A CALCULATED APPROACH TO INCORPORATING EQUITIES INTO MANAGED FUTURES

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"The large moves posted by assets in inflationary times seem particularly well suited for a trend-following approach to capture. 1 "

In our previous blog post outlining enhancements to the <u>WisdomTree Managed Futures Strategy Fund (WTMF)</u>, we mentioned the inclusion of a tactical equity model in the Fund, effective June 4, 2021.

When researching this equity component, we were conscious of the potential effects in the Fund's <u>correlation</u> to the broad equity market, since WTMF is primarily used to diversify, and our goal is to preserve this functionality while enhancing returns.

Managed futures can play an important diversifying role for portfolios-particularly when fears of inflation are increasing. Funds that can go long or short in bond futures, commodity futures, currencies and equities can take advantage of rising prices in commodities or higher interest rates that cause traditional bond prices to fall.

In this blog post, we outline our approach to incorporating a tactical equity model into WTMF.

Investment Universe

The first step in <u>diversification</u> is gaining exposure to a wide variety of markets. WTMF invests in a diversified basket of five equity index futures contracts that span various geographies and size cuts (<u>S&P 500</u>, <u>Nikkei 225</u>, <u>S&P/TSX 60</u>, <u>Euro Stoxx 50</u> and <u>Russell 20 00</u>). Each index is given an equal nominal weight.

Tactical Rotation Model

While having a diversified equity basket is likely to lower correlation, we can further reduce the correlation of our equity model by incorporating a long/short model.

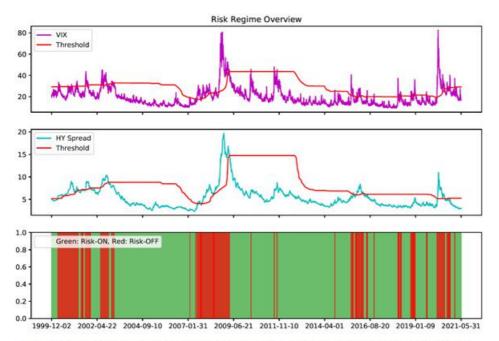
In our opinion, shorting equities should be done with caution, as frequent shorting during a prolonged bull run can have punishing consequences. To prevent excessive shorting, we have incorporated a broad <u>macro</u> signal that indicates when to rotate between a long-only strategy and a long/short strategy.

The broad macro indicator is a systematic, data-driven signal derived from both the <u>CBOE Volatility Index (VIX)</u>, and the U.S. high-yield <u>credit spread</u>. If either indicator is elevated above its historical threshold, we consider the market to have higher underlying risk. We define that regime as <u>Risk-Off</u>, and rotate to a <u>long/short</u> strategy

If both indicators are below the threshold, we consider the regime to be Risk-On. In a Risk-On regime, we avoid shorting, as these periods have historically been prolonged bull runs in the equity market.

The methodology is illustrated in the figure below.





Sources: WisdomTree, FactSet. Data from 12/31/1999–05/31/2021. Past performance is not indicative of future results. For illustrative purposes only. Does not represent an actual investment. You cannot invest directly in an index.

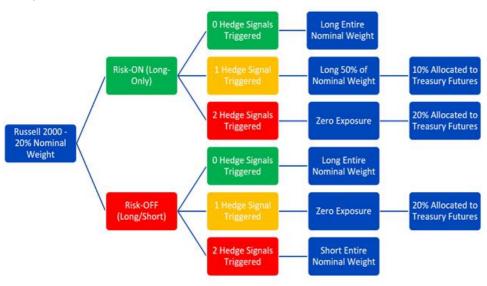
We can see in the figure above that this macro indicator would have captured several well-known <u>bear markets</u>, including the dot-com bubble in 2000 and the global financial crisis in 2008. The indicator would have also been triggered during the early stages of the COVID-19 pandemic.

Index-Specific Hedging

Once the risk regime has been established, we use two index-specific signals to determine whether to hedge equity exposure for a specific index.

Any excess collateral available after reducing equity exposure in the model is allocated to either $\underline{\mathsf{T-bills}}$, or Treasury futures contracts as additional diversification.

The methodology is illustrated in the figure below using the Russell 2000 contract as an example.



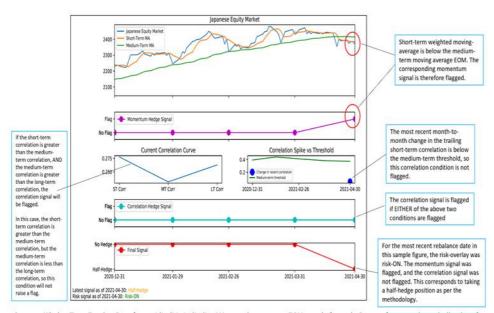
 $Source: Wisdom Tree, 05/31/21. \ Past performance is not indicative of future results. For illustrative purposes only. Does not represent an actual investment. You cannot invest directly in an index.$

The first hedge signal is a moving-average crossover indicator, using a short-term and a



medium-term weighted <u>moving average</u>. The second hedge signal is a correlation indicator derived from the constituents of each market of interest. The correlation signal has two subcomponents, which both look for signs of rising correlation within a specific market.

Research has shown that correlations between constituents increase in times of market stress. An example taken from the <u>WTMF Rebalance Monitor</u> illustrating the hedging signals for the Nikkei 225 contract (corresponding to the Japanese equity market) is shown below.



 $Sources: WisdomTree, FactSet. Data from 12/31/20-04/31/21. \ MA=moving average. EOM=end of month. Past performance is not indicative of future results. For illustrative purposes only. Does not represent an actual investment. You cannot invest directly in an index.$

Historical Signals

The tables below summarize the positioning in each specific index over a 20-year research period.

The historical frequencies indicate the model has a predominantly long positioning. Notably, the model does not go short very often, although with relatively high conviction as evidenced in the significantly reduced average return during those periods.

This is consistent with our belief that shorting equities should be done with caution. Based on the model, equity exposure has averaged approximately 75% of the full nominal weight through the entire research period while hedging out tail-risk events.

Frequency

	S&P 500	Nikkei	S&P/TSX 60	Euro Stoxx	RU 2000
No Hedge	65.42%	58.41%	65.89%	61.68%	65.58%
Half Hedge	21.03%	24.77%	20.09%	21.96%	21.86%
Full Hedge	9.35%	13.08%	11.21%	13.08%	8.84%
Short	4.21%	3.74%	2.80%	3.27%	3.72%

Average Monthly Return

	S&P 500	Nikkei	S&P/TSX 60	Euro Stoxx	RU 2000
No Hedge	0.85%	1.03%	1.04%	0.11%	1.11%
Half Hedge	1.78%	1.66%	1.15%	2.36%	2.78%
Full Hedge	0.03%	-0.97%	-1.35%	-1.72%	0.36%
Short	-4.85%	-5.71%	-5.16%	-4.79%	

Sources: WisdomTree, FactSet. Data from 12/31/02–12/31/20. Past performance is not indicative of future results. For illustrative purposes only. Does not represent an actual investment. You cannot invest directly in an index. Average monthly return represents the average monthly returns of the specified index during the corresponding scenario. The actual return for a particular month may differ significantly from the average monthly return due to many factors, including general market conditions.



Allocation

The final step in the research process is determining an optimal allocation among the four components of the strategy (equities, commodities, <u>currencies</u> and Treasuries). In WTMF we target a 40% nominal weighting for the equity component. Our target allocation of 40% equities, 40% commodities, 10% currencies and 10% Treasuries aims to optimize risk-adjusted return while limiting correlation to the broad equity market.

Conclusion

We have taken several steps to integrate equity exposure into WTMF, seeking to enhance returns while at the same time preserving the diversifying characteristics that we believe makes the Fund attractive. We use a diversified basket of equity index futures covering different markets. We then employ our tactical rotation model to dynamically reduce exposure to equities, and occasionally take short positions in periods of high conviction. We then allocate any excess collateral to either T-bills or Treasury futures for further diversification. Lastly, we optimize our allocation to equities, considering both the <u>efficient frontier</u> as well as the Fund's final correlation to the broad equity market.

¹H. Neville, T. Draaisma, B. Funnell, C. Harvey & O. Van Hemert, "The Best Strategies for Inflationary Times," Man Institute, June 2021.

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DEFINITIONS

<u>Correlation</u>: Statistical measure of how two sets of returns move in relation to each other. Correlation coefficients range from -1 to 1. A correlation of 1 means the two subjects of analysis move in lockstep with each other. A correlation of -1 means the two subjects of analysis have moved in exactly the opposite direction.

Diversification: A risk management strategy that mixes a wide variety of investments within a portfolio.

<u>S&P 500 Index</u>: Market capitalization-weighted benchmark of 500 stocks selected by the Standard and Poor's Index Committee designed to represent the performance of the leading industries in the United States economy.

Nikkei 225 Stock Average Index : A price-weighted average of 225 top-rated Japanese companies listed in the First Section of the Tokyo Stock Exchange.

Euro Stoxx: Refers to the Euro Stoxx 50 Index, a market capitalization-weighted stock index of 50 large, blue-chip European companies operating in European nations.

<u>Russell 2000 Index</u>: Measures the performance of the small-cap segment of the U.S. equity universe. The Russell 2000 is a subset of the Russell 3000 Index representing approximately 10% of the total market capitalization of that index. It includes approximately 2000 of the smallest securities based on a combination of their market cap and current index membership.

<u>Macro</u>: Focused on issues impacting the overall economic landscape as opposed to those only impacting individual companies.

Credit spread : The portion of a bond's yield that compensates investors for taking
credit risk.

<u>Risk-on/risk-off</u>: refers to changes in investment activity in response to perceived risk. During periods when risk is perceived as low, investors tend to engage in higher-risk investments. When risk is perceived as high, investors tend to gravitate toward lower-risk investments.

Long (or Long Position): The buying of a security such as a stock, commodity or currency, with the expectation that the asset will rise in value, the opposite of Short (or Short Position).

Short (or Short Position): The sale of a borrowed security, commodity or currency with the expectation that the asset will fall in value, the opposite of Long (or Long Position).

Bear market: A sustained downturn in market prices, increasing the chances of negative portfolio returns.

<u>Treasury Bill</u>: A treasury bill (T-Bill) is a short-term debt obligation backed by the U.S. government with a maturity of one month (four weeks), three months (13 weeks) or six months (26 weeks).

Moving Average: is a calculation to analyze data points by creating a series of averages of different subsets of the full data set.

<u>Currency</u>: Currency in which the underlying index returns are calculated. Euros: The returns are calculated, and there is no currency conversion; resulting statistics result



purely from the returns of the equities. U.S. dollars: The returns are calculated and then converted into U.S. dollars; resulting statistics are the result of a combination of the euro's performance against the U.S. dollar and the returns of the underlying equities.

Efficient frontier: An efficient frontier is a method of illustrating the expected risk and return profile of different portfolio.

