4, two points below the November reading. The weakening, particularly in Germany and the UK, were consistent with "fourth wave" restrictions imposed in late November. All the drag was services led, with manufacturing beating expectations. Manufacturers across the board reported much improved supplier delivery times in December, potentially signaling an easing of price pressures if the Omicron variant does not lead to sustained disruptions.

Easing producer price pressures would be welcome news for the European Central Bank, after inflation hit a multi-decade high of 4.9% in November, following a 4.1% print in October. While the run-up in energy prices has driven over half the uptick, core inflation also came in at 2.6% – signaling relatively broad-based price increases. In December, the ECB revised its inflation expectation to 3.2%, up 1.5% from its previous forecast. Despite the sharp revision, it signaled no rate hikes until 2023/24.



In the meantime, the ECB confirmed that asset purchases under the Pandemic Emergency Purchase Program (PEPP) will end in March. However, the central bank increased the quantum of support from its Asset Purchase Program (APP), which is expected to run until rates lift off.

Yields and credit spreads saw a bit of upward pressure in Q4, particularly at the shorter-end of the curve. Yields between 2- and 7-years rose modestly, while 10-year yields remained relatively flat. Corporate issues faced a bit of volatility with the Omicron scare – IG spreads jumped from 76 to 100 bps (their highest level since Nov 2020) before settling at 87 bps at the end of the year.

Asia

China's economy grew 4.9% in the third quarter from a year earlier, slowing down from the second quarter's 7.9% growth rate. Power shortages and supply-chain problems added to the impact from the government's crackdown on the real estate, private education, and technology sectors in the prior quarter. While industrial production growth picked up in the fourth quarter, consumption continued to weaken.

The manufacturing and export boom over the past year led to increased power consumption and hurt local governments' ability to meet Beijing's emission-control standards. As a result, power outages swept across China at the end of Q3 as coal prices rose and the government ramped up efforts to curb energy consumption and reduce carbon emissions. However, amid a variety of government measures to boost coal production and lower prices, the crisis has eased during this quarter. Industrial production expanded by 3.8% in November from a year ago, accelerating from 3.5% growth in October and recovering from a September slowdown. Manufacturing PMI also showed some signs of improvement, gradually increasing from 49.2 in October to 50.3 in December. The pickup in manufacturing sentiment is attributed to a drop in commodity prices.

The Producer Price Index rose 12.9% from a year earlier in November, down from 13.5% growth in the prior month. The pull-back came after Beijing's months-long effort to alleviate an energy shortage. The Consumer Price Index rose 2.3% from a year ago in November, accelerating from October's 1.5% increase, and was mainly driven by food prices.

Consumer spending, a laggard in China's recovery from the pandemic, showed new signs of weakening. Retail sales rose just 3.9% in November from a year ago. This was down from October's unexpected 4.9% YoY growth when consumer spending benefited from online sales and signs of stability in the labor market. The unemployment rate in November moved up to 5.0%, from 4.9% in September and October, as the technology, education, and property companies, hit by tighter regulations, have been laying off employees. Joblessness has been rising among young people and the unemployment rate for ages 16 to 24 was 14.3% in November, up from 12.8% a year earlier.

With the country's recovery still deeply imbalanced, the People's Bank of China reduced the reserve requirement ratio for banks in December by 0.5% to 8.4%. Hoping to stimulate the slowing economy, the action is projected to unleash about 1.2 trillion yuan, or \$188.3 billion, into the financial system.

The Shanghai Composite index realized a return of 2.01% for the quarter and 4.80% for the year. However, Beijing's control in the tech sector has hit China's offshore companies hard. Hong Kong Hang Seng Index continued to drop, making 2021 its worst year since 2011. With Facebook changing its name to 'Meta', a speculative craze quickly formed, and stocks related to cloud games and NFT in China have doubled or tripled in price. The rules for e-commerce, property management, and after-school tutoring continued to negatively affect performance in US and Hong Kong-listed stocks.

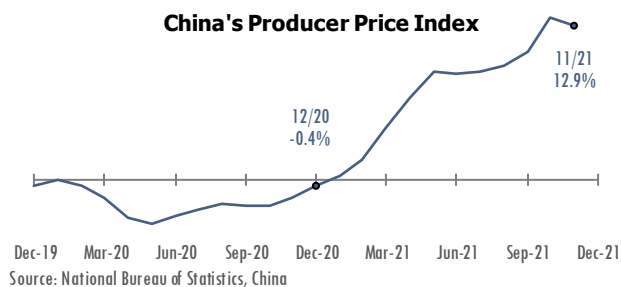
In Japan, GDP is projected to close the quarter at 6.1%, a much stronger print than the November projection of 5.1%. Fueled by consumer spending, that growth trajectory is expected to continue into the first quarter of 2022, rebounding off the pandemic bottom. Bucking the trend of countries rolling back stimulus spending, the government also rolled out a \$490 billion spending package in November to help offset the continuing impact of the pandemic. However, concerns remain around global material and energy prices and the potential for inflation to damage future growth prospects.

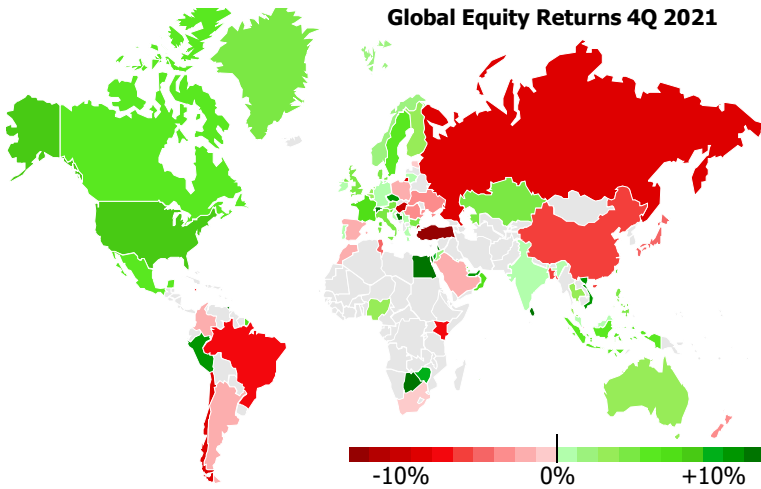
Americas

Growth returned to near pre-pandemic levels in Canada, reaching almost 6% in November, just as a rise in COVID-19 cases related to the Omicron variant forced additional lockdowns. Job growth has been robust and the unemployment rate has dropped down to 6%. Even so, more than 1 million job vacancies remain despite businesses continuing to hire. Companies are concerned with labor shortages and the prospect of policymakers taking steps to tap the brakes on the recovery. More recently, there have been signs of tightening in the labor market as the average hourly wage rate rose 2.7% in November YoY, up from 2% in October.

With the ongoing recovery and elevated price pressures, central banks are expected to continue withdrawing emergency policy supports. The Bank of Canada has signaled its intention to raise the overnight rate beginning in 2Q 2022. With the labor market far exceeding growth expectations, analyst consensus is that the bank will undertake four rate hikes, bringing the policy rate to 1.25% by the end of 2022.

In Brazil, the quarter started poorly as GDP contracted for a fourth straight month in October and the economy struggled with double-digit inflation. Brazil entered a technical recession in Q3, with GDP having fallen 0.1%, following a negative revision for Q2. Data for October showed contractions in services activity, retail sales, and industrial output related to higher inflation. The central bank has been acting quickly to stave off inflation. It is targeting aggressive monetary tight-





ening, raising its benchmark rate to 9.25% (up 7.25% for the year) in early December and signaling yet another 150 basis point increase in February.

The yield curve for Brazilian government bonds has inverted, with the 2-year bond closing the year at 11.72% and the 10-year at 10.31%, a spread of -1.4%. According to central bank president Roberto Campos Neto, part of the risk premium in the long part of the Brazilian interest curve has been associated with market doubts about fiscal responsibility. Concerns increased after the passage of a government-supported constitutional amendment allowing for higher expenditures in 2022 – an election year.

Mexico made significant progress toward recovery during the course of 2021, and GDP is expected to return

to pre-pandemic levels in 2022. As in most regions, however, concerns remain regarding rising inflation due to increasing prices for raw materials. The Omicron variant has caused the reinstatement of mobility restrictions, posing challenges for companies that have limited production and leading to shortages of goods. In addition, rising freight costs have also driven inflation. After remaining above the central bank’s target of 4% for most of 2021, the inflation rate reached 7.4% in November, the highest since December 2001. In response, and in conjunction with many other developed and emerging market central banks, the Bank of Mexico increased the pace of interest rate increases in December, raising the overnight interest rate target by 0.50% to 5.5%.

Focus On: Quality – Trimming the Tails



Polls of millennials show most harbored a distrust of financial markets years after the Global Financial Crisis. As a result, cash comprised 40% of their investment portfolios as of 2015 [State Street]. Cash was a disastrous allocation during the 2009-2019 bull run.

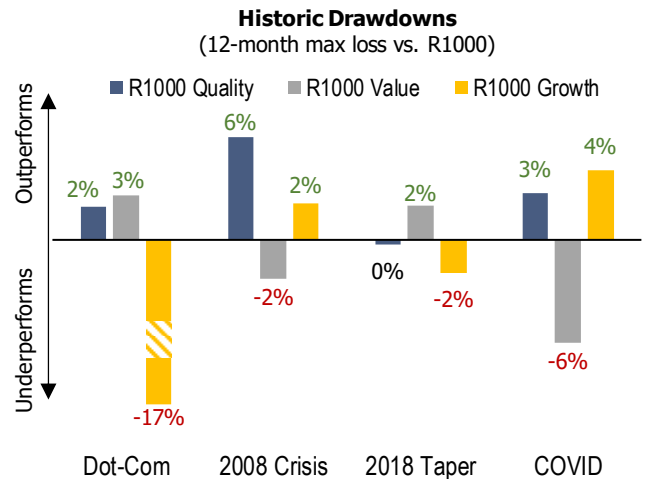
These cash-laden investors were either too afraid of the next market crash or too content with nominally positive returns to tolerate more volatile, but prudent, long-term investments. An Aesop-esque fable might depict these millennials as chickens or snails in order to serve a cautionary tale to today’s investors. The moral of the story would be to consider quality and other modern risk factors over disengaging from the stock market entirely.

A Factor for All Seasons

Stocks were once seen as purely speculative – anything but a quality investment. In time, stable dividends persuaded investors to accept that equity could be a prudent long-term asset. Moreover, dividend yields provided a reasonable proxy for bond yields. Although equity performance is destined to forever remain less predictable than bond returns, the asset class has proven it can be a prudent long-term allocation for most investors.

Dividends no longer command reverence from investors and CFOs. Strict adherence to paying out profits as dividends is seen as antiquated and inefficient. Rather, companies often favor share buybacks or stockpiling cash as “dry powder” these days. With dividend yields and bond yields closer to zero than ever before, investors are looking for something else to latch onto for a smoother ride through bull and bear markets.

For a time, largecap value stocks could be counted on to weather bear markets with great resilience – but no longer. Instead, it is quality that has outperformed growth and value over the past four downturns. During the three sharpest market crashes within the past 25 years, the Russell 1000 Quality index suffered less of a loss in the worst 12-month period than the Russell 1000 index. The value and growth style variants were not so buoyant.



This beneficial tail risk reduction doesn't come for free; quality stocks lag in many post-crisis rallies. Stable and robust balance sheets and income statements are good to have, but accepting less risk often means less return potential. Leverage is not only used to prop up distressed businesses or overextend, it can be the coiled spring that fuels healthy growth.

Factor investing, covered in our 4Q 2016 Market Recap, was developed and popularized under the Capital Asset Pricing Model ("CAPM") and the work of Professors Fama and French. Risk factors, such as quality, form the cornerstone of many index funds, quantitative strategies, and stock screens. Factor models start with a broad equity index beta as the main explanatory source for a stock's risk and return. Other factors are added to the extent they explain significant chunks of a stock's performance. Stocks with similar risk factors can be systematically grouped into portfolios based on size, style, momentum, volatility, and quality.

Risk factors tend to take turns outperforming one another. Seldom does a factor dominate for as long as growth has, outperforming the broader market before, during, and after the onset of the COVID-19 pandemic. Low interest rates have contributed to the ascendancy of growth by inflating the present value of future earnings. There's nothing wrong with the math, but far-off profits are far less predictable. By awarding ever-increasing multiples to stocks with potential winning themes or prospects for strong idiosyncratic growth, the market has become more fragile. Many of this cycle's top-performing stocks risk large losses should any of these tailwinds reverse.

What is Quality?

Quality investing has no universal definition, though most index providers and fund managers view quality as a coincidence of robust performance, financial health, and stability – both in financial metrics and in leadership and management. The label connotes characteristics associated with both growth and value stocks. Based on how quality is defined in other domains, higher prices and more reliable performance are implied. Quality stocks should trade at a premium, but a reasonable and justifiable premium for offering a narrower set of expected outcomes.

Quality managers gravitate toward companies with stable and proven business models and avoid those reliant on achieving some critical binary event, such as the approval of a drug in a biotech company's pipeline. Limiting drawdown risk appears to be a common theme for quality managers – which also comes with the caveat of narrower outcomes to the upside, especially during periods of market froth. It is a style for investors who want to reduce tail risk in their portfolios and who are willing to accept lower returns or other types of risk to achieve this.

The key to understanding how value and quality differ is understanding that both are trying to achieve similar results through different tilts. Value investing seeks to own equity in companies priced at a discount compared to a conservative estimate of the company's worth. This stands in contrast to growth investing, which gives more credence to the upside of a business. Value stocks tend to have lower price-to-earnings multiples than growth stocks, although P/E is not relied on solely. Quality cuts across value and growth to deliver robust downside protection and upside participation by finding companies where the conservative and optimistic outlooks produce a relatively narrow band of expected stock prices.

The Quest for Quality

The adoption of quality by fund managers is akin to ESG integration. Many managers are embracing quality and ESG factors in funds not explicitly geared towards those factors because they serve to attract some investors without dissuading others. And, like ESG, the definition of quality is a malleable tool. Cynically, ascribing a quality bias to your portfolio could be done in hindsight to explain underperformance.

is such an incredibly useful scapegoat that investors need to be wary of fund managers claiming a quality bias, just as ESG investors need to be wary of greenwashing. To blame a lack of quality has led your peers or benchmark to better returns implies that your fund is due to outperform. Yet, without a standardized definition for quality, how can investors be sure they are getting a quality portfolio? What if fund managers are willing to pay more for owning quality companies, but they mistakenly overpay for low-quality stocks?

These are valid concerns, but the most pressing concern should be that an ill-defined factor promotes thesis creep. A fund manager may consciously or inadvertently adapt their definition of quality to fit their portfolio, rather than vice versa. They may also be more willing to expose the portfolio to greater risk or risk concentrations if they (rightly or wrongly) believe a quality bias will ultimately prevail.

Quality Stocks

Robust Returns

High return on equity (ROE) or return on invested capital (ROIC)

Healthy Balance Sheet

Low financial & operating leverage (e.g., debt-to-equity or debt-to-assets)

Stable Accruals

History of positive earnings or free cash flow (FCF) without deterioration

Often, investors conflate quality and value and expect similar performance from the two. But if we look at the performance of a quality fund peer group compared to value funds during periods of negative Russell 1000 performance, we see a large discrepancy: quality funds tend to capture significantly lower downside than their value peers and lag in up markets, as shown in the accompanying graphs. A reading below 100 indicates when a fund declined less than the index in a downturn. Nearly 75% of quality funds outperform during down markets, compared to 30%-40% of value funds. Recently, only the top quartile of value funds have consistently managed to keep down market capture below 100.

Identifying a quality bias in a fund is not as simple as assessing market cap, value, or growth tilts. Quality indices tend to have valuation multiples near or slightly above their broader parent index. Looking at individual holdings can also be inconclusive. The top holding in the MSCI USA Quality Index is NVIDIA, with an index weight above 7% and a P/E ratio approaching 100. The S&P 500 Quality index does not include NVIDIA at all, though close competitor Qualcomm features as a top-10 holding.

Similarly, many active quality-focused managers may not agree with an index provider's definition of quality – for example, out of 52 US quality funds examined, only 13 held NVIDIA, and with an average weight of 1.6%. While many seem to disagree with NVIDIA's quality classification, Microsoft appeared to be a consensus name; 32 funds held the stock with an average weight of 5.4%. Other common names include Alphabet, Visa, Apple, J&J and Accenture. These are all stocks that share the robust return and cash flow characteristics described previously.

Embracing Quality

It is not happenstance that factor names all glow with positivity. Quality is especially so, and is also somewhat unique in lacking a flip side of anti-quality or low-quality funds. Factor/thematic investing is a hugely successful marketing trend. The number of ESG funds and strategic-beta ETFs have each doubled since 2014. Stock market crashes, fee compression, and comfort with technology over human judgment are propelling factor-driven products to greater market share. Factor investing is a legitimately useful approach to investing, but the merits are sometimes oversold. There is no evidence that quality or any other well-known factor is destined to outperform the broader market, but quality does represent a certain flavor of stocks that tend to produce less volatility and lower drawdowns.

There are some additional steps beyond routine due diligence an investor can take when evaluating a factor fund:

- Find how the factor is defined by different fund managers and index providers
- Examine portfolio holdings to make sure they conform to your expectations
- Analyze historical returns to verify the fund has delivered competitive performance that is factor-aligned

Quality investing shows us that market cap, growth, and value aren't the only factors with merit. Factors and themes have attracted much investor interest and assets in the retail ETF market. This trend may well carry over to retirement plan investment lineups where it can increase participant engagement by delivering a menu of options packed with choices participants understand and want to make. However, investors and plans sponsors should be leery of themes and factors that aren't fully formed. Proceed with cautious skepticism when evaluating advertised factor tilts and, in particular, before accepting underperformance scapegoating.

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