



Applying the NDR Approach to Tactical Asset Allocation

Last Updated: April 2024

About Ned Davis Research (NDR)

	Founded 1980	HQ Florida	RIA registered with the SEC
	Offices in NYC, London, Hong Kong	15 people on staff have at least one of the following designations CFA, CMT, CIMA, PhD	
About 30 strategists/analysts	More than 1,000 clients globally	8 awards since 1996	

NDR's 10 Rules of Research

After 40+ years of running a successful business, the quintessential NDR researcher has emerged: passionate about financial markets, smart, organized, hard-working, humble, and a team player.

Over the years, the NDR philosophy has become embodied in our 10 Rules of Research. These rules cover both character traits of investors and investment axioms:

1. Be Objective

We support our arguments through quantitative analysis, using our proprietary software to ground our work in historical data. We focus on mathematical probabilities and minimize subjective or "gut feel" decisions.

2. Be Disciplined

We do not let the noise of the market or the roller coaster of emotions sway our approach. We let the indicators and models tell us when to make the appropriate market moves.

3. Be Flexible

We use humility to drive long-term success. Data and trends change: different environments elicit different reactions. We constantly explore new data and techniques in our analysis and focus on when a trend may be changing. We do not cling to a (losing) trade for pride's sake.

4. Be Risk-Aware

We provide a disciplined approach to portfolio management, considering the rewards and risks inherent in each recommendation.

5. Don't Fight the Tape

We listen to the cold, bloodless verdict of the market. We follow market trends and go beneath the surface to examine participation in the market. Staying in tune with the tape also avoids major disasters.

6. Don't Fight the Fed

We examine the impact of monetary policy by central banks.

7. Don't Fight Fiscal Policy

We explore the significant influences that fiscal policy can have on the market.

8. Beware of Crowds at Extremes

We watch sentiment and valuation

indicators as warning signs of what is being priced into the market, as the crowd is often wrong at extremes. We typically go with the flow until an extreme is reached and a reversal begins.

9. Study History to Avoid Repeating Mistakes

We use history as an objective sounding board, referencing what the market may do given certain circumstances.

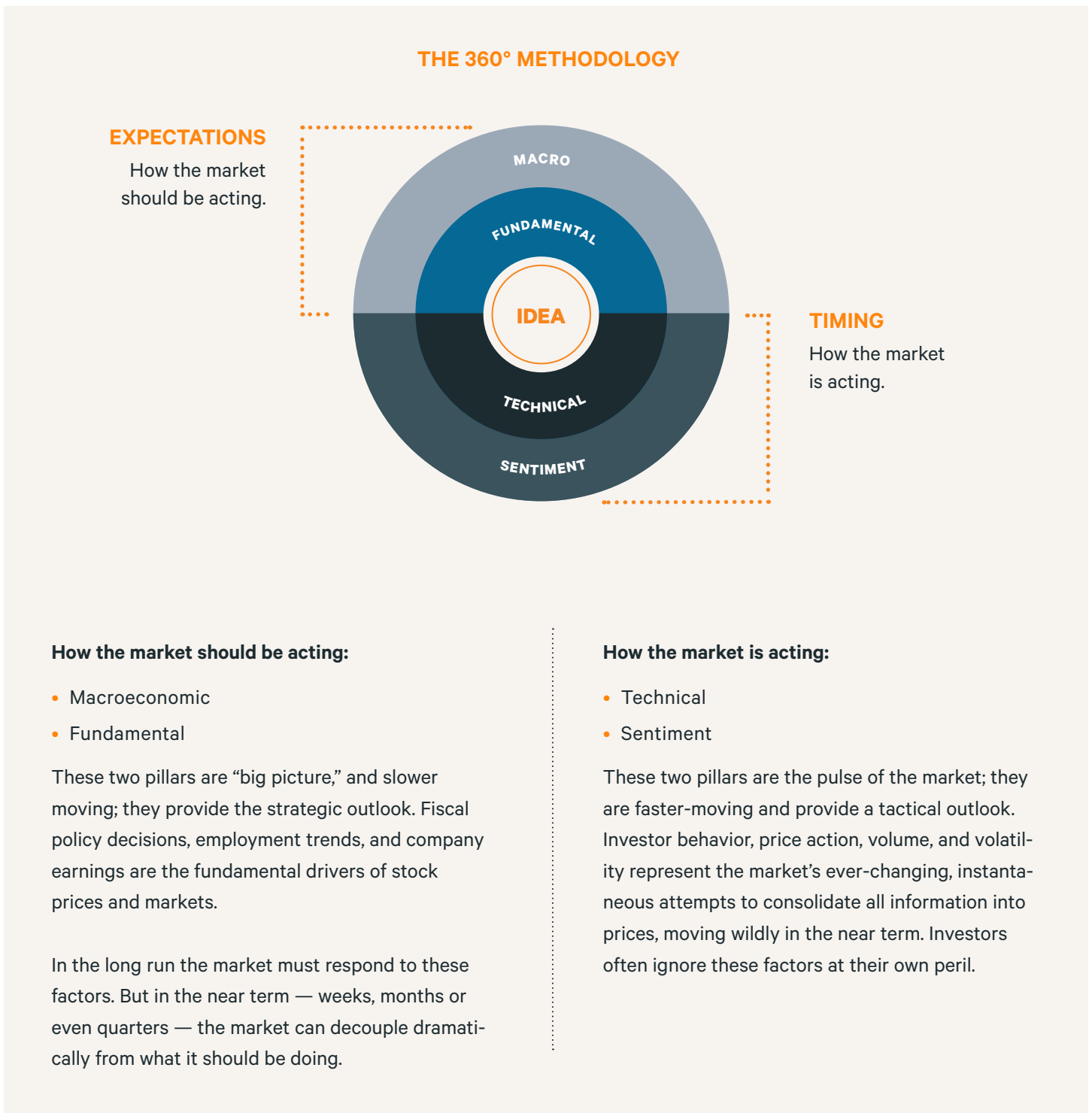
10. Apply Money Management Rules

We are more interested in helping our clients make money than being "right." Our goal is to help clients let profits run and cut losses short.



NDR's 360° Approach

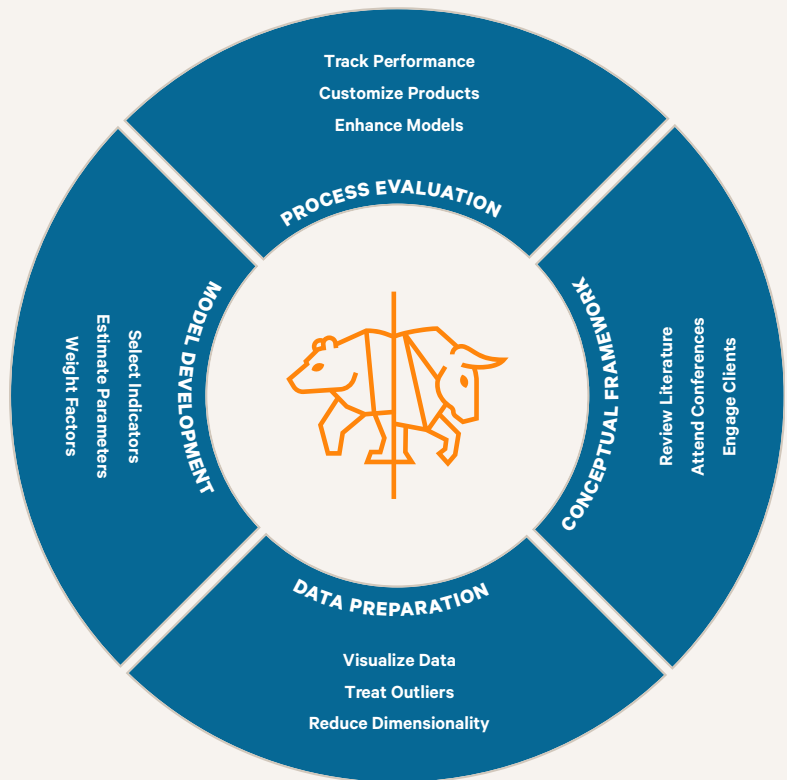
Understanding the drawbacks and combining the strengths of different investment styles is the most effective path to success. NDR builds investment recommendations by considering the weight-of-the-evidence, drawn from indicators across multiple investment pillars. As the evidence increases, so does our conviction. We use a 360° approach consisting of four traditional investment pillars.



Implementing the Weight-of-the-Evidence Framework

Model Development Process

- Develop and test hundreds of theoretically sound indicator relationships in collaboration with the expert strategist.
- Evaluate the indicator relationships to ensure that the same concept does not have excessive weight.
- Analyze these measures over time, as well as during parts of the macro and market environments.
- Review statistics such as return, volatility, consistency, peak decline, upside capture, downside capture, etc.
- Independent review by the NDR Index Committee, which meets and discusses the theoretical likelihood that the indicators and composite should persist.



This process is done in a feedback loop, as indicator predictive power evolves over time.

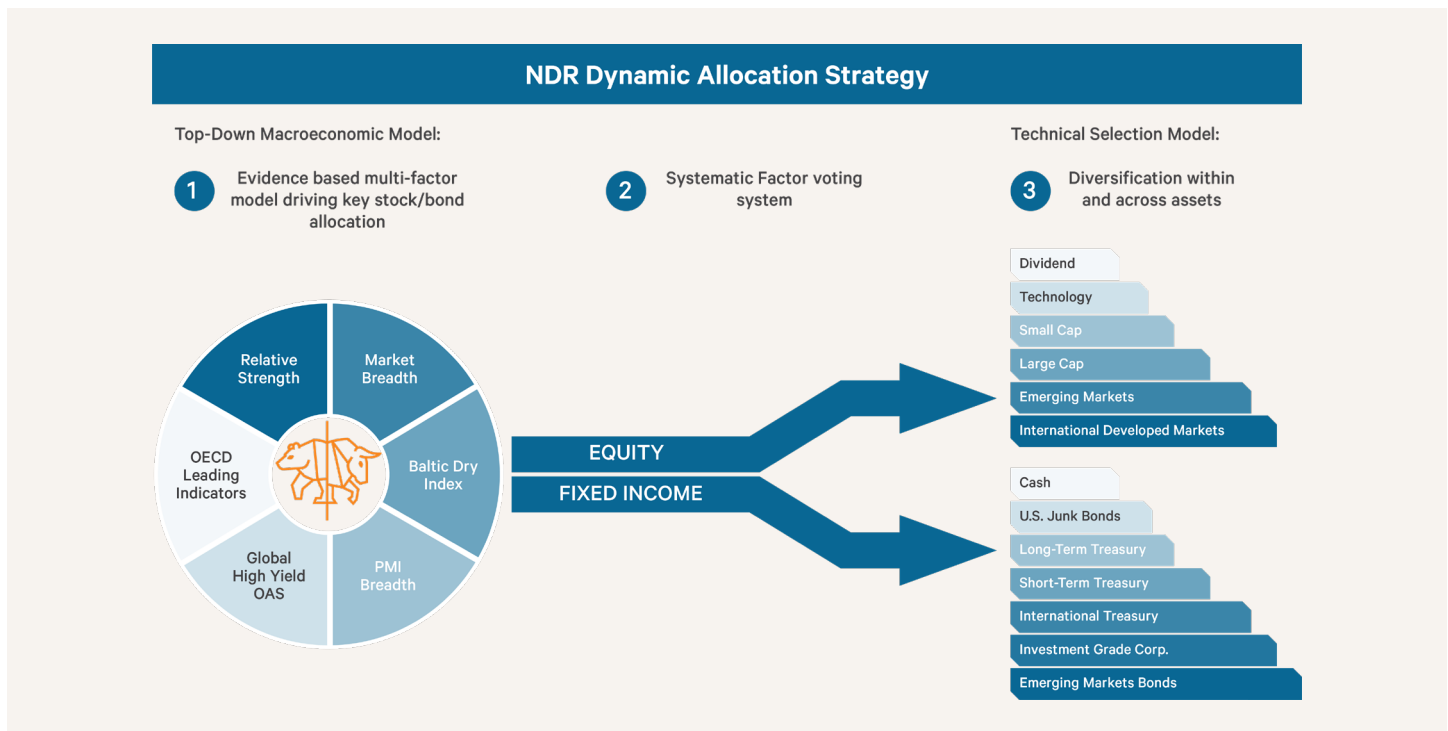


“We need an unbiased, objective standard that weighs the evidence and passes judgement devoid of emotionalism.”

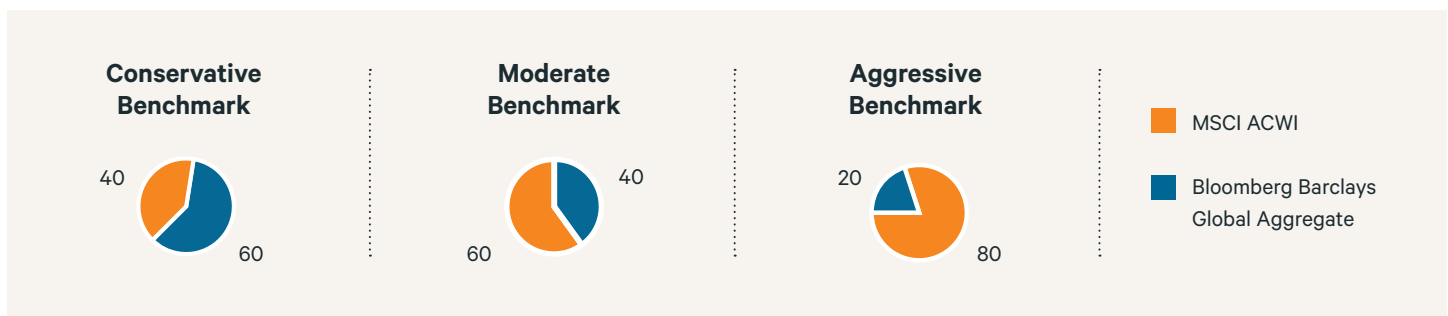
Ned Davis

NDR's Founder and Senior Advisor

Applying NDR's Approach to Global Allocation – The Dynamic Allocation Strategy Series



- This strategy is a high-conviction approach to allocating across and within stocks and bonds, while targeting 150% annual turnover. Both the top and second-level models are unconstrained. Although infrequent, given the current configuration, the model could allocate 100% to any single asset class. For the six equity and six fixed income segments, the allocation ranges between 0-35%.
- Top-level macroeconomic and technical model determines equity vs. fixed-income allocation using the 360-degree approach.
- Intra-asset allocations are based on trend-following, rate-of-change, and overbought/oversold indicators.
- The model is based on various equity and fixed income indices, allowing for discretionary selection of investment products for actual implementation.



Weighing the Indicators to Develop Tactical Asset Allocation Conviction

INDICATOR	TYPE	DEFINITION	INTERPRETATION
Global Stock/Bond Relative Strength Ratio Trend	Technical	Compares the relative strength (ratio) of global stocks versus bonds to its long-term moving average.	When the stock/bond ratio resides above (below) its long-term average, it has been better (worse) for stocks relative to bonds (on average).
Global Equity Market Breadth	Technical	Measures the percentage of global equity markets trading above their intermediate moving averages.	Elevated breadth is important because if many stocks rally, even if a few run into trouble, enough stocks remain in uptrends that they can support the popular averages.
Composite Leading Indicator	Macroeconomic	OECD Composite Leading Indicator to determine whether economic activity is improving or deteriorating in the near-term.	When the global economy is getting stronger (weaker), stocks typically outperform (underperform) bonds.
Baltic Dry Index	Macroeconomic	Contrasts the Baltic Dry Index, a measure of global shipping activity, to its intermediate moving average.	Above (below) trend global shipping activity, reflects robust (weak) economic growth, which favors stocks (bonds).
Purchasing Managers' Index	Macroeconomic/ Sentiment	The Purchasing Managers' Index (PMI), a survey of senior executives, measures the near-term percentage change of economies with expanding activity.	When more economies are reporting improvements (declines) in new orders, inventory, production, deliveries, and employment, economic activity is strengthening (weakening), which favors stocks (bonds).
Global High Yield Option-Adjusted Spread	Technical/ Sentiment	Measures the direction of the global high yield option-adjusted spreads (OAS) to determine the risk tolerance of fixed income investors.	Narrowing (widening) spreads reflect a growing (falling) risk appetite, which favors stocks (bonds).



“The degree of unprofitable anxiety in an investor’s life corresponds directly to the amount of time one spends dwelling on how an investment should be acting rather than the way it actually is acting.”

Ned Davis

NDR’s Founder and Senior Advisor



“Knowing the domestic and global macroeconomic backdrop is critical to understanding investment risk and opportunities and to putting clients on the right side of the major trends.”

Alejandra Grindal

NDR’s Chief Economist

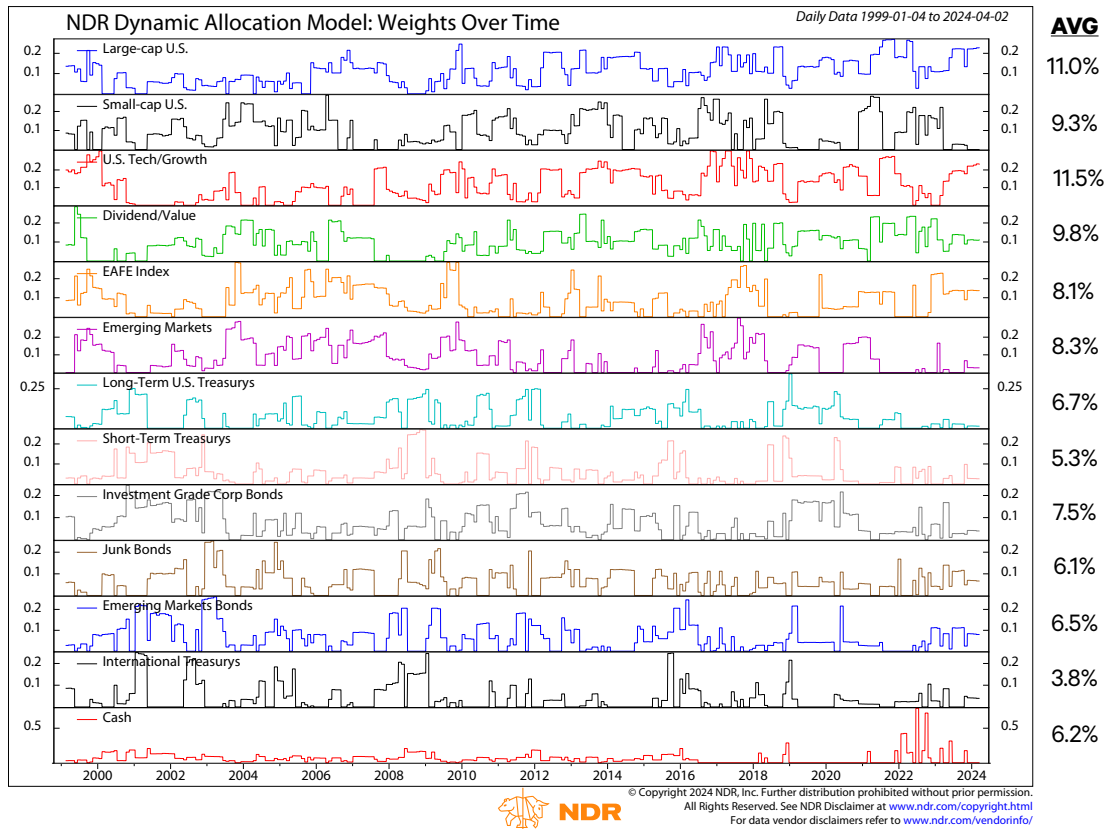


“The major benefit of a sentiment assessment is that it can enable you to place the current market action in the framework of risk and reward.”

Tim Hayes, CMT

NDR’s Chief Global Investment Strategist

Dynamic Allocation Strategy – Moderate Model’s Historical Weightings



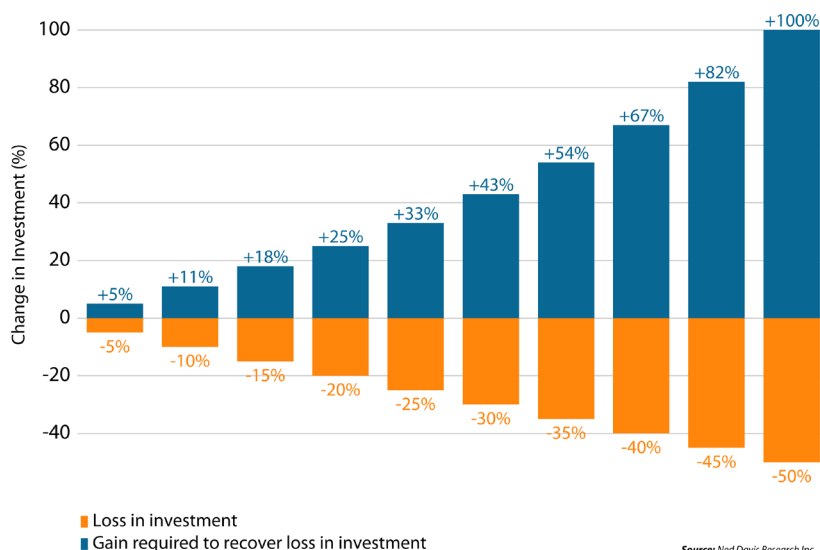
Weights are shown in decimal format

Notes:

- Analysis since the start of 1999. Includes backtest.
- Model published since October 2012.
- Internal assets tracking the model since August 2017.
- Minimum allocation is 0%
- Max allocation for an individual stock or bond area is ~35%.
- Max allocation for the stock, bond, or cash asset classes is 100%.
- Average stock/bond/cash allocation has been 58.0%/35.8%/6.2%

Dynamic Allocation Strategy – Risk Management

Larger gains are required to recover from losses (%)



Source: Ned Davis Research Inc.

EDU_5



NDR

© Copyright 2021 NDR, Inc. Further distribution prohibited without prior permission. All Rights Reserved. See NDR Disclaimer at www.ndr.com/copyright.html For data vendor disclaimers refer to www.ndr.com/vendorinfo/

Two of NDR's rules are:

- Be Risk-Aware
- Apply Money Management Rules

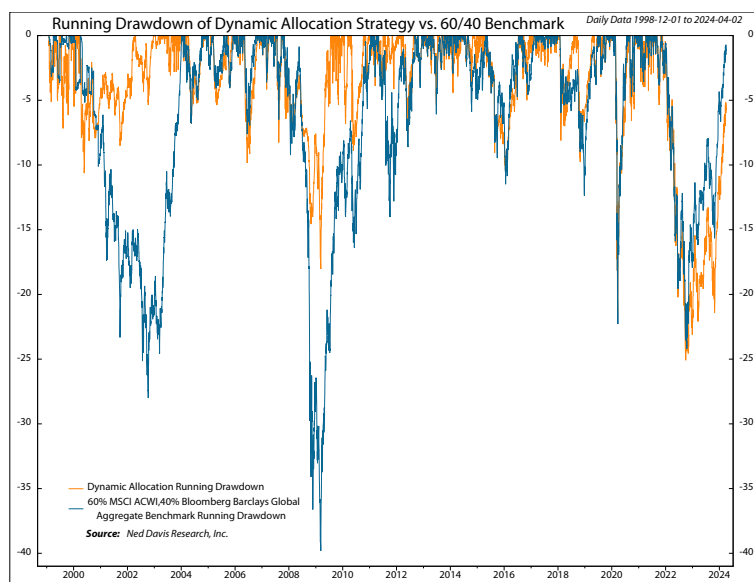
Large losses are very difficult to overcome. One of the keys to growing wealth is to minimize large losses.

“We are in the business of making mistakes. Winners make small mistakes, losers make big mistakes. Focus on risk management to keep mistakes small.”



Ned Davis

NDR's Founder and Senior Advisor



NDR

© Copyright 2024 NDR, Inc. Further distribution prohibited without prior permission. All Rights Reserved. See NDR Disclaimer at www.ndr.com/copyright.html For data vendor disclaimers refer to www.ndr.com/vendorinfo/

Reducing Drawdowns Are Critical When Taking Distributions

RETIREE WITH A \$1 MILLION PORTFOLIO INVESTED IN THE S&P 500 INDEX

Withdrawing \$50,000 Annually

10/9/2007	\$ 1,000,000	
12/31/2007	\$ 938,200	
1/1/2008		-\$ 50,000
1/1/2008	\$ 888,200	
12/31/2008	\$ 547,131	
1/1/2009		-\$ 50,000
1/1/2009	\$ 497,131	
3/9/2009	\$ 372,351	

Assumes taking 5% distributions during the 2007-2009 bear market.

The investor has withdrawn 10%, but lost ~59% of value.

Large drawdowns can devastate a retirement plan.

Risk Management Matters!

We explored historical corrections and evaluated their impact on long-term performance. The key takeaways of our analysis:

- “Portfolios with larger maximum declines tend to have lower risk-adjusted returns.”
- “More volatile markets tend to have larger maximum losses.”
- “Active strategies that can reasonably reduce the worst few declines result in significant gains.”

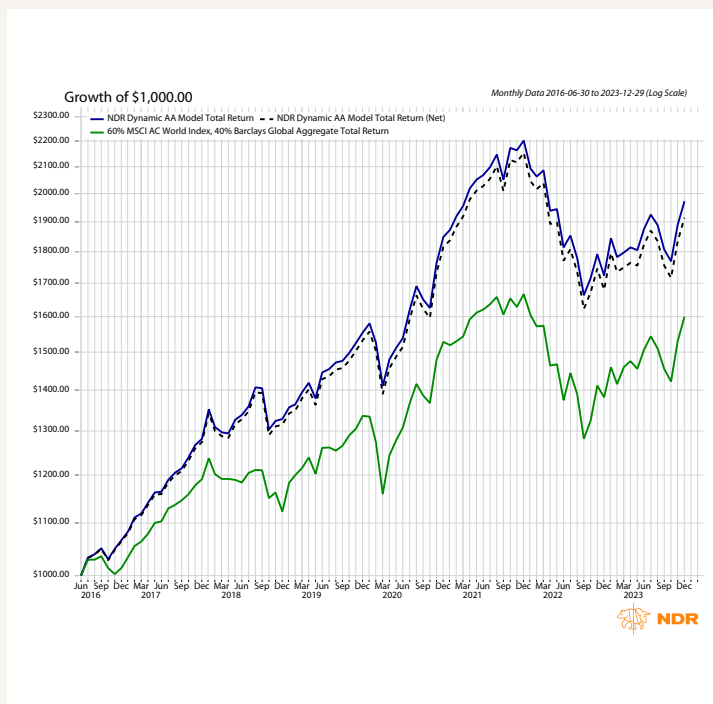


Amy Lubas, CFA
NDR’s VP,
Investment Solutions



Kiersten Engel
NDR’s Research &
Development Manager

Dynamic Allocation Strategy – Moderate Model Performance



REAL-TIME PERFORMANCE SUMMARY

Return Period	Gross (%)	Net of 0.4% Per Annum (%)	Benchmark (%)
1-yr Rolling (03/31/2023-03/28/2024)	17.11	16.64	14.09
3-yr Rolling (03/31/2021-03/28/2024)	2.46	2.05	2.56
5-yr Rolling (03/29/2019-03/28/2024)	8.55	8.12	6.48
Since Inception (08/31/2017-03/28/2024)	8.83	8.40	5.97

BACKTEST PERFORMANCE SUMMARY

Return Period	Gross (%)	Net of 0.4% Per Annum (%)	Benchmark (%)
10-yr Rolling (03/31/2014-03/28/2024)	8.82	8.38	5.61
Full History (01/29/1999-03/28/2024)	10.92	10.48	5.41

RISK STATISTICS (01/29/1999-03/28/2024)

Statistic	Gross (%)	Net of 0.4% Per Annum (%)	Benchmark (%)
Standard Deviation	9.35	9.35	10.56
Downside Deviation	5.45	5.50	7.07
Sharpe Ratio	0.97	0.93	0.34
Beta (Relative to Benchmark)	0.73	0.73	1.00
Upside Capture	102.46	100.83	100.00
Downside Capture	60.03	61.31	100.00
Max Drawdown	-24.48 (12/31/2021-09/30/2022)	-24.70 (12/31/2021-09/30/2022)	-36.80 (10/31/2007-02/27/2009)

The 60/40 benchmark is based on the MSCI ACWI and Bloomberg Barclays Global Aggregate. Returns based on monthly rebalancing. Net returns are based on fees of 0.4% per annum. Past performance is not a guarantee of future results.

Dynamic Allocation Strategy – Macroeconomic Influences

Asset Returns Around Recession Start Dates



“Since MSCI ACWI data began in the late 1980s, large drawdowns in global equities have exclusively occurred in or around these global [economic] slowdowns.”



Alejandra Grindal

NDR's Chief Economist

“During ‘The Golden Age of 60/40,’ from 1982 to 2020, 60/40 portfolios performed extremely well as inflation fell. If inflation settles in a range above the Federal Reserve’s 2% inflation target, investors will find it harder to make money through a passive 60/40 approach.” - Joe Kalish, NDR’s Chief Global Macro Strategist

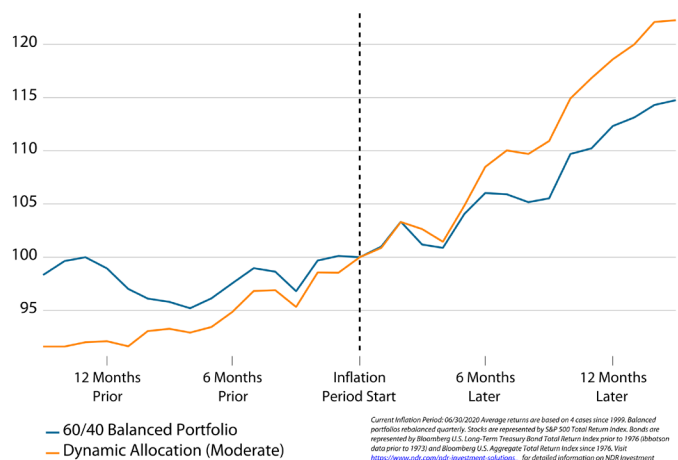
“A more active approach in terms of asset allocation, geographical positioning, and sector/industry/security selection will pay a greater role in generating returns.”



Joe Kalish

NDR's Chief Global Macro Strategist

Asset Returns Around Inflation Period Start Dates



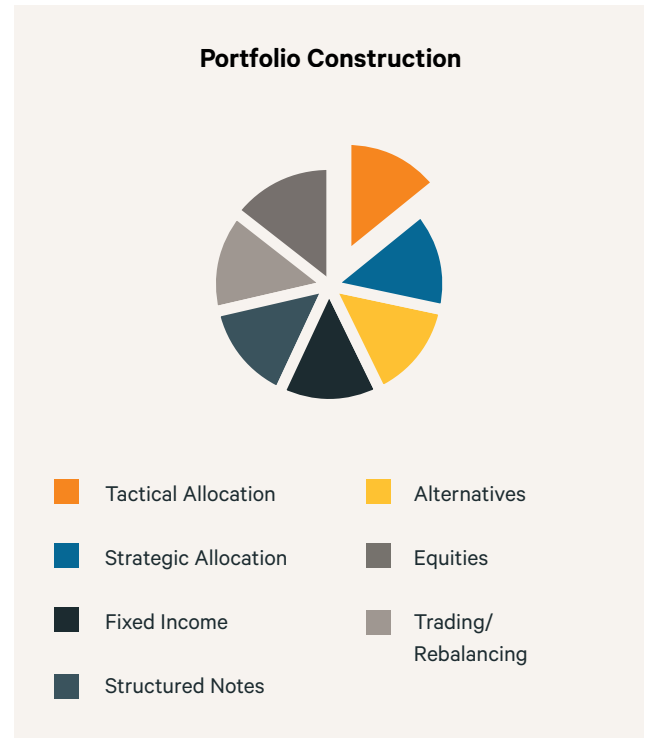
Benefits of an NDR Investment Solutions Partnership

Tactical Allocation

- Focus on your core competencies (e.g., stock selection or alternatives placement).
- Leverage the expertise of an experienced firm focused on tactical allocation.
- Expand your firm's offering while maintaining control over investment management.
- Reduce the operational risk and improve trade rationale in area(s) where you are not an expert.
- Customize the asset allocation to fit your various client risk profiles.

Scale Your Practice

- Grow your team with an independent, institutional-quality partner.
- Access skills and competencies beyond your firm's budget.
- Lower operational risk of running a model portfolio by having an external team supporting your efforts.
- Simplify portfolio decisions using a model-driven approach with supporting trade rationale documentation.
- Free up to 50% of your time* to spend on servicing clients, financial planning, managing your practice, and developing your skills.



YOUR FOCUS ✓

— PARTNERSHIP —

✓ YOUR FOCUS

Client Servicing

Client meetings
Responding to client communications
Financial planning/goal setting
Client education
Marketing to clients

Investment Management

Investment research
Asset allocation
Security selection
Manager due diligence
Rebalancing portfolios
Portfolio Construction
Trade Rationales

Practice/Personal Development

Prospecting
Marketing
Compliance
Technology
Business strategy
Staff development
Personal development

* Capital Group. "Pathways to Growth. 2022 Advisor Benchmark Study". 50% of advisor time spent on investment management, preparing for/conducting client meetings, and preparing for/conducting client education/training.

NDR MODEL PORTFOLIOS

Dynamic Allocation



A high conviction (large tracking error) approach to global asset allocation. Invests across 13 different assets including U.S. equity styles, global equity regions, fixed income sectors, and cash.

Fixed Income Allocation



Allocates across nine fixed income sectors including duration, quality, and geography.

Global Allocation



Overweights and underweights global asset classes and equity regions relative to a 60/40 benchmark.

International Equity Allocation



Seeks larger and smaller non-U.S. equity markets with favorable attributes.

U.S. Sector Allocation



Assigns tactical weightings across eleven equity sectors relative to the U.S. large-cap space.

DAY HAGAN/NDR SMART SECTOR MODEL PORTFOLIOS

Smart Sector® Balanced Portfolios



Strategic allocations to U.S. equities, international equities, and fixed income using the Smart Sector® framework.

Smart Sector® Fixed Income



Raises up to 50% cash from areas correlated to equities during periods of market stress. For the invested position, the strategy allocates across nine fixed income sectors including duration, quality, and geography.

Smart Sector® Global Tactical Allocation



Overweights and underweights global asset classes, equity regions, and U.S. equity styles relative to a 60/40 benchmark.

Smart Sector® International Equity



Raises up to 50% cash during periods of market stress. For the invested position, the strategy seeks larger and smaller non-U.S. equity markets with favorable attributes.

Smart Sector® U.S. Equity



Raises up to 50% cash during periods of market stress. For the invested position, the strategy assigns tactical weightings across eleven equity sectors relative to the U.S. large-cap space.

How to Access

Direct Delivery

Platforms

Amplify
C8 Technologies
Envestnet
GeoWealth
SMARTX
Vestmark

Single Cusip

Smart Sector® Series
(www.dhfunds.com)

Benefits of an NDR Investment Solutions Partnership

“Wealth managers can further enhance their practice using the customization, private label, and turnkey model portfolio capabilities within NDR’s Investment Solutions.”



Brian Sanborn, CFA

NDR’s Global Head of Investment Solutions

- Customized model portfolios
- Bespoke model portfolios
- Client-friendly newsletter (private-labeled or co-branded)
- Model portfolio commentary (private-labeled or co-branded)
- Model portfolio factsheets (private-labeled or co-branded)
- Client communication materials
- Access to institutional research
- Interactive charts and studies
- Redistribution rights to externally offer NDR models
- Access to NDR’s strategists for your own events or webinars
- Sponsorship opportunities for your events



Contact us

Reach out to learn more about the best combination of services, research, and model delivery to enhance your practice.

Brian Sanborn, CFA
Managing Director,
Global Head of Investment Solutions

Ned Davis Research
 brian.sanborn@ndr.com
 P: 941.412.2352

www.ndr.com
www.linkedin.com/company/ned-davis-research-inc.

Amy Lubas, CFA
VP, Investment Solutions

Ned Davis Research
 amy.lubas@ndr.com
 P: 941.412.2391

www.ndr.com
www.linkedin.com/company/ned-davis-research-inc.

NED DAVIS RESEARCH

InvestmentSolutions@ndr.com
www.ndr.com
(800) 241-0621

SARASOTA

3665 Bee Ridge Road Suite 306
Sarasota, FL 34233
United States
800 241 0621 (U.S. & Canada)
(941) 412-2300

NEW YORK

1270 Avenue of the Americas
11th Floor
New York, NY 10020
(646) 810-7270

LONDON

4 Bouverie Street
Temple, London
EC4Y 8AX
+44 (0) 20 7779-8682

HONG KONG

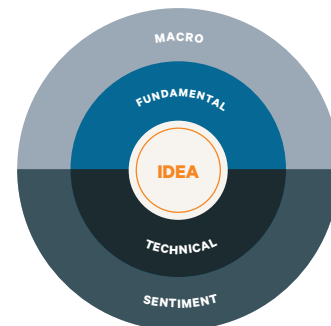
12/F, V-Point, 18 Tang Lung Street,
Causeway Bay
Hong Kong
+852 3416 6676



NDR
NED DAVIS RESEARCH

See the signals.™

Founded in 1980, Ned Davis Research Group is a leading independent research firm with clients around the globe. With a range of products and services utilizing a 360° methodology, we deliver award-winning solutions to the world's leading investment management companies. Our clients include professionals from global investment firms, banks, insurance companies, mutual funds, hedge funds, pension and endowment funds, and registered investment advisors.



Important Information and Disclaimers

Important Information and Disclaimers NDR (Ned Davis Research) uses the weight of the evidence and a 360-degree approach to build up to market insights. When we say “evidence,” we mean processing millions of data series to fuel a historical perspective, build proprietary indicators and models, and calm investors in a world full of bull/bear news hype and hysteria. We believe that no client is too big or too small to benefit from NDR's insights.

The data and analysis contained in NDR's publications are provided “as is” and without warranty of any kind, either expressed or implied. The information is based on data believed to be reliable, but it is not guaranteed. **NDR DISCLAIMS ANY AND ALL EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, ANY WARRANTIES OF MERCHANTABILITY, SUITABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR USE.**

NDR's reports reflect opinions of our analysts as of the date of each report, and they will not necessarily be updated as views or information change. All opinions expressed therein are subject to change without notice, and you should always obtain current information and perform due diligence before trading. NDR or its affiliated companies or their respective shareholders, directors, officers and/or employees, may have long or short positions in the securities discussed in NDR's publications and may purchase or sell such securities without notice.

NDR uses and has historically used various methods to evaluate investments which may, at times, produce contradictory recommendations with respect to the same securities. When evaluating the results of prior NDR recommendations or NDR performance rankings, one should also consider that **NDR may modify the methods it uses to evaluate investment opportunities from time to time, that model results do not impute or show the compounded adverse effect of transaction costs or management fees or reflect actual investment results, that other less successful recommendations made by NDR are not included with these model performance reports, that some model results do not reflect actual historical recommendations, and that investment models are necessarily constructed with the benefit of hindsight. Unless specifically noted on a chart, report, or other device, all performance measures are purely hypothetical, and are the results of back-tested methodologies using data and analysis over time periods that pre-dated the creation of the analysis and do not reflect tax consequences, execution, commissions, and other trading costs. For these and for many other reasons, the performance of NDR's past recommendations and model results are not a guarantee of future results.**

Using any graph, chart, formula, model, or other device to assist in deciding which securities to trade or when to trade them presents many difficulties and their effectiveness has significant limitations, including that prior patterns may not repeat themselves continuously or on any particular occasion. In addition, market participants using such devices can impact the market in a way that changes the effectiveness of such devices. NDR believes no individual graph, chart, formula, model, or other device should be used as the sole basis for any investment decision and suggests that all market participants consider differing viewpoints and use a weight of the evidence approach that fits their investment needs. Any particular piece of content or commentary may or may not be representative of the NDR House View, and may not align with any of the other content or commentary that is provided in the service. Performance measures on any chart or report are not intended to represent the performance of an investment account or portfolio, as some formulas or models may have superior or inferior results over differing time periods based upon macro-economic or investment market regimes. NDR generally provides a full history of a formula or model's hypothetical performance, which often reflects an “all in” investment of the represented market or security during “buy”, “bullish”, or similar recommendations. This approach is not indicative of the intended usage of the recommendation in a client's portfolio, and for this reason NDR does not typically display returns as would be commonly stated when reporting portfolio performance. Clients seeking the usage of any NDR content in a simulated portfolio back-test should contact their account representative to discuss testing that NDR can perform using the client's specific risk tolerances, fees, and other constraints.

NDR's reports are not intended to be the primary basis for investment decisions and are not designed to meet the particular investment needs of any investor. The reports do not address the suitability of any particular investment for any particular investor. The reports do not address the tax consequences of securities, investments, or strategies, and investors should consult their tax advisors before making investment decisions. Investors should seek professional advice before making investment decisions. The reports are not an offer or the solicitation of an offer to buy or to sell a security.

Further distribution prohibited without prior permission. Full terms of service, including copyrights, terms of use, and disclaimers are available at <https://www.ndr.com/web/ndr/terms-of-service>. For data vendor disclaimers, refer to www.ndr.com/vendorinfo.

Copyright 2024 (c) Ned Davis Research, Inc. All rights reserved.

