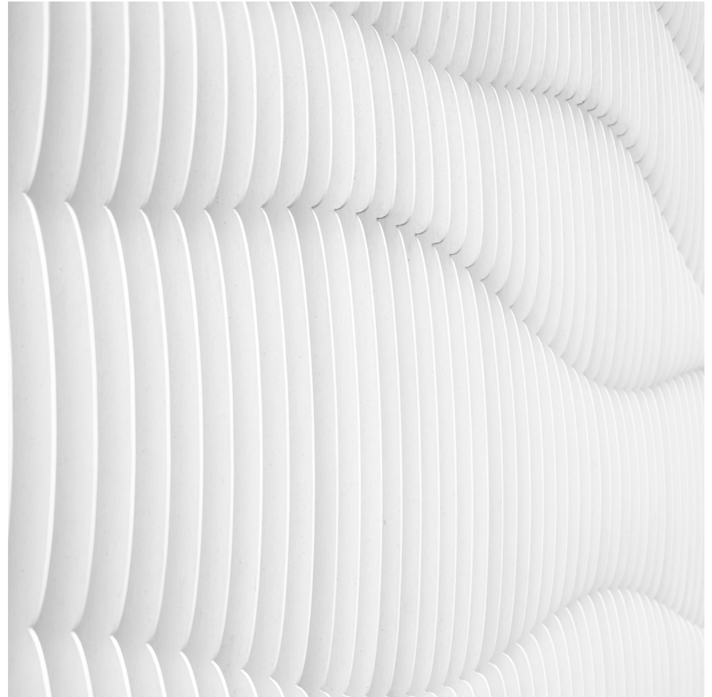
QUARTERLY CLIENT UPDATE

Introduction

The first half of 2022 was a tumultuous and treacherous stretch for investors. Record inflation, rapidly changing central bank policies, slowing growth, geopolitical turmoil, and elevated volatility all combined to cause the worst bond market performance in decades, significant declines in public equities, and a nascent reckoning in private equities. An update on our investment views is warranted and this letter attempts to do just that.



While virtually impossible to cover everything in a single letter, we nonetheless attempt a broad survey of the germane inputs to our decision-making process. Given that both our investor base and our investment portfolios are heavily weighted towards the US economy, we focus primarily on the domestic economy and domestic markets. Our comments are generally organized around seven topics: inflation, interest rates, economic growth, corporate earnings, sentiment, historical context, and risk asset valuations. We end with a summary of our current positioning preferences, all of which are obviously subject to change based on incoming data and market levels.

By in large, our client portfolios represent assets being set aside now to meet goals and needs that are well in the future: retirement spending, educational funding, and generational wealth transfer. Therefore, we believe that orienting our investments toward outperformance over a five-to-ten-year time horizon (or longer) is the best way to meet our clients' needs. So, while mindful of short-term conditions and performance, we are and will always be long-term investors.

Executive Summary

With inflation at multi-decade highs and inflation expectations inching up, the Fed has reprioritized its focus from supporting growth to quickly taming inflation. The Fed has stated (unequivocally, to our ears) that they would gladly risk a recession now via restrictive policy to avoid the bigger risk of higher and more entrenched inflation later. This is the right long-term policy, but means that economic growth will slow in the near term. Interest rates across the curve are materially higher year-to-date. Front-end rates will continue higher in-line with Fed guidance, but we expect long-end rates to stabilize as growth slows and the Fed's inflation fighting credibility grows.

Whether or not we see an actual recession in the next year will be determined by the interaction between the economy's positive momentum, the persistence of inflationary pressure, and the restrictive effects of Fed monetary policy. On balance, we expect growth to slow to a 0-1% annualized rate. However, should a recession come to pass, we presently expect it to be more mild than severe, owning to the underlying strength in the labor markets. More importantly, recession or not, we think that corporate earnings estimates need to come down from overly optimistic levels. Growth will slow and the combination of cost pressures and worried consumers will likely pressure margins. Overall, we think forward earnings estimates look about 5-10% too high.

Reassuringly, from an investor perspective, a fair amount of pessimism has already been priced into the market. Various measures of investor sentiment are quite weak, which generally signals good entry points for long-term investors. Similarly, consumer sentiment is near all-time lows; prior troughs in this gauge dating back to the early 1970's have rewarded brave investors with average returns of 25% over the following 12 months[1]. Reviewing the history of 17 prior bear markets in US stocks dating back to 1900 provides a dose of humility, given the wide disparity of severity and length of prior drawdowns. If nothing more, this exercise reminds us that patience is a requisite ingredient for good long-term returns: median prior drawdowns have gone lower and taken longer to bottom than the current episode.

Risk assets valuations look fair, but not cheap. Many pundits point out that market drawdowns of 20% or more have historically been great entry points. This is true, but valuation matters more than price. 2021 valuations were rich, so the move lower in risk assets thus far has merely brought valuations back down to earth from unsustainably lofty levels. In fact, for stocks, the year-to-date move is almost entirely explainable by the move in risk free rates, rather than a true increase in extra compensation investors get for taking on the risk of owning stocks. As for private equity, we think assets will be remarked lower as net-asset-values get market-to-market over the coming quarters, potentially offering attractive entry points for investors underexposed to this asset class.

Overall, if we survey all of these elements to our analysis – inflation, interest rates, economic growth, corporate earnings, sentiment, historical context, and risk asset valuations – we shake out as being cautious over the short-term, but more bullish over the long-term. Higher interest rates and a mild recession could be just what the doctor ordered to ween our economy off the morphine drip of growth-supportive Fed policies, but we would prefer to get a better sense of how severe the withdrawal symptoms will be before getting definitively more aggressive.

1 JP Morgan, Bloomberg, and PCIA Analysis

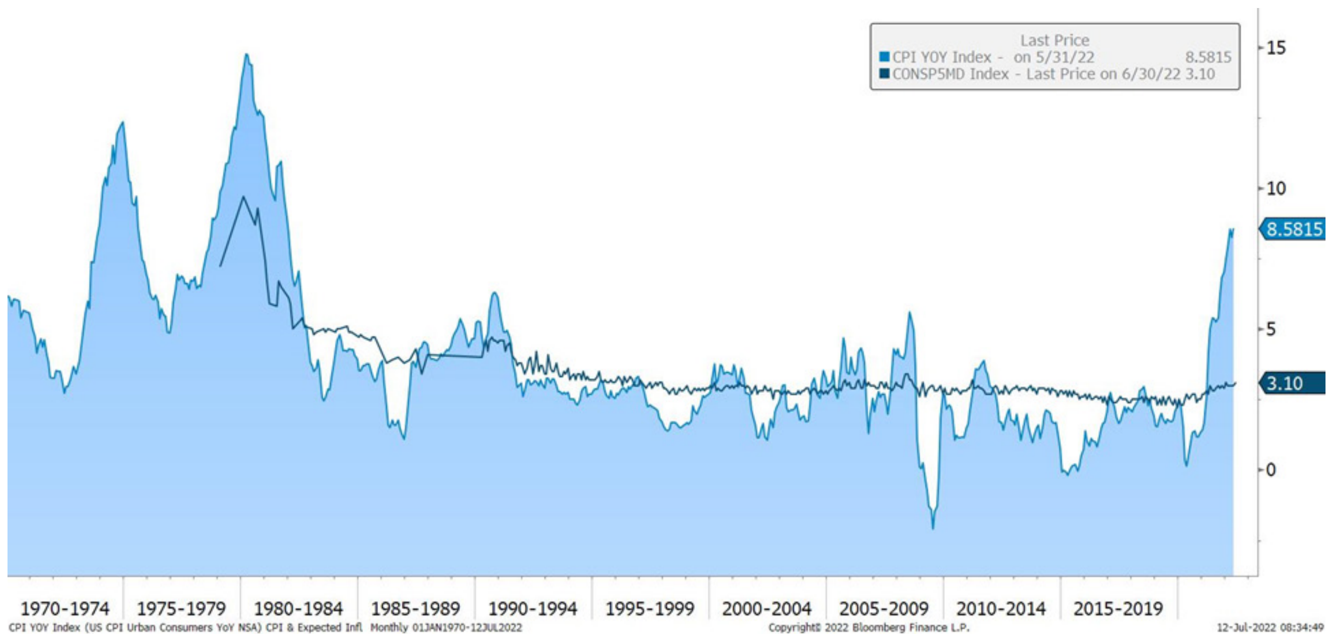
Inflation

Irrespective of measure, inflation is running at multi-decade highs. The primary driver is the hangover from extremely accommodative fiscal and monetary policy during and immediately after the Covid-19 induced recession. While policy was the main proximate cause, supply chain constraints and geopolitical conflicts have exacerbated an already inflationary set of conditions.

With employment back to pre-pandemic levels, the Federal Reserve (the Fed) has quickly and forcefully pivoted to prioritize the 'price stability' element of the dual mandate over the 'full employment' element, the later having been already achieved.

cause inflation. Now, however, it would seem the chickens have come home to roost. And, more importantly, the economy and the markets are operating without a safety net for the first time in two plus decades.

What the Fed is most worried about is not so much current inflation, but rather expected inflation. In the late 70's, after a period of sustained high inflation, US consumers started expecting high inflation to persist and inflation expectations rose significantly. This led to a 'wage-price spiral', in which high prices led workers to demand



Source: Bloomberg

This is a massively important development for the economy and the markets. For the past two decades, the Fed has been more worried about disinflation (price levels going down) rather than inflation (price levels going up). As such, they have been able to focus almost exclusively on achieving full employment without worrying much about inflation, often by implementing new and exotic policies that were gussied up versions of printing money. If effect, the Greenspan, Bernanke, Yellen, and early Powell Fed regimes have provided a policy and money printing 'safety net' for the economy and the markets. Whenever the economy contracted or the stock market fell by 20%, the Fed would implement various policies to refire the animal spirits. Prior to mid-2021, these actions seemingly did not

higher wages which only prompted businesses to raise prices further and thus perpetuate the cycle. Once this dynamic took hold, inflation became very difficult to rein in. In response, the Volker Fed raised short-term rates to dramatically high levels in the 80's. It was only after two recessions that inflation and inflation expectations finally came down.

The upshot of this aggressive Fed response in the 80's was that inflation and expectations remained low and stable for the better part of the following three decades. Now, for the first time in a long while, consumer inflation expectations are creeping up. The only way for the Fed to maintain its institutional credibility is to tamp these expectations down. And, the sooner they act the better so as to avoid the rising risks of an entrenched wage-price spiral.

While on the surface, the current backdrop sounds very much like Fed's hiking cycle in the 80's, a bit of important context is warranted. From 1975 to 1980, inflation was consistently above 5% and twice exceeded 10%[2]. This very high inflation caused 5-year inflation expectations to increase to 10% in 1980. From 2015-2020 however, inflation was consistently in the 2% range and only recently jumped to 8%. 5-year inflation expectations increased to a recent high, but only to 3.3% before ticking down to 2.8% in July, well below the 10% inflation expectations of the early 80's. Therefore, while inflation is a problem and inflation expectations have risen, neither is anywhere near as bad or intrenched as they were in the late 70's and early 80's.

More to the point, the Fed is now 'all in' on taming inflation. Chairman Powell has been emphatic on this point, even if taming inflation causes a recession. Following recent rate hikes, Fed guidance, and resultant turmoil in financial markets, financial conditions have tightened materially. As a results, we expect economic growth to slow and inflation to begin to moderate in the short-term. In fact, we believe are we are starting to see the 'green shoots' of an inflation moderation in commodity price and real-time wage data. In our view as long-term investors, it's better for the economy and risk assets to endure a milder growth slowdown now to keep inflation low and stable. We view this as a much more preferable outcome relative to the alternative of having to endure a potentially more severe and longer lasting slowdown later if high inflation were allowed to persist.

With respect to our longer-term view on inflation, we are concerned that we may be entering a new era of structurally higher inflationary forces that will require more persistently forceful action by central bankers to control. If we zoom out to observe multi-decade trends, there are several global macroeconomic forces that have contributed materially to the low inflation environment of the past two or three decades yet are now abating if not reversing.

First, population growth is slowing amongst most major economies. Birth rates are falling and the population is aging. This will likely lead to a higher 'dependency ratio' in which fewer workers are available to support more, especially older, non-workers in the global economy. This will likely pressure wages broadly and in older demographic countries specifically, especially in certain sectors.

Second, global trade growth is stagnating. To be clear, we do not believe the globalization of trade will materially reverse, given the mutually negative economic implications this implies to trading partners. However, it would seem we have reaped most if not all the gains from integrating relatively inexpensive Asian labor (after China joined the WTO) and Eastern European labor (after the fall of the Soviet Union) into the global economy. Furthermore, as more nations speak openly of 're-shoring' critical industries (technology, pharma, energy, agriculture), some supply chains may need to be rebuilt domestically (and redundantly). Thus, without this steady influx of new labor to hold down wages or increased demands on domestic labor to serve 're-shored' sectors, wages pressure may increase.

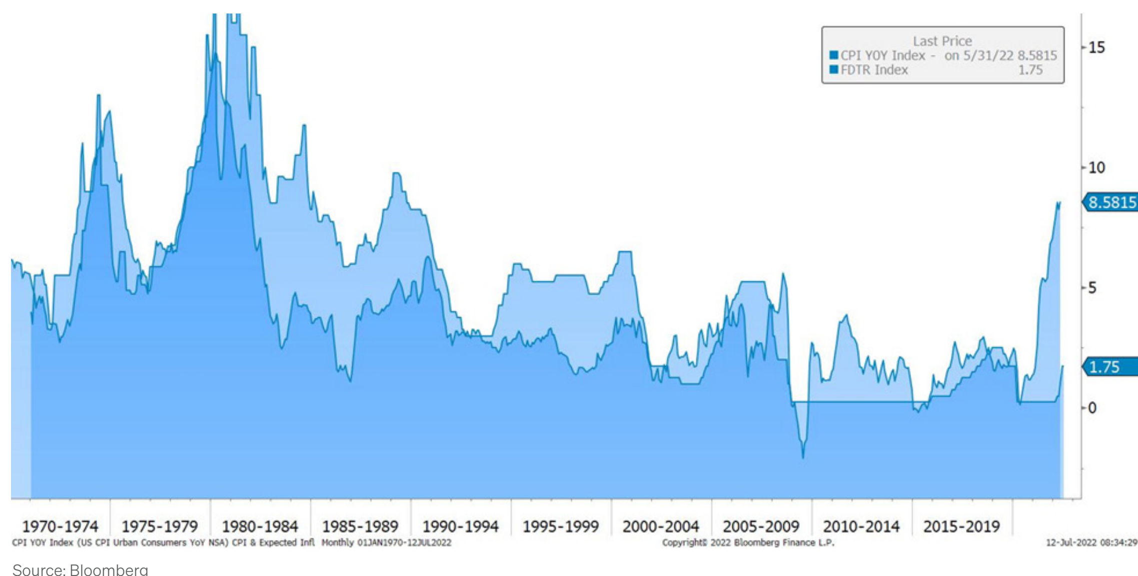
Finally, after years of under investment in capacity and expansionary monetary policy and fiscal policy, commodity markets are struggling to keep up with global demand, which portends consistently higher commodity prices that may further pressure inflation. The recent relief in commodity prices notwithstanding, energy, base metal, bulk, and food commodities all appear at risk of staying structurally 'tight' over the long-term should global growth continue at the strong rates of the recent past.

These factors – global demography, global trade, and global commodities – are obviously large and massively complex, but are also slow moving and difficult to ignore. Therefore, we continue to remain dubious of the prospects for inflation to quickly return to the 2% range without potentially structurally higher rates and more moderate growth.

2 Bloomberg

Interest Rates

Short-term interest rates are materially higher year-to-date as the Fed has shifted definitively to an inflation fighting stance. Long-term rates are higher as well in sympathy of short-term rates and in consideration of potentially even higher rates in the future. While the year-to-date pain in the market has been severe, we think we have already seen most of the potential pain for calendar year 2022 given our views that inflation should begin to moderate from recent levels over the short-term with slowing growth.



Source: Bloomberg

The Fed has signaled its intention to quickly take the Fed Funds Rate (FFR) back to and if necessary above the nebulous 'neutral rate' (imprecisely cuffed in the 2-4% range); at present the market is discounting a FFR in the mid-to-high-3% range by mid-2023. Given that this rate was effectively zero in Q1'22, we believe the Fed will likely want to observe the inflation fighting effects of this policy – and the concomitant market weakness – before endeavoring to guide the markets to a materially higher terminal rate. Unless of course inflation proves more recalcitrant than expected, in which case the Fed will continue to signal a willingness to raise short-term rates even higher.

Long-term US Treasury (abbreviated herein as 'UST') rates are in the 3% zip code; this is up from 1.5% coming into the year[3]. While – based on our expectation of moderating inflation readings – we expect long-term rates to remain relatively rangebound (3% +/- 0.25%) into year-end[4], where these rates shake out over the longer-term remains a if not the key question for rates strategists. In addition to the potential drivers of structurally higher long-term inflation noted above that would warrant a structurally higher risk-free rate, there is also the wildcard of the US Dollar's (USD) heretofore unassailable status as the global reserve currency to consider.

Pessimists will point to the US governments profligate spending of the past two decades, looming long-term budgetary issues, and increasingly frequent 'weaponization' of financial sanctions as reasons why foreign buyers may no longer flock to UST markets as a safe haven for their foreign reserves. While valid points, we think a more pragmatic though possibly home-biased assessment would suggest that the necessities of global current and capital account balancing as well as the dearth of viable alternative reserve currencies (See Bitcoin vs. USD YTD) will keep the greenback at the top of the heap for a bit longer than skeptics are expecting.

A 4% UST possible, but increasingly unlikely in in the near-term. Our thinking is based on two main points. First, a 4% UST would have broad and significant implications for economic growth. Financing costs consumer durable goods are already materially higher year-to-date just with the UST move from 1.5% to 3%, and this will have an impact on economic activity.

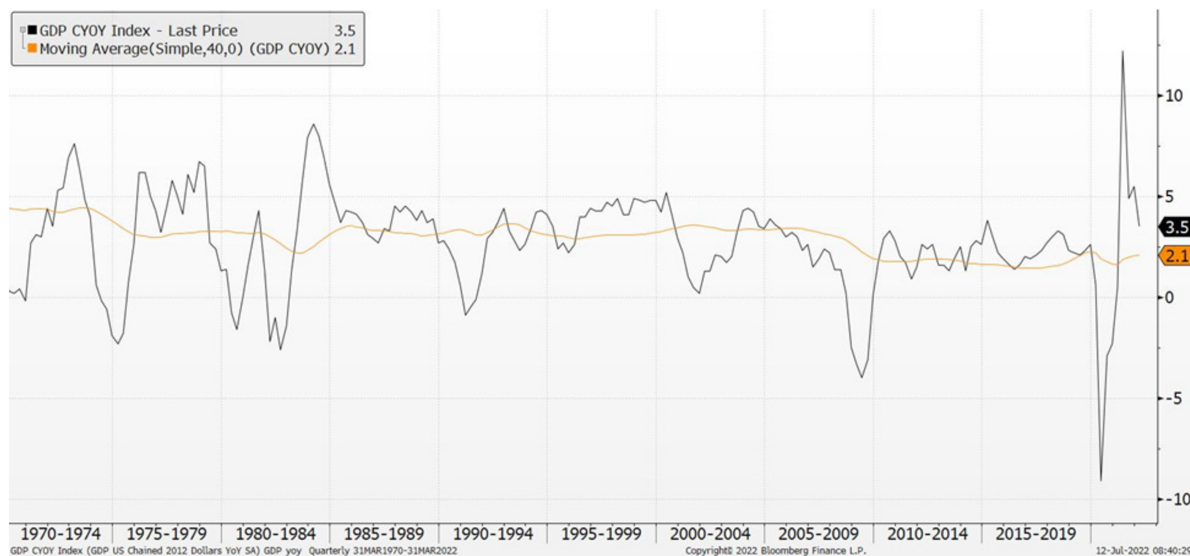
3 Bloomberg 4 PCIA Investment Team

An additional move in the UST to 4% would have an even bigger impact on economic activity and would almost certainly slow aggregate demand sufficiently to tame inflation, at least over the short-term, and thereby reduce the necessity for the currently 'hawkish' Fed policy stance. Second, slowing growth and a Fed committed to 2% long-term inflation make UST's a more attractive asset class. If UST's touch 4% and the market sees a path to 2% inflation, the 2% real yield (nominal yield minus inflation) would be attractive enough to attract buyers that would drive the yield back down from 4%.

Economic Growth

To recap on inflation and rates for the purpose of discussing economic growth: inflation is too high, the Fed is raising rates to bring inflation and inflation expectations back down, and this will necessarily have a negative impact on economic growth.

On the one hand, US economic growth entered the year in very strong shape and this positive momentum is worth keeping in mind as growth slows. Rather than trying to prop up stagnating growth, the Fed is trying to pump the breaks on an economy that is growing too fast for its own good. Corporate balance sheets are in better shape than they have been in years. Household balance sheets are strong as well, though feeling the pinch from falling real incomes. While weaker markets will ding household assets, household debts are relatively modest, so household net worth remains in relatively good shape. There is a reasonable case to be made that the Fed's policy moves and guidance – while constricting to growth – will not tip the economy into recession given the strong current growth momentum, labor market, and corporate and household balance sheets.



Source: Bloomberg

The key debate is this: how significantly will the Fed's tighter monetary policy impact economic growth? The Fed is endeavoring to engineer a 'soft landing' in which economic growth slows enough to bring inflation back down to it's 2% long-term target, yet not so much of a growth slowdown that the economy experiences a recession. At present, nearly all economists believe that economic growth will slow over the next 1-2 years, but they are roughly evenly split as to whether this will result in a recession.

On the other hand, the Fed's historical track record of engineering soft landings is not great. The Fed has never successfully engineered a soft landing when either CPI breached 4.5% or they were attempting to lower it by 300bps[5]. Additionally, one would logically think that two factors together increase the risk of policy error. First, the magnitude of Fed involvement in markets over the past few years has been unprecedentedly significant. Second, the change in policy is not one of rate, but rather direction. Thus, relative to prior policy shifts, it seems even more difficult to imagine the Fed sticking this landing.

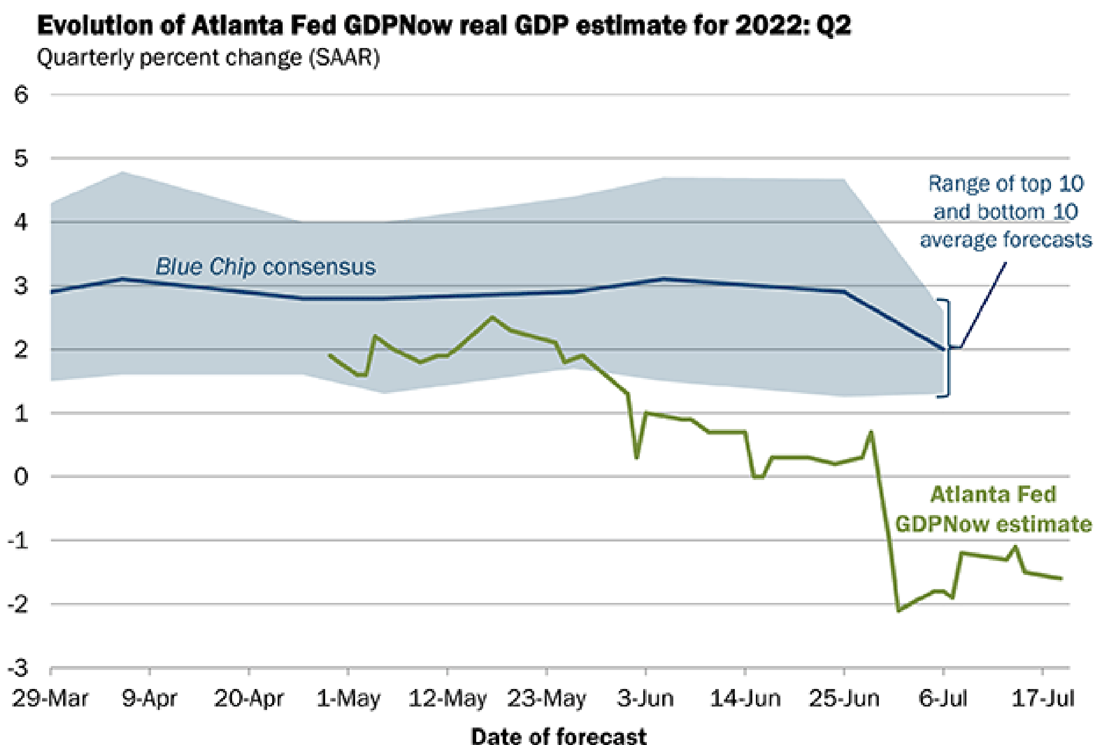
5 Bloomberg

In our view, it seems more probable than not that we see at least a mild contraction in economic growth over the next 2 years.

First, we think the stakes are too high for the Fed not to err on the side of going too tight in the policy response rather than too loose; Chairman Powell has said as much in recent comments that suggest he is willing to trade a recession now to eliminate high and entrenched inflation expectations later. In essence, the Fed isn't going to spend two decades of credibility maintaining inflation to prop up growth for the next two years.

Second, the economy has become too accustomed to low rates for too long for the year to date moves in rates not to have a significant impact on economic activity. Financing costs for housing, cars, and other consumer durable goods is materially higher: a simple poll of friends and family that have been looking to finance a major purpose over the past six months will confirm the significant impact the rise in financing costs is having on purchasing power.

Third, we are already seeing leading economic indicators contract. Consumer sentiment has fallen to near all-time lows. Manufacturing activity has been in a steady decline since the beginning of the year as the ISM Manufacturing PMI, a monthly indicator of economic activity based on a survey of purchasing managers at manufacturing firms, has contracted to its lowest levels in two years. New housing starts have fallen to their lowest reading in over a year, indicating waning sentiment in the housing market amid the elevated inflation levels outlined earlier, supply chain challenges, and significantly higher mortgage rates. The Atlanta Fed's GDPNow model suggests that Q2 may have already tipped into negative growth territory. And, of course, if we view the stock market as mechanism for discounting future earnings potential, the move lower year to date certainly signals a general expectation of slowing economic activity. While our read of the data doesn't suggest that a recession is imminent in the 2nd half of 2022, the trajectory is lower, the Fed is trying to tame very high inflation, and it takes several quarters for tighter monetary policy to have its full effect on the economy.



Source: atlantafed.org

Fourth, the global economic backdrop is arguably more concerning that the domestic backdrop. Europe and the UK are fighting economic disruptions from the war in Ukraine and inflation, emerging economies are at risk of seeing capital flight from a stronger US dollar, and US goods look more expensive (thanks to the strong dollar) from the perspective of our trading partners.

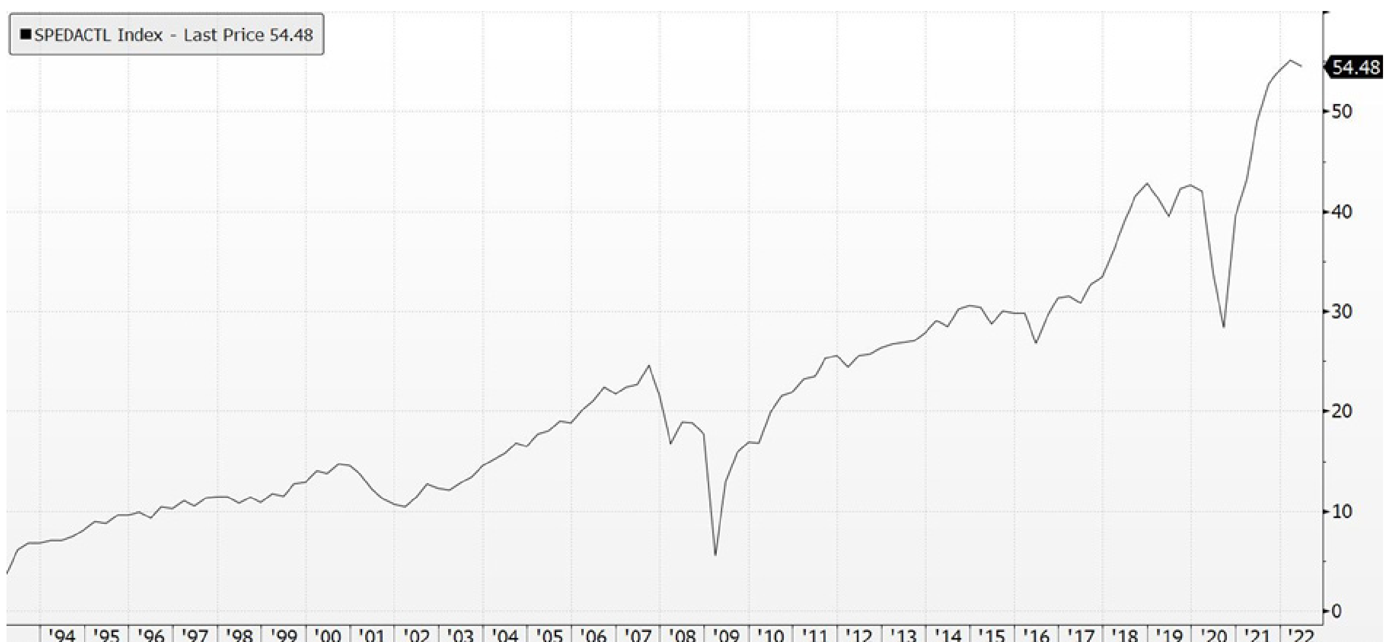
All in all, we see more reasons to be skeptical of a soft landing. For our baseline estimates, we are assuming that over the short-term, US economic growth will slow to 0-1%, but with more risk to the downside than the upside.

Again though, we are long-term investors, so it behooves us to consider a longer time horizon when discussing economic growth. Longer term, US economic growth will likely be heavily influenced by inflation and rates. Average real GDP growth for the US economy has been approximately 2-3% over the past few decades and closer to 2% since 2010, though we would this period was a long and relatively uninterrupted stretch of low inflation and low rates that was very conducive to growth[6]. If the Fed is successful in bringing inflation back down to its 2% target over the next 1-2 years, then we should expect long-term economic growth to be similar to what we have seen over the past decade, with real GDP growth in the low 2% area. If, however, the structurally higher inflation and rates scenario described above comes to past, we would expect long-term growth to be below the prior decades experience, likely in the mid-1% range.

Importantly – at least for the asset allocation commentary below – real GDP growth and nominal GDP growth would somewhat diverge in this scenario, because even if real GDP growth is below the prior decades average, nominal

Corporate Earnings

Like the broader US economy, corporate earnings – the source of dividends, interest payments, and capital for future growth – entered 2022 in very good shape. The recovery of corporate earnings following the Covid-19 recession has been nothing short of remarkable: forward (next 12-month forecast) earnings for the S&P 500 are nearly 40% higher than they were at 12/31/19 immediately prior to Covid-19. Relatedly, corporate margins are also running at all-time highs. Putting corporate earnings in broader economic terms, forward S&P 500 earnings margin equates to 0.9% of nominal GDP compared to 0.8% at 12/31/19[7].



Source: Bloomberg

6 Bloomberg 7 Bloomberg, PCIA Analysis

While impressive, these eye-popping margins are one of our biggest areas of concern. During the Volker era inflation fight from 1980 to 1985, S&P 500 earnings declined from 0.5% of nominal GDP to 0.3%[8]. This margin hit was at least in part driven by corporations being unable to fully pass on higher input costs (raw materials and labor) to customers in the form of higher prices. It's possible – if not probable after recent earnings warnings – that US corporates may be entering a similar era of inflation driven margin pressure.

We think potential margin degradation in S&P 500 earnings is less severe than the ~40% decline observed in the 80's for two reasons. First, inflation and inflation expectations in the 80's were roughly 2x higher than they are currently. Compared to that era, the present inflation issue is not nearly as severe nor as entrenched in the minds of Americans. Therefore, we do not expect the Fed's inflation fighting to have nearly the same impact on corporate earnings as it did in the 80's.

Second, the composition of S&P 500 earnings now versus in the early 80's. Services businesses in general and software companies specifically comprise a larger share of S&P 500 earnings than in the early 80's. Given the network effects and operating leverage of their business models, strong competitive moats, and high customer switching costs, we think these firms will have a relatively easier time passing on costs to their consumers to maintain margins. Consider this: if the cost of an iPhone, Microsoft office, AWS cloud services, Google ad placement, or Amazon distribution increased by 10%, do we really think those firms would lose anywhere close to 10% of annual customers?

Third, in prior recessions dating back to 1948, earnings have typically declined around 13%[9]. Given the strength of the labor market, balance sheets, and the economy in general coming into this year, we tend to think that any recession over the next 1-2 years would be of the mild to moderate variety rather than severe: more of a refreshing economic pause than a traumatic stop like 2009 or 2020.

Fourth, when we analyze each of the 11 sectors that comprise the S&P 500 – technology, healthcare, consumer discretionary, financials, communications, industrials, consumer staples, energy, utilities, materials, and real estate – we estimate a 5% to 15% decline in forward earnings under mild and moderate recession scenarios.

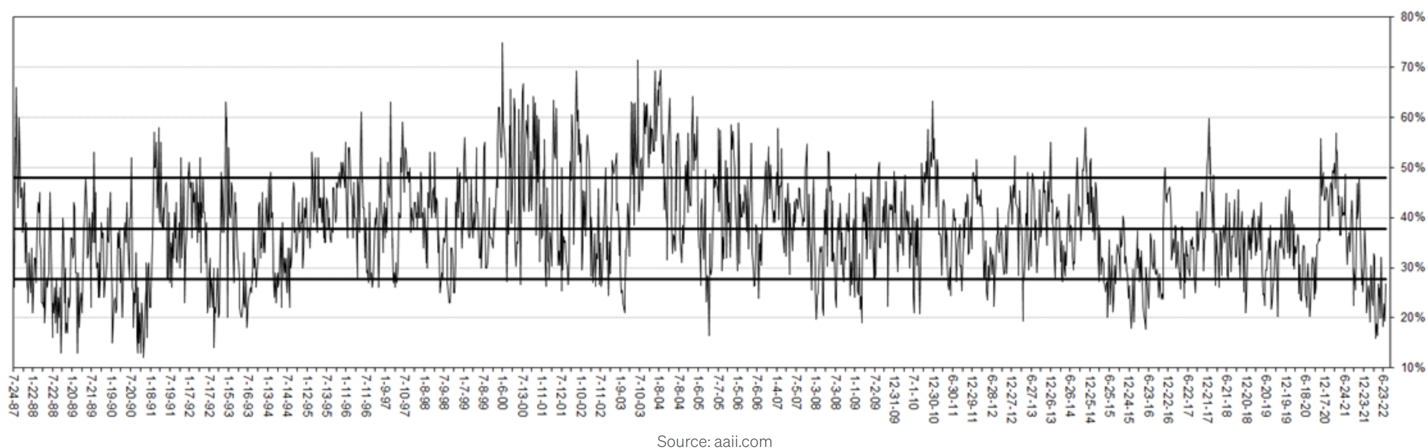
To be clear, we do expect forward earnings expectations to decline in the second half of 2022, starting with Q2 earnings reports in July and August. Indeed, the fact that forward earnings expectations for the S&P 500 have not yet declined despite the economic developments of the first half is one the aspects of the current investing landscape that puzzles us the most. However, given the factors cited above, we believe that forward earnings estimates need only come down modestly to once again be reasonable relative to our economic growth expectations. At present, we expect forward earnings estimates to fall 5-10% to imply mid-to-high single digit rather than double digit earnings growth in the next year.

Having assessed the main fundamental factors to our analysis – inflation, interest rates, economic growth, and corporate earnings – we can now consider what the market is telling us by looking at sentiment, historical market drawdowns, and valuation.

Sentiment

Historically, weak investor sentiment has signaled attractive market entry points. The logic being that when sentiment measures are low, pessimism is at or near its peak and therefore most of the bad news is already priced into markets. This 'behavior finance' logic is compelling and investors that had employed this strategy historically would have been handsomely rewarded. According to the American Institute of Individual Investors, which has surveyed retail investors since 1987, current investor sentiment ranks in the lowest 5% of all readings over the past 35 years.

8 Bloomberg, PCIA Analysis
9 Goldman Sachs



Source: aaii.com

Similar episodes of such negative sentiment have only occurred ten times over that 35 years stretch and only for a total of 72 weeks out more than 1,800 total weeks. The average price returns in the S&P 500 over the following year after these sentiment levels were reached has been 18%, with a maximum of 33% and a minimum of 2%[10].

Similarly, weak consumer sentiment has signaled attractive market entry points as well. The logic here is a bit less intuitive. It is essentially that pessimistic consumers are bad for economic growth, so investing when consumer sentiment is low increases the probability that economic growth will be better going forward. Presently, the University of Michigan Index of Consumer Sentiment is in the low-50's, which is the lowest it has been since the survey began in the 1970's[11].

Consumer confidence and the stock market

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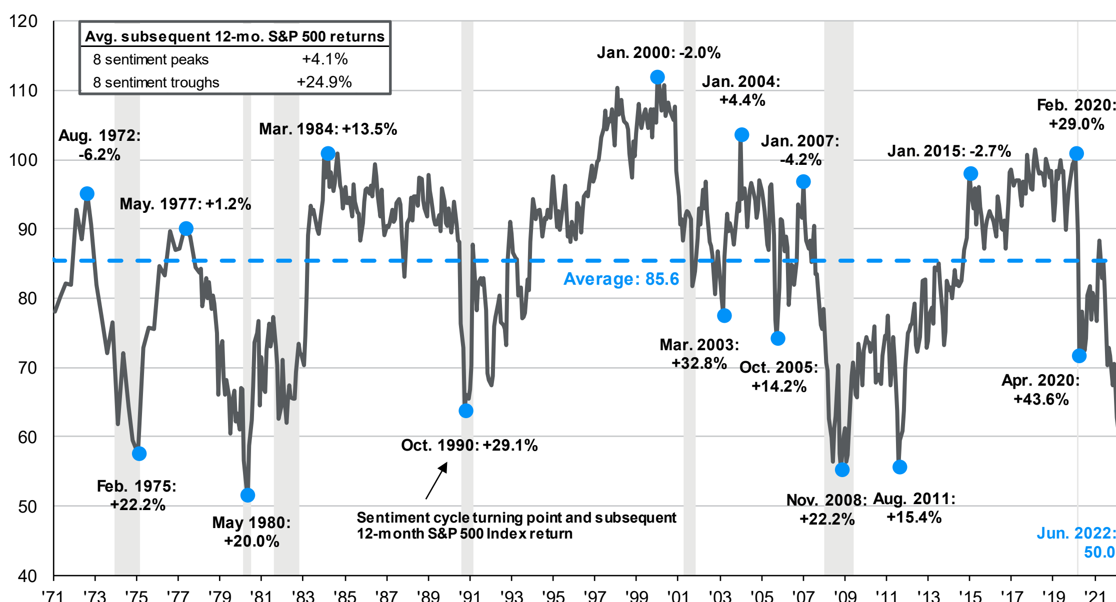
Consumer Sentiment Index and subsequent 12-month S&P 500 returns



Source: FactSet, Standard & Poor's, University of Michigan, J.P. Morgan Asset Management.
Peak is defined as the highest index value before a series of lower lows, while a trough is defined as the lowest index value before a series of higher highs. Subsequent 12-month S&P 500 returns are price returns only, which excludes dividends. Past performance is not a reliable indicator of current and future results.
Guide to the Markets – U.S. Data are as of June 30, 2022.

J.P.Morgan
ASSET MANAGEMENT

Source: JP Morgan

10 AAII data, PCIA Analysis
11 Bloomberg, JP Morgan

JP Morgan count's eight similar sentiment 'troughs' back to the 1970's. The average price returns in the S&P 500 over the following year after these sentiment levels were reached has been 25%, with a maximum of 44% and a minimum of 14%[12].

While prior troughs in both investor and consumers sentiment have rewarded intrepid investors, we need to consider whether it was other, coincident factors that drove the subsequent returns before we decide on the usefulness of these signals. We need to know, relative to now, if it was cheap valuations or loose fed policy rather than sentiment troughs that drove the forward returns.

Count	Inv. Sentiment Trough	Next 12 Month Return	Avg. SPX P/E At Trough	Fed Loose Over NTM?
1	Aug-Oct '88	28%	12.9x	No
2	Dec-Jan '89	24%	12.3x	Yes
3	Apr '89	10%	12.7x	Yes
4	Mar '90	10%	14.3x	Yes
5	Sept-Jan '91	23%	14.4x	Yes
6	Sept-Oct '92	12%	25.1x	Yes
7	May-Aug '93	2%	23.8x	No
8	Jan-Feb '16	22%	17.6x	No
9	June '16	16%	19.6x	No
10	Aug '20	33%	25.9x	Yes
	Average	18%	17.9x	
	Median	19%	16.0x	
	Minimum	2%	12.3x	
	Maximum	33%	25.9x	
9	June '22	?	19.4x	No

Count	Cons. Sentiment Trough	Next 12 Month Return	Avg. SPX P/E At Trough	Fed Loose Over NTM?
1	Feb '75	22%	9.7x	Yes
2	May '80	20%	7.5x	No
3	Oct '90	29%	14.0x	Yes
4	Mar '03	33%	18.5x	Yes
5	Oct '05	14%	16.7x	No
6	Nov '08	22%	13.8x	Yes
7	Aug '11	15%	13.5x	Yes
8	Apr '20	44%	19.8x	Yes
	Average	25%	14.2x	
	Median	22%	13.9x	
	Minimum	14%	7.5x	
	Maximum	44%	19.8x	
	June '22	?	19.4x	No

Source: Bloomberg, PCIA Analysis

Looking first at price-to-trailing earnings (P/E) valuation (note we use trailing instead of forward estimates given data limitations), we see that relative to both the episodes of investor sentiment troughs (average P/E of 18x) and consumer sentiment troughs (average P/E of 14x), current P/E's are higher in the mid-19x area. On the surface at least, the higher starting point for equity valuations we suggest potentially lower forward one-year returns for investors that buy the present sentiment troughs. However, if we compare the prior sentiment troughs that had relatively low P/E's to those that had relatively high P/E's, this doesn't seem to have caused materially weaker forward returns in the higher P/E episodes; the results are reasonably similar. Similarly, if we consider whether or not Fed monetary policy was loosening over the year following a sentiment trough, this appears to have had only a minor impact on forward returns. While forward returns during episodes without the benefit of loosening Fed policy are marginally lower, they are still all positive and generally strongly so.

So, while not immune to other factors in our framework, it would certainly appear that the troughs in both investor and consumer sentiment give reason for optimism regarding the trajectory for equities over the next year.

12 Bloomberg, PCIA Analysis

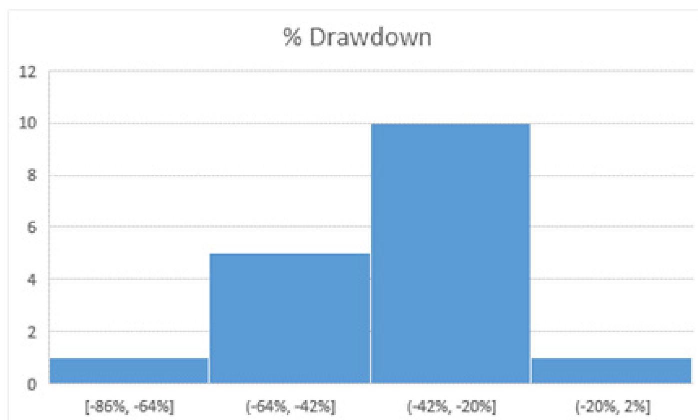
Historical Context

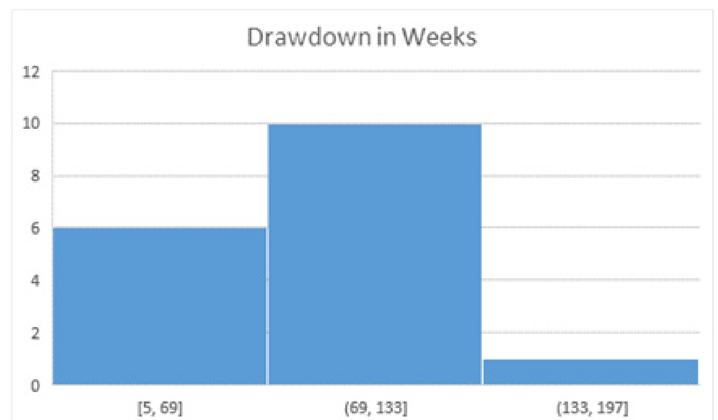
Since 1900, we could 17 instances in which US stocks declined by 20% or more from their prior peak[13]. It's informative to consider to depth and duration of these prior bear markets to provide context for the current bear market.

Count	Index	Local Old High	Local Low	New High	% Drawdown	Drawdown Weeks	Recovery Weeks
1	DJIA	4/28/1899	9/28/1900	6/21/1901	-30%	74	38
2	DJIA	6/21/1901	11/13/1903	3/24/1905	-44%	125	71
3	DJIA	1/12/1906	11/15/1907	9/29/1916	-37%	96	463
4	DJIA	11/17/1916	11/9/1917	7/4/1919	-37%	51	86
5	DJIA	10/31/1919	8/19/1921	1/2/1925	-45%	94	176
6	DJIA	8/30/1929	3/3/1933	11/26/1954	-86%	183	1134
7	SPX	8/3/1956	12/20/1957	9/26/1958	-20%	72	40
8	SPX	12/8/1961	6/22/1962	8/30/1963	-27%	28	62
9	SPX	2/1/1966	10/7/1966	4/28/1967	-22%	35	29
10	SPX	11/29/1968	5/22/1970	4/7/1972	-33%	77	98
11	SPX	1/5/1973	12/6/1974	7/18/1980	-46%	100	293
12	SPX	11/28/1980	8/13/1982	11/5/1982	-26%	89	12
13	SPX	8/21/1987	12/4/1987	7/28/1989	-33%	15	86
14	SPX	7/13/1990	10/12/1990	2/15/1991	-18%	13	18
15	SPX	3/24/2000	10/4/2002	6/1/2007	-48%	132	243
16	SPX	10/5/2007	3/6/2009	3/15/2013	-56%	74	210
17	SPX	2/14/2020	3/20/2020	11/13/2020	-32%	5	34
				Average	-38%	74	182
				Median	-33%	74	86
				Minimum	-86%	5	12
				Maximum	-18%	183	1134
18	SPX	12/31/2021	6/17/2022	?	-23%	24	?

Source: Bloomberg, PCIA Analysis

First, let's consider depth, or the total % by which US stocks have previously declined from peak to trough once they have fallen 20%. The average drawdown was -38%, the median drawdown was -33%, the minimum drawdown was -18%, and the maximum was -86%. In histogram terms, there have been ten drawdowns of -20 to -42%, five of -42 to -64%, one of greater than 64%, and one of less than 20%. Thus, for the current drawdown of 23% to be completed, it would have to rank it would have to rank as the 4th most mild out of 18 total bear markets since 1900.





Source: Bloomberg, PCIA Analysis

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Third, let's consider what performance looks like in the subsequent year after the market first falls -20%. The point here is to see if buying the market whenever it has fallen -20% from peak would produce better than average returns. Across 17 episodes, the average return over the next one, two, three, and four quarters is worse the long-term average return for these for these periods. Median returns look better than average for one and four quarters forward, but median returns look worse than average for two and three quarters forward. While this evidence doesn't necessarily make a great case for this strategy over a one year or less time frame, buying into the market on 20% draw downs would intuitively benefit long-term returns given the lower average point of entry.

So, what does this analysis tell us? First, there isn't a huge sample size of greater than 20% drawdowns over the past 100 years, so we should consider them as relatively rare opportunities to buy the market at a discount for the benefit of long-term performance. Second, there is a wide range of depth and duration of prior drawdowns, so it's wise to consider this range of outcomes when drawing conclusions. Third, drawdowns usually go a bit deeper than what we have experienced over the past six months, but not by much. Fourth, drawdowns usually take a bit longer to bottom than what we have experienced over the past six months, so any opportunistic 'dip' buying done at this stage should be undertaken with a firm understanding that the lows may not yet be in and a quick recovering is unlikely.

Valuations

At this point, we have covered the fundamental factors, reviewed a couple of reasonably predictive sentiment signals, and considered the depth and duration of prior bear markets, but we have not yet assessed the question of value. Obviously, the prices of risk assets are broadly and – in many cases – significantly lower year to date, but are they 'cheap' by historical standards? As a starting point to attempt an answer, we consider the forward P/E multiple on the S&P 500.

S&P 500 valuation measures

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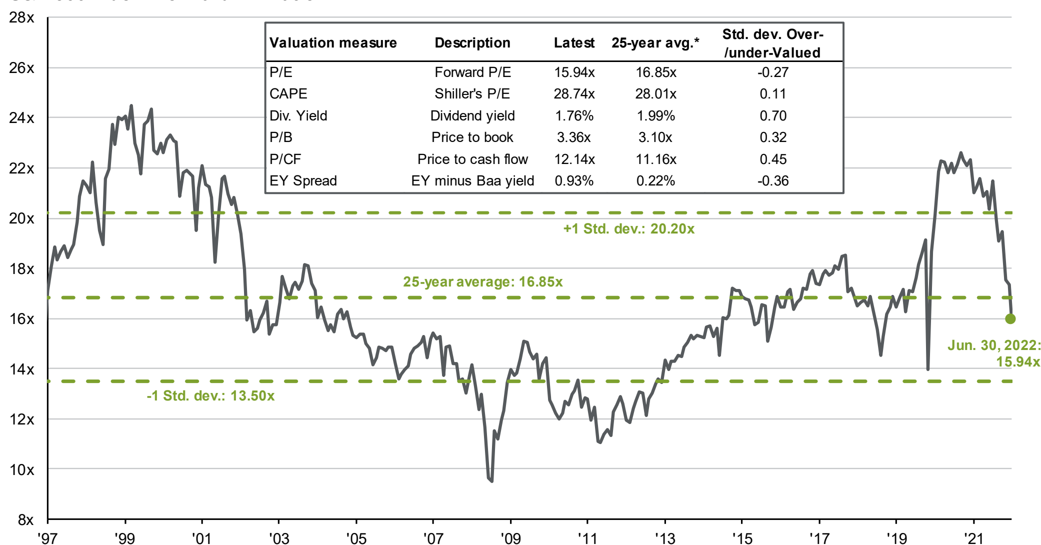
S&P 500 Index: Forward P/E ratio



Valuation measure	Description	Latest	25-year avg.*	Std. dev. Over-/under-Valued
P/E	Forward P/E	15.94x	16.85x	-0.27
CAPE	Shiller's P/E	28.74x	28.01x	0.11
Div. Yield	Dividend yield	1.76%	1.99%	0.70
P/B	Price to book	3.36x	3.10x	0.32
P/CF	Price to cash flow	12.14x	11.16x	0.45
EY Spread	EY minus Baa yield	0.93%	0.22%	-0.36

Source: FactSet, FRB, Refinitiv Datastream, Robert Shiller, Standard & Poor's, Thomson Reuters, J.P. Morgan Asset Management.
Price-to-earnings is price divided by consensus analyst estimates of earnings per share for the next 12 months as provided by IBES since June 1997 and by FactSet since January 2022. Current next 12-months consensus earnings estimates are $240. Average P/E and standard deviations are calculated using 25 years of history. Shiller's P/E uses trailing 10-years of inflation-adjusted earnings as reported by companies. Dividend yield is calculated as the next 12-months consensus dividend divided by most recent price. Price-to-book ratio is the price divided by book value per share. Price-to-cash flow is price divided by NTM cash flow. EY minus Baa yield is the forward earnings yield (consensus analyst estimates of EPS over the next 12 months divided by price) minus the Moody's Baa seasoned corporate bond yield. Std. dev. over-/under-valued is calculated using the average and standard deviation over 25 years for each measure. *P/CF is a 20-year average due to cash flow availability.
Guide to the Markets – U.S. Data are as of June 30, 2022.

J.P.Morgan
ASSET MANAGEMENT

Source: JP Morgan

The forward P/E multiple on the S&P 500 has fallen from 22.7x at year-end 2021 to 16.9x[14] at present (note that our multiple differs from the one above in the JP Morgan chart since these use a different source for earnings estimates, but their chart is still instructive). For context, from 2001 to present, the forward P/E on the S&P 500 has averaged 17.0x. While encouraging that this ratio is down 26% from recent highs, it has only fallen back in-line with its long-term average and does not appear substantially 'cheap' by historical standards, even while taking forward earnings estimates at face value. When we factor in our views that economic growth is slowing and forward earnings likely need to come down another 5-10%, the current forward P/E looks even less 'cheap', as this implies a potential forward P/E of around 18x. A few examples from the recent past illustrate this point.

- From 2000 to 2002, as the dotcom bubble was bursting, real GDP growth was slowing from 4% to 1%, and S&P 500[15] earnings expectations were falling 15-20%, the forward P/E decreased from 26x to 15x
- From 2008 to early 2009, as the great recession was playing out earnings expectations were falling, the forward P/E decreased from 15.4x to 10.6x[15]
- In 2011 and 2012, during the European sovereign debt crisis and when S&P 500 earnings growth was barely growing, the forward P/E decreased from 14x to 11.5x[15]
- When real GDP growth decelerated from 2.5-3.0% in 2015 to 1.5-2.0% in 2016 and earnings growth stalled, the forward P/E decreased from 18x to 15.5x[15]
- In Q4 of 2018, when the Powel Fed signaled a shift to tighter monetary policy, the forward P/E decreased from 18x to 15x[15]
- In early 2020, when Covid was beginning to cause a recession and earnings expectations were falling, the forward P/E multiple decreased from approximately 20x to 14.2x[15]

The main takeaway from this analysis is that while the forward P/E is indeed materially lower, it could fall further should economic growth slow and earnings expectations fall. The forward P/E trough in the cases above was 10.5-15.5x, with an average of 13.6x, which suggests -20% of potential additional multiple contraction from the current level of 16.9x.

Another metric we track is the equity-risk-premium (ERP), or the excess 'yield' an investor by owning the S&P 500 instead of the 10-year US Treasury (UST). The expected income for stocks is forward earnings (all net income, not just dividends), so the yield is earnings dividend by price, or E/P. The ERP is then E/P less the UST. At year-end 2021, with the forward P/E at 22.7x, the E/P yield was 4.4% while the UST at 1.5%, implying an ERP of 2.9%[16]. Now, with the forward P/E at 16.9x, the E/P is 5.9% (again, taking forward earnings at face value). However, the UST has nearly doubled since year-end to 2.9%, so the ERP is 3.0%, nearly the same as it was at year-end and again in-line with the long-term average ERP of 3.0%.

It is interesting (to us at least), that the ERP has not risen much at all year-to-date: the repricing in the S&P 500 has in effect been driven almost completely by the increase in the risk-free UST rate. One would think that with inflation high, the Fed raising rates, and the economic growth outlook getting more worrisome, investors would be demanding a higher ERP to compensate for the growing risks around earnings and the implied yield they will get for owning the S&P 500. Granted, stocks are nominal assets, whose earnings are a function of nominal GPD and should – over the long-term at least – grow at least as much as inflation and thereby offer an inflationary hedge.

The ERP for the S&P 500, while averaging 3.0%, has typically been higher in periods of Fed policy becoming less accommodative, economic growth slowing, or earnings expectations falling, all of which are at least directionally consistent with the environment we believe we are in. A few examples from the recent past illustrate this point.

- From 2000 to 2002, as the dotcom bubble was bursting, real GDP growth was slowing from 4% to 1%, and S&P 500 earnings expectations were falling 15-20%, the ERP increased from negative 2% to positive 2%: a 4% move higher.
- From 2008 to early 2009, as the great recession was playing out earnings expectations were falling, the ERP increased from approximately 3% to 5.5-6.0%: a 2.5-3% move higher.
- In 2011 and 2012, during the European sovereign debt crisis and when S&P 500 earnings growth was barely growing, the ERP increased from 4% to 5.5-6.0%: a 1.5-2% move higher.

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- When real GDP growth decelerated from 2.5-3.0% in 2015 to 1.5-2.0% in 2016 and earnings growth stalled, the ERP increased from 3.5% to 4-4.5%: a 0.5-1% move higher.[17]
- In Q4 of 2018, when the Powel Fed signaled a shift to tighter monetary policy, the ERP increased from approximately 2.5% to 4.0%: a 1.5% move higher.[17]
- In early 2020, when Covid was beginning to cause a recession and earnings expectations were falling, the ERP increased from approximately 3.5% to 6.0%: a 2.5% move higher.[17]

The main takeaway from this analysis is that with the ERP roughly unchanged over the past six months, these past episodes suggest it could widen by an additional 2% from 2.9% to 4.9% should economic growth slow and earnings expectations fall. Translating this back to a E/P assuming USTs at 3%, this suggests at E/P of 7.9% and a forward P/E of 12.7x. This would represent an additional -25% of potential additional multiple contraction from the current level of 16.9x, which is not dissimilar from the downside we estimated by looking at historical forward P/E troughs above.

So, what does this mean for the question of whether the S&P 500 is 'cheap'? Over the short-term, as economic growth slows and forward earnings estimates begin to reflect this reality, we would expect pressure on the S&P 500 forward P/E multiple because it doesn't appear historically cheap, especially relative to similar periods in the recent past. For long-term investors however, both the forward P/E multiple and the ERP metrics are in-line with historical averages, so we would call current valuations 'fair' rather than 'cheap'.

Conclusion

In conclusion, we review and aggregate these seven factors into our preferred investment positioning.

Inflation is at multi-decade highs, but not as entrenched as in the 70's/80's and will moderate soon as tighter monetary policy starts to bite. The Fed has aggressively raised interest rates and will continue to do so until they have strong evidence that inflation is declining. Falling inflation will be a welcomed relief to the market and we think the initial positive response to this will take place in the second half. Whether the Fed can get inflation back to it's low-2% target will take years to determine; a reasonable case can be made that this will require structurally higher interest rates to achieve. At present, we expect short-term rates to continue to rise into the mid-high 3% area and long-term interest rates to hold around 3%.

Higher interest rates have already started to impact economic activity. Growth is slowing to stall speed of 0-1% and could dip into negative territory, though probably only mildly so given the strength of the labor market. Corporate earnings growth forecasts of 10-15% appear moderately optimistic, even if a recession is avoided; in a recession earnings could fall 5-15%. Margins are better than they have ever been. While we expect a compression of margins, we don't think they will fall nearly as much as they did during the inflation and tightening cycle of the 80's. Nonetheless, capped if not modestly declining earnings forecasts will weight on markets and potentially temper the relief from falling inflation. Looking forward beyond the next year of adjustment, it's possible that structurally higher interest rates – should they be needed to keep structural inflation pressures at bay – could mean more moderate economic and earnings growth.

Troughing investor and consumer sentiment provide the best rationale for buying more aggressively into the weak markets. Forward P/E multiples are higher and Fed policy is less accommodative than during prior periods when this strategy worked, but the positive direction of the signal is clear. A review of prior bear markets suggests that the dip in stocks could go lower and take a lot longer. It also tells us that while buying every market that fell -20% wouldn't have necessarily driven outperformance over the following year, it certainly helps long-term performance by lowering your average purchase price.

A review of equity valuations adds further context. Forward P/E's have fallen materially, but from lofty starting levels and so are now back to being only 'fair' relative to historical averages. This entire contraction in forward P/E's can be explained by rates; investors are earnings the same excess yield to hold stocks now as they did last year, even though the growth and earnings outlooks are much cloudier. Should economic growth indeed slow and earnings estimates fall, the present forward P/E of 17x will look even less cheap, since prior market downturns saw forward P/E's trough roughly -20% lower.

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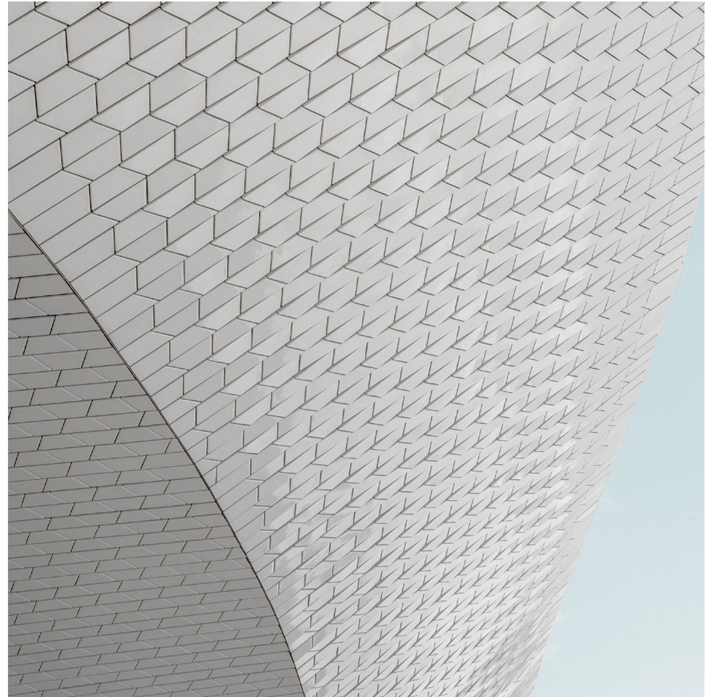
So where does this leave us? It leaves us opportunistically adding high-quality risk, but holding dry powder should this correction go deeper and take longer. Given the fundamental trajectory and valuations, it seems unlikely that the market has bottomed for this cycle. The best that can be said is that valuations offer a 'reasonable' entry point for the long-term investors. Since the overall equity market isn't 'cheap', growth is slowing, and earning expectations are likely to come down, we still favor higher-quality sectors and companies that trade a reasonable – and generally lower – valuations. We would become more constructive on higher-risk pockets of the market if either the fundamental trajectory gets more compelling or valuations move lower. Though outside the scope of the analysis in this letter, we would include riskier parts of the credit market and private equity in this 'higher-risk' category. Specifically, we think private equity assets will be remarked lower as net-asset-values get market-to-market over the coming quarters, potentially offering attractive entry points for investors underexposed to this asset class.



The short-term outlook may prove rather dim and volatility may remain elevated, but history suggests it is time for long-term investors to start thoughtfully buying high quality assets at reasonable valuations.

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