MarketDesk U.S. Risk Demand Indicator (USRDI)

A Simple Data-Driven Framework for Managing Portfolios

Primer Report

March 14, 2025

What is the U.S. Risk Demand Indicator?

The U.S. Risk Demand Indicator (USRDI) is a quantitative tool built to measure investors' risk appetite in real-time. Understanding risk regimes is crucial, as they impact asset class returns and inform asset allocation decisions. By tracking broad market trends, the indicator defines the current environment and answers a fundamental question: What portfolio beta exposures should we own?

Knowing the Current Risk Regime is Key to Managing Portfolios

USRDI classifies the market into two risk environments: "Risk-On" (increase portfolio beta) and "Risk-Off" (decrease portfolio beta). The two regimes impact markets differently, including asset class returns, market volatility, and drawdown risk. Knowing the current risk environment helps investors manage equity and credit beta exposures, such as cyclical vs defensive sectors, high beta vs low volatility stocks, and investment grade vs high yield bonds. Adjusting your portfolio's beta exposure to match the current risk environment can enhance risk-adjusted returns and reduce drawdowns. In contrast, mismanaging betas can lead to missing out on gains in bull market and participating in selloffs during bear markets. This primer explains USRDI, discusses how each risk regime style impacts financial markets, and provides a roadmap for managing portfolios.

How to Monitor and Implement USRDI into Your Process?

The USRDI is updated every Friday and can be tracked in the MarketDesk Weekly Note. It's designed to be a quick reference. Most of the time, there's no immediate action required—if your portfolio is already well-positioned, you can stay the course. However, during major market shifts, typically once a year or every other year, USRDI becomes a powerful tool. When it comes to implementation, each investment committee meeting should start by reviewing the latest USRDI reading. Tracking the indicator helps establish a structured framework for understanding market conditions and offers insight into the potential for volatility and drawdown risk. The key is to maintain a big-picture focus and compare your portfolio's beta exposures to the preferred betas for the current regime. (Note: The USRDI signal flows into the MarketDesk Stock Models, helping to automate risk management. The MarketDesk ETF Models are updated as the USRDI signal changes so that equity and credit exposures align with the current risk demand reading.)

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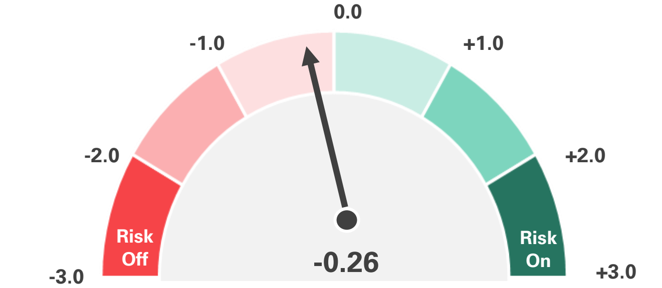
Figure 1 – MarketDesk U.S. Risk Demand Indicator (USRDI)

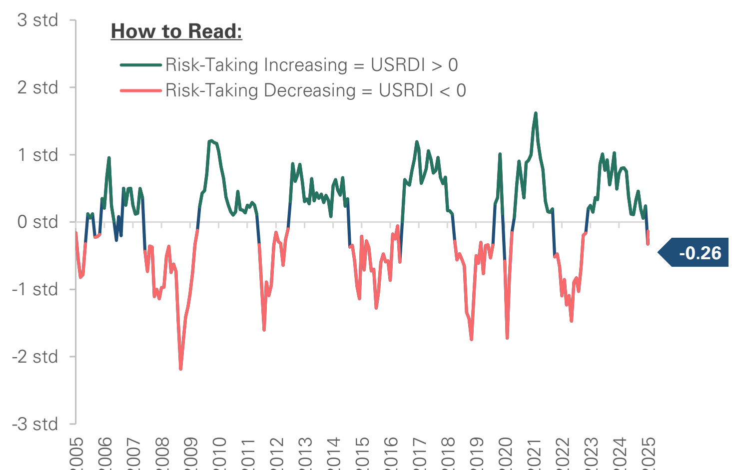


Indicator Inputs (Equal-Weighted)	Reading	Status
Equity Markets	-1.0	Risk-Off
Equity Volatility	-0.6	Risk-Off
FX / Currencies	-0.3	Risk-Off
Credit Markets	+0.8	Risk-On

Source: MarketDesk Quant Pack. As of 3/14/2025.

Figure 2 – MarketDesk U.S. Risk Demand Indicator (USRDI)

Historical USRDI Readings Since 2005



Source: MarketDesk Quant Pack. As of 3/14/2025.

USRDI Signal History and Model Track Record

USRDI provides a real-time measure of investors' risk appetite. When USRDI is above zero, it signals a risk-on environment, which favors cyclical sectors, high beta stocks, high yield corporate bonds, and hybrid bonds (convertible bonds). In contrast, a reading below zero signals a risk-off environment, which favors defensive sectors, low volatility stocks, and U.S. Treasury bonds. Figure 3 shows USRDI's monthly risk demand signal since 2000. Figure 4 shows the performance of various models that incorporate the signal, with more in-depth statistics on page 11, and Figure 5 tracks the performance of a simple stock/bond model. The next page discusses how USRDI is constructed and the average length of risk-on and risk-off regimes.

Figure 3: USRDI Model Signal History (Risk-On vs Risk-Off)

The table shows the indicator's historical model signal for each month since 2000.

	USRDI Model Signals (Implemented at the Start of the Month)											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
2000	Risk-On	Risk-On	Risk-On	Risk-Off	Risk-Off	Risk-Off	Risk-Off	Risk-Off	Risk-Off	Risk-Off	Risk-Off	Risk-Off
2001	Risk-Off	Risk-Off	Risk-Off	Risk-Off	Risk-Off	Risk-Off	Risk-Off	Risk-Off	Risk-Off	Risk-Off	Risk-Off	Risk-On
2002	Risk-On	Risk-On	Risk-On	Risk-On	Risk-On	Risk-On	Risk-On	Risk-Off	Risk-Off	Risk-On	Risk-On	Risk-On
2003	Risk-On	Risk-On	Risk-On	Risk-On	Risk-On	Risk-On	Risk-On	Risk-On	Risk-On	Risk-On	Risk-On	Risk-On
2004	Risk-On	Risk-On	Risk-On	Risk-On	Risk-On	Risk-Off	Risk-Off	Risk-Off	Risk-Off	Risk-Off	Risk-Off	Risk-On
2005	Risk-Off	Risk-Off	Risk-Off	Risk-Off	Risk-Off	Risk-Off	Risk-Off	Risk-On	Risk-On	Risk-On	Risk-Off	Risk-Off
2006	Risk-Off	Risk-On	Risk-On	Risk-On	Risk-On	Risk-On	Risk-Off	Risk-Off	Risk-On	Risk-Off	Risk-On	Risk-On
2007	Risk-On	Risk-On	Risk-On	Risk-On	Risk-On	Risk-On	Risk-On	Risk-Off	Risk-Off	Risk-Off	Risk-Off	Risk-Off
2008	Risk-Off	Risk-Off	Risk-Off	Risk-Off	Risk-Off	Risk-Off	Risk-Off	Risk-Off	Risk-Off	Risk-Off	Risk-Off	Risk-Off
2009	Risk-Off	Risk-Off	Risk-Off	Risk-Off	Risk-Off	Risk-Off	Risk-On	Risk-On	Risk-On	Risk-On	Risk-On	Risk-On
2010	Risk-On	Risk-On	Risk-On	Risk-On	Risk-On	Risk-On	Risk-On	Risk-On	Risk-On	Risk-On	Risk-On	Risk-On
2011	Risk-On	Risk-On	Risk-On	Risk-On	Risk-On	Risk-On	Risk-On	Risk-Off	Risk-Off	Risk-Off	Risk-Off	Risk-Off
2012	Risk-Off	Risk-Off	Risk-Off	Risk-Off	Risk-Off	Risk-Off	Risk-Off	Risk-Off	Risk-On	Risk-On	Risk-On	Risk-On
2013	Risk-On	Risk-On	Risk-On	Risk-On	Risk-On	Risk-On	Risk-On	Risk-On	Risk-On	Risk-On	Risk-On	Risk-On
2014	Risk-On	Risk-On	Risk-On	Risk-On	Risk-On	Risk-On	Risk-On	Risk-On	Risk-On	Risk-Off	Risk-Off	Risk-Off
2015	Risk-Off	Risk-Off	Risk-Off	Risk-Off	Risk-Off	Risk-Off	Risk-Off	Risk-Off	Risk-Off	Risk-Off	Risk-Off	Risk-Off
2016	Risk-Off	Risk-Off	Risk-Off	Risk-Off	Risk-Off	Risk-Off	Risk-Off	Risk-On	Risk-On	Risk-On	Risk-On	Risk-On
2017	Risk-On	Risk-On	Risk-On	Risk-On	Risk-On	Risk-On	Risk-On	Risk-On	Risk-On	Risk-On	Risk-On	Risk-On
2018	Risk-On	Risk-On	Risk-On	Risk-On	Risk-On	Risk-Off	Risk-Off	Risk-Off	Risk-Off	Risk-Off	Risk-Off	Risk-Off
2019	Risk-Off	Risk-Off	Risk-Off	Risk-Off	Risk-Off	Risk-Off	Risk-Off	Risk-Off	Risk-Off	Risk-Off	Risk-On	Risk-On
2020	Risk-On	Risk-On	Risk-Off	Risk-Off	Risk-Off	Risk-Off	Risk-On	Risk-On	Risk-On	Risk-On	Risk-On	Risk-On
2021	Risk-On	Risk-On	Risk-On	Risk-On	Risk-On	Risk-On	Risk-On	Risk-On	Risk-On	Risk-On	Risk-On	Risk-Off
2022	Risk-Off	Risk-Off	Risk-Off	Risk-Off	Risk-Off	Risk-Off	Risk-Off	Risk-Off	Risk-Off	Risk-Off	Risk-Off	Risk-Off
2023	Risk-Off	Risk-On	Risk-On	Risk-On	Risk-On	Risk-On	Risk-On	Risk-On	Risk-On	Risk-On	Risk-On	Risk-On
2024	Risk-On	Risk-On	Risk-On	Risk-On	Risk-On	Risk-On	Risk-On	Risk-On	Risk-On	Risk-On	Risk-On	Risk-On
2025	Risk-On	Risk-On	Risk-Off									

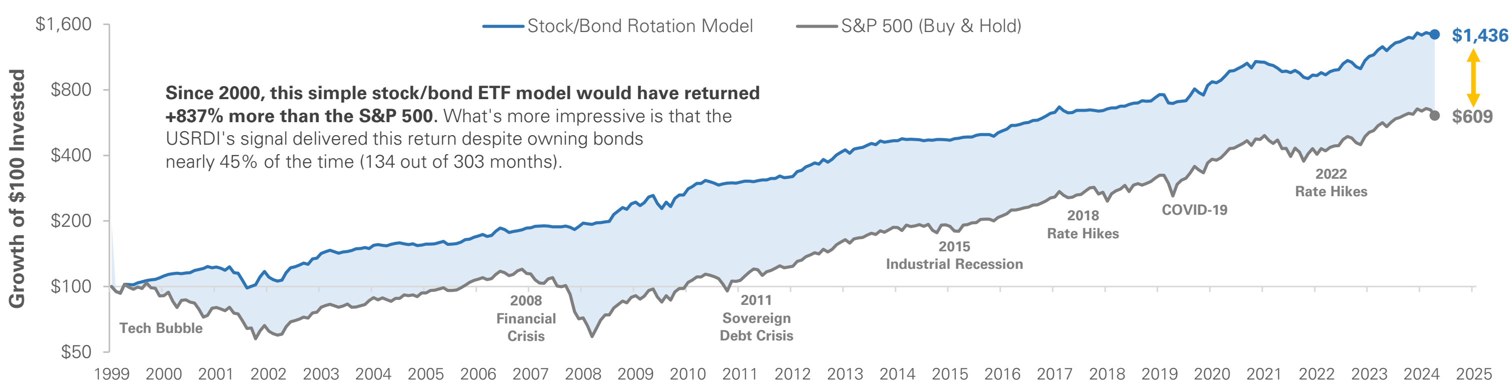
Figure 4: Annual Model Returns

See page 11 for additional statistics for each model.

S&P 500	U.S. Sector Rotation	U.S. Credit Rotation	High Beta/ Low Vol
-4%	49%	12%	47%
-12%	-15%	8%	2%
-22%	-15%	1%	-32%
29%	36%	30%	85%
11%	5%	8%	11%
5%	6%	4%	1%
16%	25%	10%	-1%
5%	19%	8%	6%
-37%	-22%	16%	-21%
26%	29%	17%	32%
15%	26%	17%	27%
2%	10%	17%	5%
16%	16%	10%	21%
32%	36%	14%	41%
14%	14%	11%	19%
1%	3%	0%	4%
12%	17%	15%	33%
22%	23%	11%	18%
-4%	7%	3%	5%
31%	25%	16%	40%
18%	16%	25%	16%
29%	31%	4%	49%
-18%	0%	-20%	-5%
26%	12%	13%	15%
25%	16%	8%	9%
-5%	-1%	0%	-5%

Figure 5 – Sample Stock/Bond Model Demonstrates the Accuracy of the USRDI Model Signal

This sample model owns 100% S&P 500 in Risk-On periods and 100% U.S. Bond Aggregate in Risk-Off periods.



Source: MarketDesk Quant Pack. Past performance does not guarantee future results. Performance is shown as total returns with dividends and income reinvested. The performance information shown herein does not reflect the deduction of advisory and/or other fees normally incurred in the management of a portfolio. Hypothetical performance results are presented for illustrative purposes only.

How USRDI is Constructed – What Are the Inputs?

USRDI relies on actual price data and market internals to provide real-time insights into risk demand. As shown in Figure 6, the indicator analyzes and classifies trends across four broad categories:

1. **Equity Beta Performance** – Cyclical vs. Defensive, Large vs. Small, and High Beta vs. Low Volatility stocks.
2. **Market Volatility** – Tracks the VIX Index and the ratio of put/call buying.
3. **Credit Spread Movement** – Monitors credit spreads and changes in interest rates.
4. **Currency Pair Performance** – Analyzes the relative performance of key currency pairs.

The concept is simple: when one half of the pair outperforms or underperforms the other, it provides a clear indication of which direction risk investor appetites are moving. If High Beta and Cyclical stocks are outperforming, it signals strong risk demand and a willingness to own riskier equity factors with higher betas. In contrast, if Low Volatility and Defensive stocks are outperforming, it signals increased caution and reduced risk appetite.

USRDI primarily focuses on price movement because it captures the market's underlying views, including expectations around Fed policy, interest rates, earnings revisions, Washington policy, and current valuation levels. To put it simply, price offers the purest sense of risk appetite. To increase USRDI's accuracy and reduce false signals, we adjust each input for volatility. This ensures the USRDI signal reflects only statistically significant information, smooths out near-term noise, and highlights longer-term trends. The objective is to remain invested as long as possible and minimize portfolio turnover.

The line chart in Figure 7 graphs the length of each risk-on and risk-off regime since 2000. USRDI's signal durations have generally lengthened since the start of the 2007 financial crisis. However, two periods in the 2000s—July 2002 and 2004-2006—demonstrate the potential for signal volatility. In mid-2002, accounting scandals at Enron and WorldCom undermined investor confidence, triggering a brief risk-off period. However, those fears were short-lived, and the market quickly returned to a risk-on stance. From 2004 to 2006, the USRDI rotated more frequently between risk-on and risk-off signals, with some shifts lasting only one month. The signal volatility was driven by broader market volatility and an uncertain environment, with the market navigating a Fed tightening cycle, inflation concerns, and recession fears. The constant shifting narrative led to elevated market volatility, causing USRDI to switch between risk-on and risk-off signals.

Figure 6 – USRDI Underlying Inputs

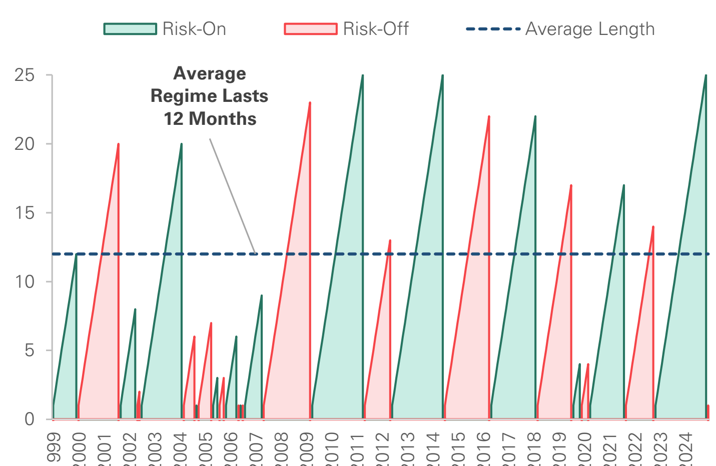
Current Reading of Each Underlying Input as of 3/14/2025

Asset Class	Input	Measure	Reading
Equities	International	Price Momentum	Risk-On
	Cyclical Businesses	Price Momentum	Risk-Off
	Size Factor	Price Momentum	Risk-Off
	High Beta	Price Momentum	Risk-Off
Equity Vol	VIX	Volatility Trends	Risk-Off
	Put/Call Ratio	Volatility Trends	Risk-On
Credit	U.S. High Yield	Credit Spreads	Risk-On
	Europe High Yield	Credit Spreads	Risk-On
	U.S. Interest Rates	Monetary Policy Trends	Risk-Off
	Europe Interest Rates	Monetary Policy Trends	Risk-On
FX	APAC Currencies	Currency Pairs Momentum	Risk-Off
	Europe Currencies	Currency Pairs Momentum	Risk-On
	USD Index	Currency Pairs Momentum	Risk-On

Source: MarketDesk Quant Pack

Figure 7 – Length of USRDI Cycles (in Months)

\# of Months in Each Regime Since 1999

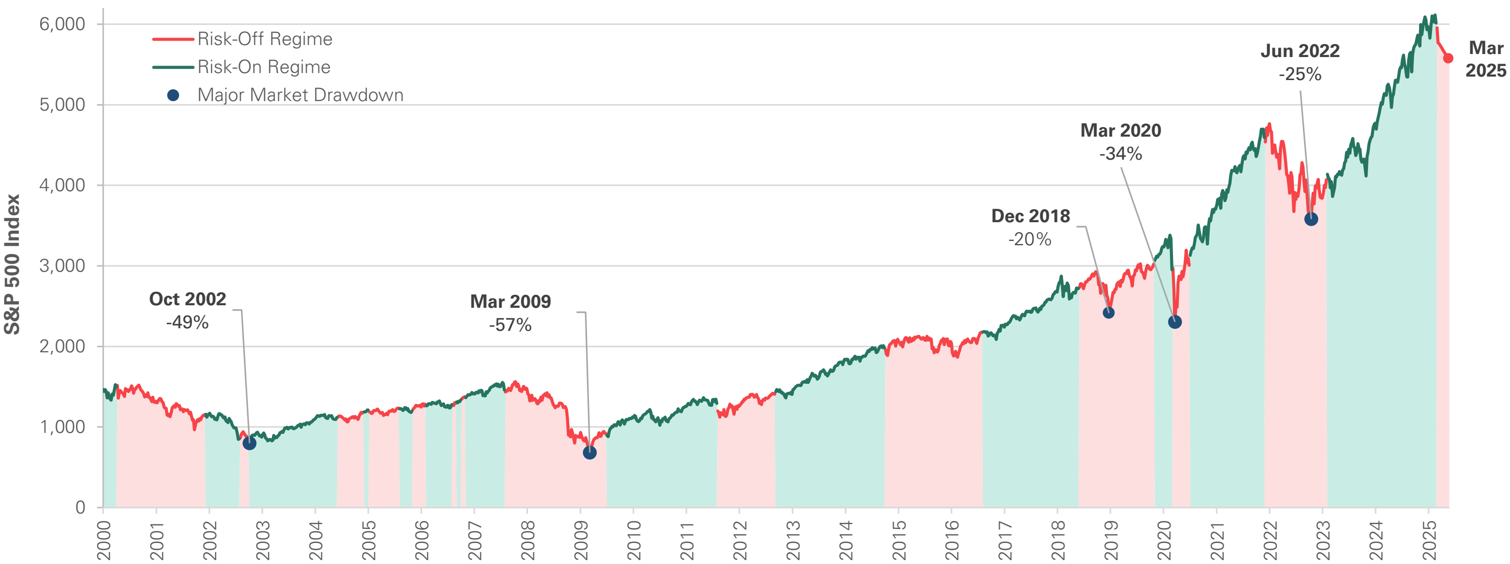


Source: MarketDesk Quant Pack

Risk Management – Avoiding Major Market Drawdowns with USRDI

USRDI excels at avoiding major market drawdowns. The chart below graphs the S&P 500 price index since 2000 and overlays USRDI risk-on regimes (green) and risk-off regimes (red). As shown in Figure 12 on page 6, the average risk-on regime lasts 13 months and the S&P 500 produces a +17% price return with a 71% win rate. The average risk-off regime lasts 10 months and the S&P 500 produces a -2% return with a 69% win rate. The statistics are clear: risk-on regimes offer a more favorable risk/reward environment.

Figure 8 – History of the MarketDesk U.S. Risk Demand Indicator (USRDI)



Source: MarketDesk Quant Pack. Data as of 3/14/2025.

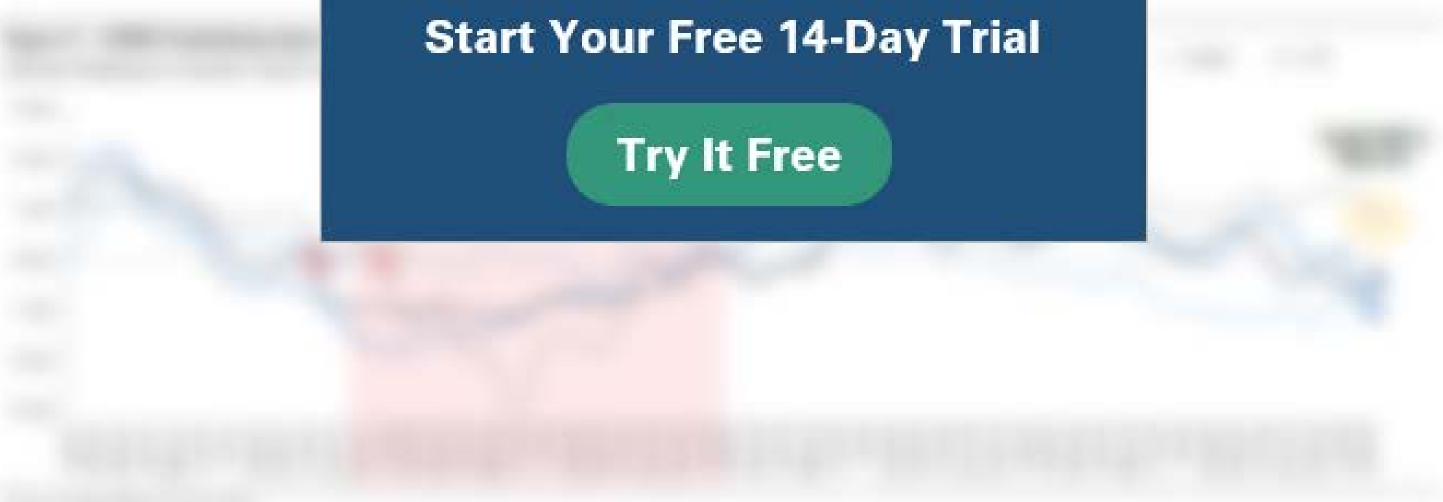
Looking at the chart above, there are two types of risk-off regimes. The first is a bear market. Each of the past five bear markets are marked on the chart, and the table below details USRDI's movement during those periods. Except for the COVID-driven bear market in March 2020 when USRDI didn't turn risk-off until the end of February 2020, the indicator has successfully avoided each major bear market. The lead time of the risk-off signal can vary from the month that the bear market starts, as in March 2000, to as long as 2-3 months before the start, such as 2007, 2018, and 2021.

S&P 500 Bear Market	S&P 500 Drawdown Statistics			Notes on USRDI Risk-Off Signal Timing
	Buy & Hold	w/ USRDI	% Saved	
Mar. 2000 - Oct. 2002	-49%	-20%	**+29%**	Signaled risk-off at end of March 2000, 7 days after bear started
Oct. 2007 - Mar. 2009	-57%	0%	**+57%**	Signaled risk-off at end of July 2007, 70 days before bear started
Sept. 2018 - Dec. 2018	-20%	0%	**+20%**	Signaled risk-off at end of May 2018, 112 days before bear started
Feb. 2020 - Mar. 2020	-34%	-13%	**+21%**	Signaled risk-off at end of February 2020, 10 days after bear started
Jan. 2022 - Oct. 2022	-25%	0%	**+25%**	Signaled risk-off at end of November 2021, 34 days before bear started

Source: MarketDesk Quant Pack. Note: "w/ USRDI" column assumes you move to 100% cash at the start of each Risk-Off regime.

The second type of risk-off regime occurs when the stock market consolidates and experiences increased volatility within an existing bull market. These risk-off readings, such as 2004-2005, 2011-2012, and 2014-2016, did not result in bear markets (based on the technical definition of -20% drawdown); however, the S&P 500 experienced choppy price action during each of the periods.

The challenge lies in identifying which type of risk-off regime is unfolding at the start of the risk-off regime. When USRDI turns negative, it's impossible to know whether the market is entering a bear market or a consolidation period. Regardless of which regime style follows, history shows that negative USRDI readings are associated with lower returns, higher volatility, and increased downside risk. The next page discusses what inputs our team focuses on to analyze whether the risk-off regime will be a bear-market or a consolidation period.



Past Regimes, Asset Class Performance, and Average S&P 500 Return Path

Appendix

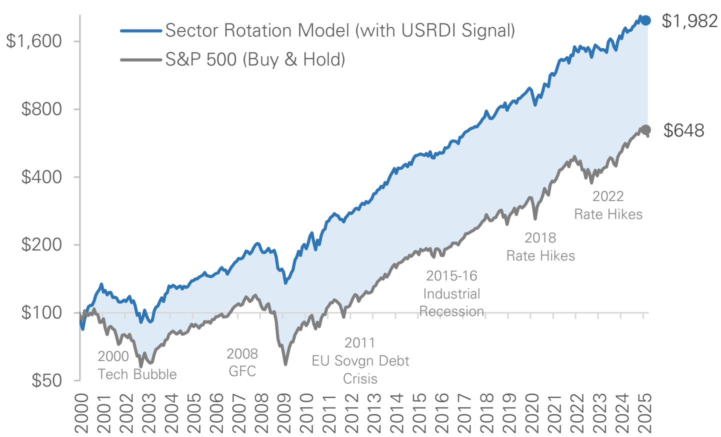
Market Volatility, Corporate Fundamentals, & Sample Models

Market Volatility and Historical Drawdowns

Corporate Fundamentals – Trends in Earnings Growth & Valuation Changes

Sample Equity and Credit Models Based on USRDI Signal

Figure 23: Total Returns – U.S. Sector Rotation Model



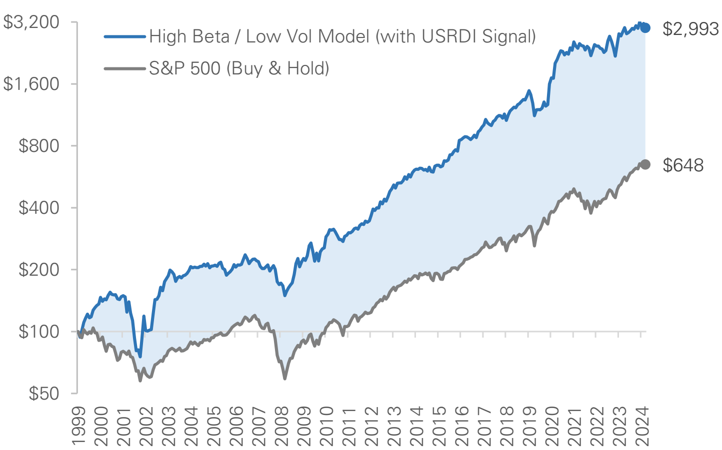
Source: MarketDesk Quant Pack. Own Defensive Sector ETFs during Risk-Off Regimes (XLU, XLV, XLP) and Cyclical Sector ETFs during Risk-On Regimes (XLB, XLI, XLY). The portfolio is rebalanced monthly.

Figure 24: Performance Statistics – U.S. Sector Rotation Model

Annual Statistics of Returns & Risks	S&P 500 (Benchmark)	U.S. Sector Rotation Model
Average Return	9.4%	13.7%
Strategy CAGR	**6.5%**	**12.3%**
Max Drawdown	-51%	-34%
% of Positive Years	**76%**	**88%**
Up Capture	100%	105%
Down Capture	**100%**	**11%**
Net Capture	-	+95%
Max Positive Year	32%	36%
Max Negative Year	-37%	-22%
Max Risk / Reward	0.9	1.6

Source: MarketDesk Quant Pack

Figure 25: Total Returns – High Beta/Low Vol Rotation Model



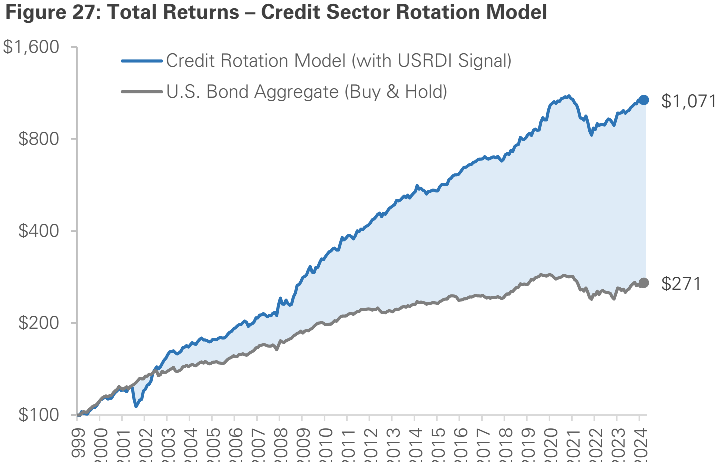
Source: MarketDesk Quant Pack. Own 100% S&P 500 Low Volatility factor during Risk-Off Regimes and 100% S&P 500 High Beta factor during Risk-On Regimes. The portfolio is rebalanced monthly.

Figure 26: Performance Statistics – High Beta/Low Vol Model

Annual Statistics of Returns & Risks	S&P 500 (Benchmark)	High Beta / Low Vol Model
Average Return	9.4%	17.0%
Strategy CAGR	**6.5%**	**14.6%**
Max Drawdown	-51%	-52%
% of Positive Years	**76%**	**84%**
Up Capture	100%	128%
Down Capture	**100%**	**5%**
Net Capture	-	+123%
Max Positive Year	32%	85%
Max Negative Year	-37%	-32%
Max Risk / Reward	0.9	2.6

Source: MarketDesk Quant Pack

Figure 27: Total Returns – Credit Sector Rotation Model



Source: MarketDesk Quant Pack. Own High-Quality Credit Sectors during Risk-Off Regimes (10Y U.S. Treasuries & MBS) and Low-Quality Credit Sectors during Risk-On Regimes (High Yield, Fallen Angels, Convertibles). The portfolio is rebalanced monthly.

Figure 28: Performance Statistics – Credit Sector Rotation Model

Annual Statistics of Returns & Risks	Bond Aggregate (Benchmark)	Credit Sector Rotation Model
Average Return	4.1%	10.3%
Strategy CAGR	**4.1%**	**9.9%**
Max Drawdown	-17%	-26%
% of Positive Years	**88%**	**96%**
Up Capture	100%	220%
Down Capture	**100%**	**14%**
Net Capture	-	+206%
Max Positive Year	12%	30%
Max Negative Year	-13%	-20%
Max Risk / Reward	0.9	1.5

Source: MarketDesk Quant Pack

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