Harnessing Secular Growth Themes Within Portfolios

Integrating global thematic equity strategies.

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Samya Bhattacharyya
Associate Quant Analyst
samya.bhattacharyya@morningstar.com

Manan Agarwal
Quant Analyst
manan.agarwal@morningstar.com

Sabeeh Ashhar
Director of Quant Research
sabeeh.ashhar@morningstar.com

Executive Summary

Investors have traditionally viewed portfolio construction in terms of asset class, style, regional, and sector allocations. Globalization and macroeconomic dynamics are diminishing the impact of these allocations. Thematic funds are representations of secular growth themes focused on capturing transformational macroeconomic, technological, and ecological trends and have tremendous capability to enhance portfolio outcomes. Because of their underlying potential, they have grown in popularity recently, with a slew of new product launches. Investors are hence keen to evaluate distinct approaches for incorporating thematic funds within existing portfolios.

In this paper, we focus on understanding the key considerations involved in incorporating global equity thematic funds within portfolios. Our findings will be of interest to advisors and individual investors who wish to connect their portfolios to the evolving universe of equity thematic funds.

Key Takeaways

- Thoroughly carving out a space for thematic equity funds within portfolios offers a unique opportunity to boost investor outcomes.
- Equity thematic funds have varied levels of risk (factor and sector) and reward profiles over their lifetimes, indicating a need for multi-thematic portfolio construction.
- Across target-risk allocations, investors can look forward to having a 10% to 20% preferred allocation to thematic funds.
- Thematic-intensive strategies should be periodically rebalanced (three to six months), and investors should hold these assets for longer periods (optimally three years) to derive maximum value.
- Sustainable funds differ from thematic funds in that they address the third investment dimension of ESG and are less volatile. There is a common ground for funds that are both sustainable and offer the opportunity to capture secular growth themes. These themes are based around energy transition, future mobility, life sciences, and resource management.
- There is a need for robust portfolio implementation while incorporating thematic funds. To this end, investors can benefit from exposure to actively managed broad thematic funds, which provide multiple managed exposure to diverse themes.

Introduction

Traditionally, portfolio construction has been focused on managing asset-class exposure over the investment horizon while ensuring risk management discipline. The exposures are governed through dynamics associated with market cycles, business cycles, and macro factors. As mentioned in the article "Inescapable Investment Truths for the Decade Ahead" there are persistent trends associated with these dynamics such as prolonged periods of slow economic growth, sluggish growth in the labor force, poor productivity growth, aging population, and low interest rates. Further, with the unwinding of quantitative easing after the pandemic there are greater macro factors in play, pointing to uncertainty in corporate earnings and consequently lower expected returns from the market. Globalization and synchronized interest-rate cycles are also making geographic allocations less important now. In addition, passive and active equity strategies use benchmarks with geography, sector, and style as reference points for building portfolios and measuring performance. The benchmarks are generally weighted by market capitalization and encode an extrapolation of the past into the future. This may also not be a good indicator of future returns. From a portfolio construction standpoint, this means that investors would have to rethink their traditional 60-40 portfolio allocations while catering to meeting lifestyle and retirement goals. Investors will have to focus more on accepting and understanding future return streams that are driven by disruptions and structural changes around technological innovation, consumer habits, business models, economies, markets, regulations, and societal norms, among other things.

Thematic funds are well-placed to harness these secular growth themes and have grown in popularity recently. As per Morningstar's Global Thematic Funds Landscape published in 2022, these funds now represent 2.1% of total equity funds, up from 0.6% a few years ago. In 2021 alone, 589 new thematic funds were launched. While tilting their portfolios toward such themes, investors are essentially taking a bet on investments that offer exposure to such disruptions and structural changes at an attractive valuation, while their portfolio is still aligned with their long-term goals. Thematic funds, however, pose distinct attributes, entailing a differentiated evaluation. First, many such themes are in their nascent stages, and it is often difficult to evaluate performance owing to the limited availability of data. Second, theme performance can generally span over multiple years as evidenced by the rapid growth of the energy transition theme focused on reducing carbon emissions after the Paris Agreement. Third, different themes could be in different life stages at any given point in time, demonstrating differing risk and reward profiles. In early life phases there is often uncertainty around the acceptance of a theme, leading to high volatility of returns. Being exposed to small-cap and growth holdings at onset, most themes also exhibit capacity issues where the marginal increase in returns does not justify the new fund inflows. Fourth, many thematic funds are launched in the later stages of bull runs and have a high probability of shutting down being unable to maintain performance. Last, themes often evolve and overlap with each other in terms of style risks like over-reliance on the growth factor and sector risks (technology, healthcare). Given the considerations here, investors would benefit from a robust implementation framework focused on incorporating multiple themes in parallel.

The key focus of this paper is addressing these considerations, which would allow investors to make an informed decision. We first evaluate the distinct attributes of thematic funds that will put up front the key considerations thematic investors need to make. Next, we try to identify preferred portfolio allocations based on distinct investor risk profiles. In line with this, we try to identify tactical strategy parameters such as the optimal holding period and optimal rebalancing frequency. Many investors are also keen to look at a third investment dimension—sustainability—and we will focus on establishing how thematic and sustainable investments are aligned. Last, given the multiple aspects involved in thematic implementation, we will analyze broad thematic funds that allow investors more actively managed exposure to multiple themes. We will use the universe of thematic funds tagged by Morningstar Manager Research as a base throughout this paper.

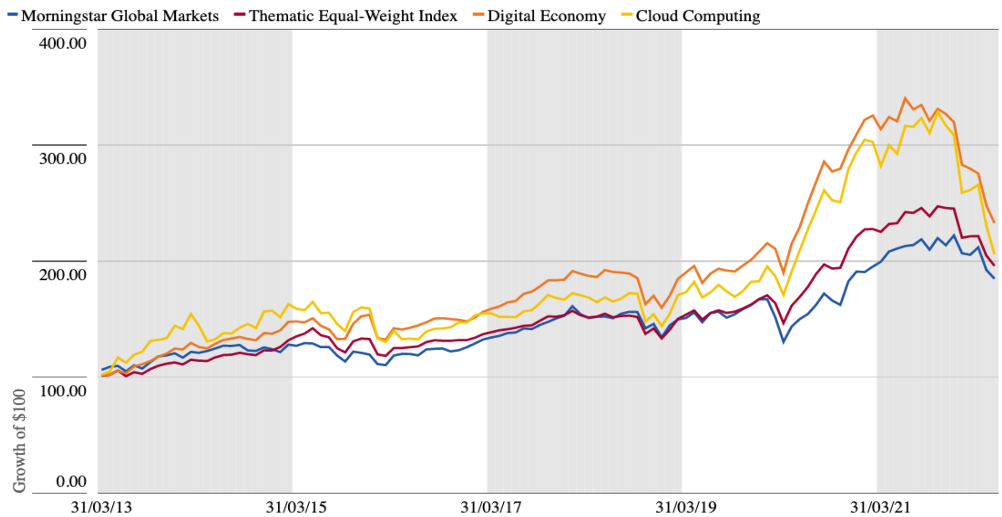
Are Thematic Funds Worth Adding to Portfolios?

Let us first understand the distinctive attributes of thematic funds that differentiate them from equity funds. To that end, we first create a hypothetical equal-weighted, quarterly rebalanced thematic factor based on a universe of 2,700 thematic funds tagged by the Morningstar Manager Research team. This would allow for a thorough evaluation as different themes (and consequently funds tracking such themes) have incepted and closed over different periods. As most themes have mushroomed only after 2012, we use 2013 to May 2022 as the period of reference for all evaluations and analysis. Exhibits 1 and 2 depict the performance of the equal-weighted thematic index against the Morningstar Global Markets Index. We can see that the equal-weighted thematic factor consistently generates better returns. If we resolve to the performance of stable themes such as cloud computing and digital economy, the returns are even better while also giving superior risk-adjusted performance. Themes are driven by disruptions and structural changes. They tend to have a S-shaped adoption curve and generally have distinct points in their lifecycle that marks their advancement from one phase to the next. For instance, in the case of cloud computing in Exhibit 2, the tipping point was the onset of the novel coronavirus pandemic in early 2020, which expedited the acceptance of several applications of the cloud computing domain, especially those that enabled digitalization and aided in creating virtual environments. Consequently, the theme saw a major performance bump during the period. Because of this underlying nature, certain themes will demonstrate higher volatility.

Exhibit 1: Annualized Performance Summary Comparison of Themes and Global Equities

Performance Summary	Morningstar Global Markets	Thematic Equal-Weight Index	Digital Economy	Cloud Computing
CAGR	6.28%	7.48%	9.48%	8.50%
Volatility	14.61%	16.87%	23.05%	26.54%
Return / Risk	0.4	0.45	0.41	0.42
Max. Drawdown	-22.06%	-20.74%	-31.59%	-37.37%

Exhibit 2: Growth of $100 Invested in Thematic Index, Global Index, and Select Themes

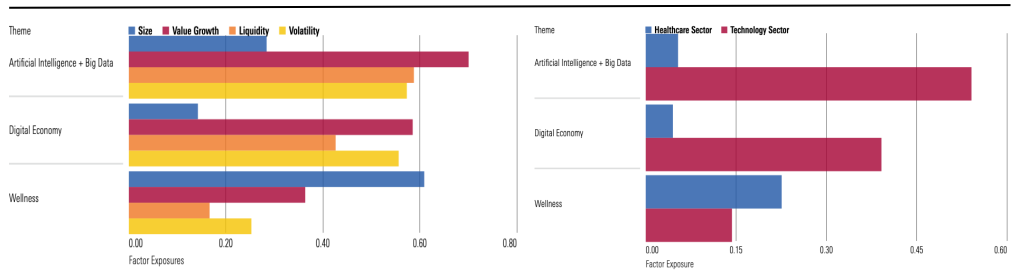


Source: Morningstar Data

Factor Lens on Themes

When managing strategic asset allocations within a multi-asset framework, it is critical to understand a portfolio's risk exposures via a set of cross-asset factors that are broad, persistent drivers of return. The Morningstar Risk Model provides clear definitions (for example, style/sector/region/yield/carry) of these factors that are broadly independent of each other. These orthogonal factors define most of the systematic portfolio risk. When incorporating thematic components into a portfolio, it is important to ensure we have an intricate framework that allows investors to analyze the incremental risk factor exposures from these thematic positions. Exhibit 3 demonstrates exposures across themes to specific style and sector factors coming from the Morningstar Risk Model. A positive tilt toward value-growth and size implies positive exposure to the growth factor and indicates that such funds generally have small-cap holdings. Themes are also overexposed to the tech and healthcare sectors.

Exhibit 3: Factor and Sector Exposures Snippet for Select Themes

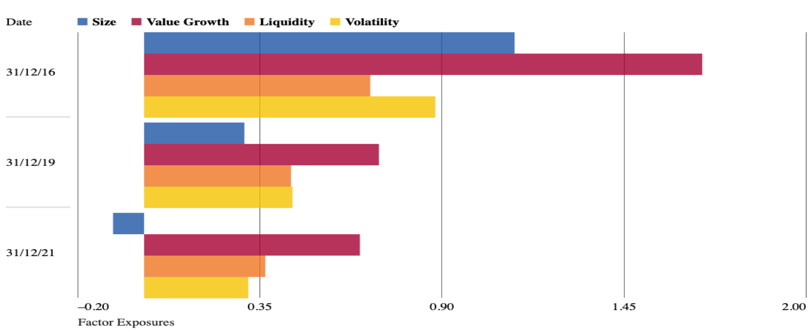


Source: Mornignstar Risk Model Data as of May 20, 2022.

Source: Mornignstar Risk Model Data as of May 20, 2022.

Further, we evaluate the evolution of exposure to style factors over time. In Exhibit 4, we analyze the exposures for the digital economy theme. We find that the style factor exposures evolve over the life of these themes being tilted toward aggressive small-cap and growth factors during early phases that gradually tapers off over time as the theme matures. We believe that an early exposure to thematic funds can help position investors for the Morningstar Global Markets Index (an index that represents the width of the global equities space) of the future. Meanwhile, if an investor allocates to the Morningstar Global Markets Index, stock exposures will always be backward-looking—based on success in the past. Thematic tilted portfolios should constitute fewer mega-cap companies than most traditional indexes. This has significant investment implications. There is a large body of evidence showing that the stocks of specialized firms do better than those of large, diversified companies over the long run. Large firms suffer from what is known as the conglomerate discount. Put another way, broadly diversified companies are worth less than the sum of their parts. By contrast, specialized firms–sometimes known as pure-play companies–typically have a much clearer view of their strategic priorities and concentrate spending in areas that promise the strongest growth. Their capital allocation is more efficient, which in turn builds a premium into their share prices over time.

Exhibit 4: Evolution of Factor Exposure Over Time for the Digital Economy Theme

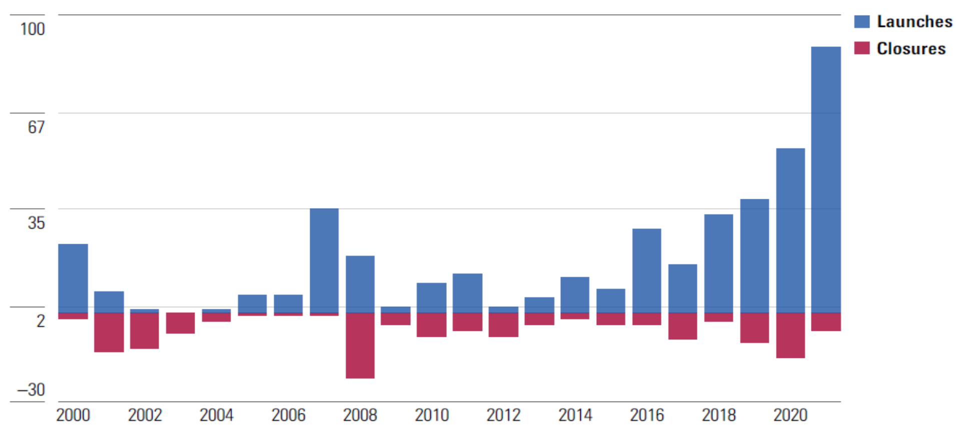


Source: Morningstar Risk Model Data as of May 20, 2022.

Taking on exposure to themes early in their life cycle—ideally during their incubation—would be ideal. Market forecasters have mostly underestimated the pace of adoption of themes, especially in their early stages. For instance, the International Energy Agency estimated back in 2009 that it would take the world until 2030 to hit 200 gigawatts of installed solar capacity. That level, however, took just six years to reach. As of the end of 2021, the world has an installed solar capacity of 850 GW, with an average of 125 GW of new capacity expected globally between 2021 and 2025. Another commonly observed trend is investors losing faith in a theme when adoption is slower than expected in the early phase. We feel Bill Gates summed this up well when he said, "We always overestimate the change that will occur in the next two years and underestimate the change that will occur in the next 10. Do not let yourself be lulled into inaction." Thematic equities have, on average, outperformed global equities.

However, on the flip side, thematic funds do have shorter life spans. Many thematic products are launched when there is a consensus among market forecasters pointing toward maturity of the theme. The theme sees outperformance for some time following such consensus, and there is a proliferation of products trying to capture the "new" source of outperformance. Not long after, the party ends, and such products are often unable to sustain performance and face a risk of shutting down. Exhibit 5 depicts the funds launched each year since 2000. Looking at periods around 2001, 2008, and 2020 (years when the equity market saw major drawdowns), there is evidence to believe that when the market takes a hit, many existing thematic funds face closure. Also, notice that the period leading up to each of these crises was a bull run. The years 2000, 2007, and 2019 saw an all-time high (as of that year) in the number of new fund launches. This cements our stance that most of these funds have historically been launched during the later stages of a strong equity market, increasing the risk of severe underperformance (and even closure) after launch.

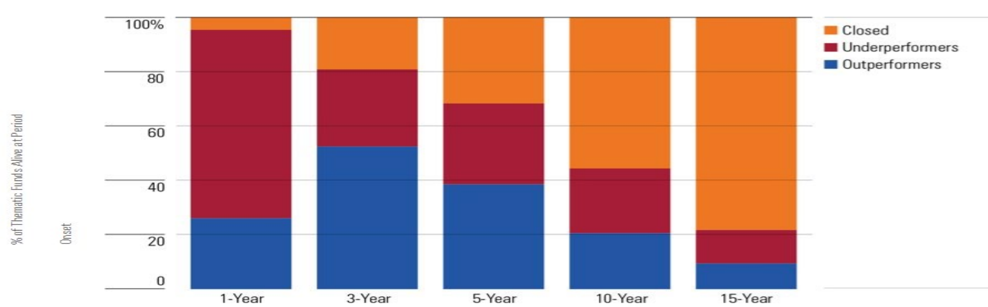
Exhibit 5: New Fund Launches and Fund Closures by Year



Source: Morningstar Research. Data as of 31 December 2021.

Exhibit 6 reveals an even nastier trend. As of the end of 2021, about 30% of funds launched over the past five years were shut down. Over the past 15 years, that number was almost 80%. Even out of those that survived, just about 3% of funds outperformed their benchmarks. Investing in the strategy seems too risky and no better than arranging all the funds in alphabetical order and picking out every 13th one, for instance. Investing in thematic funds thus requires investors to perform a careful and comprehensive analysis of underlying life cycle attributes like factor exposures, fund attributes, and market cycles and smartly identify and incorporate the best bets into their portfolio—an avenue we shall explore in greater depth later.

Exhibit 6: Relative Performance of Thematic Funds as a Percentage of All Thematic Funds



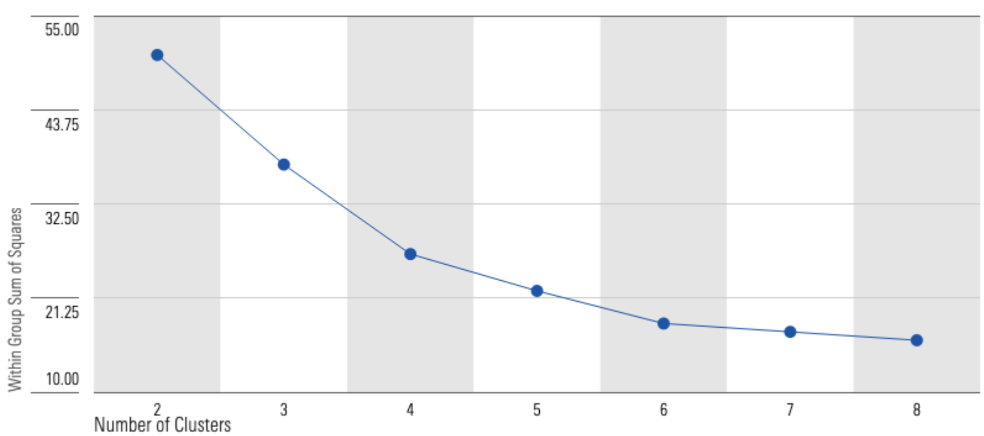
Source: Morningstar Research. Data as of 31 Dec 2021

Natural Groupings of Themes Based on Life Cycle

In the previous section, we established the importance of entering themes early in their life cycle. With the premise set, we want to identify a set of attributes that can help us establish a natural grouping of funds based on where they are in their lifecycle. This would help investors take a position in themes according to their risk appetite. To this end, we use clustering, a statistical technique that helps in determination of natural groupings based on patterns in the underlying data. K-means clustering is one such technique. These groupings vary in factor exposures and are also differentiated by underlying attributes. We use the following fund attributes and factor exposures to identify natural groups of funds that coexisted between 2013 and 2022 to disallow any recency bias in our analysis:

1. Organic growth rate
2. Assets under management
3. New product launches
4. Product shutdowns
5. Growth factor exposure determined by risk model
6. Size factor exposure determined by risk model
7. Liquidity score determined by risk model
8. Volatility score determined by risk model

Exhibit 7: Scree Plot



The scree plot displayed in Exhibit 7 is a popular technique used to determine the number of natural groupings statistically. It captures the percentage of variance in the data captured through the addition of new clusters. We look for an elbow pattern in the graph to determine the optimal number of clusters—in the current case, around four. Based on the clustering, we do a further profiling and assess the properties of the four clusters driven by the eight parameters previously mentioned. Exhibit 8 shows the interpretations of the four clusters and their properties. We have accordingly named the clusters as incubation, early growth, late growth, and maturity.

Exhibit 8: Natural Life Stage Clusters and Their Characteristics

Stage	Net Assets	Organic Growth	Size Exposure	Volatility	Value-Growth
Incubation	Low	Low	Small Caps	Very High	High Growth
Early Growth	Medium	Medium	Small & Mid Cap	High	Growth
Late Growth	High	High	Mid & Large Cap	Medium	Low Growth
Maturity	High	Low	Large Cap	Low	Value

These groups align well with the S-curve adoption theory and are in line with what we would typically expect with disruptive technologies and trends. While in the incubation phase, we would expect high-volatility and smaller-sized companies reflecting faster and uncertain growth rates leading to frequent changes in return expectations. As these small disruptive companies grow and outperform to become large market participants, exposure shifts from high-growth to lower-growth zones and the theme moves toward maturity. Again, this is what we would typically expect: Early in their lives, companies reinvest cash to expedite business growth instead of returning it to shareholders.

By the time a theme starts to mature, it might be too late to invest, because the theme has already run its course or the valuations are too expensive, and the return generation mechanism is no longer tenable. Large numbers of thematic funds launch during this phase, and at this point it is too late for investors to enter and reap the benefits associated with thematic investing. Consequently, very few funds show outperformance against broader markets beyond this stage.

We analyze themes from 2013 through 2022 to determine the relative evolution of themes over time. Exhibit 8 demonstrates the evolution of the energy transition theme. The theme appears to be in an incubation phase in 2013. After 2017, there was a spurt in the number of new product launches. Not surprisingly, this coincides with the Paris Agreement, where a commitment was made to transition toward a net zero-carbon economy. The theme seems to be maturing now, and there is a tapering effect, indicating there is crowding in the theme; most fund managers have adopted the underlying idea of including clean energy as a key attribute during fund construction.

Exhibit 9: S-Shaped Adoption Curve for Energy Transition Theme

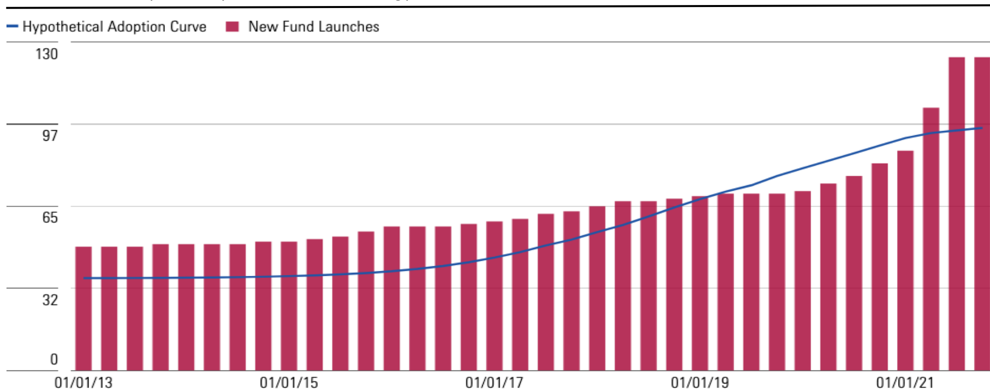


Exhibit 10 demonstrates the relative placement of themes as of May 2022 on the adoption curve. Owing to differentiated investor risk appetite and life stage events, there is a need to have exposure to varied baskets of themes. We will cover these aspects in the next sections.

Exhibit 10: Current Stages of Various Themes in the Thematic Life Cycle

Incubation	Early Growth	Late Growth	Maturity
Digital Media	Cannabis	Battery Technology	Consumer
Future Mobility	Food	Cloud Computing	Energy Transition
Logistics & Transportation	Security	Cyber Security	Life Sciences
Political	Wellness	Digital Economy	
Virtual Reality & Gaming		Fintech	
		Robotics & Automation	

Building Thematic Flavored Portfolios

Over the past couple of sections, we have seen that adding a thematic flavor can often be a risky bet—even more so when done without understanding the underlying aspects. The problem therefore demands a deeper dive into the thematic portfolio inclusion process. Given the volatile nature of thematic funds, an active investing strategy becomes imperative. Active investing in a pursuit of higher returns often involves taking active risk—either investing in off-benchmark securities or investing in the benchmark securities in a different relative allocation. The active risk can be split into three components: asset allocation risk (at an asset-class level), factor risk, and thematic allocation risk. We want to isolate and study the marginal impact of this new thematic allocation risk; to achieve that we need to control for (standardize) the first two kinds of risks. For instance, to control for the effect of the asset allocation component, we could potentially maintain a 60-40 divide between equities and fixed-income (while still treating thematic funds as equities) asset classes across all the simulations we run. Likewise, we shall set rules around factor exposure limits. The controls that have been set up to isolate the two types of risks are mentioned in greater detail in the next section.

Let us also touch on other key considerations when thinking about inclusion of thematic funds in portfolios. Evaluating theme inclusion should improve risk-adjusted return over a suitable time; hence, a thorough back-testing without bias is required. Further, the value added by the addition of the thematic component to the existing portfolios should be assessed against a diversified benchmark that represents the investible opportunity set derived from the theme. Combining multiple themes into a portfolio may offer the best cross-theme diversification benefits and reduce the overall portfolio volatility, which needs careful evaluation as well. We will explore these through multiple simulations and discuss the outcomes in the following sections. First, let us look at preferred approaches to thematic portfolio construction with a focus on diverse investor preferences:

Core-satellite approach: This approach divides the portfolio into two components: a core allocation, which is well-diversified with exposure to traditional assets such as stocks and bonds, and a satellite allocation with concentrated holdings and potentially risky bets. The core asset allocation is defined based on investors' broader objectives, goals, and asset/liability composition. As the name suggests, it is the core of the portfolio and makes up the majority of the investor's portfolio. Since this part is expected to help investors meet their long-term investment targets, it is usually managed with the intent to mimic a benchmark that aligns with the investors' horizon risk preferences. The satellite part, on the other hand, accounts for a minority proportion of the portfolio. Alternative investments having distinct attributes find representation in the satellite portion. The satellite is designed to act as a catalyst to boost portfolio performance. Allocations to satellites are either made to express an investors' structural, long-term view or to take advantage of opportunities that unfold over much shorter time frames. Either way, the objective is either to access additional sources of alpha (a return that exceeds or is independent of the market's) or to diversify risk. The approach is preferred by advisors for maximizing the risk-adjusted return of clients with specific lifestyle goals. Thematic funds are well-suited to act as satellite investments given their disruptive nature; with proper allocation, we believe they can deliver better risk-adjusted returns than the broader equity markets. Additionally, thematic funds are based globally and carry varied factor exposures; hence, they are suitable to be a part of the satellite universe. This approach is suited to investors keenly looking at lifestyle goals or retirement planning.

Global equity exposure to thematic: Although the core-satellite approach is popular, some professional and institutional investors allocate capital by regions, sectors, and factors while ensuring diversification and risk management. Global thematic equity exposure is a strategy that divides the investible equity universe into large geographical exposure blocks such as North America, Western Europe, and Asia-Pacific while replacing some, or all, of the exposure with thematic funds. Since the correlation of returns among such regional markets is generally high, the addition of a differentiated global asset class such as thematic equity can help diversify risk. Such well-diversified strategies with investments across multiple themes can outperform other equity indexes and benchmarks.

Thematic at the core: This approach places the long-term thematic conviction of the investor at the core of the investment decision process while still taking into consideration traditional bets in equity regions, styles, and sectors that could enhance the short- or medium-term risk/reward characteristics of the portfolio. The longer-term risk/reward exposure, however, stays mostly aligned with the initial thematic conviction made by the investor. This is an innovative approach that involves using thematic convictions as the starting point for portfolio allocations, then adjusting exposures with active regional, sector, and factor bets. Such investors generally believe that constructing portfolios based on where the stock is listed is an outdated approach in an increasingly globalized world. Investors are often slow to recognize thematic drivers and fail to anticipate the long-term growth potential of themes. This can lead to mispricing of securities, which typically corrects incrementally as companies report their performance and provide forward-looking guidance. There is inherent risk with this approach whereby investors must wait for quite some time before a theme starts to perform or may demonstrate stagnation over varied periods of time. This approach may not be suitable for specific investors with goal planning in mind.

The Devil Is in the Portfolio Construction Details

We now demonstrate some portfolio simulations that would address the key questions and considerations mentioned above. We focus on the core-satellite approach since it caters to a wide base of advisors and individual investors. Additionally, we want to test the strategy on diverse strategic asset allocations (SAAs) suited to investors during both the accumulation and decumulation phases with varying risk profiles. Accordingly, the core part of portfolio (catering to the SAA) with the overlay of the satellite (catering to short-term thematic bets) makes up the overall strategy and must display better risk-adjusted returns than the stand-alone SAA-driven portfolios. We shall describe the portfolio simulation problem first to identify optimal allocations to thematic funds while evaluating results through rigorous back-tests.

Universe Criteria—Core

- All global funds are eligible (all fund asset classes)
- The fund should have at least USD 500 million of assets under management
- The oldest share class of the fund should be at least five years old
- The fund should have a Morningstar Medalist rating (Gold, Silver, or Bronze)

Universe Criteria—Satellite

- All global thematic equity funds are eligible
- The fund should have at least USD 10 million of assets under management
- The oldest share class of the fund should be at least one year old

Investment Constraints

- The portfolio is long-only and fully invested in its holdings.
- The SAA targets must be set as per the Morningstar Target Risk Allocations target holdings
- No single theme should have an allocation of more than 20%
- Allowed maximum deviation from SAA targets is 5%
- Factor exposures of the final thematic portfolio should be within a range of 0.5 of the factor exposures of a hypothetical portfolio with 0% investment in thematic funds.
- The CMA inputs are determined by Morningstar Investment Management.

Benchmark

The benchmark index for the study is the Morningstar Global Allocation Index.

Rebalancing

Quarterly rebalancing with first portfolio on Dec. 31, 2012, and last rebalance on March 31, 2022.

Objective

The objective of the portfolio simulation problem is to maximize the risk-adjusted return of the final portfolio.

Our universe definition leads to a list of more than 6,000 unique funds for the core universe and about 700 unique funds for the thematic satellite universe across each rebalance date. As part of portfolio simulations, we have used a global fund universe to avoid any regional biases. Also, since thematic funds exhibit style risk, we wish to constrain the additional factor exposure risk brought in by the thematic funds. To do so, we first run a portfolio simulation without including any thematic holdings in our portfolio and record the factor exposures of the resultant portfolio. Next, we create portfolios with the relevant SAA targets including the thematic funds while restricting the total factor exposures for the new portfolio to be within a certain range of the former portfolio (the one without any thematic holdings).

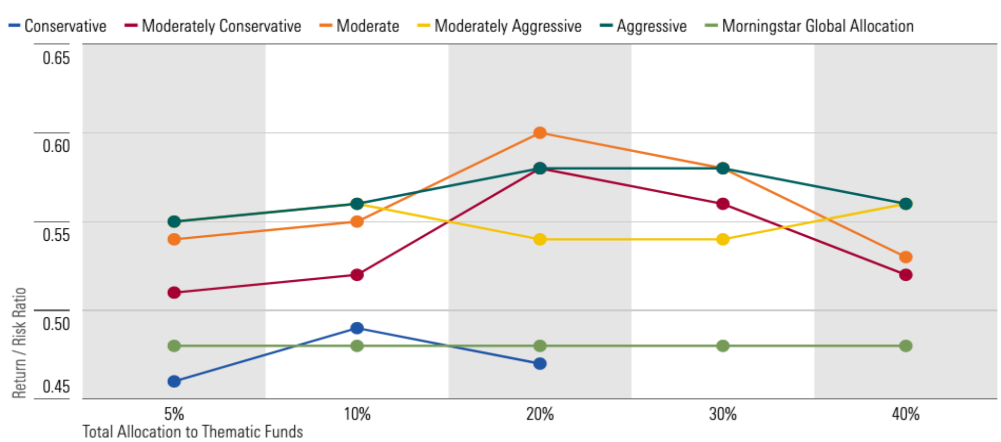
As mentioned earlier, we run the portfolio simulation problem for a range of investor types with varying risk aversions and consequently varying SAA as per the Morningstar Target Risk Allocations, as shown in Exhibit 11.

Exhibit 11: Morningstar Target Risk Allocations

Assets	Conservative	Moderately Conservative	Moderate	Moderately Aggressive	Aggressive
Stocks	20%	40%	60%	80%	95%
Bonds	72%	55%	36%	19%	5%
Inflation Hedge	6%	4%	3%	1%	0%
Cash	2%	1%	1%	0%	0%

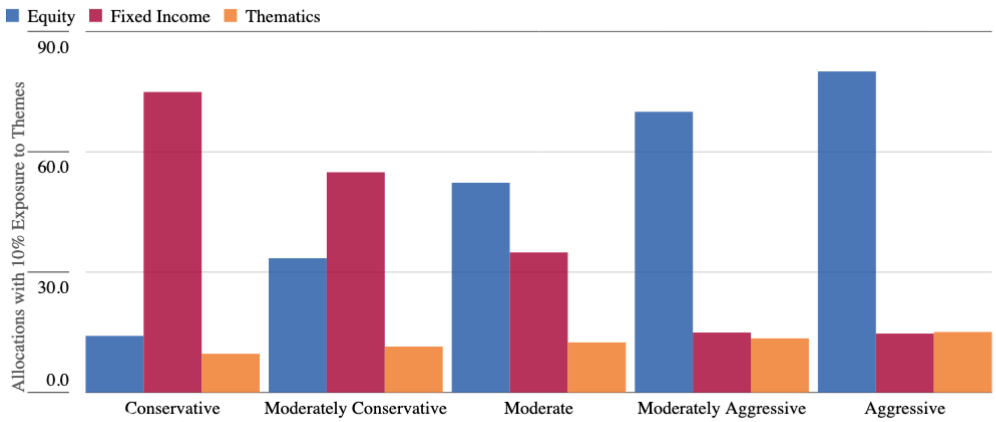
Exhibit 12 depicts the portfolio outcomes of the resultant portfolios for different levels of exposure to thematic funds for each target risk profile. Across investors' risk appetite, an allocation between 5% and 20% is optimal. We see a tapering effect at a 10% allocation; hence, we will use that as a yardstick. Note that the plot for the conservative investor type stops at 20% because the maximum allocation to equity for the risk profile is capped at 20%, as shown in Exhibit 11. We also view that most simulations have better risk-adjusted returns than the benchmark.

Exhibit 12: Risk-Adjusted Returns for Different Levels of Allocation to Thematic Funds



Having fixed the maximum allocation to thematic funds at 10%, let us now look at the optimal SAA that maximizes the risk-adjusted return of the resultant portfolio. Most of the allocations are in line with target risk allocations with a deviation of plus or minus 5%.

Exhibit 13: Sharpe Maximizing Strategic Asset Allocations for Various Risk Profiles



As also discussed, thematic funds inadvertently bring along factor risk, which we constrained in our portfolio simulation problem. Exhibit 14 demonstrates the factor risk exposures at the optimal 10% allocation for the aggressive target risk allocation. As expected, the factor exposures for the portfolio with thematic funds is higher for popular factors when compared against a portfolio without thematic funds. These are however within a close range of 0.5 (z-score) deviation from the factor exposure of target risk allocations. Consequently, any improvements in the risk-adjusted returns can then be purely attributed to the inclusion of thematic funds in the portfolio.

Exhibit 14: Comparison of Net Factor Exposure of Portfolio With and Without Thematic Funds

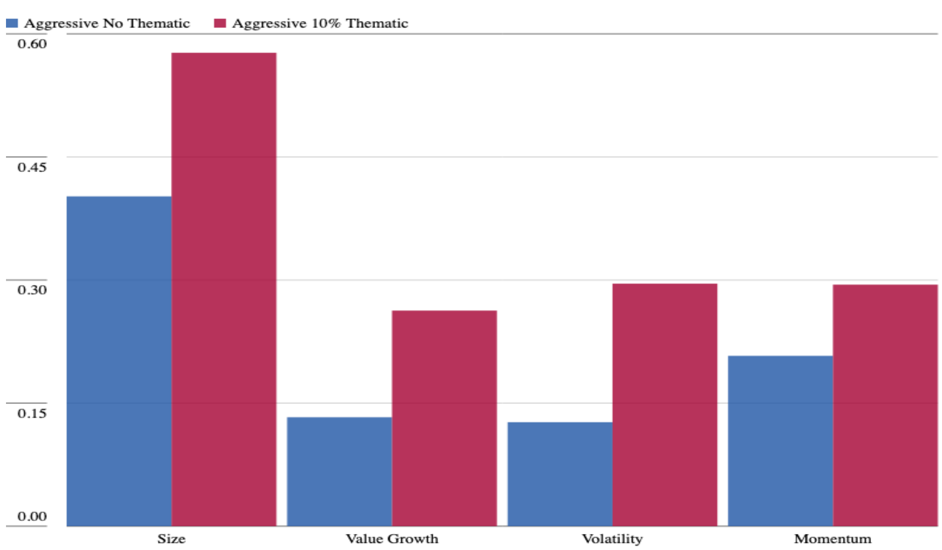


Exhibit 15 shows the active risk exposure brought in by the exposure to thematic funds. We use tracking error with respect to the respective benchmark as a measure of this idiosyncratic risk. Again, the marginal contribution to tracking error is minimal. Specifically, for our intended use case of 10% allocation to thematic funds, the additional tracking error attributable to the inclusion of thematic funds is in the range of 43 basis points for the aggressive portfolio and about 78 basis points for the conservative portfolio. Also, the additional standard deviation introduced by the inclusion of thematic funds ranges from 53 basis points to 85 basis points for the aggressive and conservative portfolios, respectively.

Exhibit 15: Idiosyncratic Risk Contribution of Thematic Funds

Strategy	Aggressive	Moderate	Conservative
Change in T.E.	0.43%	0.49%	0.78%
Change in S.D.	0.53%	0.53%	0.85%

We view these findings as supportive of thematic investments' place in multi-asset portfolios and suggest that investors can justifiably spend resources seeking to identify winning themes. While the risk-adjusted returns improved when adding thematic funds, the volatility increased modestly, too. It is important that we allocate strategically to the themes we have the most conviction in while constraining our portfolio to be broadly in line with global equities in terms of regional and style exposures. Further, there is a need to structure the portfolio in a manner that balances the higher potential for returns against the somewhat higher active risk. To limit thematic exposure, we should constrain the possibility set of thematic holdings to only a subset in the portfolio.

There are two additional aspects of the portfolio construction problem: the ideal rebalancing frequency and the optimal holding period for thematic portfolios ensuring the strategy is being managed effectively. Let us first talk about the latter. As discussed, themes can perform differently over their lifetimes, and there is a need to identify the optimal frequency at which we need to churn our theme-tilted portfolio. The decision carries even more weight because of the potential upside volatility to which themes are often exposed. Absent rebalancing, even a small allocation to thematic funds can grow over time and eventually dominate the portfolio's risk/reward characteristics. We now compare the cumulative and risk-adjusted returns of a traditional portfolio (60% to the Morningstar Global Markets Index and 40% to the Morningstar Global Core Bond Index) enhanced with a thematic allocation (10% as determined in the previous section to equal-weighted thematic funds) under four different rebalancing strategies—no rebalancing, monthly, quarterly, half-yearly, and annual—over the period from 2013 to 2022. Exhibit 16 highlights the substantial impact rebalancing can have on the portfolio. As might be expected with a highly volatile asset, less-frequent rebalancing generally leads to higher volatility, higher cumulative returns, and higher maximum drawdowns. Conversely, frequent rebalancing damps both the volatility and the returns, along with a lower maximum drawdown. A three- to six-month rebalancing is most optimal, as seen in Exhibit 16.

Exhibit 16: Identifying the Optimal Rebalance Frequency

Rebalance Freq	1m	3m	6m	12m	No Rebalance
Total Return	37.08%	36.39%	36.31%	37.59%	44.56%
CAGR	3.47%	3.41%	3.40%	3.51%	4.06%
Std Dev	8.79%	8.75%	8.78%	8.83%	9.75%
Return/Risk	0.39	0.39	0.39	0.40	0.42
Max Drawdown	-14.00%	-14.00%	-14.11%	-14.09%	-15.07%

Investors need to be wary of a very short rebalance frequency, however. Frequent rebalancing enables investors to seek out what they consider to be shorter-term theme fluctuations that should perhaps be considered "tactical baskets." These are ways of exploiting shorter-term, often cyclical, ideas. An example might be the recovery in specific parts of the economy expressed in a "pandemic recovery basket" that has holdings across sectors and could include retail, hospitality, or the airlines sector.

Next, let us use this result and try to establish an optimal holding period for thematic enhanced portfolios. To that end, we calculate the rolling return and risk-adjusted return over various holding periods varying from one to three years, using a 10% allocation to an equal-weighted thematic fund universe and the rest to traditional assets (60% to the Morningstar Global Markets Index and 40% to Morningstar Global Core Bond Index) with a quarterly rebalanced strategy. In Exhibit 17 we have isolated the impact of the thematic holdings on the total performance of the traditional 60-40 portfolio. It is observable that thematic allocations generally have a positive contribution to the portfolio’s returns, and the positive contribution remains significant over all time periods studied. Specifically, thematic allocations have a positive impact on one-year returns 84% of the time, on two-year returns 98% of the time, and on three-year returns 100% of the time. Not only that, increasing the holding period successively increases the maximum, minimum, and median rolling returns. The jump is especially pronounced when moving from a holding period of one year to two years—increasing the maximum returns by almost 44%, to 2.6% from 1.8%, while also increasing the median returns. The win rate jumps by about 20%, to 98% from 83% as well.

Exhibit 17: Identifying the Optimal Holding Period for Thematic Enhanced Portfolios

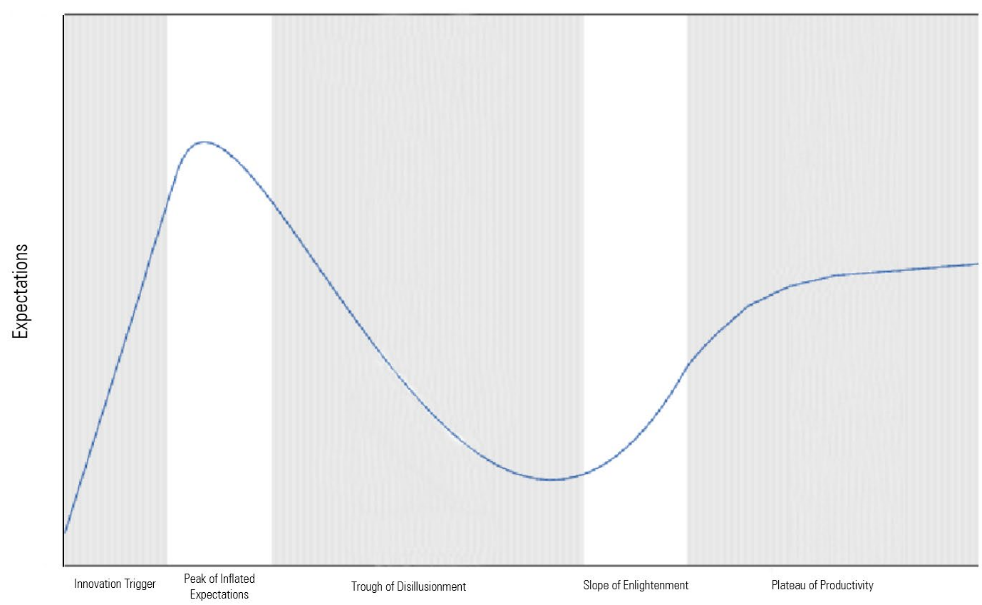
Holding Period	Maximum	Median	Win Rate %	Loss Rate %
1 Year	1.8%	-0.1%	82.89%	17.11%
2 Years	2.6%	0.8%	98.44%	1.56%
3 Years	2.3%	0.9%	100.00%	0.00%

Implications for Portfolio Construction

Our findings support the view that thematic strategies should be dynamically managed by investors, with appropriate risk and evolving style exposures as existing themes evolve and new themes pollinate. Exposure to funds across multiple themes can improve investor outcomes for portfolios across the risk spectrum. In the context of an existing portfolio, this approach enables investors to allocate their risk budget to statistically independent (orthogonal) sources of alpha within their equity sleeve while limiting overlap and concentration risk. In this sense the active return will essentially be driven by the idiosyncratic risk associated with thematic exposure, as opposed to country or equity style risk factors. Reconciling the long-term investment horizon of a multi-thematic strategy with short-term market trends can be achieved through dynamically readjusting the portfolio to account for themes’ valuations, market sentiment, and momentum herding effects. Instead of placing too much emphasis on the specific asset allocation outputs (which can be quite sensitive to small differences in assumptions) the general conclusion is that, under reasonable assumptions, it is possible to create thematic combinations that warrant a significant allocation, which in our case comes to around 10%.

Apart from evaluating themes in a quantitative way, investors may also consider theme positioning qualitatively. First, investors should consider whether the theme can be maintained over the long term. If there exists insufficient reasoning for why the theme could give outsize performance in the long run, investors may consider dropping it. Second, there should be an orthogonal definition to the theme, indicating also that there should be minimal holding overlap with other themes generally. Third, investors should consider the data quality of the theme. As mentioned in the thematic landscape paper, most themes have exploded after the 2020 pandemic period, hence there may not be sufficient data to evaluate such thematic funds. Last, it is often important to get exposed to themes while they are still young. Exhibit 18 depicts the "Gartner Hype Cycle" that helps identify the adoption and maturity of trends and themes, published annually. Investors can benefit from the availability of such qualitative inputs to differentiate an emerging trend from hype.

Exhibit 18: Gartner Hype Cycle



Finally, we believe that truly transformational shifts will unfold at a nonlinear pace that will surprise markets in terms of both size and duration. History is replete with companies and themes that have been unable to adapt to structural changes, leading to disastrous consequences for investors. A true thematic strategy is well-placed to determine whether an optically cheap, underperforming theme has the potential for meaningful recovery, or if it is just a value trap owing to its structural considerations.

Exposure to themes in portfolios is not as simple as identifying a single source of structural change and screening companies for exposure rather than encompassing multiple drivers of structural change. There are themes that seem obvious today but have not worked out so well for investors because the financial dynamics of such thematic companies were undermined by extraneous factors. For example, early in 2017 energy transition led China to become the world's largest producer of solar photovoltaics with reduction in the cost of solar panels by more than 90% over 10 years. In follow-up action, the U.S. imposed tariffs on imports of solar panels in 2017. Faced with rising inventory, China cut its own subsidies, and solar panel producers had to resort to significant price reductions to offload the developed inventory. The outcome led to extremely cheap solar panels across the globe. These decisions, which were outside the hands of the producers, resulted in many solar panel manufacturers in the U.S., Australia, and Germany going out of business. So, while the world did see a solar revolution, and a solar energy theme might have seemed like a good idea for a thematic investor in 2017, in retrospect we know it would not have been a prudent investment decision. Given such idiosyncratic risks associated with themes, a portfolio combining several themes can transform the inherent uncertainty of timing structural changes into a differentiated return stream for long-term investors.

Thematic Versus Sustainable Investing

We believe that sustainable investing is the strongest foundation for portfolios going forward. These views, particularly those that relate to sustainability and climate, may result in investors setting ancillary objectives that target specific outcomes, like the incorporation of the United Nations Sustainable Development Goals in addition to their traditional risk/reward objectives. Choosing a secondary objective around better climate/carbon statistics than those of the benchmark or peers (while not covered in this paper) will have other implications for portfolio construction. Investors who choose (or must confront) the prospect of managing their assets with a "net-zero" objective (a major debate yet to come) will have to manage risk/reward parameters simultaneously. Environmental, social, and governance issues are hence bound to be a key determinant of the longevity of investments. Indeed, adding ESG and sustainability considerations at the thematic level could both improve potential investment returns and reduce risk. Such an approach can both capture the potential benefits of structural shifts and at the same time seek to avoid the risk of being on the wrong side of history.

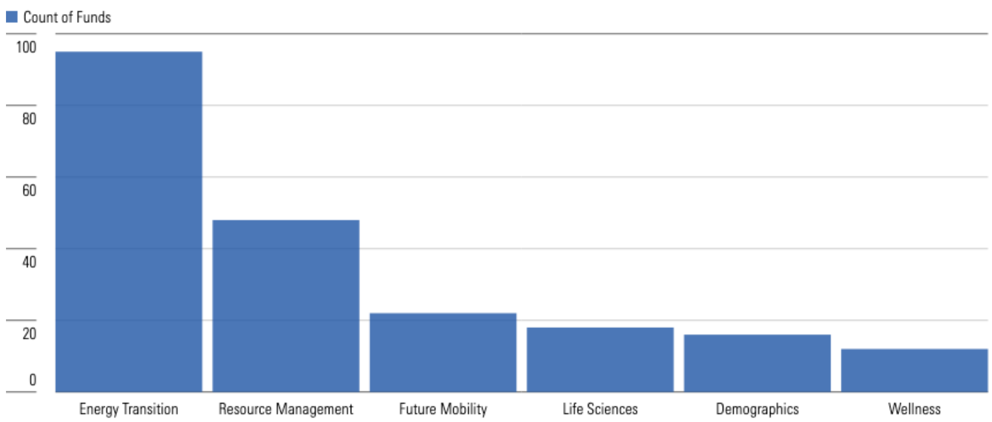
We move to comparing the performance of thematic funds with sustainable funds. Owing to the limited history (2019 onward) of sustainable funds in Morningstar's data, it difficult to do a thorough back-test of such strategies. We hence compare the performance of quarterly rebalanced portfolios from 2019 till 2022 for equal-weighted sustainable and thematic fund universes. Exhibit 19 shows the performance of the three universes: thematic, sustainable, and an intersection of the two. Thematic funds offer high returns, while sustainable funds have lower volatility. Sustainable thematic portfolios offer the best of both worlds.

Exhibit 19: Thematic Versus Sustainable—Performance Statistics

Performance Statistic	Sustainable Universe	Thematic Universe	Thematic Sustainable Universe
CAGR	8.79%	12.48%	11.12%
Volatility	10.87%	23.87%	18.23%
Return/Risk	0.79	0.53	0.63

As of April 2022, the thematic sustainable universe has more than 360 funds. Some thematic funds are inextricably linked to sustainability because of the nature of the underlying themes and what they invest in. We believe that through the inclusion of such funds into portfolios, clients can achieve sustainability integration and benefit from a better risk-adjusted return. Exhibit 20 displays some of these themes. Themes like energy transition, future mobility, life sciences, and resource management have sustainable attributes.

Exhibit 20: Sustainable Tagged Themes

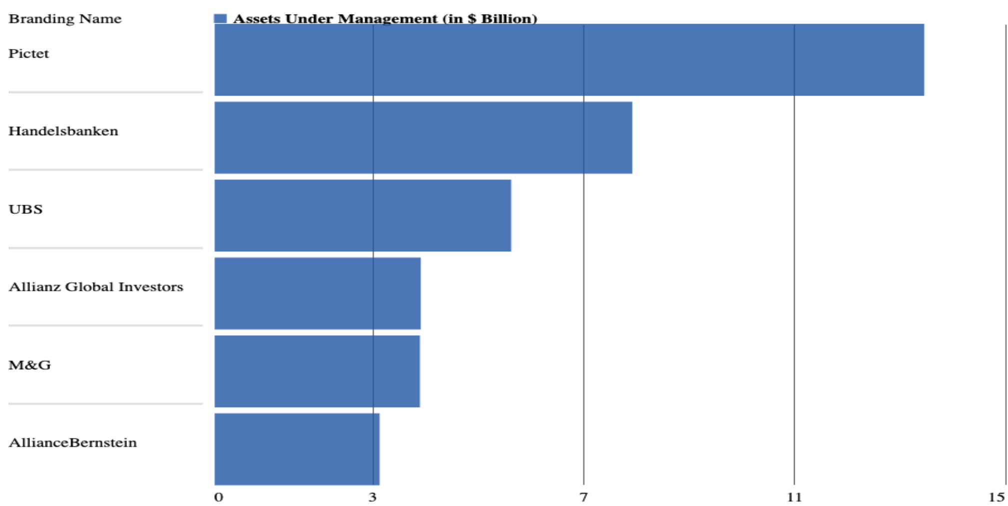


The Case for Broad Thematic Funds

Based on the previous section's results, we believe there is a need for robust portfolio implementation with sound governance disciplines when allocating to themes. These observations point to tenets of active thematic fund management. Active funds often have numerous governance committees that carefully evaluate investment in active (thematic) ideas. These governance committees may want to see several years of performance data before approving the implementation of a theme. Valuation (being in before a theme gets very popular) is another key element of success here. Several mature themes may be available at unreasonable valuations, and investment decisions should be tweaked accordingly. Actively managed fund houses can also benefit from sourcing these decisions to a strategic partner/thematic expert while also deploying managers with a multi- or single-theme mandates. Such thematic experts spend a great deal of time thinking about theme selection. Ultimately, we believe theme selection is a specialized skill. Unless an asset owner has substantial in-house theme selection expertise, we believe it should fall to a portfolio manager with specialized skillsets. Hence, we generally advocate for a multi-theme portfolio structure that allows the manager to select the most appropriate themes at any point in time. Thematic allocations could hence be targeted toward risk budgeting and being brave enough to do something before most other institutions have done it. A mix of qualitative and quantitative analysis can be of help here. Another point of focus here is that long-term investing does not mean buy and hold forever. We believe true investment themes should have a finite lifespan and, when fully discounted by the market, should either evolve or be eliminated.

A key benefit of an actively managed multi-theme portfolio is that it ensures competition for capital across themes. When a manager looks at it as a matter of capital allocation, thematic investing can be approached more dispassionately. There should be every incentive to identify the themes that are truly compelling, and no penalty for an honest assessment when a theme has run its course. To this end, there are several actively managed broad thematic funds that offer a solution in this space. These are the largest sets of funds that provide simultaneous exposure to multiple themes while addressing the governance problem. They have been quite popular recently, with offerings from Pictet, UBS, Alliance Bernstein, M&G, Alliance Global, and Handelsbanken branding names.

Exhibit 21: Top Fund Houses by Actively Managed Broad Thematic AUM



Source: Morningstar Data Data as of May 20, 2022.

In Exhibit 22, we also compare the performance of the equal-weighted actively managed broad thematic index against equal-weighted thematic funds from 2013 to 2022. As is evident, the broad thematic funds offer a much better risk/reward trade-off when compared against the overall thematic universe.

Exhibit 22: Equal-Weighted Thematic Versus Actively Managed Broad Thematic—Performance Comparison

Performance Statistic	Thematic Universe	Broad Thematic Universe
CAGR	7.48%	6.94%
Volatility	16.87%	10.28%
Return/Risk	0.45	0.63

Conclusion

Investors can use an appropriately constructed thematic equity portfolio to diversify their allocations than traditional approaches. We believe thematic investing offers an attractive alternative to investors that do not wish to be restricted to regional and sector funds. We are of the view that if done properly, taking exposure to thematic investments can position investors for the blue chips of the future. We also infer that investors should bet on multi-theme portfolios instead of allocating a large proportion to a single theme. As observed, multi-theme portfolios ensure competition for capital across themes. We believe that a thematic allocation should be no more than 20% across target risk allocations. Thematic-intensive strategies should be periodically rebalanced, and investors should look forward to a holding period of three years. Investors can benefit from inclusion of sustainable thematic funds that help address investor bias toward competing ESG, return, and risk factors simultaneously. Governance and robust portfolio implementation remain a key to theme inclusion within portfolios. Some of the key requirements here fall in line with the tenets of active portfolio management, and accordingly investors can benefit from the inclusion of broad thematic funds that are actively managed and help ensure soundness of investment decisions.

While our analysis was more quantitative in nature, we also feel that thematic inclusions in portfolios are truly qualitative decisions focused around identifying themes, ensuring valuation is considered, ensuring the theme has longevity, and selecting and measuring skilled active managers. These are all imperative and essential to identify and invest in themes with the best expected performance. It is currently also inappropriate to set a SAA using themes. That part, we believe, should still be taken care of using traditional approaches. From a portfolio construction perspective, thematic ideas can overlap not only with other thematic ideas but also with the rest of the existing portfolio in terms of risk exposures. Consideration needs to be given as to how to access the themes and adjust the existing portfolio to ensure risks are being taken only where intended. A potential shortcoming of this analysis is that it was performed over a period when equity markets enjoyed an almost uninterrupted rally, thanks mainly to exceptionally low interest rates. Although the results are not heavily reliant on forward-looking return assumptions, it would be interesting to repeat the exercise in a few years when more data is available for themes, and themes have seen multiple market cycles. It may offer an even deeper insight into how themes progress over their life cycles and identify an even more optimal strategy for thematic investors. Due diligence on investors' part, avoiding short-term trends, entering themes in their early phases, rebalancing frequently, holding portfolios for a long enough time, and being wary of thematic washing remain key here.

Appendix

Data

Our study relies entirely on Morningstar fund data sources. We filter U.S. funds with less than USD 500 million in assets. We also do not include index funds in our sample, as index funds should follow an index weighting and therefore hypothetically would not be positioned to confront capacity concerns. We run our model on approximately 2,200 active U.S. equity mutual funds from the year 2006 through 2021. Our sample does not suffer from survivorship bias. Morningstar's global fund databases retain a full history of dead funds, and these funds are included in our sample. Moreover, our evaluation technique dynamically incorporates monthly changes in fund universe composition, providing a more holistic and realistic picture of historical performance. Each monthly snapshot captures any funds that were subsequently merged or liquidated away.

References

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- Inescapable Investment Truths for the Decade Ahead
- Global Thematic Funds Landscape
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For More Information
+1 312 244-7541
lee.davidson@morningstar.com

MORNINGSTAR®

22 West Washington Street
Chicago, IL 60602 USA