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Asset Management Models of Institutional Investors Under High Volatility in 2022–2024

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ABSTRACT

Subject. This article examines portfolio-based asset management models employed by institutional investors amid the high volatility observed in financial markets during the period from 2022 to 2024. Macroeconomic instability, surging inflation, escalating geopolitical risks, and rising interest rates imposed by central banks across the globe contributed to portfolio shifts toward bonds, safe-haven assets (such as gold and commodities), and hedging instruments. **Objective.** The paper aims to identify the factors that prompted the reassessment of investment strategies by major hedge funds, investment banks, as well as pension, sovereign, and endowment funds. **Findings.** The authors present a typology of modern investment strategies and analyze how institutional investors applied various approaches to liquidity management and portfolio exposure control during periods of sharp price fluctuations. Through case studies of leading hedge funds and investment banks, the paper demonstrates that combining quantitative strategies and algorithmic models with fundamental analysis enables investors to achieve high returns while effectively managing risk. **Scientific significance.** The findings offer valuable insights for institutional investors building portfolios in conditions of elevated market uncertainty.

Keywords: investment portfolio; asset management; investments; institutional investors; investment strategies

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INTRODUCTION

The geopolitical and macroeconomic developments of recent years have significantly influenced investor behavior in financial markets, compelling them to reconsider both short-term and long-term strategies. The traditional long-horizon investment approach, widely used until recently, has become less attractive in terms of the risk-return trade-off, prompting adjustments in the portfolio structures of many major global institutional investors. Globalization and digitalization have transformed financial markets, making them more open but simultaneously more exposed to various types of risks. Investors and regulators now need to consider a broader set of factors when managing capital and assessing potential threats.

The onset of a period of high volatility was marked by substantial fluctuations in equity markets: in 2022, the broad U.S. market index S&P 500 declined by 19.4% [1], representing the fourth-worst performance since its inception and the deepest drop since the 2008 financial crisis. During the same period, the Moscow Exchange Index fell by 43.1% [2]. Stock market volatility and high uncertainty in expectations triggered widespread inflationary pressures, which, in turn, led central banks to implement measures to curb inflation through interest rate hikes.

Between 2022 and 2024, many large pension funds, hedge funds, investment banks, and sovereign wealth funds actively adapted their portfolios to these changing market conditions. They began reallocating assets toward safer and more profitable instruments, such as government and corporate bonds, particularly amid rapidly rising borrowing costs. The portfolio structures of most major institutional investors were revised to capitalize on opportunities to stabilize interest income and to protect capital from market fluctuations [3].

Interest rate hikes by central banks in response to inflation contributed to higher yields in money and credit markets. Consequently, portfolio structures were adjusted, for example, by increasing the share of fixed-income bonds. Changes in interest rates also affected approaches to liquidity management. Active cash management and the reallocation of capital into more liquid short-term assets allowed investors to respond flexibly to market changes, enabling timely portfolio restructuring and enhancing returns.

Economic instability, high inflation, geopolitical risks, and volatility in energy markets further increased interest in protective assets such as gold, precious metals, and commodities, which traditionally serve as safe havens during periods of high volatility. For instance, sovereign wealth funds (Norway's Government Pension Fund and China's CIC) and hedge funds (Bridgewater Associates) increased the share of gold in their portfolios[1] to 10%. Exchange rate volatility also prompted greater use of risk-hedging instruments, such as forward contracts and options, providing additional protection for portfolio returns against sharp currency fluctuations, particularly amid widening interest rate differentials between major economies.

Volatility in traditional markets has stimulated the search for new sources of return. Institutional investors have increasingly allocated funds to alternative assets, such as private equity and venture capital, while actively investing in cryptocurrencies and real estate. This strategy has helped reduce their dependence on equity markets.

Overall, 2022–2024 has been a period of active adaptation and transformation in portfolio management strategies, driven by financial market volatility, rising inflation, changing interest rates, and increasing geopolitical risks.

CHANGES IN INVESTMENT STRATEGIES

Modern financial markets have become more efficient and accessible, yet they are simultaneously characterized by heightened sensitivity to crises, volatility, and exposure to various risks.

[1] China Investment Corporation. Annual Report 2022. URL: https://www.carobnistapic.com/chinainven/xhtml/Media/2022EN.pdf; Government Pension Fund Global. Annual Report 2023. URL: https://www.nbim.no/contentassets/75e18afc40974cb189e3747164def669/gpfg-annual-report_2023.pdf; Bridgewater Annual Report and Accounts 2022–23. URL: https://bridgewater.nhs.uk/wp-content/uploads/2023/08/Bridgewater-Annual-Report-and-Accounts-2022–23.pdf

Among these are variability and uncertainty, which reflect deviations of actual returns from expected returns — typically in a direction unfavorable to an investor's market position. Reducing risk under these conditions requires adjustments to investment approaches, which has been reflected in the revision of strategies by the majority of market participants.

Quantifying risk amid the constant emergence of unpredictable events, often referredto as "black swans,[2]" has become increasingly difficult. A mathematical interpretation of current financial market conditions, based on stock indices, reveals that the distribution of five-year historical returns exhibits "heavy tails," indicating a higher probability of extreme events. In addition, the dynamics show sharp outliers — both positive and negative — which are critical to consider when developing modern investment strategies [4].

In the presence of "heavy-tailed" distributions, investment strategies must account for the heightened risk of sudden price swings and incorporate a wide range of risk management methods (see *Table 1*).

The use of a broad array of methods in modern investment strategies allows large institutional investors to maintain a balance between high returns — often outperforming market averages — and capital protection under conditions of elevated kurtosis.[3] The foundations for optimizing the risk-return trade-off of investments are defined by portfolio theory [5], which primarily emphasizes broad diversification of assets, both across different *types* (stocks, bonds, gold, real estate, etc.) and *geographically*. Diversification reduces the risk of significant losses, for example, from sharp price movements in a single market or the impact of localized risks on the value of regional assets. Protection against adverse market fluctuations can also be achieved through hedging mechanisms, though this may potentially limit returns or reduce profits (for example, due to premiums paid for options). Historically, these measures have demonstrated high effectiveness and are widely applied in investment capital management.

[2] A "black swan" is a rare and unexpected event whose consequences are significant for the global economy, financial markets, and other socioeconomic systems. A "black swan" cannot be predicted in advance based on available information.

[3] Kurtosis or excess kurtosis measures the shape of a distribution with sensitivity to the "tails of the distribution" an indicator of the frequency or probability of extreme events.

Table 1

Risk Management Methods in Investment

Method	Implementation Opportunities
Portfolio Diversification	• Diversification across asset types • Geographic diversification
Risk Hedging	• Derivative financial instruments • Swaps • Currency hedging
Controlled Exposure and Dynamic Asset Reallocation	• Use of specialized strategies for high-volatility markets • Asset reallocation • Asset rotation • Risk-parity tactics
Liquidity Management	Reallocation of asset shares based on liquidity: • Highly liquid assets: short-term government bonds (US Treasuries, T-bills), ETFs on major indices (S&P 500, Nasdaq, MSCI World), cash and money market funds (MMFs) • Less liquid assets: low-rated corporate bonds, private equity, venture investments, real estate, infrastructure funds
Monitoring Risk Position	• Value at Risk (VaR) and Conditional VaR (CVaR) • Evaluation of the tails of return distributions • Stress testing

Source: compiled by the authors.

However, in an environment of increasing uncertainty and high market volatility, economic agents have had to refine their portfolio management approaches and exercise strict control over exposure. For instance, when significant market movements are anticipated, strategies that benefit from heightened volatility — such as option "straddles" or "strangles"— can be employed. These strategies allow investors to profit from substantial price movements of the underlying asset, regardless of direction, whether upward or downward.

The mechanism of controlled exposure helps manage portfolio risk flexibly and does not necessarily rely on betting on increased volatility. In general, exposure refers to the degree of capital allocated to a risky asset. When markets become more volatile, an investor may reduce exposure to limit losses — for example, by reallocating funds (reducing the share of equities and increasing investments in bonds or cash equivalents), preemptively setting stop-loss[4] orders to close positions at predetermined loss levels, or adjusting leverage to decrease or increase overall market exposure. In this way, portfolio volatility is reduced by decreasing the proportion of high-risk assets and increasing the share of protective assets.

In recent years, large funds and institutional investors, such as Bridgewater Associates, have also applied the risk-parity (or asset-switching) approach, which aims to achieve an optimal balance between risk and return [6]. This method involves adjusting the allocation of assets according to market conditions, helping to mitigate the impact of extreme events. **Tactical management** entails short-term portfolio adjustments based on current market conditions (for example, increasing equity exposure in a "bull market" or shifting to bonds in a "bear market"); **cyclical management** involves medium- to long-term adjustments to maintain balanced risk across assets in response to emerging trends; and **strategic management** is based on stress-test results or macroeconomic forecasts to change asset shares accordingly.

The risk-parity method is designed to maximize returns at a given level of risk through flexible adaptation to changing market conditions.

In 2022–2024, enhancing asset liquidity became a key factor in maintaining portfolio returns, particularly for investment funds, corporate treasuries, and private investors [7]. The sharp and widespread rise in interest rates in 2022–2023 (for instance, the Fed rate increase from 0.25% in March 2022 to 5.50% in early 2023) triggered a flight to money market funds and T-bills,[5] while long-term bonds lost 30–40% of their value.[6] Investors began reallocating capital to short-term instruments such as 3–12 month US Treasuries with yields of 4–5% and money market funds[7] (MMFs). The local banking crisis in the U.S. in 2023 further highlighted the high risk of illiquid assets amid deposit outflows, reinforcing the shift toward government bonds and gold.

Clearly, in an environment of high volatility and uncertainty, continuous monitoring of risk and kurtosis metrics to assess the probability of extreme events enables investors to respond swiftly to changing conditions. Regular stress testing and evaluation of portfolio resilience help adjust asset allocation in a timely manner, ensuring adequate returns while managing risk exposure.

INSTITUTIONAL INVESTOR STRATEGIES IN 2022–2024

Institutional investor strategies in 2022–2024 evolved in response to changing financial market conditions. A typology of these strategies highlights two key approaches to investment

[4] A stop-loss order is an order that automatically closes a position if the asset price reaches a predetermined loss level. Its purpose is to limit potential losses and protect the investor from large losses in the event of adverse market movements.

[5] Treasury bills (T-bills) are short-term government bonds issued by the U.S. Treasury. They are considered the safest assets in the world, as they are guaranteed by the country's government.

[6] URL: https://www.atlantis-press.com/proceedings/icemci-23/125997990

[7] Money Market Funds (MMFs) are money market investment funds that invest in short-term, highly liquid, and low-risk instruments such as T-bills (US government bonds), commercial paper (CP), repos, and deposits.

management: *developing a bespoke strategy* and *following the lead of major market players* [8]. Effective development of the first approach requires comprehensive market analysis, risk and opportunity assessment, continuous monitoring of market conditions, periodic portfolio review and rebalancing, and alignment with corporate goals and constraints — tasks that are typically feasible only for large institutional investors.

The second approach, which involves lower costs, entails executing trades based on pre-defined portfolio parameters aligned with a benchmark investor. Success in this case depends on the benchmark strategy's historical performance, the follower's accuracy in replicating it, and the ability to translate the investment recommendation into trades closely mirroring the "original" strategy. Small and medium-sized institutional investors often adopt this follower approach, lacking the resources for independent optimization, and are therefore willing to accept a temporary discount in returns due to execution lags.

Even when employing a copy-based approach, followers conduct careful historical analysis and use technical indicators to identify current market trends [9]. In fact, trend acceleration or deceleration often correlates with the entry or exit of mass investors into or from a strategy, making timely decision-making crucial for successful execution [10]. Followers open and close positions in line with prevailing trends, using stop-losses and other risk-management tools, while automated systems and algorithms enable rapid data analysis and trade execution.

Large institutional investors, with substantial capital at their disposal, develop personalized corporate investment strategies and, in some cases, even act as market makers[8] (*Table 2*).

As shown in *Table 2*, pension funds manage enormous volumes of long-term capital to ensure pensions and social payments. Their investment strategies are primarily based on diversification, with a focus on stable long-term returns and a commitment to traditional financial instruments (*Fig. 1*). It is worth noting that over the past five years, the share of alternative investments and private equity in their portfolios has increased. For example, the largest non-federal pension fund in the U.S., the California Public Employees' Retirement System (CalPERS), announced in 2024 an increase in its allocation to alternative assets from 33% to 40%.[9] Additionally, in 2022–2024, approaches to ESG[10]-focused investments and global markets (private equity and real estate) were revised, resulting in a reduced proportional share of these assets in the overall portfolio [11].

Unlike pension funds, which adopt conservative investment approaches, hedge funds employ active management strategies, including short selling with leverage, derivatives trading, and other mechanisms to achieve above-market returns. Consequently, their portfolios contain proportionally fewer traditional financial instruments (Table 3). For example, Bridgewater Associates focuses on macroeconomic trends, applies a risk-parity strategy, and constructs a portfolio of equities, bonds, commodities, and currencies, while using futures, options, and swaps to manage risk for individual positions. Daily portfolio rebalancing is performed through algorithmic models, but key decisions regarding the target structure are made by senior management. Renaissance Technologies employs a quantitative ("quant") approach, relying entirely on algorithmic management based on big data analysis and machine learning. Its investment strategy, developed with the help of artificial intelligence, focuses on identifying statistical anomalies and organizing arbitrage [12]. For 2022–2024, Renaissance Technologies' flagship fund, Medallion, achieved an average annual return of approximately 40% after all fees. Citadel LLC combines fundamental analysis, algorithmic trading, and arbitrage; its sub-fund, Citadel Securities, is one of the largest market makers in the U.S. equity

[8] Market makers are companies that, through their actions when buying and selling financial instruments, can shape current prices and trends in financial markets.

[9] URL: https://www.calpers.ca.gov/newsroom/calpers-news/2024/calpers-will-increase-private-markets-investments.

[10] An approach that takes into account environmental, social and corporate governance aspects in the decision-making process.

Table 2

Top-3 Institutional Investors by Asset Size in Various Categories, 2024

Category	Name	Country	Assets (USD)
Pension Funds	**Government Pension Investment Fund (GPIF)**	Japan	1.7 trillion
	National Pension Service (NPS)	South Korea	800 billion
	California Public Employees' Retirement System (CalPERS)	USA	500 billion
Hedge Funds	**Bridgewater Associates**	USA	160 billion
	Renaissance Technologies	USA	65 billion
	Citadel LLC	USA	60 billion
Investment Banks*	**J.P. Morgan Chase**	USA	3.7 trillion
	Goldman Sachs	USA	2 trillion
	Morgan Stanley	USA	1.3 trillion
Sovereign Wealth Funds	Norwegian Government Pension Fund Global	Norway	1.6 trillion
	China Investment Corporation	China	1.4 trillion
	Abu Dhabi Investment Authority	UAE	900 billion
Endowments	**Stanford University endowment**	USA	63 billion
	Harvard University endowment	USA	53 billion
	Yale University endowment	USA	42 billion

Source: complied by the authors.
Note: * consolidated financial statements were used, including assets under management and investment banking operations; the table reflects data as of the end of 2024, which may vary slightly depending on the source: however, the listed organizations consistently hold leading positions in their respective categories.

market, executing trades in corporate bonds and derivatives at very high speeds. Notably, each of these top three hedge funds has achieved success through a unique combination of technology, management models, and investment strategies.

One of the largest blocks of institutional investors in terms of assets under management is investment banks, which provide a wide range of client services, including asset management, investment advisory, underwriting, and more. The consolidated assets of J. P. Morgan Chase are estimated at USD 3.7 trillion, roughly 13% of the U.S. GDP. Such a scale undoubtedly determines the Group's ability to influence finan-

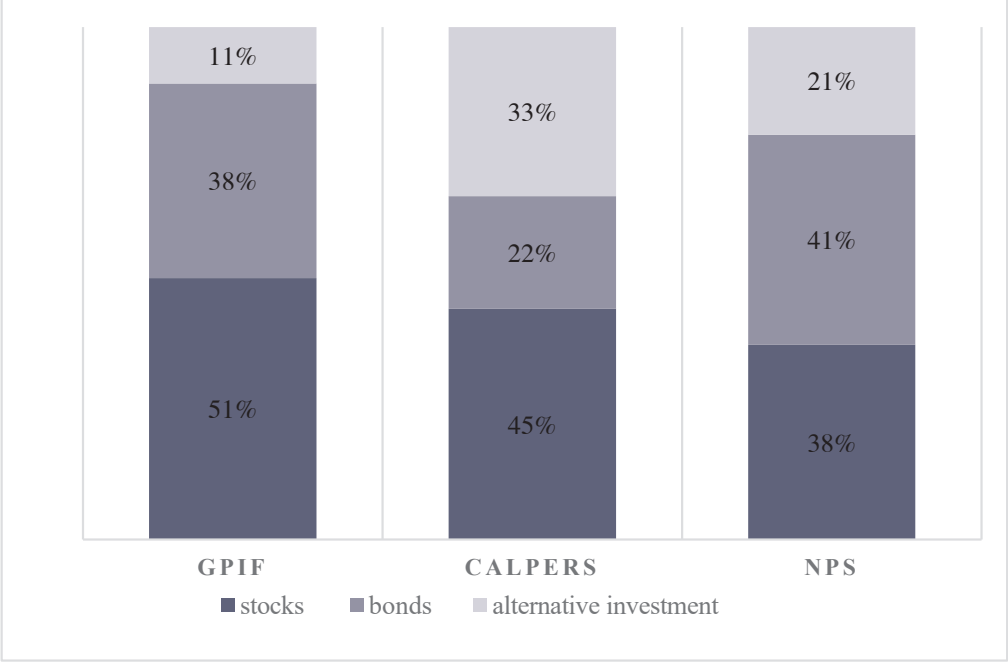

Fig. 1. **Portfolio Structure of Pension Funds [Government Pension Investment Fund (GPIF), National Pension Service (NPS), California Public Employees' Retirement System (CalPERS)] by Asset Classes as of Mid-2024**

Source: complied by the authors.

cial markets. J.P. Morgan Chase's investment strategy focuses on long-term investments with support for sustainable development initiatives (ESG and Impact Investing) and the formation of global equity and bond portfolios, including private equity and debt in emerging markets [13]. Goldman Sachs, whose assets amounted to USD 2 trillion by mid-2024, employs a multi-strategy approach that includes trading indices, equities, bonds, derivatives, investing in private equity, and infrastructure projects, with broad diversification across sectors and regions. Over the past five years, the bank has actively invested in fintech and cybersecurity startups. Morgan Stanley prefers equities, bonds, ETFs, and mutual funds, with a proportionally smaller share of alternative assets compared to traditional instruments.

Comparing the portfolio structures of these major investment banks, it is evident that Morgan Stanley has the highest percentage of equities, J.P. Morgan emphasizes bonds and credit strategies, and Goldman Sachs invests most aggressively in alternative assets, including private equity and hedge funds [13] (*Fig. 2*).

Sovereign wealth fund investments are aimed at preserving and growing the wealth of the country whose assets they manage. Their strategies focus on minimizing risks and ensuring steady asset growth, even during periods of crisis (*Table 4*). Sovereign wealth funds typically operate independently of the government but in the interests of the state and society, adhering to ethical, environmental, and social principles while setting investment priorities (for example, the real economy, infrastructure, and other sectors) [14].

The assets of the first three sovereign funds in *Table 4* are equivalent to approximately 2% of global GDP calculated by purchasing power parity. The assets of the Norwegian Government Pension Fund Global (GPFG) amount to USD 1.3 trillion, the China Investment Corporation (CIC) to USD 1.0 trillion, and the Abu Dhabi Investment Authority (ADIA) to around USD 700 billion. Sovereign funds play a key role in the global economy, influencing stock markets, commodities,

and technology sectors. Their asset management approaches typically include:

- *conservative style* with a high proportion of bonds in the portfolio (e.g., Singapore);
- *aggressive style* with a high share of equities or stakes in private companies with significant growth potential (e.g., China and Saudi Arabia);
- *balanced strategy*, prioritizing investments in real estate (e.g., UAE and Abu Dhabi).

University endowment funds also represent a significant block of institutional investors. Their strategies are primarily determined by the pri-

Table 3

Portfolio Structure of the Top-3 Largest Hedge Funds by Mid-2024, %

Fund	Equities	Bonds	Alternative Assets	Cash & Cash Equivalents
Bridgewater	30–35% (broad diversification across regions and sectors)	40–50% (U.S. Treasuries, corporate bonds, emerging market bonds)	15–25% (commodities, gold, currency positions, derivatives)	5–10% (high cash allocation for portfolio rebalancing)
Renaissance	50–60% (high-turnover trading)	10–15% (includes short positions, arbitrage strategies)	25–30% (currency pairs, commodity futures, options, derivatives)	<5% (minimal, as funds are constantly in circulation)
Citadel	40–50% (long- and short-term investment strategies)	20–30% (corporate bonds, structured products, derivatives)	20–30% (futures, options, credit derivatives, volatility trading)	5–10% (cash instruments for portfolio rebalancing)

Source: complied by the authors.

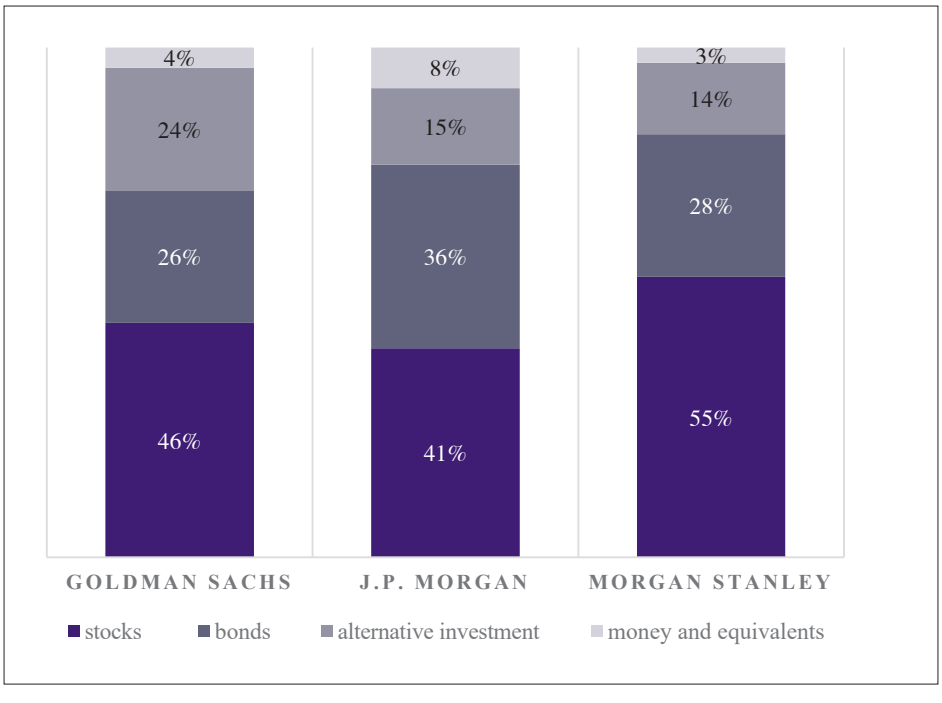

Fig. 2. **Portfolio Composition of the Top-3 Largest Investment Banks by Asset Categories, Mid-2024**

Source: complied by the authors.

orities of the institutions they support. Yale and Stanford, for instance, follow distinctive strategies aimed at high average annual returns but entail higher risk. Yale's endowment portfolio allocates up to 75% of targeted capital to alternative assets, including hedge funds, venture capital (startups), real estate, and direct investments. Harvard's approach generates slightly lower returns but emphasizes broader diversification and active asset management. The asset structure of the top three largest university endowment funds by category is shown in *Fig. 3*.

Table 4

Portfolio Structure of Major Sovereign Wealth Funds, First Half of 2024, %

Sovereign Fund	Equities	Bonds	Alternative Assets	Private Ownership	Cash & Cash Equivalents
Norwegian Government Pension Fund Global (Norway)	65–70	25–30	5–10	<5	~3
China Investment Corporation (China)	40–50	20–30	20–30	5–10	~5
Abu Dhabi Investment Authority (UAE)	35–45	25–35	20–30	10–15	<5
Saudi Public Investment Fund (Saudi Arabia)	50–60	10–20	30–40	5–10	<5
Singapore GIC (Singapore)	45–55	25–35	10–20	5–10	<5

Source: complied by the authors.

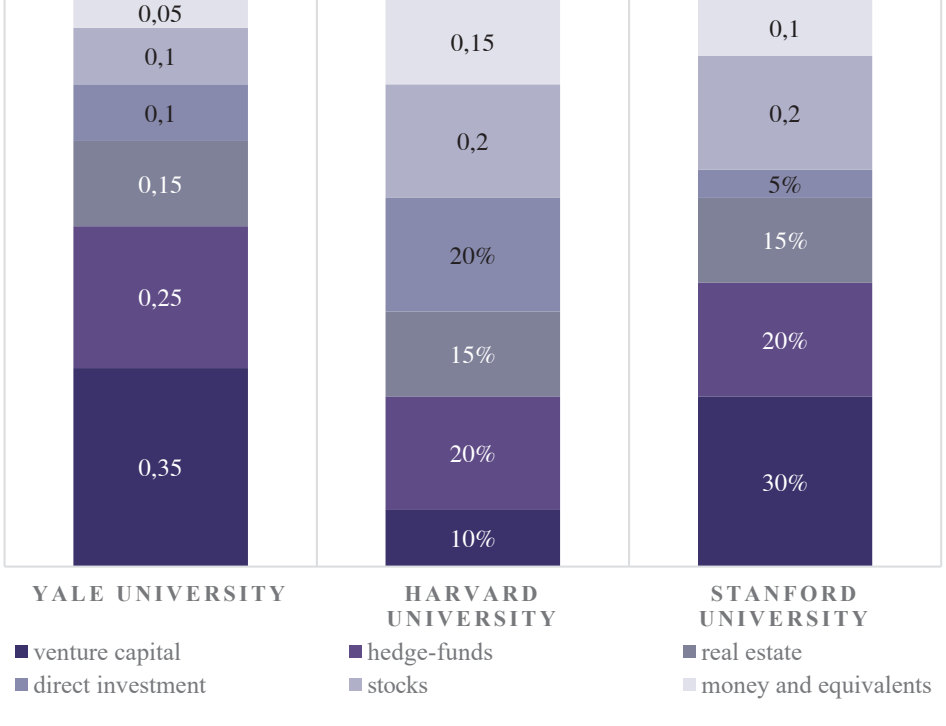

Fig. 3. **Portfolio Breakdown of the Top-3 Largest University Endowment Funds by Asset Classes, Mid-2024**

Source: complied by the authors.

If you want, I can also translate the table/figure descriptions for the endowment funds so the section reads smoothly for an English-language report.

Thus, in conditions of high volatility, each type of institutional investor followed its own portfolio strategy, aligned with its objectives and risk profile. Sovereign funds and pension funds focused on maintaining stability in domestic economies and achieving long-term goals, sometimes even prioritizing stability over returns, whereas hedge funds, on the other hand, aimed to maximize returns amid uncertain expectations, employing more aggressive investment strategies.

TYPOLOGY OF MODERN INVESTMENT STRATEGIES

Modern institutional investment strategies are based on in-depth analysis of macroeconomic indicators, broad diversification, and systematic risk management. The analysis shows that approaches to building a portfolio capable of generating stable returns differ among investors, but depending on the primary investment strategy, they can be broadly categorized into four types:

1. *Risk-parity strategy* (also known as "All-Weather Investments") [16], which involves distributing risk across different asset classes so that the portfolio can "weather" any macroeconomic scenario (*Table 5*). Investors adopting this strategy often use leverage to balance the risks of low-volatility assets.

The fundamental principle of this strategy is that different asset classes respond differently to dynamic changes in macroeconomic indicators, which creates a resilient portfolio over the long term.

2. *Active macroeconomic investing*, or the Pure Alpha strategy, aims to generate alpha — returns above the market — by analyzing macroeconomic factors (see *Table 6*).

This strategy, named after the fund that pioneered it, is one of the most successful in the world, historically delivering high returns while maintaining a controlled level of risk.

3. *Barbell Strategy*, which involves allocating assets between two extreme risk categories [17] (see *Table 7*).

In this case, the portfolio takes a "barbell" shape, with conservative, low-risk assets concentrated on one side to protect capital and provide stable returns, and high-risk, potentially high-return investments on the other side to generate outsized profits. This approach can achieve very high returns (for example, similar to Medallion, discussed above) but also creates the possibility of losing the initial capital. Such a strategy is often employed by leading financiers like Martin Ford, Nassim Taleb, and others — particularly during periods of market instability.

4. *Liquidity Tiers Strategy* — a tactical liquidity management approach to asset allocation, widely used by institutional investors in 2022–2024. It involves diversifying assets across three tiers based on liquidity and investment horizon [18] (see *Table 8*).

This approach allows for the optimal allocation of capital among short-term, medium-term, and long-term assets, ensuring both liquidity and growth. It is particularly effective for funds with long investment horizons and substantial obligations, such as university endowments and pension funds.

CONCLUSION

The study shows that in the high-volatility environment of 2022–2024, institutional investors actively adapted their asset management strategies, employing a wide range of tools to maintain a balance between return and risk. In the context of global economic and geopolitical changes, traditional principles of diversification and hedging proved insufficient for ensuring portfolio stability, prompting the development of comprehensive solutions incorporating risk-parity, barbell strategies, dynamic liquidity management, and other approaches.

The choice of a specific strategy depended on key macroeconomic indicators (inflation, interest rates, etc.), geopolitical trends (sanctions, energy crises), and dynamic changes in alternative asset markets (cryptocurrencies, venture investments).

Retrospective analysis by the authors revealed that pension funds and sovereign wealth funds

Table 5

Typical Risk Parity Portfolio Composition

Asset Class	Share, %	Role in Portfolio
Long-term bonds	40	Crisis protection, fixed income
Medium-term bonds	15	Balance between return and protection
Equities (stocks)	30	Capital growth during periods of economic expansion
Commodities	7.5	Inflation protection
Precious metals	7.5	Protection against currency and geopolitical risks

Source: complied by the authors.

Table 6

Typical "Pure Alpha" Portfolio Composition

Asset Class	Allocation, %	Role in the Portfolio
Equities	25–35	Geographic diversification, alpha generation
Bonds	30–40	Defensive assets with stable income (U.S. Treasuries, European and Japanese government securities, corporate debt)
Commodities	10–20	Alpha generation, alternative investments
Currencies and currency derivatives	5–15	Returns from open positions in major global currencies + currency risk hedging
Hedge funds and alternative strategies	5–15	Diversification, risk limitation on open positions (using futures, options, and other derivatives)
Cash and short positions	5–10	Maintaining liquidity, arbitrage strategies, and active risk management

Source: complied by the authors.

Table 7

Typical Barbell Strategy Portfolio Composition

Asset Class	Share, %	Role in Portfolio
Risk-free assets (bonds, cash)	40–50	Risk minimization: US Treasuries, high-grade corporate bonds, money market instruments
High-risk assets (growth stocks, venture capital, crypto, options)	40–50	Alpha generation: tech stocks, startups, cryptocurrencies, volatile ETFs, options
Medium-risk assets (balanced funds, "blue chips")	0–10	These assets are rarely used, as the strategy avoids "middle" options

Source: complied by the authors.

Table 8

Typical Portfolio Composition under the 'Liquidity Tiers' Strategy

Tier	Asset Class	Allocation, %	Portfolio Role
Tier 1 — Highly Liquid Assets	Treasury bonds, cash, short-term money market funds	10–20	Quickly accessible assets to cover expenses and crisis situations
Tier 2 — Medium-Liquidity Assets	Stocks, corporate bonds, public REITs, liquid ETFs	40–50	Form the main part of the portfolio, providing capital growth and returns
Tier 3 — Low-Liquidity Assets	Private equity, venture capital, real estate, infrastructure projects	30–40	Long-term investments with high potential returns but low liquidity

Source: complied by the authors.

adopted more conservative approaches during periods of high volatility, increasing the share of debt instruments, whereas hedge funds and certain investment banks focused on short-term, high-risk operations using derivatives and algorithmic models.

The evolution of investment strategies was driven by institutional investors' desire to increase flexibility and respond rapidly to market shocks. The combined use of risk management tools and active liquidity management helped maintain competitive advantages amid uncertainty.

The study's findings can inform the development and optimization of investment portfolios across various categories of institutional investors and support the assessment of long-term prospects for global financial markets.

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