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Is there a better alternative?

Mechanically, high-yield bonds have the same features as other types of bonds. They have a scheduled maintenance payment, a principal repayment at a specified maturity date, and in some but not all cases, maintain priority over other obligations in the capital structure. While the maintenance payment (or coupon) is typically fixed, the value of the bond is determined by the market's assessment of the probability of repayment.

Since its inception in the late 1980's, the high yield asset class has offered investors the ability to provide a "mezzanine" type of risk/return profile – one that exists between high grade bonds and equities. High-yield bonds indeed share the same contractual features as investment grade bonds, but from a practical perspective, share much of the equity downside. The temptation for investing in high-yield bonds and the relentless search for income is understandable, however the path is risky, and high-yield returns tend to suffer during times of economic turbulence.

As an alternative, harvesting risk premium embedded in S&P 500 Index options is a more stable and consistent source of returns for investors. We layout below why this is a better mezzanine asset class.

1. Performance Metrics

High yield was an attractive asset class in the 1980's and the 1990's when real interest rates were very high. The benefits of investing in this asset class have diminished substantially over time, particularly in the recent decade. This is due to the market becoming more efficient and the structural decline in interest rates. Moreover, the asset class has become overcrowded as investors chase higher yields. With the risk of default in the junk bond sector slowly trending up, we believe investors should be compensated with higher spreads. The table below shows the four most recent decades of high-yield annualized returns and volatility – returns decline and volatility increases.

	1983-1993		1993-2003		2003-2013		2013-present	
	Annualized Return	Standard Deviation	Annualized Return	Standard Deviation	Annualized Return	Standard Deviation	Annualized Return	Standard Deviation
S&P 500 Index	12.83%	15.51%	10.05%	15.66%	7.57%	14.63%	12.85%	14.46%
High-yield Index	12.89%	7.70%	6.67%	7.34%	8.86%	10.40%	4.41%	7.46%
	Information Ratio	Sortino Ratio	Information Ratio	Sortino Ratio	Information Ratio	Sortino Ratio	Information Ratio	Sortino Ratio
S&P 500 Index	0.83	1.03	0.64	0.97	0.52	0.64	0.69	0.94
High-yield Index	1.67	1.97	0.91	1.04	0.85	0.82	0.52	0.51

Exhibit 1. High Yield Performance (Annualized Returns (%) and Annualized Volatility (%)) in comparison with SPTR Index since 1990 to 7/2022. Data as of 7/31/2022. Source: Bloomberg

In addition, US high-yield index returns have low correlation to the investment-grade bonds (0.28) and a negative correlation to US Treasuries (-0.18). Conversely, US high-yield index is more closely correlated to the S&P 500 (0.73) and the Russell 2000 (0.72).

2005-2022	High-yield	Aggregate Fixed Income	HFRX Credit Index	3-month UST	10-year UST	Large Cap Equity	Small Cap Equity
High-yield	1.00						
Agg. Fixed Income	0.28	1.00					
HFRX Credit Index	0.82	0.15	1.00				
3-month UST	-0.11	0.09	0.04	1.00			
10-year UST	-0.18	0.86	-0.28	0.10	1.00		
Large Cap Equity	0.73	0.09	0.66	-0.09	-0.26	1.00	
Small Cap Equity	0.72	0.01	0.65	-0.09	-0.32	0.90	1.00

Exhibit 2. High-yield bonds correlation to other bonds and equities. Data for the period 01 Jan 2005 – 31 July 2022. Correlation matrix reflects the following indexes: Bloomberg U.S. Corporate High-yield Bond Index (LF98TRUU), Bloomberg US Aggregate Fixed Income Index, HFRX: Credit Index, ICE BofA US 3-month Treasury Bill Index, ICE BofA 10-year US Treasury Index, S&P 500 Total Return Index, Russell 2000 Index. Source: Bloomberg, Passaic Partners, LLC

2. Liquidity

Slippage, which is the cost to enter or exit a position, can severely impact the profitability of a position. It is not uncommon for a security, even a relatively liquid one, to experience price moves over 1% upon entry. This is particularly impactful to low-yielding securities with capped upside. Liquidity

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risk of high-yield bonds fluctuate with the markets. We find that during periods of market stress, high-yield bonds tend to become more illiquid and, in some cases, impaired. The smaller the issue, the more difficult it is to enter and exit, with all this increasing the slippage cost.

The Fed's plan to tighten monetary policy and tighter regulation discouraging broker-dealers from taking risk, has led to less liquidity in the U.S. stock market and exacerbated daily moves.

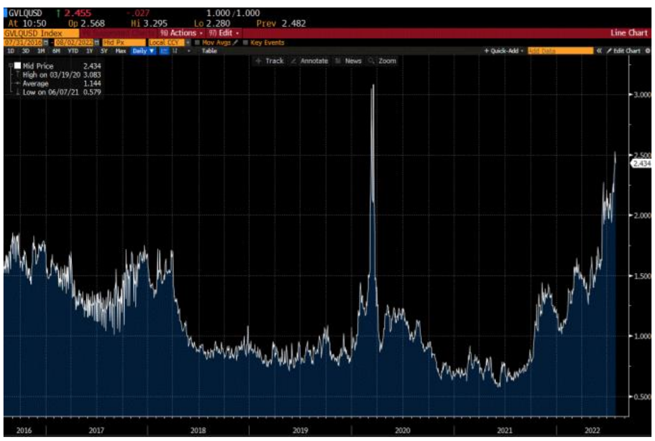

Exhibit 3: US Government Securities Liquidity Index. Source: Bloomberg. A rising index level means liquidity is declining. Data for the period 2016-2022.

The U.S. Treasury securities market is also experiencing a severe reduction in liquidity. Changes in market structure and declining liquidity across global markets is impacting the ability to trade efficiently.

3. High-yield bond performance during stressed market conditions

The current macroeconomic picture is challenging for investors. As recession talk heats up in the U.S., high-yield bonds are more scrutinized. While the yield looks appealing, there is a greater risk that a high-yield company may be unable to make a periodic interest payment. Also, the yield on the bond might not necessarily provide an accurate or fair reflection of the risk.

Drawdown Period	S&P 500 Index (Total Return)	Bloomberg US Corp HY Index (Total Return)	Correlation Coefficient (during drawdown period)
October 1983 - May 1984	-9.51%	-2.39%	0.47
August 1987 – November 1987	-29.22%	-6.42%	0.22
June 1990 – October 1990	-15.33%	-13.13%	0.63
June 1998 – August 1998	-15.52%	-5.52%	0.75
August 2000 – September 2002	-41.30%	-8.03%	0.56
October 2007 – February 2009	-50.17%	-25.14%	0.72
September 2018 – December 2018	-14.42%	-4.65%	0.92
January 2020 – March 2020	-20.62%	-12.87%	1.00
December 2021 – present (July 2022)	-21.25%	-14.95%	0.75

Exhibit 4. S&P 500 drawdowns over time and High Yield Performance and correlation. Data as of 7/31/2022. Source: Bloomberg

The above table shows the correlation between S&P 500 and high-yield bond performance during major S&P 500 drawdown periods. Default risk is greatest in the high-yield market during pre-recession and recessionary periods. The lower rated high-yield bonds are usually the closest to default and the most likely to underperform leading up to a recession.

4. Would you rather be short puts on Apple and Microsoft or long low-quality high-yield bonds on Carvana and Coinbase?

In the aftermath of the GFC, the credit quality of companies in the S&P 500 Index changed substantially. Today, these companies have relatively strong balance sheets, low debt, high cash balances, and far less exposure to the economic cycle. This dynamic has become even more relevant with the rise of big tech companies as the pillar of the S&P 500 Index. In contrast, companies that make up high-yield indices are more cyclical in nature with far more business risk than those of the S&P. This makes investing in high-yield bonds more akin to investing in risky, high-dividend-paying equities. Outperformance of high-quality dividend paying stocks in the S&P 500 Index continues to be an enduring theme.

The below chart shows Net Debt/EBITDA for the SPX since 1990. We can see that current levels are far below the long-term average and still lower than the lows in the pre-GFC crisis.

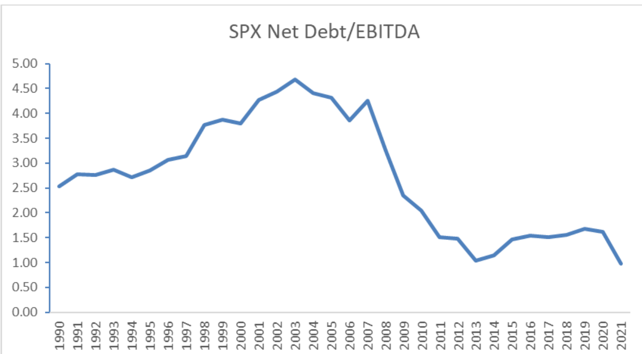

Exhibit 5: SPX Net Debt/EBITDA. Data for the period 1990 to 2021. Source: Bloomberg, Passaic Partners, LLC.

5. Option Risk Premium

As an alternative to high-yield, we suggest harvesting option risk premiums. In its simplest form, simultaneous selling of calls and puts on liquid index options. This strategy will add gross income and enhance risk-adjusted returns with the long-term aspirational goal of creating higher “stock-like” returns with lower “bond-like” volatility.

The primary source of income is the spread between options implied volatility and the subsequent realized (historical volatility). An investor (hedger) purchasing a S&P 500 put option is transferring equity market risk to the seller of the put option. Subsequently, the risk taker (seller of the put option) expects to be compensated via a positive expected return of the market – the option risk premium (equity volatility risk premium) – which is implied in the underlying put option.

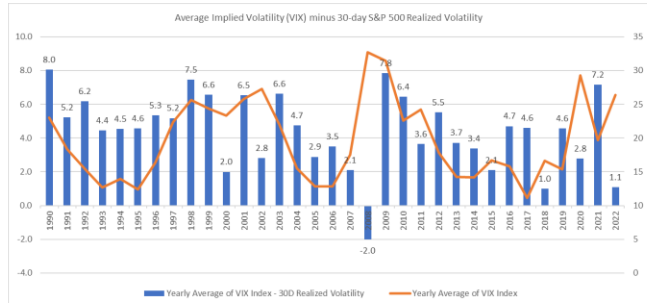

Exhibit 6: S&P 500 Average Implied Volatility (VIX) minus 30-day S&P 500 subsequent Realized Volatility. Data for the period 01 Jan 1990 to July 31, 2022. Option Risk Premium is calculated as the VIX Index minus the subsequent realized volatility. Source: Bloomberg, Passaic Partners, LLC.

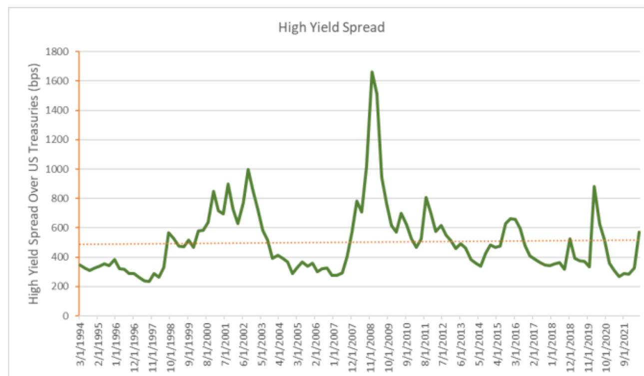

Exhibit 7: High Yield Spread over Treasuries over time. Data for the period 01 Jan 1994 to July 31, 2022. Source: Bloomberg.

Option risk premium has the following features:

- Produces low volatility alpha which is much more consistent and uncorrelated to stock or bond alpha
- Since 1995, S&P 500 Index implied volatility trades 4% higher than the subsequent realized volatility on average
- Since 1995, S&P 500 Index option risk premium produces positive monthly results 86% of the time
- S&P 500 options market is one of the largest and most liquid option markets in the world
- S&P 500 options have limited counterparty risk, continuously traded on the CBOE exchange, and cleared via the Options Clearing Corporation

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6. Passaic Partners' Risk Premium Equity Strategy

Passaic Partners U.S. Ironbound risk premium equity strategy presents a rules-based approach to exploit the spread between implied volatility and subsequent realized volatility. Passaic's Ironbound strategies employ a rules-based approach to reduce the likelihood of major drawdowns, specifically negative tail risks, and are therefore favorable to passive risk-premium equity strategies.

Passaic Partners risk-premium equity strategy portfolio construction involves:

1. GROWTH:
   long 50% of mandate notional in appropriate beta (cheapest to deliver) like S&P 500 Index
2. YIELD
   long 50% of mandate notional in liquid bills (T-Bills)
3. RISK PREMIUM
   short 50% notional in a series of puts (collateralized against bills) and calls (collateralized against specific market betas like the S&P 500 Index)

The strategy seeks to generate returns by exploiting the natural decay of option risk premium. The Passaic Ironbound strategies do not add leverage or gearing ratios.

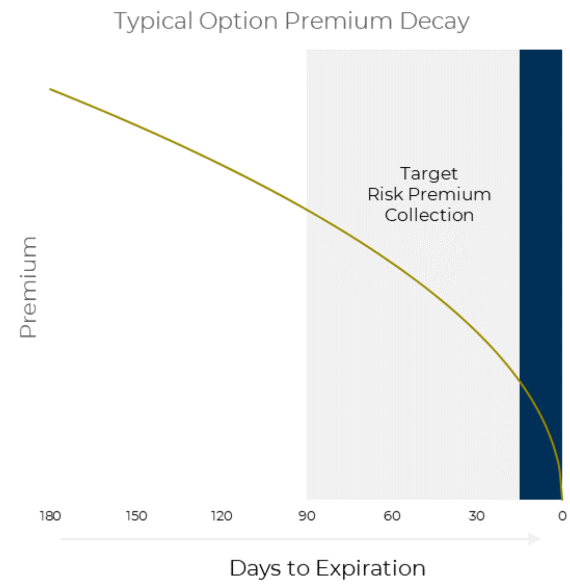

Exhibit 8: Typical Option Risk Premium Decay. Source: Passaic Partners, LLC.

Option sellers benefit from the increasing rate of time decay of premium as expiration approaches assuming no change in market dynamics. Options become more sensitive to directional risk as they approach expiration. Covering out-of-the-money options early presents a better risk-adjusted return profile. The strategy seeks to sell options ~1-2 'months' from expiration and typically close the positions ~1-2 'weeks' from expiration. This active risk control approach within the RPE strategy has enhanced performance relative to a passive approach. The strategy seeks to be a hybrid between the equity world and fixed-income with better risk characteristics and value add than risky, illiquid, underperforming non-diversifying high-yield bonds.

11/2016 - 7/2022	Annualized Returns	Standard Deviation	Information Ratio
U.S. Ironbound	7.96%	9.20%	0.87
Agg. Fixed Income Index	1.18%	4.02%	0.29
High-yield Index	3.96%	8.15%	0.49
HFRX Credit Index	1.56%	5.24%	0.30
50% S&P 500 and 50% T-Bills	7.82%	8.04%	0.97

The composition and volatility of the indices referenced herein are materially different from that of the U.S. Ironbound strategy (the "Strategy"). There is no guarantee that the Strategy's performance will meet or exceed any index. Any benchmark or index performance is provided for purposes of comparison and does not reflect the deduction of fees, brokerage commissions, taxes, or other expenses of investing.

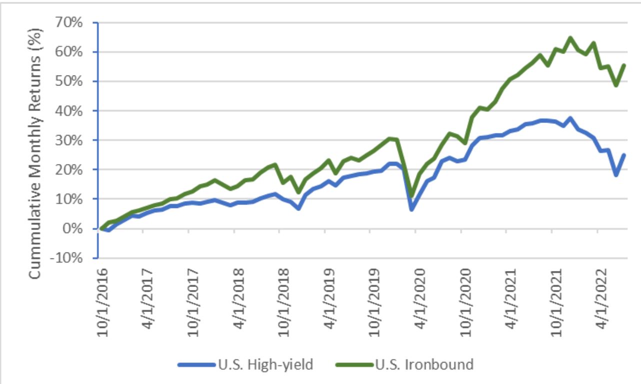

Exhibit 9: Passaic Partners U.S. Ironbound Ranked and historical Performance. Performance data reflect the following indexes: Bloomberg US Aggregate Fixed Income Index, Bloomberg US Corporate High-yield Index, HFRX: Credit Index, S&P 500 Total Return Index, and ICE BofA US 3-month Treasury Bill Index. Source: eVestment 11/2016 through July 31, 2022, Bloomberg, Passaic Partners, LLC.

Conclusion

While Treasury Bonds and Investment Grade bonds serve an important role in portfolio diversification, high-yield bonds have become a proxy for equities. If one were to conduct a Blind Taste Test of asset classes using only monthly returns and volatility, high-yield bonds look a lot like equity investments. Add-in variables like illiquidity, underlying credit quality, a history of Fed bailouts, and increasingly higher rates and the asset class would likely be dismissed. Even smaller "idiosyncratic" opportunities, touted by the hedge fund community, are illiquid and incur massive slippage cost entering and exiting positions.

As an alternative to high-yield bond indices and hedge funds trading high-yield bonds, we propose a risk premium equity strategy as a better alternative. Passaic Partners' Ironbound strategies are liquid, repeatable returns, and maintain exposure to higher quality companies. Most importantly, these strategies have produced better outright and risk-adjusted returns than high-yield indices and credit hedge funds and are better suited to perform in the go-forward environment.

Passaic Partners offer a U.S. and Global version of their risk premium equity strategy.

Ashwin Karanth, Head of Risk Management
Josh Silva, Chief Investment Officer

For more information about Passaic Partners, please contact info@passaicpartners.com.

END NOTES:

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