ROCKEFELLER
GLOBAL FAMILY OFFICE

UNCONVENTIONAL THINKING, UNCOMMON RESULTS

The Rockefeller Investing Guide

INVESTMENT RESEARCH & STRATEGY | OFFICE OF THE CIO

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Distinct Investment Philosophy

Office of the CIO: Who We Are

A UNIQUE GROUP OF INQUISITIVE INDIVIDUALS WITH A SHARED MISSION

First and foremost, as investment strategists, we view ourselves as **thinkers.**

Achieving our mission of crafting sophisticated, nuanced, creative, and yet fundamentally grounded investment advice for clients begins with having **exceptional people.**

The core of every **investment decision** that we make begins and ends with establishing a transparent understanding of just what risks we are taking on in exchange for how we may be rewarded in the form of attractive standalone returns and – collectively – a high quality portfolio.

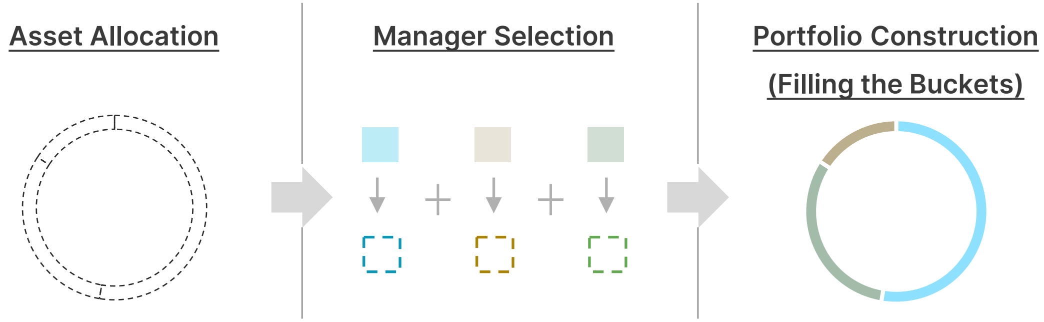
Our Investment Approach

As such, our style of investing is **fluid** and **nimble**.

We are unconstrained by conventional – and generally outdated – asset allocation and portfolio construction techniques that are still rigidly embraced by many investors today.

The Conventional Approach

The common industry practice utilizes a mechanical and assembly line process to manufacture investment recommendations that we find fragmented, generic, and often lacking a clear and logical stance.



The Rockefeller Approach

From crafting macro, market, and asset class views, to strategizing how to best bring such views to life, we are at the heart of every step along the way, ensuring a cohesive narrative throughout.

This empowers us to craft intuitive, focused, and defendable portfolios for clients.

Our Investment Philosophy

A CULTURE OF SEEKING EXCELLENCE

Think critically.

Take nothing for granted.

Question everything.

Through challenging each other and refining our ideas, we produce thoughtful, provocative and, crucially, intuitive investment guidance.

An Intrinsic Understanding of Asset Class Behavior

Asset classes are often mistakenly viewed as basic elements that make up a portfolio.

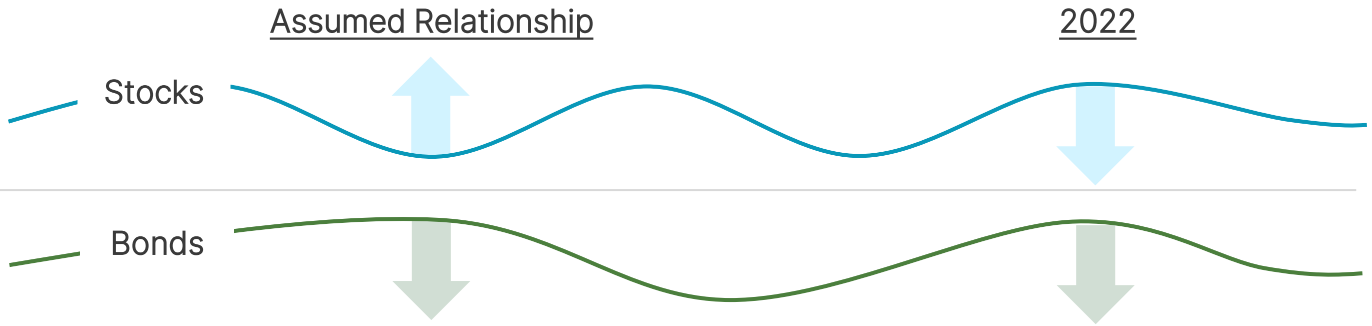
They are not.

The behaviors of asset classes are nuanced, and at their core, a dynamic function of underlying drivers, i.e., fundamental macro forces such as growth, rates, inflation, volatility, and liquidity.

2022 - When 60/40 Failed

Stocks and bonds have opposite sensitivities to growth, but they are both levered to rates.

The central narrative of 2022 was not growth uncertainty, as is typically the case. Rather, the dominant market driver was rate uncertainty.



In our view, the traditional asset allocation approach has a **critical flaw**: it relies on one's understanding of the "typical" risk, return, and correlation characteristics of asset classes, derived from long-term performance across many decades and macro regimes.

Simply put, such an approach can obscure, or worse – mislead – the risks embedded in one's portfolio.

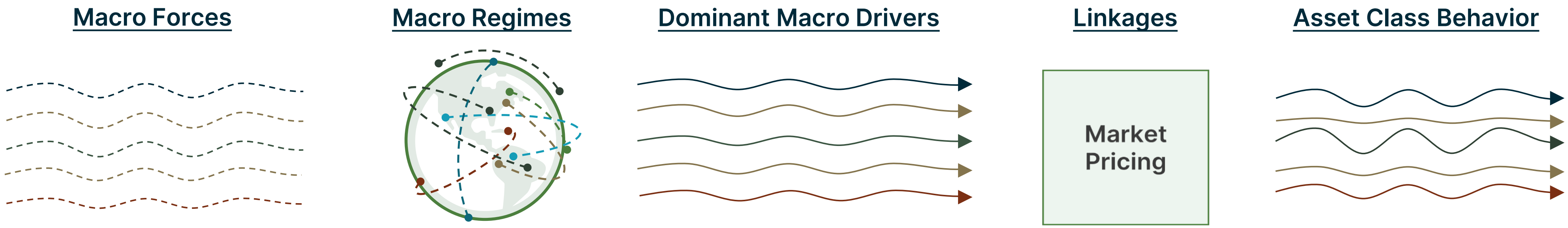
Investing Through the Macro Lens

Identify Influential Macro Forces

We begin by identifying the **most influential macro forces** and their interaction. Macro forces are **dynamic;** the dominant driver can vary with the market narrative and the overall macro backdrop.

Determine Asset Class Behavior

Market pricing helps us **define the linkage** of these macro drivers within the investable landscape. With this approach, we can develop substantiated probabilities of how asset classes may behave in a given environment.



Asset allocation is not a starting point.

It is an output, an expression of our macro and market views.

Investing with Resilience & Conviction

Above all else, our primary mission is building a **rigorous portfolio** that is resilient **against** unexpected macro shocks.

Our success in achieving this goal is crucially dependent on our approach to making investment decisions through the lens of fundamental macro forces, which provides us with high visibility into the inherent risk exposures embedded in a portfolio.

In essence, we establish our views on the most elementary level, because we think that's the logical thing to do.

Our distinct investment approach also enables us to express our macro and market **views** directly and transparently, through **deliberate** positioning within a portfolio.

It's important to have a sense of humility.

Our views may not always be correct, but they are grounded on probabilistic extrapolations of available information.

In the end, it comes down to a **calibrated balance** between

(1) Expressing our views, the degree of which is a function of our conviction level.

(2) Maintaining resilience across various macro environments.

Building Portfolios for All Environments

Broadly speaking, there are three types of market environments:

Building portfolios **resilient across terrains**.

Risk On	Assets with exposures to **Global Economic Growth**
Risk Neutral	Assets that aim to deliver **Absolute Returns** across market cycles
Risk Off	Assets that play the role of **Risk Anchoring** by outperforming in times of fragility and uncertainty

Achieving Genuine Diversification

The flawed, generic approach to diversification

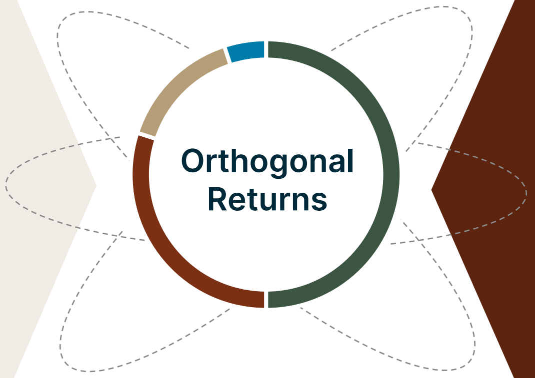
> Quantity does not beget quality when it comes to diversification, as adding positions driven by the same macro forces may only compound their correlated risks.

Most assets are driven by a few dominant macro forces (e.g., growth, rates, inflation, etc.).

If anything, such generic diversification obscures one's visibility into the underlying risk exposures within a portfolio, thus creating a false sense of safety and, ironically, creating an unintended consequence of under-diversification.

Our approach to achieving genuine diversification

In our view, a **high-quality portfolio** is one that captures a wide collection of truly **orthogonal return streams** with fundamentally distinctive risk exposures. This is the key to creating **resilience** across macro environments.



We are believers in building **punchy portfolios**, where each position brings something **truly unique** to the table.

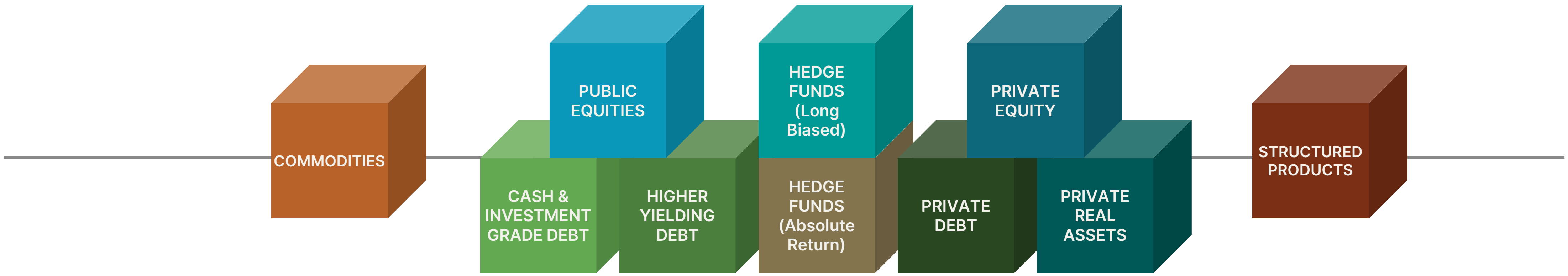
The marginal **benefit of adding a new position diminishes rapidly beyond a point**.

Doing so introduces unnecessary complexity and, more importantly, dilutes the existing highest conviction, highest quality return streams.

A More Intuitive Breakdown of the Investable Universe

…IN CONTRAST WITH "STOCKS, BONDS, AND ALTERNATIVES"

Exposure to Global Economic Growth



Absolute Return & Risk Anchoring

Navigating Cyclical Currents While Aligning With Secular Trends

Secular trends sustain for decades, while cyclical forces take center stage in seeking new opportunities and managing potential challenges.

Secular Trends

On rare occasions, economic, geopolitical, or technological shifts unleash a new regime.

It is **imperative to be attuned to the currents that influence the macro environment's evolution and be aligned with the long-term direction of travel**, as structural transformations have profound, lasting implications that influence strategic positioning.

Cyclical Currents

Short-term cycles within long-term trends are where profitable opportunities emerge.

Navigating these dynamics not only has the potential to generate excess returns but also, importantly, mitigates risk and reduces vulnerability, **promoting survival and long-term success**.

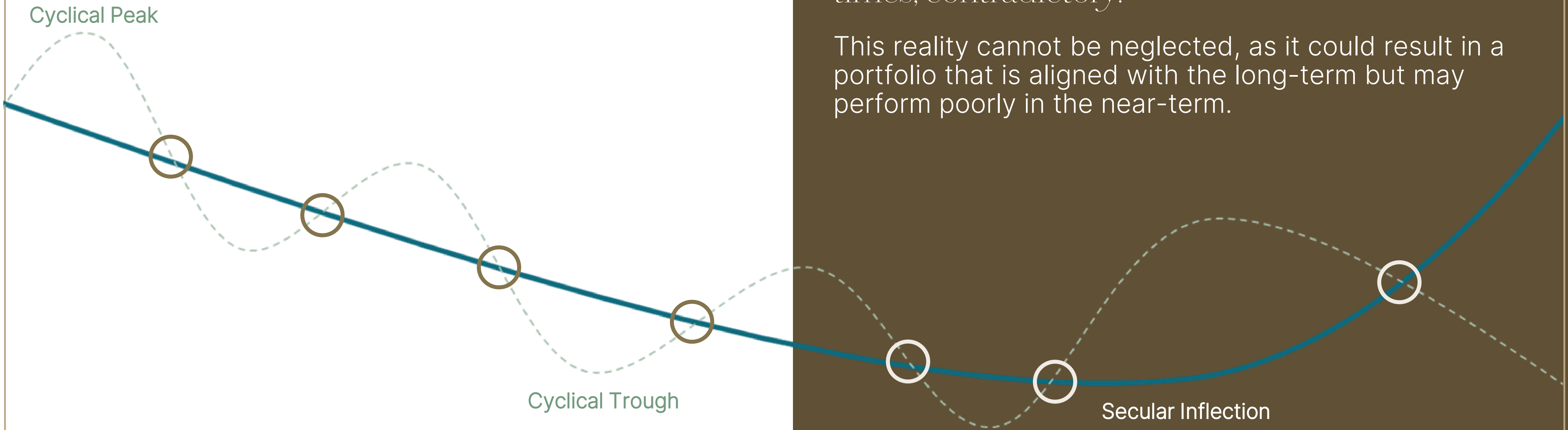
Positioning Tactically, Thinking Strategically

While investors must consider their long-term positioning, the path to get there is just as important.

It is crucial to differentiate the cyclical from the secular.

The **interplay** of the two is nuanced and, at times, contradictory.

This reality cannot be neglected, as it could result in a portfolio that is aligned with the long-term but may perform poorly in the near-term.



Information provided for illustrative and educational purposes only and designed to demonstrate general concepts related to portfolio diversification across asset classes. Should not be construed as an investment recommendation, investment advice, an offer of Rockefeller investment advisory or brokerage services, or a projection or illustration of the performance of any particular investment or strategy offered by Rockefeller.

Where Are We Heading, and How Are We Getting There?

1. Establish an unconstrained long-term portfolio.

Day 1 Portfolio

- How we would deploy capital today in the current market.

Near-Term Portfolio

- Horizon of 12-18 months depending on visibility in the macro environment.
- Accounts for the time needed to build up private investment allocation.

Long-Term Portfolio

- Long-term strategic positioning to serve as the guiding light for allocation and deployment.

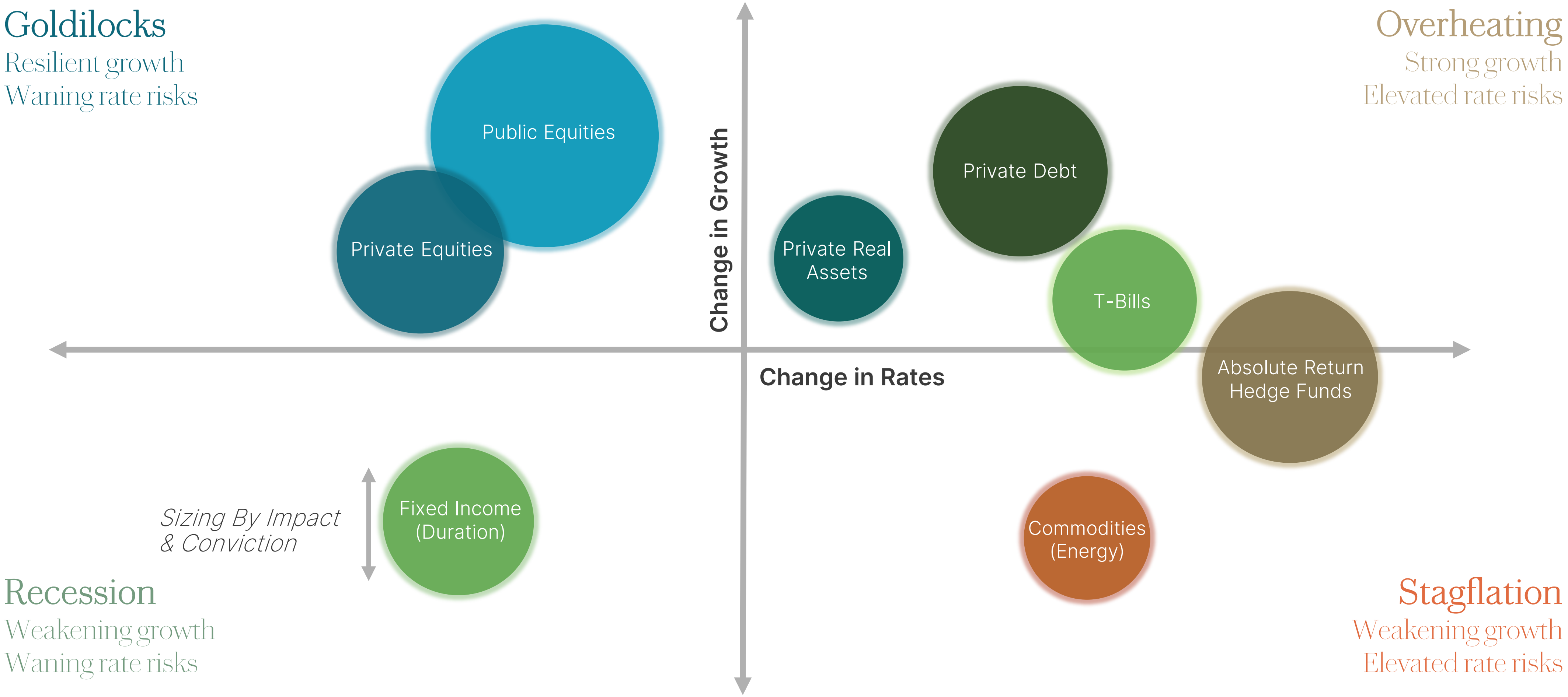
2. Adjust the portfolio to reflect the context of implementation (i.e., near-term market outlook).
3. Prioritize investment solutions with the potential to capitalize on current conditions and generate **genuine alpha** and **diversification**.

02

Latest Thinking

Framing Asset Allocation Across Terrains

CALIBRATING A BALANCE BETWEEN RESILIENCE AND CONVICTION



Fixed Income: A Marathon, Not a Sprint

DIVERSIFICATION AND INCOME TAKE PRIORITY OVER REINVESTMENT RISK

Don't Go Chasing Waterfalls...

Encouraging inflation reports and a decisive shift from the Fed have sent the bond market on a tear off its Q3 2023 trough. While steps toward policy normalization seem well founded, **we see less logic in the rush to pile excess cash into credit and duration solely for the sake of managing reinvestment risk.**

Instead, **we think investors should slow down and walk, not run, to allocate within fixed income.** The risk-on, beta rally is likely behind us, and rich valuations set up a demanding backdrop. **In short, we believe investors have time on their side.**

From an asset allocation perspective, one of the most noteworthy market dynamics playing out this year may be the **welcomed return of a negative correlation between stocks and bonds.** The past two years have served as a painful reminder that these correlations can flip when inflation and rate uncertainty is the dominant market narrative. With inflation tails fading, the recent decline in the stock-bond correlation is likely to sustain in the near term, as the market once again concentrates on growth uncertainty.

However, **the dependability of long duration fixed income as a hedge for equities has generally become more questionable in this new era,** where inflation presents ongoing trade-offs and growth and rate continue to compete for primacy as the most important driver for markets.

The Short End

While the front end has carried the torch for the recent rally, **we believe the Fed will take a deliberate approach** and do not see much upside for the market to price in further rate cuts.

Inflation progress has been impressive by any measure, and we expect it will continue on this path in the months ahead. However, the continued strength of the overall economy has taken some of the previous urgency out of policymakers' mindsets. For more hawkish members of the committee, this strength allows them some time to gain confidence that there will not be any inflation reacceleration down the road.

The key caveat to these expectations is the labor market. While the broad story of not yet concerning softening remains intact, there have been signs of weakening.

Ultimately, we do not expect any spiraling pick up in layoffs, but the margin surrounding the Fed's next move are so thin that any wobble in labor market data can provide the path for a sizable move lower in yields.

> technicals remain favorable, but fundamentals show little urgency to extend duration

The Long End

In fairness, as capital continues to rush into fixed rate credit and long bonds, technicals appear supportive for the time being. Nevertheless, we ought to take into account the behavioral aspect of positioning once the music stops.

If we assume a moderate, healthy amount of term premium, 4% seems a justifiable level for 10-year Treasury yields. In that case, we are already there. Likewise, spreads and ratios in the corporate and municipal credit markets remain unattractive.

In the near term, we are somewhat comfortable with the balance of supply and demand of duration, given recent actions by the Treasury (supply) and potential tapering of QT (demand) in the back half of this year.

That said, the underlying U.S. fiscal trajectory remains unsettling, a point which we expect to continue popping up as the election approaches.

It is our view that investors concerned with reinvestment risks should nevertheless add to duration opportunistically. Importantly, **the key driver for fixed income going forward is likely income, rather than total return.**

U.S. Equities: Embracing a Narrow Path

FROM HOPE TO GROWTH, FROM MULTIPLE EXPANSION TO EARNINGS

Looking Back

The equity market has had a remarkable run over the past year. Led by the promise of artificial intelligence and insulated earnings growth, concentrated tech enthusiasm helped buoy the market through an earnings recession.

bubble-like tech dominance carried markets to a better macro environment

While rising long-term rates briefly arrested the building optimism, the market has ultimately powered to new all-time highs on the promise of shifting Fed policy. **The surprising run started narrow but has begun to broaden** both in terms of underlying companies and investor belief. **While the building exuberance gives us pause, we believe the underlying macro improvement provides a supportive base** to move to a more neutral stance on equities.

Looking Around

Perhaps the most tangible challenge holding back a more bullish view on U.S. equities is that **current valuations are fully reflecting an ideal progression along the narrow path ahead**. Indeed, we would not be surprised by some near term consolidation after the rally we have seen in recent months.

high valuations remain a key obstacle to a more favorable view on equities

As far as potential drivers of the next move, we do not see much room for further upside on the valuation front, though we do expect continued compressions and expansions as the market calibrates to the ultimate policy path.

Instead, **we expect earnings to be the more promising source of upside for equities** in the year ahead.

Looking Ahead

With inflation slowing, companies will have to be more inventive in driving earnings than pulling the price lever. While the real expansion in the economy should provide sufficient runway for companies to deliver on the promised profit cycle, it will come down to management. **We believe the next phase of returns will be driven by micro factors,** not macro, thus providing a potentially interesting hunting ground for active managers.

company fundamentals are key to the next leg higher as macro winds dissipate

Mega cap tech has exhibited the ability to shift to earnings-focused growth and positioned themselves to benefit from new technologies, but their exceptional run presents some challenges.

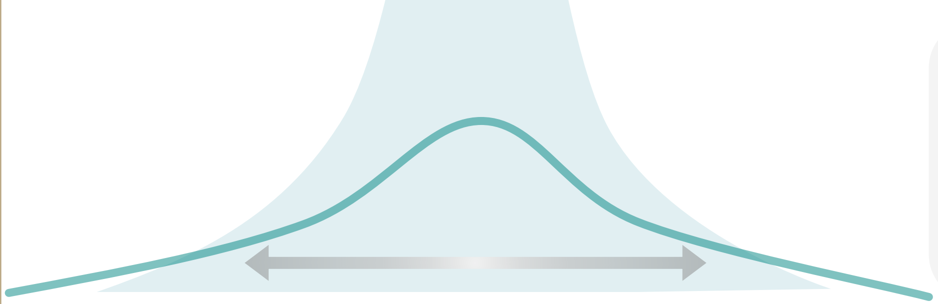
In our view, **the current level of concentration almost necessitates a broadening out of earnings growth** to sustain the current bull market. While tech will remain top of mind, we are looking to sectors like energy, industrials (particularly capital goods), and financials that appear well levered to continued economic resilience.

Private Equity: Opportunities in Flux

CYCLICAL OPENINGS TO STRUCTURAL TRANSITIONS

We believe that **2024 may be among the more interesting vintages for new funds**. That said, **we expect dispersion to become increasingly relevant as private equity remains in transition** both cyclically and structurally that will present opportunities and obstacles for managers and investors.

as the private equity landscape shifts, we expect greater variation within sub-strategies



Secondaries

With capital market shifting rapidly over the past years, many funds are running out of time to wind down portfolio holdings in an orderly fashion. Since existing LPs continue to prioritize liquidity, GPs have turned to continuation funds as a solution. In our view, **these dynamics leave secondaries, particularly GP-led single asset continuation funds, well positioned to produce resilient alpha** through attractive valuations, selectivity, and aligned interests.

Growth Equity & Venture

Improvement in valuations will take time. Despite the public market rally and improving macro outlook, the IPO market has yet to reopen. As companies must stay private longer, the push to secure the next financing round has increased valuation pressure. In this environment, larger funds with record levels of dry powder will be equipped to support their best assets, adding to performance dispersion. Due to the lingering financial strain, 2024 has the potential to be a great vintage. We also **expect quality to continue improving, with funds and companies shifting away from a growth-at-all-cost mentality**. Beyond 2024, venture and growth equity continue to provide the most direct exposure to organic growth associated with potentially transformative trends within a portfolio.

Leveraged Buyout

We expect greater dispersions among GPs as **revenue growth and operational efficiency, rather than financial engineering, dictate returns**. Given this shift, **we see a richer opportunity set for specialized operators in tech-focused industries** such as enterprise tech and business services. 2024 may be an opportune time for LPs to consider committing new capital. While valuations remain muted, the bid-ask spreads between buyers and sellers have narrowed and the backlog of existing PE companies may be a fertile hunting ground for new funds. Founder-owned companies are also an increasingly relevant source of acquisitions, given their lack of financing baggage, potential for valuation creation, and lower multiples.

Private Credit: From Macro to Micro

STILL COMPELLING WITH INCREASING NUANCE NECESSARY

Compared to 2023, we expect **more modest absolute and relative returns** as the Fed gradually moves towards easing. Nevertheless, we believe that **private credit will continue to play an important role in portfolios** for 2024.

Notably, private credit presents **an elegant solution for cash deployment** into investments with meaningfully higher return potential without dramatically greater risk exposure.

Finally, we still maintain our conviction in private credit's **potential of delivering equity-like yields with strong margin of safety** – thus exhibiting a positive convexity profile. *Nevertheless, **uncovering such lending opportunities requires a more selective approach**.*

Private Debt

- While borrower fundamentals are likely to remain resilient, we expect the balance of power to shift back towards borrowers as credit market activity rebounds to more normal levels, dampening return expectations, especially on new loans.
- As banks look to recapture market share and the broadly syndicated market reopens, we have a **strong preference for lenders that specialize in the mid and small cap space**, where sponsors and borrowers generally have fewer options and unique financing needs that are better suited for private bilateral deals.

Asset-Backed Lending

It is our view that **the most intriguing opportunities will likely fall within idiosyncratic situations** where lenders can provide creative, downside-protected, asset-backed financial solutions.

Looking ahead, we expect investment returns to be more driven by micro, industry- and company- specific factors rather than macro dynamics.

Private Real Assets

- We are neutral on **private infrastructure**. It has defended its reputation for resiliency notching solid returns in a challenging year. While the upside remains clear, headwinds from elevated rates and input costs are unlikely to abate soon.
- Despite easing financial conditions, we do not expect a rapid rebound in **private real estate**, and we continue to prefer debt rather than equity. While distressed strategies should continue to see the best near-term opportunities, we expect more openings for longer-term investors to deploy capital as market conditions normalize.

Hedge Funds: Back to Fundamentals

COMPLEMENTS LONG BETA IN A SUPPORTIVE THOUGH EXTENDED MARKET

- Given the demanding valuation setup in the equity market, we increasingly favor select fundamental long-short hedge funds as a complementary position to outright equity index beta. Moreover, with rate retreating as the most important driver for markets, we expect company specific factors such as earnings growth to become a more meaningful factor of performance, thus creating more potential for alpha generation in long/short.
- Absolute return hedge funds have recently re-entered the spotlight. It is our view that they are here to stay, playing a strategically meaningful role in enhancing portfolios by contributing attractive and precious return streams fundamentally orthogonal to those from other asset classes.

Equity markets appear increasingly favorable for fundamental managers…

Equity Long/Short

- We expect more differentiation in performance across companies and sectors as market focus shifts to micro fundamentals from primarily macro dynamics
- The shift from the easy money era of the past decade should also produce a better opportunity set over the coming years

…but **fixed income relative value and global macro strategies** continue to offer durable value in an increasingly uncertain world.

Fixed Income Relative Value

- While rate volatility could subside with an improving macro outlook, we expect it to remain elevated compared to the past cycle on the back of higher inflation uncertainty and fiscal deficits
- This environment appears to provide a rich opportunity set for both rates and credit driven strategies

Global Macro

- We favor global macro over systematic CTA as a risk anchoring position given:
  - Increased risks of policy mistakes
  - Potential political turbulence
- Discretionary global macro strategies are also well suited for turning points in markets and the economy

Energy: Dependable Geopolitical Hedge

ENHANCING PORTFOLIO RESILIENCE IN A SHOCK PRONE WORLD

Escalating conflicts throughout the Middle East are a somber reminder that **we now live in a more shock prone world**.

As economic policy makers react to these realities, they are left with few choices. Central banks are pushed to err on the side of tighter policy as supply risk abound, while legislators must contend with the foreboding fiscal trajectory.

With systemic left tail risk on the rise, it is imperative to have an appropriate blend of risk anchoring strategies that offer protection against adverse scenarios and can improve overall portfolio resilience.

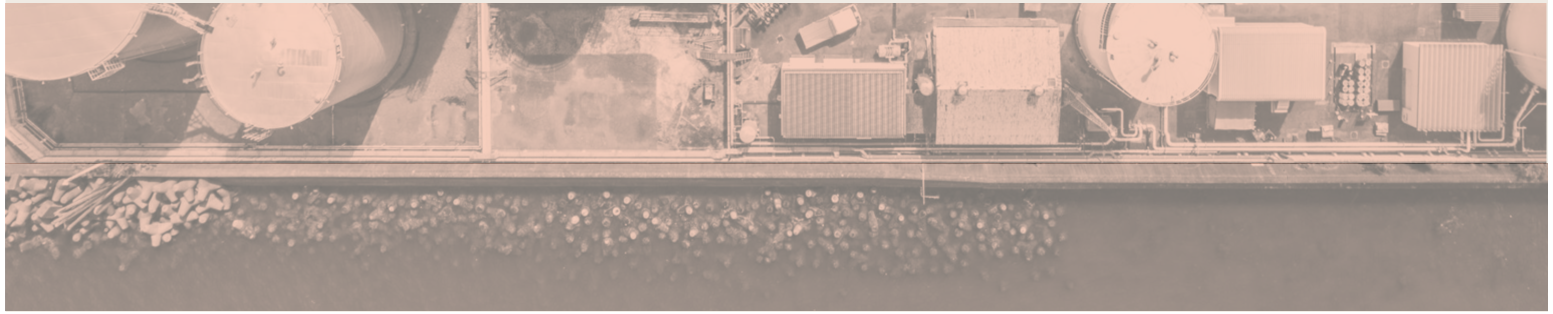
Energy has the potential of becoming the hedge of a decade given intensifying geopolitical tensions and shifts in the global order.

The proliferation of flashpoints in the Middle East has underscored the tenuous nature of regional stability and the inability of external powers to affect sufficiently rapid change. We do not take much comfort in the lack of geopolitical risk premia in current prices based on the events of the past month and continue to expect further volatility with a meaningful upside skew should conflict continue to broaden toward the straight of Hormuz.

In the event tensions ease, the energy market appears well positioned to maintain its current range, with supply unlikely to overwhelm moderate demand expectations.

Looking further out, we expect demand for oil will continue to rise. The inconvenient truth remains that, despite efforts to transition away from fossil fuels, wide adoption of renewable energy will take time.

Until then, **capex discipline coupled with geopolitical fragmentation appears to put a structural floor under crude oil prices.**



Current Asset Class Views

Tactical positioning (e.g., over- or underweight) in reference to strategic asset allocation guidance, with an intended time horizon of three to twelve months.

Stay tuned for upcoming publications (e.g., the Tactical Playbook and Asset Allocation Guide) for a detailed commentary on our latest tactical views across asset classes, in the context of current economic and market conditions.

	–	Neutral	+
Public Equities		→ ◉	
U.S. Large Cap		→ ◉	
U.S. Small Cap		→ ◉	
Developed International		→ ◉	
Emerging Markets		◉	
Traditional Fixed Income		◉	
Cash & Ultra Short		◉ ←	
Tax Exempt Municipal Bonds			
Investment Grade Munis – Short		◉	
Investment Grade Munis – Long		◉	
High Yield Munis		◉ ←	
Taxable Fixed Income			
Investment Grade Taxable – Short		◉	
Investment Grade Taxable – Long		◉	
High Yield Corporate Bonds	◉		
Floating Rate Bank Loans		◉	
Preferreds		◉	
Emerging Markets Sovereign Debt			→ ◉
Commodities			→ ◉
Ex-Precious Metals			→ ◉
Precious Metals		◉ ←	

	–	Neutral	+
Hedge Funds			◉
Equity Long/Short (Long Biased)			→ ◉
Structured Credit			→ ◉
Global Macro		◉ ←	
Market Neutral & Relative Value			
Equity Market Neutral			◉
Fixed Income Relative Value		◉ ←	
Risk Arbitrage		◉	
Volatility Arbitrage	◉ ←		
Private Equity & Direct Investments		◉	
Leveraged Buyouts		→ ◉	
Growth Equity		◉	
Venture Capital		◉	
Secondaries			◉
Evergreen (Diversified)		◉	
Private Debt			◉
Middle Market Direct Lending		◉	
Asset-Backed Lending			◉
Opportunistic & Distressed			◉
Private Real Assets		◉ ←	
Private Real Estate	◉		
Private Infrastructure		◉ ←	

03

Long-Term Capital Outlook

Strategic Asset Allocation Guidance

Capital Market Assumptions

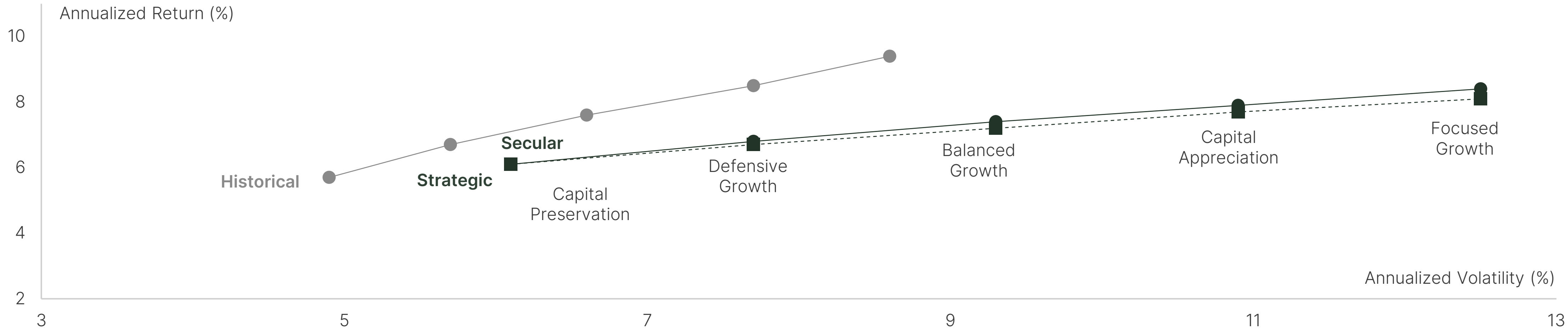
- Long-Term Risk & Return Outlook by Asset Class

Strategic Asset Allocation

	Capital Preservation (%)	Defensive Growth (%)	Balanced Growth (%)	Capital Appreciation (%)	Focused Growth (%)
PUBLIC EQUITIES	**11**	**20**	**28**	**37**	**46**
U.S. Equities	7	11	16	21	25
Developed International Equities	3	1	1	2	2
Emerging Markets Equities	1	1	1	1	2
COMMODITIES	**4**	**3**	**2**	**2**	**-**
Commodities (ex-precious metals)	2	2	2	2	-
Commodities (precious metals)	2	1	-	-	-
TRADITIONAL FIXED INCOME	**52**	**38**	**26**	**16**	**8**
Ultra-Short Fixed Income	3	2	2	2	2
Tax Exempt Municipal Bonds	43	31	21	11	5
U.S. Taxable Fixed Income	4	3	2	2	1
Emerging Market Sov. Debt (hard currency)	2	2	1	1	-
HEDGE FUNDS (absolute return)	**10**	**13**	**13**	**12**	**10**
Absolute Return (e.g., relative value, global macro)	8	11	11	10	8
Long Credit (e.g., structured credit)	2	2	2	2	2
HEDGE FUNDS (long biased)	**2**	**2**	**3**	**3**	**3**
Long Equities (e.g., activist, long/short long-biased)	2	2	3	3	3
PRIVATE EQUITY	**11**	**14**	**17**	**20**	**24**
Private Equity (e.g., leverage buyout, venture capital, direct deals)	11	14	17	20	24
PRIVATE DEBT	**4**	**4**	**4**	**4**	**3**
Private Debt (e.g., earnings-backed, asset-backed)	4	4	4	4	3
PRIVATE REAL ASSETS	**6**	**6**	**7**	**6**	**6**
Private Real Assets (e.g., commercial real estate, infrastructure)	6	6	7	6	6

As of December 31st, 2023. The 2024 strategic asset allocation models are based on current information and are subject to change without notice. The asset allocation models should not be construed as investment advice or a recommendation to purchase, sell or hold any specific security. The value of an investment portfolio may decrease in value or increase in value. No investment strategy or asset allocation can guarantee profit, protection from loss or that investment objectives will be achieved. Past Performance is not indicative of future results. Please note/refer to the important disclaimer at the end of this document.

Annualized Risk and Return Outlook



	Capital Preservation (%)	Defensive Growth (%)	Balanced Growth (%)	Capital Appreciation (%)	Focused Growth (%)
● **Forward-Looking Strategic Return**	**6.1**	**6.8**	**7.4**	**7.9**	**8.4**
■ **Forward-Looking Secular Return**	**6.1**	**6.7**	**7.2**	**7.7**	**8.1**
Forward-Looking Volatility	**6.1**	**7.7**	**9.3**	**10.9**	**12.5**
● **Realized 10-Year Return**	**5.7**	**6.7**	**7.6**	**8.5**	**9.4**
Realized 10-Year Volatility	**4.9**	**5.7**	**6.6**	**7.7**	**8.6**
Realized 15-Year Return	6.7	7.7	8.7	9.6	10.6
Realized 20-Year Return	6.1	6.9	7.7	8.3	9.1
Realized 25-Year Return	6.3	6.9	7.5	8.0	8.5

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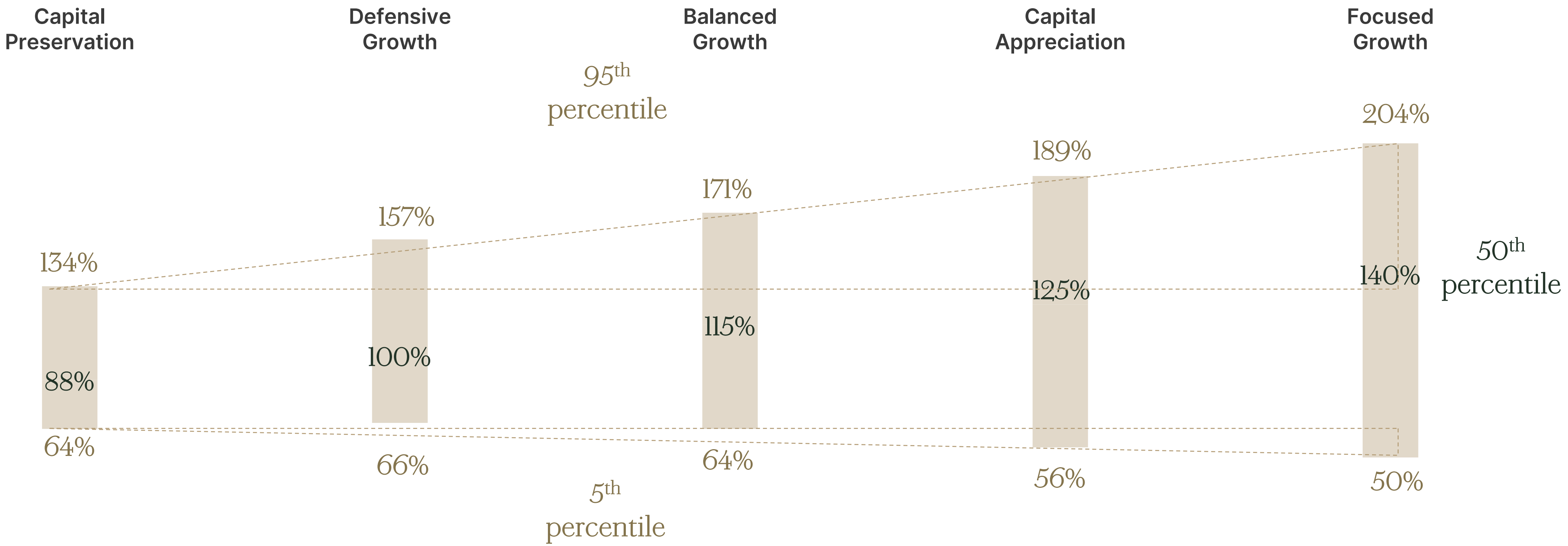
Long-Term Performance

The downside resilience of a sufficiently diversified investment portfolio generally improves with a longer investment horizon, thus increasing the attractiveness of the risk-and-return tradeoff associated with a more aggressive asset allocation.

Distribution of 10-year Rolling Cumulative Returns (%) From Jan. 1994 to Dec. 2023



Published based on market data as of December 31st, 2023. The 2024 strategic asset allocation models are based on current information and are subject to change without notice. The asset allocation models should not be construed as investment advice or a recommendation to purchase, sell or hold any specific security. The value of an investment portfolio may decrease in value or increase in value. No investment strategy or asset allocation can guarantee profit, protection from loss or that investment objectives will be achieved. Past Performance is not indicative of future results. Please note/refer to the important disclaimer at the end of this document.

Short-Term Risk

Nonetheless, the journey matters. The appropriate amount of variance risk embedded in an investment portfolio is bounded by the investor's capacity and tolerance for short-term corrections in the portfolio value.

Historical Drawdowns Over the Period from Jan. 1994 to Dec. 2023

	Capital Preservation	Defensive Growth	Balanced Growth	Capital Appreciation	Focused Growth
Largest Drawdown	**-18%**	**-23%**	**-27%**	**-32%**	**-36%**
Length (years)	2.1	2.8	3.1	3.3	3.3
Time Period	Jun 08 – Jun 10	Nov 07 – Aug 10	Nov 07 – Nov 10	Nov 07 – Jan 11	Nov 07 – Jan 11

Published based on market data as of December 31st, 2023. The 2024 strategic asset allocation models are based on current information and are subject to change without notice. The asset allocation models should not be construed as investment advice or a recommendation to purchase, sell or hold any specific security. The value of an investment portfolio may decrease in value or increase in value. No investment strategy or asset allocation can guarantee profit, protection from loss or that investment objectives will be achieved. Past Performance is not indicative of future results. Please note/refer to the important disclaimer at the end of this document.

Capital Market Assumptions

PUBLIC EQUITIES & COMMODITIES

	STRATEGIC (10-Year)[i] FORECASTS Annualized Return (%)[ii]	SECULAR (Equilibrium)[i] FORECASTS Annualized Return (%)[ii]	Annualized Volatility (%)[ii]	Benchmarks
PUBLIC EQUITIES				
U.S. Equities				
U.S. Equities All Cap	8.2	7.7	15.9	Russell 3000 TR Index
U.S. Equities Large Cap	8.0	7.5	15.5	S&P 500 TR Index
U.S. Equities Mid Cap	9.4	9.1	18.4	S&P 400 Mid Cap TR Index
U.S. Equities Small Cap	8.9	8.5	20.2	Russell 2000 TR Index
Developed International Equities				
Developed Int'l Equities Large & Mid Cap	7.3	6.9	17.4	MSCI World ex-U.S. TR Index
Developed Int'l Equities Small Cap	8.3	7.9	19.4	MSCI World ex-U.S. Small Cap TR Index
Emerging Markets Equities				
Emerging Markets Equities Large & Mid Cap	7.7	6.9	23.2	MSCI Emerging Markets TR Index
Emerging Markets Equities Small Cap	8.7	7.9	23.2	MSCI Emerging Markets Small Cap TR Index
Global Equities				
Global Equities Large & Mid Cap	7.9	7.4	16.1	MSCI All Country World TR Index
Global Equities Small Cap	8.7	8.3	18.6	MSCI All Country World Small Cap TR Index
Yield Enhancement				
REITs	6.9	6.3	19.3	FTSE EPRA/NAREIT Developed TR Index
Infrastructure	6.7	6.0	17.2	S&P Global Infrastructure TR Index
COMMODITIES				
Commodities ex-Precious Metals	4.3	4.9	18.3	Bloomberg Commodity ex-Precious Metals TR Index
Precious Metals	6.1	6.6	17.0	Bloomberg Precious Metals TR Index

i. As of December 31st, 2023. The Strategic Forecasts represent the Rockefeller Global Family Office's 10-year expected returns for the various asset classes presented above. The Secular Forecasts represent the Rockefeller Global Family Office's expected returns over the longer term. The estimates are intended to reflect returns in a theoretical market equilibrium state, and thus do not account for asset class behaviors such as mean reversion. The return estimates are developed based on the framework detailed in the Rockefeller Global Family Office Capital Market Assumptions white paper.
ii. Annualized Return refers to the geometric average – as opposed to arithmetic average – of expected asset class returns. Annualized Volatility is measured as semivariance-adjusted standard deviation.

Capital Market Assumptions

TRADITIONAL FIXED INCOME

	STRATEGIC (10-Year)[i] FORECASTS	SECULAR (Equilibrium)[i] FORECASTS		
	Annualized Return (%)[ii]	**Annualized Return (%)**[ii]	**Annualized Volatility (%)**[ii]	**Benchmarks**
TRADITIONAL FIXED INCOME				
Ultra-Short Fixed Income	3.6	3.7	0.5	U.S. 3M T-Bill / 3M Eurodollar Futures
Tax Exempt Municipal Bonds				
Tax Exempt Inv. Grade – Short Term	2.4	2.7	1.6	Bloomberg Municipal 1-3 Year TR Index
Tax Exempt Inv. Grade – Intermediate Term	3.3	3.4	4.3	Bloomberg Municipal 3-10 Year TR Index
Tax Exempt Inv. Grade – Long Term	3.9	4.5	6.8	Bloomberg Municipal 10+ Year TR Index
Tax Exempt High Yield Muni	5.7	6.1	8.6	Bloomberg Muni High Yield TR Index
U.S. Taxable Fixed Income				
U.S. Taxable Inv. Grade - Short Term	4.0	4.3	1.4	Bloomberg U.S. Aggregate 1-3 Year TR Index
U.S. Taxable Inv. Grade – Intermediate Term	4.4	5.1	4.2	Bloomberg U.S. Aggregate 3-10 Year TR Index
U.S. Taxable Inv. Grade – Long Term	4.6	5.0	10.0	Bloomberg U.S. Aggregate 10+ Year TR Index
U.S. Taxable High Yield Corporate	6.5	6.2	10.3	Bloomberg U.S. Corporate High Yield TR Index
U.S. Floating Rate Bank Loans	7.6	6.2	8.5	S&P/LSTA Leveraged Loan TR Index
U.S. Preferreds	6.1	6.1	7.7	ICE BofAML U.S. All Capital Securities TR Index
U.S. TIPS	4.3	3.9	6.0	Bloomberg U.S. TIPS TR Index
Developed International Fixed Income	3.4	3.0	3.2	Bloomberg Global Aggregate ex-USD Hedged TR Index
Emerging Markets Fixed Income				
EM Sovereign Debt – Hard Currency	5.8	5.1	10.7	JP Morgan EMBI-GD Composite TR Index
EM Sovereign Debt – Local Currency	4.0	4.0	12.8	JP Morgan GBI-EM Composite Unhedged TR Index

i. As of December 31st, 2023. The Strategic Forecasts represent the Rockefeller Global Family Office's 10-year expected returns for the various asset classes presented above. The Secular Forecasts represent the Rockefeller Global Family Office's expected returns over the longer term. The estimates are intended to reflect returns in a theoretical market equilibrium state, and thus do not account for asset class behaviors such as mean reversion. The return estimates are developed based on the framework detailed in the Rockefeller Global Family Office Capital Market Assumptions white paper.
ii. Annualized Return refers to the geometric average – as opposed to arithmetic average – of expected asset class returns. Annualized Volatility is measured as semivariance-adjusted standard deviation.

Capital Market Assumptions

HEDGE FUNDS

	STRATEGIC (10-Year)[i] FORECASTS Annualized Return (%)[ii]	SECULAR (Equilibrium)[i] FORECASTS Annualized Return (%)[ii]	Annualized Volatility (%)[ii]	Benchmarks
HEDGE FUNDS (absolute return)				
Absolute Return				
Global Macro	7.0	7.1	7.3	Blended Credit Suisse, HFRI, & Albourne Global Macro Indices
Managed Futures	6.5	6.6	10.9	Blended Credit Suisse, HFRI, & Albourne Managed Futures Indices
Fixed Income Relative Value	8.8	8.7	7.3	Blended HFRI Fixed Income Relative Value Indices
Equity Market Neutral	8.1	8.2	6.1	Blended Credit Suisse, HFRI, & Albourne Equity Mkt Neutral Indices
Risk Arbitrage	6.3	6.5	5.2	Blended Credit Suisse, HFRI, & Albourne Risk Arbitrage Indices
Long Credit				
Structured Credit	7.5	7.4	8.5	Blended Credit Suisse, HFRI, & Albourne Structured Credit Indices
Distressed / Restructuring	8.0	7.8	9.4	Blended Credit Suisse, HFRI, & Albourne Distressed/Restructuring Indices
HEDGE FUNDS (long biased)				
Long Equities				
Equity Long/Short (Long Biased)	7.1	7.3	9.6	Blended Credit Suisse, HFRI, & Albourne Equity Long/Short Indices
Activist	7.9	8.0	15.3	Blended HFRI & Albourne Activist Indices

i. As of December 31st, 2023. The Strategic Forecasts represent the Rockefeller Global Family Office's 10-year expected returns for the various asset classes presented above. The Secular Forecasts represent the Rockefeller Global Family Office's expected returns over the longer term. The estimates are intended to reflect returns in a theoretical market equilibrium state, and thus do not account for asset class behaviors such as mean reversion. The return estimates are developed based on the framework detailed in the Rockefeller Global Family Office Capital Market Assumptions white paper.
ii. Annualized Return refers to the geometric average – as opposed to arithmetic average – of expected asset class returns. Annualized Volatility is measured as semivariance-adjusted standard deviation.

Capital Market Assumptions

PRIVATE INVESTMENTS

	STRATEGIC (10-Year)[i] FORECASTS Annualized Return (%)[ii]	SECULAR (Equilibrium)[i] FORECASTS Annualized Return (%)[ii]	Annualized Volatility (%)[ii]	Benchmarks
PRIVATE EQUITY				
Leveraged Buyouts	10.6	10.4	19.2	Blended Cambridge Associates and PitchBook Global Private Equity Indices
Venture Capital	11.5	10.9	26.6	Blended Cambridge Associates and PitchBook Global Venture Capital Indices
Direct Investments	12.6	12.4	29.9	Blended Cambridge Associates and PitchBook Global PE & VC Indices
PRIVATE DEBT				
Private Debt	10.0	9.1	11.1	PitchBook Global Private Debt Index
PRIVATE REAL ASSETS				
Private Real Estate	7.5	7.0	11.7	Blended Cambridge Associates and PitchBook Global Private Real Estate Indices
Private Infrastructure	7.7	7.0	7.1	PitchBook Global Private Infrastructure Index

i. As of December 31st, 2023. The Strategic Forecasts represent the Rockefeller Global Family Office's 10-year expected returns for the various asset classes presented above. The Secular Forecasts represent the Rockefeller Global Family Office's expected returns over the longer term. The estimates are intended to reflect returns in a theoretical market equilibrium state, and thus do not account for asset class behaviors such as mean reversion. The return estimates are developed based on the framework detailed in the Rockefeller Global Family Office Capital Market Assumptions white paper.
ii. Annualized Return refers to the geometric average – as opposed to arithmetic average – of expected asset class returns. Annualized Volatility is measured as semivariance-adjusted standard deviation.

Correlations

PUBLIC EQUITIES AND COMMODITIES

	ASSET CLASS	U.S. Equities				Dev. Int'l Equities		EM Equities		Global Equities		Yield Enhancement		Commodities (Liq.)	
*Index**		*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*13*	*14*
1	U.S. Equities All Cap	1.00	0.99	0.93	0.87	0.78	0.74	0.68	0.65	0.91	0.86	0.71	0.79	0.42	0.07
2	U.S. Equities Large Cap	0.99	1.00	0.90	0.82	0.77	0.73	0.66	0.63	0.91	0.83	0.70	0.79	0.40	0.07
3	U.S. Equities Mid Cap	0.93	0.90	1.00	0.94	0.73	0.72	0.68	0.66	0.84	0.87	0.72	0.78	0.46	0.09
4	U.S. Equities Small Cap	0.87	0.82	0.94	1.00	0.69	0.69	0.66	0.64	0.78	0.87	0.68	0.72	0.40	0.08
5	Developed Int'l Equities Large & Mid Cap	0.78	0.77	0.73	0.69	1.00	0.95	0.72	0.71	0.96	0.91	0.80	0.90	0.52	0.22
6	Developed Int'l Equities Small Cap	0.74	0.73	0.72	0.69	0.95	1.00	0.72	0.73	0.91	0.93	0.80	0.87	0.53	0.25
7	Emerging Markets Equities Large & Mid Cap	0.68	0.66	0.68	0.66	0.72	0.72	1.00	0.95	0.77	0.77	0.70	0.79	0.53	0.26
8	Emerging Markets Equities Small Cap	0.65	0.63	0.66	0.64	0.71	0.73	0.95	1.00	0.74	0.77	0.71	0.80	0.53	0.24
9	Global Equities Large & Mid Cap	0.91	0.91	0.84	0.78	0.96	0.91	0.77	0.74	1.00	0.94	0.80	0.87	0.49	0.18
10	Global Equities Small Cap	0.86	0.83	0.87	0.87	0.91	0.93	0.77	0.77	0.94	1.00	0.81	0.85	0.51	0.20
11	REITs	0.71	0.70	0.72	0.68	0.80	0.80	0.70	0.71	0.80	0.81	1.00	0.85	0.43	0.24
12	Infrastructure	0.79	0.79	0.78	0.72	0.90	0.87	0.79	0.80	0.87	0.85	0.85	1.00	0.53	0.30
13	Commodities ex-Precious Metals	0.42	0.40	0.46	0.40	0.52	0.53	0.53	0.53	0.49	0.51	0.43	0.53	1.00	0.33
14	Precious Metals	0.07	0.07	0.09	0.08	0.22	0.25	0.26	0.24	0.18	0.20	0.24	0.30	0.33	1.00
15	Ultra-Short Fixed Income	0.01	0.02	-0.02	-0.04	-0.03	-0.06	0.01	-0.02	-0.02	-0.07	-0.06	-0.03	-0.05	-0.06
16	Tax Exempt Investment Grade - Short Term	0.14	0.15	0.12	0.08	0.13	0.15	0.11	0.09	0.14	0.12	0.20	0.21	-0.08	0.14
17	Tax Exempt Investment Grade - Intermediate Term	0.17	0.18	0.15	0.10	0.17	0.19	0.10	0.10	0.17	0.16	0.30	0.28	-0.08	0.14
18	Tax Exempt Investment Grade - Long Term	0.24	0.24	0.22	0.16	0.22	0.25	0.17	0.17	0.23	0.23	0.36	0.34	-0.02	0.09
19	Tax Exempt High Yield Muni	0.31	0.30	0.31	0.26	0.35	0.39	0.31	0.34	0.34	0.36	0.45	0.43	0.17	0.18
20	U.S. Taxable Investment Grade - Short Term	0.08	0.09	0.04	-0.01	0.07	0.08	0.05	0.03	0.08	0.04	0.14	0.17	-0.02	0.13
21	U.S. Taxable Investment Grade - Intermediate Term	0.21	0.21	0.16	0.11	0.19	0.21	0.12	0.11	0.20	0.17	0.32	0.34	-0.03	0.18
22	U.S. Taxable Investment Grade - Long Term	0.18	0.19	0.14	0.10	0.15	0.18	0.11	0.10	0.17	0.14	0.30	0.31	-0.09	0.16
23	U.S. Taxable High Yield Corporate	0.66	0.64	0.68	0.66	0.60	0.63	0.59	0.61	0.65	0.69	0.64	0.74	0.43	0.15
24	U.S. Floating Rate Bank Loans	0.50	0.48	0.54	0.51	0.53	0.58	0.47	0.54	0.53	0.60	0.56	0.59	0.44	0.09
25	U.S. Preferreds	0.68	0.67	0.68	0.63	0.67	0.72	0.61	0.68	0.70	0.73	0.76	0.71	0.24	0.23
26	U.S. TIPS	0.16	0.16	0.17	0.11	0.21	0.27	0.21	0.22	0.20	0.21	0.37	0.39	0.23	0.39
27	Developed International Fixed Income	0.16	0.17	0.11	0.08	0.14	0.14	0.09	0.09	0.16	0.11	0.29	0.23	-0.16	0.09
28	EM Sovereign Debt - Hard Currency	0.56	0.55	0.55	0.50	0.56	0.56	0.67	0.61	0.59	0.57	0.63	0.72	0.34	0.31
29	EM Sovereign Debt - Local Currency	0.61	0.61	0.59	0.55	0.75	0.73	0.82	0.77	0.72	0.69	0.72	0.75	0.46	0.47

*In the above correlation table, the asset class indices in the second row match the asset class indices in the first column, thus representing the asset classes in the corresponding second column.

Correlations

PUBLIC EQUITIES AND COMMODITIES *(CONTINUED)*

ASSET CLASS		U.S. Equities				Dev. Int'l Equities		EM Equities		Global Equities		Yield Enhancement		Commodities (Liq.)	
*Index**		*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*13*	*14*
30	Global Macro	0.29	0.27	0.33	0.31	0.44	0.48	0.45	0.47	0.38	0.42	0.35	0.43	0.41	0.36
31	Managed Futures	0.00	0.00	0.01	-0.01	0.04	0.05	0.06	0.09	0.03	0.03	0.07	0.11	0.16	0.27
32	Fixed Income Relative Value	0.66	0.63	0.69	0.65	0.71	0.75	0.68	0.72	0.70	0.75	0.70	0.71	0.51	0.20
33	Equity Market Neutral	0.25	0.25	0.26	0.18	0.33	0.38	0.31	0.35	0.30	0.31	0.31	0.38	0.30	0.15
34	Risk Arbitrage	0.62	0.60	0.67	0.66	0.65	0.69	0.61	0.66	0.65	0.72	0.59	0.63	0.41	0.18
35	Structured Credit	0.48	0.46	0.52	0.46	0.51	0.57	0.47	0.55	0.51	0.57	0.54	0.59	0.41	0.17
36	Distressed / Restructuring	0.71	0.69	0.74	0.71	0.75	0.79	0.68	0.74	0.75	0.80	0.65	0.73	0.50	0.18
37	Equity Long/Short (Long Biased)	0.84	0.82	0.85	0.81	0.88	0.90	0.83	0.84	0.89	0.92	0.73	0.79	0.53	0.30
38	Activist	0.83	0.81	0.86	0.84	0.83	0.84	0.75	0.77	0.85	0.89	0.74	0.76	0.47	0.16
39	Leveraged Buyouts	0.72	0.71	0.65	0.64	0.70	0.64	0.58	0.55	0.73	0.67	0.56	0.69	0.47	0.13
40	Venture Capital	0.41	0.40	0.37	0.37	0.34	0.23	0.31	0.24	0.38	0.32	0.19	0.30	0.22	-0.09
41	Direct Investments	0.71	0.71	0.65	0.64	0.68	0.62	0.56	0.53	0.72	0.66	0.54	0.67	0.46	0.11
42	Private Debt	0.66	0.66	0.67	0.61	0.72	0.72	0.70	0.74	0.72	0.72	0.67	0.70	0.48	0.26
43	Private Real Estate	0.29	0.30	0.25	0.22	0.29	0.28	0.20	0.16	0.30	0.24	0.32	0.41	0.40	0.05
44	Private Infrastructure	0.25	0.24	0.27	0.26	0.31	0.26	0.38	0.30	0.30	0.27	0.26	0.38	0.22	0.13

*In the above correlation table, the asset class indices in the second row match the asset class indices in the first column, thus representing the asset classes in the corresponding second column.

Correlations

TRADITIONAL FIXED INCOME

	ASSET CLASS	Cash	Tax Exempt Fixed Income				U.S. Taxable Fixed Income							Int'l F.I.	EM Debt	
*Index**		*15*	*16*	*17*	*18*	*19*	*20*	*21*	*22*	*23*	*24*	*25*	*26*	*27*	*28*	*29*
1	U.S. Equities All Cap	0.01	0.14	0.17	0.24	0.31	0.08	0.21	0.18	0.66	0.50	0.68	0.16	0.16	0.56	0.61
2	U.S. Equities Large Cap	0.02	0.15	0.18	0.24	0.30	0.09	0.21	0.19	0.64	0.48	0.67	0.16	0.17	0.55	0.61
3	U.S. Equities Mid Cap	-0.02	0.12	0.15	0.22	0.31	0.04	0.16	0.14	0.68	0.54	0.68	0.17	0.11	0.55	0.59
4	U.S. Equities Small Cap	-0.04	0.08	0.10	0.16	0.26	-0.01	0.11	0.10	0.66	0.51	0.63	0.11	0.08	0.50	0.55
5	Developed Int'l Equities Large & Mid Cap	-0.03	0.13	0.17	0.22	0.35	0.07	0.19	0.15	0.60	0.53	0.67	0.21	0.14	0.56	0.75
6	Developed Int'l Equities Small Cap	-0.06	0.15	0.19	0.25	0.39	0.08	0.21	0.18	0.63	0.58	0.72	0.27	0.14	0.56	0.73
7	Emerging Markets Equities Large & Mid Cap	0.01	0.11	0.10	0.17	0.31	0.05	0.12	0.11	0.59	0.47	0.61	0.21	0.09	0.67	0.82
8	Emerging Markets Equities Small Cap	-0.02	0.09	0.10	0.17	0.34	0.03	0.11	0.10	0.61	0.54	0.68	0.22	0.09	0.61	0.77
9	Global Equities Large & Mid Cap	-0.02	0.14	0.17	0.23	0.34	0.08	0.20	0.17	0.65	0.53	0.70	0.20	0.16	0.59	0.72
10	Global Equities Small Cap	-0.07	0.12	0.16	0.23	0.36	0.04	0.17	0.14	0.69	0.60	0.73	0.21	0.11	0.57	0.69
11	REITs	-0.06	0.20	0.30	0.36	0.45	0.14	0.32	0.30	0.64	0.56	0.76	0.37	0.29	0.63	0.72
12	Infrastructure	-0.03	0.21	0.28	0.34	0.43	0.17	0.34	0.31	0.74	0.59	0.71	0.39	0.23	0.72	0.75
13	Commodities ex-Precious Metals	-0.05	-0.08	-0.08	-0.02	0.17	-0.02	-0.03	-0.09	0.43	0.44	0.24	0.23	-0.16	0.34	0.46
14	Precious Metals	-0.06	0.14	0.14	0.09	0.18	0.13	0.18	0.16	0.15	0.09	0.23	0.39	0.09	0.31	0.47
15	Ultra-Short Fixed Income	1.00	0.33	0.13	0.09	-0.04	0.52	0.21	0.10	-0.04	-0.09	-0.07	0.05	0.23	0.05	0.00
16	Tax Exempt Investment Grade - Short Term	0.33	1.00	0.88	0.75	0.49	0.75	0.74	0.61	0.26	0.09	0.54	0.55	0.60	0.37	0.35
17	Tax Exempt Investment Grade - Intermediate Term	0.13	0.88	1.00	0.92	0.64	0.65	0.79	0.73	0.32	0.17	0.60	0.63	0.64	0.41	0.38
18	Tax Exempt Investment Grade - Long Term	0.09	0.75	0.92	1.00	0.78	0.55	0.73	0.70	0.39	0.29	0.60	0.57	0.59	0.42	0.36
19	Tax Exempt High Yield Muni	-0.04	0.49	0.64	0.78	1.00	0.28	0.46	0.45	0.51	0.55	0.66	0.46	0.41	0.44	0.37
20	U.S. Taxable Investment Grade - Short Term	0.52	0.75	0.65	0.55	0.28	1.00	0.85	0.65	0.19	-0.02	0.38	0.62	0.62	0.31	0.37
21	U.S. Taxable Investment Grade - Intermediate Term	0.21	0.74	0.79	0.73	0.46	0.85	1.00	0.91	0.31	0.06	0.61	0.78	0.74	0.46	0.47
22	U.S. Taxable Investment Grade - Long Term	0.10	0.61	0.73	0.70	0.45	0.65	0.91	1.00	0.29	0.03	0.59	0.72	0.74	0.42	0.39
23	U.S. Taxable High Yield Corporate	-0.04	0.26	0.32	0.39	0.51	0.19	0.31	0.29	1.00	0.78	0.82	0.36	0.22	0.61	0.67
24	U.S. Floating Rate Bank Loans	-0.09	0.09	0.17	0.29	0.55	-0.02	0.06	0.03	0.78	1.00	0.69	0.22	0.01	0.41	0.45
25	U.S. Preferreds	-0.07	0.54	0.60	0.60	0.66	0.38	0.61	0.59	0.82	0.69	1.00	0.55	0.55	0.78	0.55
26	U.S. TIPS	0.05	0.55	0.63	0.57	0.46	0.62	0.78	0.72	0.36	0.22	0.55	1.00	0.59	0.46	0.50
27	Developed International Fixed Income	0.23	0.60	0.64	0.59	0.41	0.62	0.74	0.74	0.22	0.01	0.55	0.59	1.00	0.38	0.30
28	EM Sovereign Debt - Hard Currency	0.05	0.37	0.41	0.42	0.44	0.31	0.46	0.42	0.61	0.41	0.78	0.46	0.38	1.00	0.82
29	EM Sovereign Debt - Local Currency	0.00	0.35	0.38	0.36	0.37	0.37	0.47	0.39	0.67	0.45	0.55	0.50	0.30	0.82	1.00

*In the above correlation table, the asset class indices in the second row match the asset class indices in the first column, thus representing the asset classes in the corresponding second column.

Correlations

TRADITIONAL FIXED INCOME (*CONTINUED)*

ASSET CLASS		Cash	Tax Exempt Fixed Income				U.S. Taxable Fixed Income							Int'l F.I.	EM Debt	
*Index**		*15*	*16*	*17*	*18*	*19*	*20*	*21*	*22*	*23*	*24*	*25*	*26*	*27*	*28*	*29*
30	Global Macro	0.05	0.19	0.20	0.20	0.24	0.23	0.19	0.12	0.35	0.34	0.39	0.29	0.09	0.37	0.44
31	Managed Futures	0.02	-0.09	-0.02	-0.05	-0.04	-0.02	0.00	0.07	-0.10	-0.11	-0.05	0.10	0.09	-0.03	-0.05
32	Fixed Income Relative Value	-0.13	0.17	0.24	0.35	0.63	0.05	0.17	0.13	0.81	0.88	0.74	0.28	0.10	0.68	0.62
33	Equity Market Neutral	0.01	-0.02	0.03	0.11	0.21	-0.02	-0.03	-0.03	0.28	0.35	0.17	0.12	-0.04	0.21	0.17
34	Risk Arbitrage	-0.01	0.12	0.14	0.20	0.33	0.04	0.14	0.12	0.58	0.57	0.52	0.21	0.10	0.50	0.46
35	Structured Credit	-0.14	0.25	0.31	0.34	0.51	0.18	0.29	0.25	0.63	0.73	0.67	0.37	0.23	0.62	0.49
36	Distressed / Restructuring	-0.09	0.10	0.13	0.21	0.44	0.03	0.11	0.07	0.77	0.75	0.68	0.22	0.06	0.58	0.53
37	Equity Long/Short (Long Biased)	-0.04	0.14	0.15	0.26	0.41	0.07	0.15	0.12	0.72	0.64	0.69	0.24	0.05	0.61	0.60
38	Activist	-0.04	0.09	0.12	0.23	0.44	-0.02	0.13	0.11	0.73	0.64	0.69	0.22	0.07	0.61	0.56
39	Leveraged Buyouts	0.05	-0.17	-0.09	0.07	0.36	-0.19	-0.12	-0.08	0.46	0.41	0.62	0.00	-0.07	0.39	0.43
40	Venture Capital	0.19	-0.08	-0.11	-0.08	0.02	-0.08	-0.12	-0.11	0.12	0.11	0.40	-0.07	-0.03	0.24	0.12
41	Direct Investments	0.05	-0.17	-0.09	0.06	0.34	-0.20	-0.13	-0.09	0.44	0.40	0.61	-0.01	-0.07	0.38	0.40
42	Private Debt	-0.07	-0.17	-0.02	0.22	0.53	-0.15	-0.07	-0.13	0.69	0.68	0.56	0.08	-0.08	0.49	0.58
43	Private Real Estate	0.14	-0.23	-0.15	0.01	0.29	-0.16	-0.15	-0.11	0.16	0.21	0.15	0.02	-0.12	0.03	0.00
44	Private Infrastructure	0.15	-0.08	0.01	0.09	0.12	-0.09	-0.02	0.06	0.14	0.06	0.34	0.07	0.06	0.17	0.13

*In the above correlation table, the asset class indices in the second row match the asset class indices in the first column, thus representing the asset classes in the corresponding second column.

Correlations

HEDGE FUNDS & PRIVATE INVESTMENTS

	ASSET CLASS	HF - Absolute Return					HF - Long Credit		HF - Long Equities		Private Equity			Priv. Debt	Priv. Real Assets	
Index*		30	31	32	33	34	35	36	37	38	39	40	41	42	43	44
1	U.S. Equities All Cap	0.29	0.00	0.66	0.25	0.62	0.48	0.71	0.84	0.83	0.72	0.41	0.71	0.66	0.29	0.25
2	U.S. Equities Large Cap	0.27	0.00	0.63	0.25	0.60	0.46	0.69	0.82	0.81	0.71	0.40	0.71	0.66	0.30	0.24
3	U.S. Equities Mid Cap	0.33	0.01	0.69	0.26	0.67	0.52	0.74	0.85	0.86	0.65	0.37	0.65	0.67	0.25	0.27
4	U.S. Equities Small Cap	0.31	-0.01	0.65	0.18	0.66	0.46	0.71	0.81	0.84	0.64	0.37	0.64	0.61	0.22	0.26
5	Developed Int'l Equities Large & Mid Cap	0.44	0.04	0.71	0.33	0.65	0.51	0.75	0.88	0.83	0.70	0.34	0.68	0.72	0.29	0.31
6	Developed Int'l Equities Small Cap	0.48	0.05	0.75	0.38	0.69	0.57	0.79	0.90	0.84	0.64	0.23	0.62	0.72	0.28	0.26
7	Emerging Markets Equities Large & Mid Cap	0.45	0.06	0.68	0.31	0.61	0.47	0.68	0.83	0.75	0.58	0.31	0.56	0.70	0.20	0.38
8	Emerging Markets Equities Small Cap	0.47	0.09	0.72	0.35	0.66	0.55	0.74	0.84	0.77	0.55	0.24	0.53	0.74	0.16	0.30
9	Global Equities Large & Mid Cap	0.38	0.03	0.70	0.30	0.65	0.51	0.75	0.89	0.85	0.73	0.38	0.72	0.72	0.30	0.30
10	Global Equities Small Cap	0.42	0.03	0.75	0.31	0.72	0.57	0.80	0.92	0.89	0.67	0.32	0.66	0.72	0.24	0.27
11	REITs	0.35	0.07	0.70	0.31	0.59	0.54	0.65	0.73	0.74	0.56	0.19	0.54	0.67	0.32	0.26
12	Infrastructure	0.43	0.11	0.71	0.38	0.63	0.59	0.73	0.79	0.76	0.69	0.30	0.67	0.70	0.41	0.38
13	Commodities ex-Precious Metals	0.41	0.16	0.51	0.30	0.41	0.41	0.50	0.53	0.47	0.47	0.22	0.46	0.48	0.40	0.22
14	Precious Metals	0.36	0.27	0.20	0.15	0.18	0.17	0.18	0.30	0.16	0.13	-0.09	0.11	0.26	0.05	0.13
15	Ultra-Short Fixed Income	0.05	0.02	-0.13	0.01	-0.01	-0.14	-0.09	-0.04	-0.04	0.05	0.19	0.05	-0.07	0.14	0.15
16	Tax Exempt Investment Grade - Short Term	0.19	-0.09	0.17	-0.02	0.12	0.25	0.10	0.14	0.09	-0.17	-0.08	-0.17	-0.17	-0.23	-0.08
17	Tax Exempt Investment Grade - Intermediate Term	0.20	-0.02	0.24	0.03	0.14	0.31	0.13	0.15	0.12	-0.09	-0.11	-0.09	-0.02	-0.15	0.01
18	Tax Exempt Investment Grade - Long Term	0.20	-0.05	0.35	0.11	0.20	0.34	0.21	0.26	0.23	0.07	-0.08	0.06	0.22	0.01	0.09
19	Tax Exempt High Yield Muni	0.24	-0.04	0.63	0.21	0.33	0.51	0.44	0.41	0.44	0.36	0.02	0.34	0.53	0.29	0.12
20	U.S. Taxable Investment Grade - Short Term	0.23	-0.02	0.05	-0.02	0.04	0.18	0.03	0.07	-0.02	-0.19	-0.08	-0.20	-0.15	-0.16	-0.09
21	U.S. Taxable Investment Grade - Intermediate Term	0.19	0.00	0.17	-0.03	0.14	0.29	0.11	0.15	0.13	-0.12	-0.12	-0.13	-0.07	-0.15	-0.02
22	U.S. Taxable Investment Grade - Long Term	0.12	0.07	0.13	-0.03	0.12	0.25	0.07	0.12	0.11	-0.08	-0.11	-0.09	-0.13	-0.11	0.06
23	U.S. Taxable High Yield Corporate	0.35	-0.10	0.81	0.28	0.58	0.63	0.77	0.72	0.73	0.46	0.12	0.44	0.69	0.16	0.14
24	U.S. Floating Rate Bank Loans	0.34	-0.11	0.88	0.35	0.57	0.73	0.75	0.64	0.64	0.41	0.11	0.40	0.68	0.21	0.06
25	U.S. Preferreds	0.39	-0.05	0.74	0.17	0.52	0.67	0.68	0.69	0.69	0.62	0.40	0.61	0.56	0.15	0.34
26	U.S. TIPS	0.29	0.10	0.28	0.12	0.21	0.37	0.22	0.24	0.22	0.00	-0.07	-0.01	0.08	0.02	0.07
27	Developed International Fixed Income	0.09	0.09	0.10	-0.04	0.10	0.23	0.06	0.05	0.07	-0.07	-0.03	-0.07	-0.08	-0.12	0.06
28	EM Sovereign Debt - Hard Currency	0.37	-0.03	0.68	0.21	0.50	0.62	0.58	0.61	0.61	0.39	0.24	0.38	0.49	0.03	0.17
29	EM Sovereign Debt - Local Currency	0.44	-0.05	0.62	0.17	0.46	0.49	0.53	0.60	0.56	0.43	0.12	0.40	0.58	0.00	0.13

*In the above correlation table, the asset class indices in the second row match the asset class indices in the first column, thus representing the asset classes in the corresponding second column.

Correlations

HEDGE FUNDS & PRIVATE INVESTMENTS *(CONTINUED)*

ASSET CLASS		HF - Absolute Return					HF - Long Credit		HF - Long Equities		Private Equity			Priv. Debt	Priv. Real Assets	
*Index**		*30*	*31*	*32*	*33*	*34*	*35*	*36*	*37*	*38*	*39*	*40*	*41*	*42*	*43*	*44*
30	Global Macro	1.00	0.43	0.43	0.34	0.46	0.38	0.47	0.54	0.39	0.32	0.04	0.29	0.44	0.13	0.22
31	Managed Futures	0.43	1.00	-0.04	0.32	0.13	-0.05	0.06	0.16	-0.01	0.07	-0.02	0.06	0.12	0.12	0.19
32	Fixed Income Relative Value	0.43	-0.04	1.00	0.37	0.66	0.82	0.82	0.75	0.75	0.62	0.28	0.60	0.72	0.32	0.14
33	Equity Market Neutral	0.34	0.32	0.37	1.00	0.28	0.29	0.34	0.47	0.32	0.42	0.12	0.40	0.51	0.52	0.26
34	Risk Arbitrage	0.46	0.13	0.66	0.28	1.00	0.63	0.74	0.73	0.70	0.61	0.46	0.61	0.53	0.20	0.20
35	Structured Credit	0.38	-0.05	0.82	0.29	0.63	1.00	0.75	0.59	0.59	0.51	0.25	0.50	0.58	0.21	0.11
36	Distressed / Restructuring	0.47	0.06	0.82	0.34	0.74	0.75	1.00	0.82	0.78	0.66	0.34	0.65	0.74	0.29	0.20
37	Equity Long/Short (Long Biased)	0.54	0.16	0.75	0.47	0.73	0.59	0.82	1.00	0.85	0.72	0.46	0.71	0.72	0.35	0.29
38	Activist	0.39	-0.01	0.75	0.32	0.70	0.59	0.78	0.85	1.00	0.72	0.41	0.70	0.67	0.39	0.30
39	Leveraged Buyouts	0.32	0.07	0.62	0.42	0.61	0.51	0.66	0.72	0.72	1.00	0.63	1.00	0.66	0.59	0.38
40	Venture Capital	0.04	-0.02	0.28	0.12	0.46	0.25	0.34	0.46	0.41	0.63	1.00	0.66	0.31	0.15	0.14
41	Direct Investments	0.29	0.06	0.60	0.40	0.61	0.50	0.65	0.71	0.70	1.00	0.66	1.00	0.63	0.57	0.36
42	Private Debt	0.44	0.12	0.72	0.51	0.53	0.58	0.74	0.72	0.67	0.66	0.31	0.63	1.00	0.43	0.23
43	Private Real Estate	0.13	0.12	0.32	0.52	0.20	0.21	0.29	0.35	0.39	0.59	0.15	0.57	0.43	1.00	0.35
44	Private Infrastructure	0.22	0.19	0.14	0.26	0.20	0.11	0.20	0.29	0.30	0.38	0.14	0.36	0.23	0.35	1.00

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Disclosures

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