PMA® ASSET MANAGEMENT

Semi-Annual
MARKET OUTLOOK

SUMMER 2022

PMA 2022 Summer Outlook

While the market is increasingly attractive on an absolute and relative basis, it has been an extremely challenging performance environment so far this year. A confluence of negative economic, policy, geopolitical and pandemic risks has pushed bond and equity values materially lower given corresponding inflation increases. Following the Fed's decision to flip their monetary stance at their November 2021 meeting, interest rates have risen at the fastest pace in history, hurting global returns across virtually all asset classes. While interest rates have been the primary culprit in lowering asset values thus far in 2022, tight labor markets and ongoing supply chain problems, along with higher input costs, have weighed on projected economic growth and forward earnings projections. Despite the negative market environment and uncertain economic path, equity valuations have become significantly more attractive with valuation multiples on the S&P 500 and NASDAQ well below their long-term averages. Recent payment and bank data indicate consumer spending remains very strong and the tight labor market is inconsistent with the chance for a long, deep recession. Higher interest rates along with wider credit and mortgage spreads have pushed investment grade yields above 4%, which are increasingly attractive. Below investment-grade yields have widened substantially year-to-date, pushing high yield rates to 8.5%, an attractive entry point for investors regardless of the uncertainty. We take some comfort in the fact that corporate, bank and consumer balance sheets remain relatively strong heading into this market drawdown, which should help cushion the blow should economic growth experience a hard landing. While growth is expected to be much softer in the year ahead and corporate margins should compress, our base case estimate is for the economy to maintain slower growth and avoid a recession in the near term. If inflation pressures remain persistently high and the Fed is forced to tighten substantially further beyond current rate expectations priced into the market, the probability of a recession increases greatly. The move in rate just here in June makes that probability even higher than when we met in early June to put our forecast together. Overall, we expect returns to remain pressured in the quarters ahead across most asset classes as global central banks significantly tighten policy. However, we expect positive returns over the year ahead as more hawkish policy calms market fears, and eventually slows growth and inflation, providing a much-needed catalyst for markets to bottom and move ahead.

2017	2018	2019	2020	2021	2022 YTD
International Equities 27.4%	US Tbill 1.8%	S&P 500 31.5%	US All Cap Equity 21.0%	US Real Estate 43.1%	US Tbill 0.1%
S&P 500 21.8%	Securitized 1.0%	US All Cap Equity 30.8%	Russell 2000 20.0%	S&P 500 28.7%	TIPS (8.0%)
US All Cap Equity 21.2%	US Treasury 0.9%	US Real Estate 25.8%	S&P 500 18.4%	US All Cap Equity 25.7%	Securitized (10.8%)
Russell 2000 14.6%	Aggregate Bond 0.0%	Russell 2000 25.5%	International Equities 11.2%	Russell 2000 14.8%	US Treasury (11.0%)
High Yield Corps 7.5%	TIPS (1.3%)	International Equities 21.8%	TIPS 11.0%	International Equities 8.8%	Aggregate Bond (12.1%)
Investment Grade Corps 6.4%	High Yield Corps (2.1%)	Investment Grade Corps 14.5%	Investment Grade Corps 9.9%	TIPS 6.0%	High Yield Corps (12.8%)
US Real Estate 5.1%	Investment Grade Corps (2.5%)	High Yield Corps 14.3%	US Treasury 8.0%	High Yield Corps 5.3%	Investment Grade Corps (15.6%)
Aggregate Bond 3.5%	S&P 500 (4.4%)	Aggregate Bond 8.7%	Aggregate Bond 7.5%	US Tbill 0.0%	International Equities (17.1%)
TIPS 3.0%	US Real Estate (4.6%)	TIPS 8.4%	High Yield Corps 7.1%	Securitized (1.0%)	S&P 500 (20.8%)
Securitized 2.5%	US All Cap Equity (5.2%)	US Treasury 6.9%	Securitized 4.2%	Investment Grade Corps (1.0%)	US All Cap Equity (22.1%)
US Treasury 2.3%	Russell 2000 (11.0%)	Securitized 6.4%	US Tbill 0.5%	Aggregate Bond (1.5%)	Russell 2000 (23.2%)
US Tbill 0.8%	International Equities (14.6%)	US Tbill 2.2%	US Real Estate (7.6%)	US Treasury (2.3%)	US Real Estate (23.6%)

Figure 1. Sources: PMA Asset Management. Bloomberg.

Rate Sensitive Future

The increase in rates over the past several quarters, including the rate increase thus far in June, have been historic. While somewhat reminiscent of the rise in yields experienced nearly three decades ago during 1994, the circumstances, pace and impact of the current changes are quite unique. Interest rates moved 3% higher during that period as well. However, the starting point for yields during the current rate move was at or near 0%. The Fed's zero interest rate policies, like most other central bank policies around the world, provided zero cushion for asset values for the jump risk and, further, explicitly incentivized risk-taking. As a result, the impact on total returns has been much greater today than what investors experienced back in 1994. The U.S. investment grade bond market only lost -3% as measured by the Bloomberg Aggregate Index during that year compared to the -12% loss experienced year-to-date in 2022. Similarly in the stock market, with many higher beta sectors dependent on historically low discount rates to justify their valuations, equities have been particularly crushed. The S&P 500 index has lost over 20% year-to-date through mid-June while the S&P had positive returns of 1.3% during 1994. While we expect positive returns in the year ahead for both the bond and stock market, the path forward is expected to remain volatile with a wider range of potential outcomes given inflation uncertainty.

The 1994 rate increase proceeded in a relatively measured fashion while the current rate move has occurred much more rapidly since the Fed pivoted. While the changes in Fed policy were warranted in both situations, the circumstances surrounding the policy changes were quite different. The economy was strong during both periods averaging 3-4% real GDP growth. However, the current inflation challenges and tight labor conditions reflected in today's economy were not as significant in 1994. Inflation averaged 2.6% and the unemployment rate averaged 6.2% in 1994 compared to measures of 8.3% and 3.8% respectively today. In 1994, the economy was emerging from a large recession and Allan Greenspan surprised markets by suddenly and aggressively tightening monetary policy. The concept of "forward guidance" did not exist back in the good old days, so the move surprised many investors. The impact of the policy change and subsequent backup in rates eventually exposed investors to some significant credit events. Orange County, California entered bankruptcy after massive market losses due to exotic derivative investments. Even large, well-run private institutions were caught unprepared as Proctor & Gamble, Gibson Greetings and other corporations took massive losses on derivative holdings. Many mutual funds, pension plans and retail investors were burned with losses on collateralized mortgage obligations with large amounts of imbedded leverage. Ultimately, the swamp was drained, the alligators were dealt with, and market behavior improved, at least for a while. Fortunately, the current rate experience has not yet caused any similar credit events, which is somewhat disconcerting. While the collapse of Archegos, Greensill and Melvin was a surprise, the issues were unrelated to the Fed's pivot and more related to market excesses and meme stock volatility more generally. In this respect, the stock market reversal shares some features of the end of the tech stock bubble in 2000. Overall, the market correction has been orderly despite the significant market value loss. We believe this could change if financial conditions tighten significantly further.

Should rates continue their path materially higher from current levels, what unknown risks will emerge to the markets and economy more generally? Overall credit metrics are certainly healthy at this point in the cycle. Corporate earnings should remain positive and growing in the year ahead, albeit at a slower pace than the growth experienced over the past several years. Bank balance sheets and capital levels are in good shape as well. Consumers are also in good overall financial shape with a historically strong labor market, substantial wealth effects and a strong housing market. However, our research indicates absolute debt levels have grown at significantly higher compounded annualized growth rates (CAGR) than nominal U.S. GDP over every period measured since 1990 (Figure 2).

CAGR vs Nominal US GDP	Bonds	IG Credit	High Yield	US Treasuries	US Equities	Avg Coupon vs GDP
Since 1990	3%	4%	7%	3%	5%	0.8%
Since 2000	3%	4%	2%	5%	1%	0.0%
Since 2010	2%	5%	2%	6%	5%	-1.4%
Since 2020	5%	5%	6%	5%	15%	-3.3%

Figure 2. Outstanding Debt Rising Faster than Nominal GDP on a Consistent Basis. Sources: PMA Asset Management. Bloomberg.

Larger debt balances have occurred across U.S. Treasury and credit markets. More aggressive capital structures have seen a corresponding general decline in credit quality during this period and U.S. equity values have commensurately benefited. Total U.S. Equity market capitalization has grown at a 5% higher compounded annual growth rate than nominal GDP since 1990. While the relative growth appears small on an annualized basis, the compounding effect of the growth tells a much different story. As an example, the U.S. bond market value as measured by the Bloomberg Aggregate Index is nearly 9 times larger than its comparative size in 1990, whereas U.S. nominal GDP is 3.1 times larger than 1990 levels. Higher absolute levels of debt have been afforded largely through much lower borrowing costs during this period. If we look at the average coupon at different points in time versus corresponding GDP levels over the past three decades, borrowing costs have declined materially versus comparable economic growth levels. Lower interest costs have muted the impact of higher absolute debt levels, which has been a tailwind for the economy. Debt service coverage levels are strong and with large cash balances on many corporate balance sheets, net leverage has also improved in recent years. However, significantly higher interest rates, the potential for higher borrowing costs (i.e., wider spreads), and ongoing high debt levels may prove problematic if inflation expectations get imbedded into the economy and the Fed needs to tighten further for longer. While the debt maturity wall is well-laddered out the calendar, refinancing the debt load at materially higher rates over the coming years will be a drag on growth and investment.

As we know through decades of experience, credit markets tend to lead these corrections historically. It is not clear to our team what that "something" might be in credit markets at present, but higher interest rates and wider spreads are a potential catalyst. Perhaps the answer lies somewhere in darker, less-transparent pools of capital. Investor flows have been pouring into leveraged loans, levered credit (CDO's are back), private equity, mezzanine debt, hedge funds and private real estate structures materially over the past decade. The need for higher, uncorrelated returns with limited interest rate risk belies the fact that investors are taking on potentially significant and unknown risks when credit conditions deteriorate. Time will tell how the credit cycle evolves over the next several years, but we are increasingly concerned the Fed might need to tighten beyond levels needed for a soft landing and a typical mid-cycle slowdown.

Slower Growth Ahead

While economic growth has been strong over the past year, we forecast the global and U.S. economy will slowdown in the year ahead but remain positive with GDP moderating significantly. We are not expecting a recession in the year ahead, but economic growth is going to be negatively impacted by several headwinds, and the risk of a recession has clearly increased. Supply chains are easing somewhat but the picture is decidedly mixed. Spot container rates are down 20% year-to-date and journey and dwell times have generally improved. We expect the China slowdown in demand and supply chain spillover effects to dampen global demand. We would expect consumer demand for goods and services to decline somewhat as persistent inflation continues to erode purchasing power. Tighter monetary policy, quantitative tightening as the Fed reduces the size of its balance sheet and the reversal of fiscal stimulus increases the probability of a market accident. At the same time, COVID pandemic risks remain a wild card for the global economy. Geopolitical risks remain at extreme levels as the war in Ukraine and tenuous relations between China and the U.S. will likely continue. Uncertain scenarios and potential negative outcomes are still very high versus normal credit and business cycle concerns the markets face. Inflation is certainly the clear and present challenge for the global economy and the capital markets more generally. If the Fed is not able to tame inflation toward its longer-term 2% target, and the economy remains resilient, the Fed will be forced to continue to tighten policy until something breaks. Higher wages and input costs are going to move through prices ultimately, but it will take time and will continue to keep inflation pressures relatively high over the next year. The labor market is extremely tight and wage inflation pressures are just beginning (Figure 3).

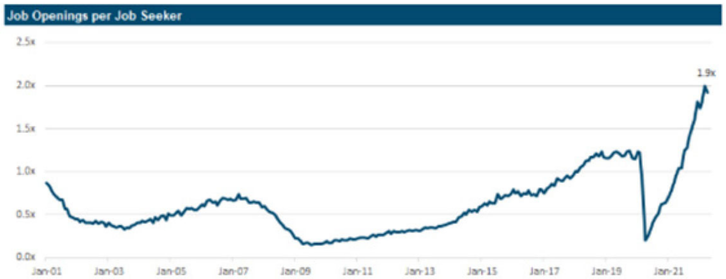

Figure 3. Sources: CreditSights, BLS, JOLTS Actively Unemployed.

We hear the message from board rooms, CEOs and organizational leaders about the consistent labor pressures they currently face. While the Fed can ultimately impact aggregate demand, importantly some market and economic forces impacting inflation today are beyond their immediate control. If rates move materially higher, real estate market values will be significantly pressured as affordability is already at historic lows (Figure 4).

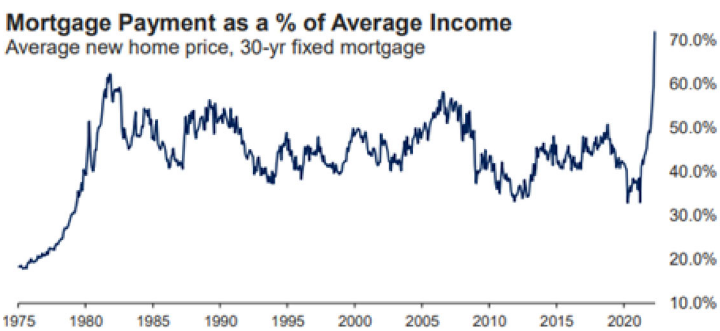

Figure 4. Sources: Census Bureau, Bureau of Eonomic Analysis, and Mortgage Bankers Association.

This is already happening to some degree in the data we review. The housing market is slowing dramatically. Strong housing is a pillar of the U.S. economy which reflects a large percentage of most citizens wealth. With current mortgage rates hovering near 6% after the most recent rate sell-off, we would expect flat housing pricing, at best, in the near term. If mortgage rates move 100-200 bps higher, prices will move significantly lower in our view, providing another headwind for the economy and markets. Higher rates will impact the commercial market as well and refinancing upcoming balloon dates will become more difficult in this environment. Equity prices and credit spreads would come under increasing pressure and idiosyncratic risks around certain sectors and issuers will arise. We question whether capital structures could handle this scenario without significant repercussions, resulting in a much harder economic landing and the potential for a prolonged recession. While it is not our base case expectation, stagflation risks are the highest in decades, so we need to avail ourselves of the possibility and prepare accordingly. However, as we have discussed, the financial system, balance sheets, credit metrics and labor markets are quite strong at this point in the cycle. As prudent active risk managers, it is particularly important in these times to remain focused on risk management to avoid the biggest losers, limit downside risks and protect principal. As always, asset allocation, security selection, diversification, liquidity, and quality considerations will be key to protecting and growing your capital in the year ahead.

Fixed Income Outlook

We have an increasingly positive outlook on the fixed income market, given more attractive valuation levels on rates and spreads despite the challenging environment. Expected returns are higher than at any point over the past several years. As we know, income wins over time and, like our approach in the equity market, we prefer to stay higher quality at this point in the credit cycle. Liquidity considerations are crucial to remaining nimble should valuations come under further pressure in the quarters ahead. While U.S. Treasuries have generally solidified around multiple hikes in the coming year, the terminal Fed Funds rate priced into the market is approaching 4% in early 2023. The stress in the market is increasing at a rapid pace as financial conditions worsen. While real yields have risen to modestly positive levels, financial repression continues given current inflation rates exceed nominal Treasury yields. We prefer high-quality, liquid sectors including agency pass-throughs whose spreads have widened significantly with the back up in rates. While the Fed has indicated a likelihood of future SOMA sales of MBS commencing in the 1H23, higher rates will reduce forward production keeping supply and demand relatively balanced in our view. With premium risks largely evaporated and spreads materially wider, we believe the Agency CMBS market is among the more attractive sectors in the fixed income market. Similarly, spreads have widened materially in high-quality, established areas of the asset backed markets and we view this sector as attractive as we have seen in the past decade. We subscribe to the higher they fly the further they fall theory. As a result, we are avoiding the used car market and securitizations that may have large concentrations of used autos. Within the credit markets, valuations have become attractive if we can avoid a deep recession. Stable fundamentals exist, but we fear rising idiosyncratic risks in the years ahead. Negative technicals on supply and outflows may also prove a headwind for credit markets. That said, carry is attractive on a historical basis although the potential for tighter spreads is likely challenged in the near term in our view. We prefer to overweight banks, communication services, health care, pharmaceuticals, utilities and higher cap tech companies as defensive ways to position for the market environment. While credit fundamentals are stable for municipal bonds, the liquidity in this market remains underwhelming. We remain cautious with smaller and/or weaker healthcare and education entities, senior living facilities, convention centers and parking facilities.

	Index	Current	Chg from 11/1	1Y Avg	1Y min	● 06/10/22 ▲ 11/01/21 ■ 3M range	1Y max	Z-score
Sovereign Par Rates (%)	US 3M T-Bill	1.30	1.26	0.27	0.01		1.30	3.0
	2Y US Treasury	3.06	2.56	1.06	0.15		3.06	2.2
	2Y Germany	0.97	1.58	-0.45	-0.78		0.97	3.6
	2Y JGB	-0.08	0.02	-0.08	-0.14		-0.01	0.2
	10Y US Treasury	3.16	1.60	1.83	1.17		3.16	2.3
	10Y Germany	1.52	1.62	0.06	-0.50		1.52	2.9
	10Y JGB	0.25	0.16	0.12	0.01		0.25	1.6
Bloomberg Barclays Corporate OAS	US Agg Credit Avg OAS	1.26	0.43	0.97	0.77		1.38	1.6
	Aaa Corporate Avg OAS	0.66	0.13	0.58	0.43		0.87	0.8
	Aa Corporate Avg OAS	0.78	0.23	0.63	0.47		0.93	1.3
	A Corporate Avg OAS	1.11	0.41	0.84	0.63		1.24	1.5
	Baa Corporate Avg OAS	1.67	0.58	1.27	1.03		1.81	1.8
	US Corporate High Yield Avg OAS	4.38	1.52	3.24	2.62		4.82	2.2
Other Bond Indexes	US Agency Fixed Rate MBS Avg OAS	0.40	0.19	0.31	0.18		0.48	1.6
	US Agg ABS Avg OAS	0.77	0.40	0.41	0.22		0.81	2.1
	US Agg Corporate Avg OAS	1.36	0.48	1.03	0.80		1.49	1.7
	Global Aggregate Avg OAS	0.51	0.17	0.39	0.32		0.52	2.1
	EM USD Aggregate Avg OAS	3.48	0.43	3.11	2.64		4.21	1.2

Figure 5. Sources: PMA Asset Management. Bloomberg.

Equity Outlook

We recommend moving to a slightly overweight U.S. equity position at present based on attractive valuations and our expectation for continued positive earnings growth for the upcoming year. Inflation, logistics and labor challenges will certainly complicate management's ability to smoothly navigate margins, although higher input and labor costs will ultimately be pushed into product and service pricing in time and margins will normalize. On a positive note, we are seeing elevated levels of insider buying and share buy backs for certain companies as management teams feel confident in their company's future performance potential. Stock selection, as always, is critical at present and there are increasing opportunities to purchase very high-quality companies with attractive valuations given the large drawdowns over the past several months. Within U.S. equities, we continue to favor large-capitalization value companies as stronger balance sheets and healthier free cash flow levels will help them absorb higher costs and navigate supply chain issues on the margin. Our value tilt also comes with a dividend focus, which has and will continue to provide downside protection to our clients. Increasing costs of capital with higher interest rates will make it difficult for smaller capitalized companies to keep pace. Free cash flow and assets are always critically important in our process, especially so in the current environment. With the expectation of higher rates and continued inflationary pressures, certain growth sectors will struggle as there is still room for IT/Software multiples to decline due to the lack of free cash flow. We remain slightly underweight to foreign-developed and emerging markets equities. While international equities tend to be more value dominated, which we like, exposure to the evolving nature of the Russia/Ukraine crisis is a bigger headwind in Europe than in the rest of the World. As a manager who focuses on quality considerations, companies in foreign developed markets tend to be lower quality than their U.S. counterparts, which is not favorable given the wealth of opportunities currently in the U.S. equity markets. We also think that there is more work for foreign central banks to do versus the U.S. market as they are behind on the inflation front and corresponding monetary policies. Commodity prices are supportive of emerging market equities, but U.S. dollar strength is likely to remain a headwind. China regulatory issues, growth concerns and COVID zero policies have been a red flag for our team, which could cause sizable volatility both ways. We continue to avoid China exposure entirely in our active strategies.

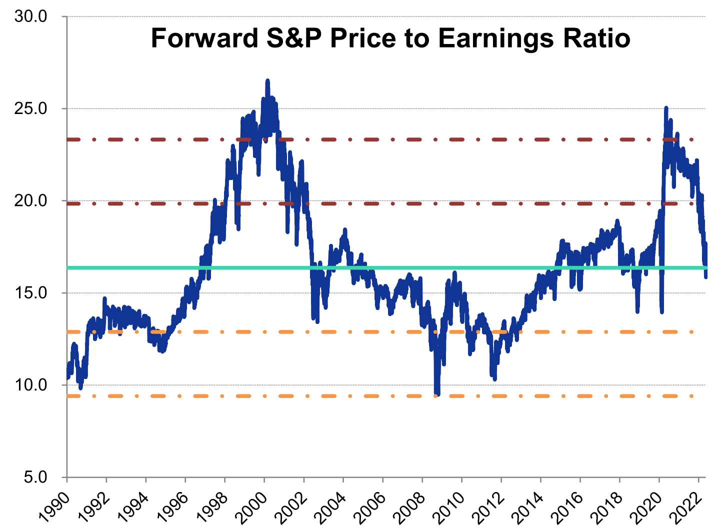

Figure 6. Sources: PMA Asset Management. Bloomberg.

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