WEALTHSHIELD

WEALTHSHIELD WHITE PAPER SERIES
THE INVESTMENT FRAMEWORK

MARKET SENTIMENT

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INTRODUCTION: PROCESS OVER OUTCOME

Process over outcome. This, in our opinion, is the ultimate motto for successful investing. Unfortunately, most investors fall victim to outcome bias and fail to follow a disciplined, rules-based process for making decisions. Outcome bias leads investors to overemphasize the outcome of an investment without thinking critically about what led to that outcome. Therefore, we believe there is an advantage to following a disciplined process. The investment process must have sound academic underpinnings, be tested for robustness and historical efficacy, and be evaluated in the real world. The investor must also remain disciplined to follow the process during times when it doesn't work. In any investment approach, following the rules will sometimes result in an undesirable outcome. These negative outcomes are unavoidable and part of the game. What an investor should seek to avoid is abandoning or violating the rules of an investment approach, regardless of the outcome.

We created the WealthShield Investment Framework with the goal of building a process that could be followed with discipline regardless of the type of outcome faced. This requires discipline and conviction. To gain that conviction we researched the most notable investors, traders, Nobel prize winning economists, and academics in the industry, including but not limited to Benjamin Graham, David Dodd, Seth Klarman, Jeremy Grantham, Clifford Asness, Stanley Drukenmiller, Ray Dalio, and many others. Through this study we arrived at a framework that is grounded in academic discipline, thoroughly tested and scrutinized, and consistently validated in practice. The framework started with the belief that the economy, markets, and business environment all experience cycles, and these cycles are grounded in human behavior and observable phenomena. Instead of focusing our efforts on predicting cycles, we decided to concentrate on measuring, mapping, and observing.

Through this series of whitepapers, we'll introduce the four prongs of our framework, and how they can work in unison to structure investment portfolios around a business cycle. Observing Valuations, Market Sentiment, Economic Growth and Inflation, and Monetary Policy informs us of approximately where in the business cycle we fall and what that means for our positioning, from risk mitigation to return enhancement. The idea is that when valuations are low, market sentiment is improving, economic growth is starting to accelerate, and monetary policy is accommodative, we are positioned to enhance returns and take adequate risk. On the flip side, when valuations are high, market sentiment is deteriorating, economic growth is decelerating, and monetary policy is tight, we want to be in full risk mitigation mode, shifting portfolios more defensively. In between these two poles, portfolios fall along the spectrum in accordance with the weight of the evidence. This white paper series will provide a detailed review of each component of our framework, and how this framework is applied during construction of investment portfolios.

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MARKET SENTIMENT: THE TREND IS YOUR FRIEND

Webster's Dictionary defines sentiment as the matter that settles to the bottom of a liquid.

Only kidding. Channeling my inner Michael Scott to find out how attentive my readers are. Sentiment is the view or attitude towards something. Market Sentiment means exactly that: investors' views or opinions on financial markets. A bullish or positive view means investors have high expectations for future returns, while a bearish or negative view means investors are pessimistic about the future of that asset and would prefer to sell rather than buy.

Market Sentiment is one of the four components of the WealthShield investment framework. Many of our readers and followers have probably realized that Market Sentiment is the most volatile prong of our framework, with significant swings capable of occurring from one month to the next. The reason that this volatility occurs is because Market Sentiment is the part of our framework most directly correlated to actual financial market performance, which can have significant volatility. In this paper we'll discuss common indicators of Market Sentiment as well as potential ways to apply sentiment to portfolio management.

FINANCIAL MARKETS & MARKET SENTIMENT

"The market" is used by many as a generic term for the domestic stock market. For the purposes of this paper we'll define markets as global financial markets and break them down to asset classes and segments within those asset classes. It's important to view the segmented assets because they may act in very different ways. For instance, while both are technically bonds, a lower quality corporate bond may have a much different market sentiment than a US Treasury bond.

Financial markets are free markets, meaning that asset prices are driven by demand from buyers and supply from sellers. If an asset is highly coveted, it will be bid up in price, making it more expensive. Similarly, if there are many sellers for an asset, but no buyers, the asset's price will fall. Logically, an asset's price movement should tell us if investors are bullish or bearish on that asset. If an asset is increasing in price, sentiment around the asset would seem positive (or bullish), since investors are bidding up the price as they buy in. Similarly, sentiment around an asset with a declining price should be negative (or bearish), since investors are using their sales of the asset to voice their negative opinion.

Commonly used metrics for evaluating Market Sentiment include the volatility index (VIX), put and call option volumes, moving averages, market breadth, AD lines, high-low indices, bullish percentages and others. Many banks and investment groups have their own proprietary sentiment indicators created from a combination of the above and other technical indicators. Some groups use these indicators to alert when sentiment is positive on certain assets, and therefore the asset ought to be purchased. Others may use the sentiment as a contrarian indicator, meaning that when the market sentiment gets too positive and people are too bullish, it's time to exit.

WEALTHSHIELD APPROACH

WealthShield views countless charts to gain perspective on Market Sentiment, but for the tangible Framework piece, we align with the "buy what is going up" viewpoint. As we specified earlier, prices of an asset indicate the broad market and investor sentiment regarding that asset. For our Framework, we evaluate these prices in two ways.

First, we evaluate the **absolute market sentiment**, or the price of an asset relative to itself. To do this, we take today's price relative to a previous price. If today's price is higher than the price at a previous point in time, we can assume that market sentiment for the asset is positive. Investors have bought the asset up from the previous point in time, and it is worth more today than it was then. This tells us that in absolute terms, relative to itself, the asset has positive market sentiment.

Second, we evaluate the **relative market sentiment** of an asset. This process evaluates an asset relative to a risk-free asset. For risk asset comparisons, WealthShield prefers to use US Treasuries as the risk-free asset. We also prefer to approximately duration match the risk-free asset to the risk asset. For ease, WealthShield uses intermediate treasuries, which are an approximate duration match for the high yield market. Additionally, intermediate to long-term treasuries are an appropriate duration match for equities in our opinion, as duration for equities has been researched extensively to be 10-50 years[1]. Relative market sentiment is useful because it provides perspective on a relationship of a risky asset to a risk-free asset. If investors are bidding up risk-free assets more than risky assets, this tells us that Market Sentiment might not be favorable. Similarly, if a risk-free asset is falling more than a risky asset, perhaps the sentiment around that risky asset isn't as negative as expected.

It's important to incorporate dividends and interest into this equation, as some parts of returns in an asset are derived from distributions to shareholders. Therefore, the easiest way to evaluate this point is evaluating total return over the holding period. If the total return is positive, we could make the argument that the asset has positive market sentiment.

[1] Martin L. Leibowitz, Eric H. Sorensen, Robert D. Arnott & H. Nicholas Hanson (1989) A Total Differential Approach to Equity Duration, Financial Analysts Journal, 45:5, 30-37, DOI: 10.2469/faj.v45.n5.30 To

WealthShield's Market Sentiment indicator is a simple table using short, intermediate and long-term trends for three risky assets; Domestic Equities, Global Equities and High Yield Corporate Bonds. For simplicity's sake, we use 3-month, 6-month and 12-month return periods respectively. The risk-free asset is a 7-10 Year US Treasury index.

Market Sentiment Meter

Asset Class	3 Month Total Return	Risk Free 3 Month Total Return	Market Sentiment
High Yield Bonds	-13.24%	10.42%	Negative
International Equities	-23.36%	10.42%	Negative
Domestic Equities	-19.70%	10.42%	Negative

Asset Class	6 Month Total Return	Risk Free 6 Month Total Return	Market Sentiment
High Yield Bonds	-10.97%	8.64%	Negative
International Equities	-16.52%	8.64%	Negative
Domestic Equities	-12.39%	8.64%	Negative

Asset Class	12 Month Total Return	Risk Free 12 Month Total Return	Market Sentiment
High Yield Bonds	-7.53%	15.80%	Negative
International Equities	-15.57%	15.80%	Negative
Domestic Equities	-7.74%	15.80%	Negative

Figure 1: Market Sentiment Meter; Source: WealthShield & Bloomberg; As of March 31, 2020

TESTING THE FRAMEWORK

Applying this framework historically, we can see the value of Market Sentiment in each asset class. We've provided charts and statistics using an appropriate index's monthly returns to represent each asset class back to 1/1/2000.

- Test 1: When the index has a positive total return over the trailing time period, the index is held. When the index has a negative total return over the trailing time period, the short-term bond index is held. This decision occurs monthly.

- Test 2: When the total return of the index is greater than the total return of intermediate treasuries for the respective time period, the index is held. When the total return of the index is less than the total return of intermediate treasuries, the short-term bond index is held. This decision occurs monthly.

Asset Class	Index Used
Domestic Equity	Russell 3000 TR USD
Global Equity	MSCI ACWI IMI NR USD
High Yield	BBgBarc US Corporate High Yield TR USD
Cash/Short Term Bond	BBgBarc 1-3 Yr US Treasury TR USD
Intermediate Treasury	BBgBarc US Treasury 7-10 Yr TR USD

DOMESTIC EQUITY

In Figure 2 we can see what happens when the Russell 3000 uses a 3-month, 6-month and 12-month total return trend. Returns have outperformed, and most importantly, the drawdown and risk adjusted returns are significantly better than the index. For risk adjusted returns, WealthShield prefers to use the Sortino ratio. This metric is almost identical to the widely known Sharpe ratio, but only divides by Downside Deviation instead of Standard Deviation. I don't know many investors who have complained about upside volatility.

$$\text{SORTINO RATIO:} \quad \frac{\text{Return} - \text{Risk Free Return}}{\text{Downside Deviation}}$$

$$\text{SHARPE RATIO:} \quad \frac{\text{Return} - \text{Risk Free Return}}{\text{Standard Deviation}}$$

*As of 1/1/2000-12/31/2019	Russell 3000	3M	6M	12M
Return	6.39	6.92	9.27	8.01
Max Drawdown	51.2	23.22	18.89	17.75
Sortino	0.53	0.84	1.26	0.94

Figure 2: Russell 3000 Risk Adjusted Absolute Return
Source: Morningstar Direct

Figure 3 shows the statistics for the Russell 3000 using a relative return ratio to the risk-free asset on a 3-month, 6-month and 12-month relationship. Returns are higher for two of the three time frames, with the drawdown and risk adjusted return metrics both significantly better than the index.

As of 1/1/2000-12/31/2019	Russell 3000	3M Relative	6M Relative	12M Relative
Return	6.39	6.67	8.32	6.11
Max Drawdown	51.2	15.7	19.04	17.93
Sortino	0.53	0.88	1.18	0.73

Figure 3: Russell 3000 Risk Adjusted Relative Return
Source: Morningstar Direct

GLOBAL EQUITY

Figure 4 demonstrates that using total return trends on the ACWI has been an effective way to outperform for the given time period. Returns, drawdown and risk adjusted ratio are all significantly better than the benchmark.

*As of 1/1/2000-12/31/2019	ACWI	3M	6M	12M
Return	4.84	6.51	8.13	6.04
Max Drawdown	55.11	20.84	20.65	23.33
Sortino	0.38	0.79	1.03	0.68

Figure 4: ACWI Risk Adjusted Absolute Return
Source: Morningstar Direct

Similarly, using the relative ratio on ACWI to treasuries, returns and risk have been significantly better than the standard index (Figure 5).

As of 1/1/2000-12/31/2019	Russell 3000	3M Relative	6M Relative	12M Relative
Return	4.84	6.56	7.68	5.81
Max Drawdown	55.11	16.33	17.12	21.08
Sortino	0.38	0.83	1.09	0.68

Figure 5: ACWI Risk Adjusted Relative Return
Source: Morningstar Direct

HIGH YIELD

Using absolute return trends in the high yield space has been effective as well. Returns were better for 3-month, while 6 and 12-month slightly underperformed. The significant reduction in drawdown and increase in risk adjusted return ratio make the case for using trends in the high yield space (Figure 6).

*As of 1/1/2000-12/31/2019	BBgBarc US Corporate High Yield	3M	6M	12M
Return	7.14	8.34	7.04	6.24
Max Drawdown	33.31	8.4	11.84	14.58
Sortino	0.9	1.98	1.38	1.19

Figure 6: BBgBarc US Corporate High Yield Risk Adjusted Absolute Return
Source: Morningstar Direct

The returns using a relative ratio of high yield to treasuries were not overwhelmingly impressive, with only the 3-month outperforming. However, the drawdown of 8.4% or 7.14% versus 33.31% in the index seems like more than enough risk reduction to sacrifice some potential upside. The risk adjusted return ratios were also significantly higher over all timeframes for the test (Figure 7).

*As of 1/1/2000-12/31/2019	BBgBarc US Corporate High Yield	3M Relative	6M Relative	12M Relative
Return	7.14	7.36	6.72	5.45
Max Drawdown	33.31	8.4	8.4	7.14
Sortino	0.9	1.89	1.63	1.45

Figure 7: BBgBarc US Corporate High Yield Risk Adjusted Relative Return; Source: Morningstar Direct

CONCLUDING THOUGHTS

The statistics and tables above demonstrate the strength of Market Sentiment in portfolio management. One additional benefit of Market Sentiment in the WealthShield process is that it adheres to behavioral biases. As the famous economist Charles Kindleberger (2001) wrote:

> "There is nothing as disturbing to one's well-being and judgement as to see a friend get rich" (p. 15). [2]

Participating in a disciplined investment process can be painful, using long term valuations or indicators to wait sometimes years for a more optimal time to purchase assets. Fortunately, Market Sentiment provides rules-based systems for buying what is going up and selling what is going down, allowing investors to engage in the "Fear of Missing Out" trade while having a defined exit plan. Paired with the rest of our investment framework, Market Sentiment can enhance an investor's risk and return metrics, and, more importantly, keep them engaged in their investment program.

[2] Kindleberger, C. P. (2001). Manias, panics and crashes. Basingstoke: Palgrave.

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DISCLOSURE:

Past performance is no guarantee of future returns.

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