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Jeff Rayis

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Fundamentals of Higher Education Investments

Sarah Simpson

Sarah is the Debt and Liquidity Principal Director for the University of Kentucky. Her responsibilities include overseeing both the University's internal and external debt portfolios as well as the operating fund investment portfolio.

Sarah joined University of Kentucky in 2015 as an analyst in the Financial Services department. She has been a director within Financial Services since 2018. Prior to University of Kentucky, she was a public finance analyst with Hilliard Lyons, where she served as analyst for the University of Kentucky's relationship.

A Kentucky native, she earned her bachelor's degree in mathematics from Centre College and her MBA from the University of Louisville.

Jeff Rayis

Jeff is Executive Vice President and CFO at Indiana Wesleyan University.

Before joining IWU, he led Treasury & Financial Management at Michigan State University and The Ohio State University.

Previously, he was an Executive Vice President at J.P. Morgan.

He has a BA in Accounting from Michigan State University, an MBA from The Ohio State University and is a Certified Public Accountant and Certified Treasury Professional.

Learning Objectives

Participants will gain an understanding of:

- 1) Objectives and characteristics of higher education operating & endowment fund portfolios
- 2) Operating fund investment options and risk considerations
- 3) The importance of performing scheduled operating liquidity reviews to assess operating investment liquidity tiers and establish appropriate asset allocation for each tier
- 4) Key investment principles of the endowment model
- 5) The concept of intergenerational equity stewardship
- 6) Endowment management structures/models
- 7) Results of the 2025 NACUBO-Commonfund Study of Endowments
- 8) Key requirements of operating and endowment investment policies
- 9) Current challenges of managing operating and endowment investment portfolios

Broad Categories of Higher Ed Investments

- Operating
- Endowment
- Capital/Plant Fund
- Other

Polling Question #1

Are you involved in the management of the operating investment program at your institution?

- a. Yes
- b. No

Polling Question #2

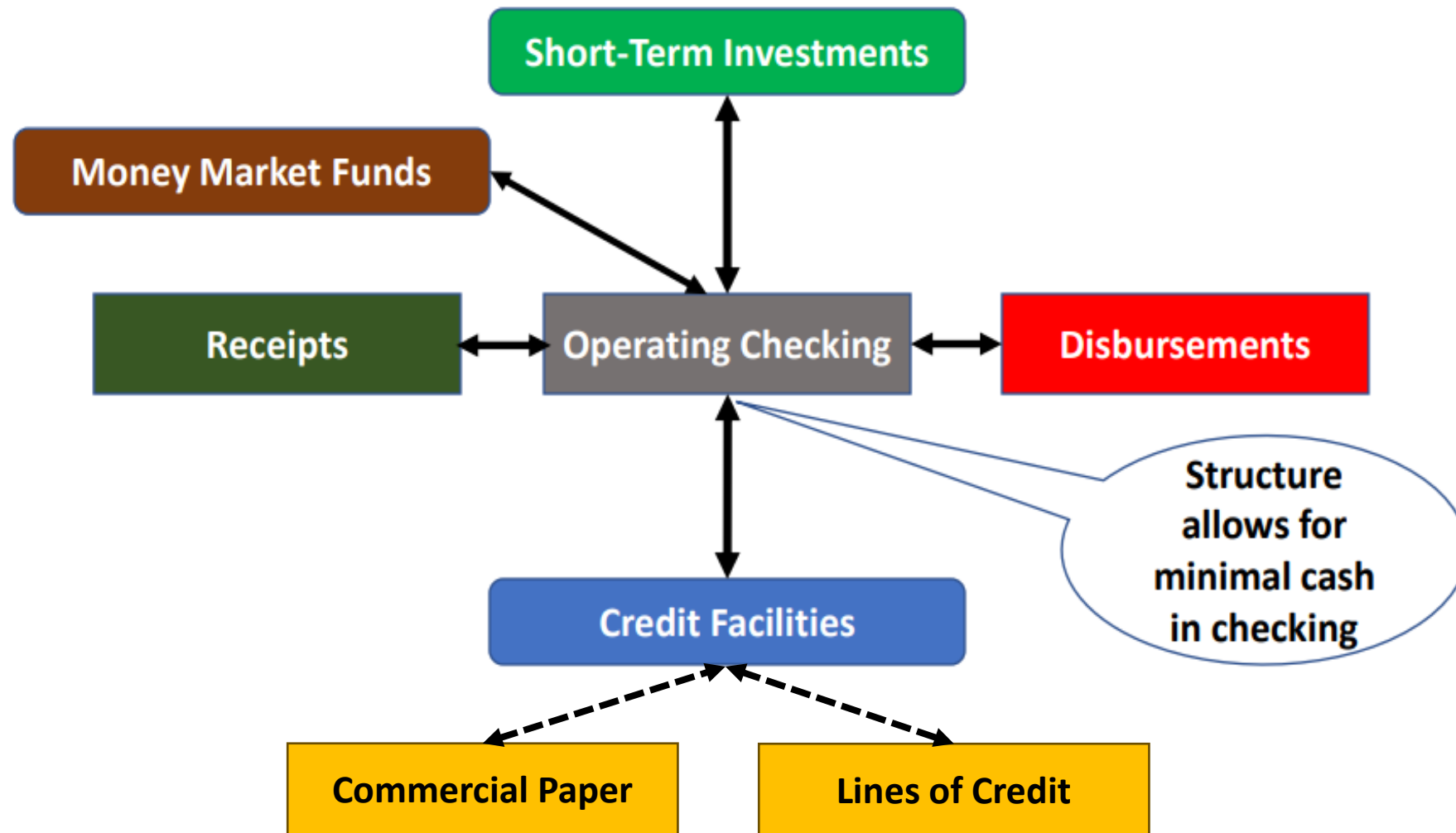
What is the size of your institution's **operating** investment portfolio?

- a. \$0 to \$49 million
- b. \$50 million to \$249 million
- c. \$250 million to \$999 million
- d. \$1 billion or greater
- e. Not sure

Role of Operating Fund Investments in Higher Education

- Primary Objectives
 - Safety/Principal preservation
 - Maintain adequate liquidity
- Secondary Objective
 - Maximize investment income while considering risk management and liquidity needs
- Characteristics
 - Short-term pool of assets
 - Primary segment duration of < 1 year
 - Typical maximum duration of 5 years
 - Integration with daily cash needs

Typical Treasury/Operating Investment Model



Operating Fund Investment Options

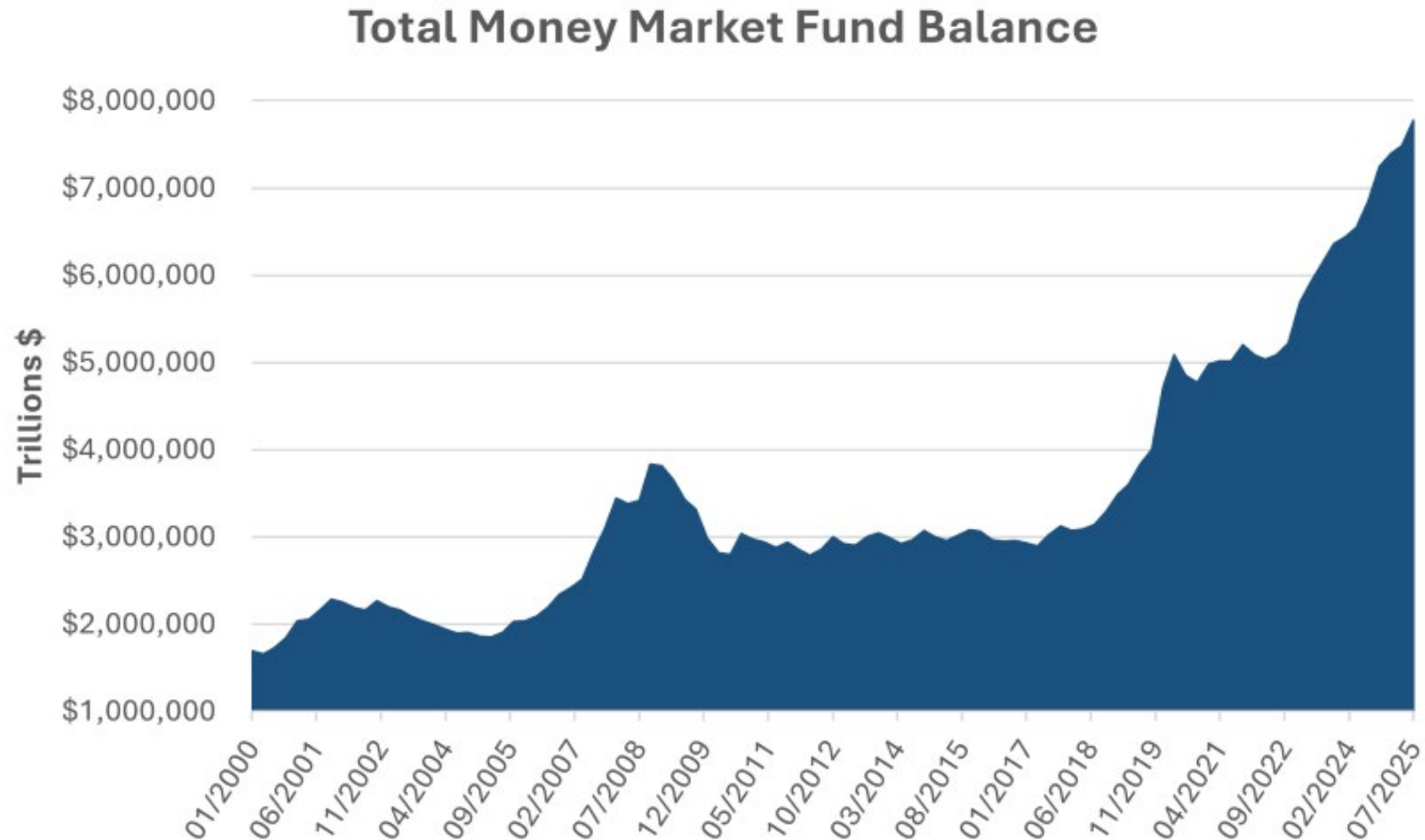
- Bank Deposits
 - Checking/Savings (ECR/interest-bearing), CDs, CDARS / ICS
- Money Market Funds
- Fixed Income Investments
 - Treasuries, Agencies, Commercial Paper, Investment-Grade Corporates
 - Brokered Securities
 - Fixed Income Mutual Funds
 - Separately Managed Accounts
- Quasi-Endowments (for long-term/permanent reserves)

Money Market Fund (MMF) Makeup

	Commercial Paper	Asset Backed Commercial Paper	Bank Obligations	Government Paper	Floating Rate Notes	Repurchase Agreements
Maturity	Overnight–270 days	Overnight–270 days	1 day–2 years	4–52 weeks	Variable	Wholly negotiable
Issued by	Companies	Companies	Banks	Government/public	Companies/FIs	Companies/FIs
Interest rate	Fixed	Fixed	Fixed	Fixed	<i>Variable LIBOR to SOFR</i>	Negotiable
Interest paid	On maturity	On maturity	During or maturity	On maturity	During or maturity	On maturity
Issued	Discount	Discount	Interest	Discount	Interest	Discount
Secured	No	Yes	No	No	Yes/no	Yes
Access to capital before maturity	Sell on secondary market	Sell on secondary market	Negotiable CDs sell on secondary market	Sell on secondary market	Sell on secondary; periodic reset dates	Negotiable
Risks	Credit, price	Credit, liquidity, price	Credit, liquidity	Price	Credit, liquidity	Credit, liquidity

Source: ICI – Investment Company Institute

U.S. Money Market Assets 2000-2025



MMF Floating vs Stable NAV

Investor Type	Money Market Fund Type	NAV Requirement
Institutional	Prime	Floating
Institutional / Retail	Government	Stable

- Institutional Prime funds are required to maintain a floating net asset value (NAV) for purchases and redemptions
 - Funds are marked-to market daily
 - Increased risk with prime funds
- U.S. Government funds maintain a stable NAV of \$1 per share

MMF Safety and Liquidity Requirements

SEC Rule 2a-7

- 25 percent of assets must be in daily liquid assets
- 50 percent of assets must be in weekly liquid assets
- Liquidity fees imposed if daily net redemptions exceed 5% of net assets
- No more than 5% of assets that can take more than a week to convert to cash
- Portfolio maturity cannot exceed 60 days
- No more than 3% of assets can be invested in securities not falling into first or second highest-ranking credit tier

Sample Money Market Fund

Vanguard® Distribution by issuer—bonds

Vanguard Federal Money Market Fund

Money market fund

Fund facts

Total net assets	Expense ratio as of 12/19/25	Ticker symbol	Inception date	Fund number
\$380,810 MM	0.11%	VMFXX	07/13/81	0033

Investment objective

Vanguard Federal Money Market Fund seeks to provide current income while maintaining liquidity and a stable share price of \$1.

Investment strategy

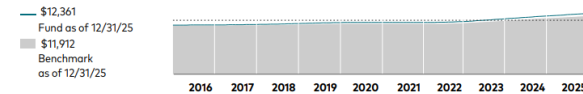
The fund invests primarily in high-quality, short-term money market instruments. Under normal circumstances, at least 80% of the fund's assets are invested in securities issued by the U.S. government and its agencies and instrumentalities, including repurchase agreements that are collateralized solely by U.S. government securities or cash. Although these securities are high-quality, some of the securities held by the fund are neither guaranteed by the U.S. Treasury nor supported by the full faith and credit of the U.S. government. To be considered high quality, a security must be determined by Vanguard to present minimal credit risk based in part on a consideration of maturity, portfolio diversification, portfolio liquidity, and credit quality. The fund maintains a dollar-weighted average maturity of 60 days or less and a dollar-weighted average life of 120 days or less.

Government money market funds are required to invest at least 99.5% of their total assets in cash, U.S. government securities, and/or repurchase agreements that are collateralized solely by U.S. government securities or cash (collectively, government securities). The fund generally invests 100% of its assets in U.S. government securities and therefore will satisfy the 99.5% requirement for designation as a government money market fund.

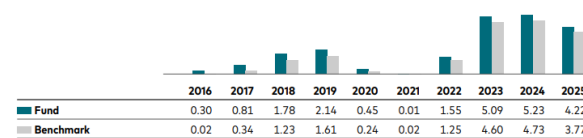
Benchmark

U.S. Government Money Market Funds Average

Growth of a \$10,000 investment: December 31, 2015—December 31, 2025



Annual returns



Total returns

Periods ended December 31, 2025							
	7-Day SEC Yield	Quarter	Year to date	One year	Three years	Five years	Ten years
Fund	3.70%	0.99%	4.22%	4.22%	4.85%	3.20%	2.14%
Benchmark	—	0.87%	3.77%	3.77%	4.37%	2.86%	1.77%

The performance data shown represent past performance, which is not a guarantee of future results. Investment returns will fluctuate. Current performance may be lower or higher than the performance data cited. For performance data current to the most recent month-end, visit our website at [vanguard.com/performance](https://www.vanguard.com/performance). The performance of an index is not an exact representation of any particular investment, as you cannot invest directly in an index.

Figures for periods of less than one year are cumulative returns. All other figures represent average annual returns. Performance figures include the reinvestment of all dividends and any capital gains distributions. All returns are net of expenses.

Seven-day current yield net of expenses. The yield quotation more closely reflects the current earnings of the fund than the total return quotation.

A non-money-market fund's SEC yield is based on a formula mandated by the Securities and Exchange Commission (SEC) that calculates a fund's hypothetical annualized income as a percentage of its assets. A security's income, for the purpose of this calculation, is based on the current market yield to maturity (in the case of bonds) or projected dividend yield (for stocks) of the fund's holdings over a trailing 30-day period. This hypothetical income will differ (at times, significantly) from the fund's actual experience; as a result, income distributions from the fund may be higher or lower than implied by the SEC yield.

The SEC yield for a money market fund is calculated by annualizing its daily income distributions for the previous seven days.



U.S. Treasury Bills	38.0%
U.S. Govt. Obligations	32.7
Repurchase Agreements	29.3
Bankers Acceptances	0.0

Certificates of Deposit	0.0
U.S. Commercial Paper	0.0
Other	0.0

Fund facts

YTD RETURNS

1.03%
as of 04/14/2026

7 DAY SEC YIELD ¹

3.56% c
as of 04/14/2026

DISTRIBUTION YIELD

3.58%
as of 03/31/2026

HOLDINGS

289
as of 03/31/2026

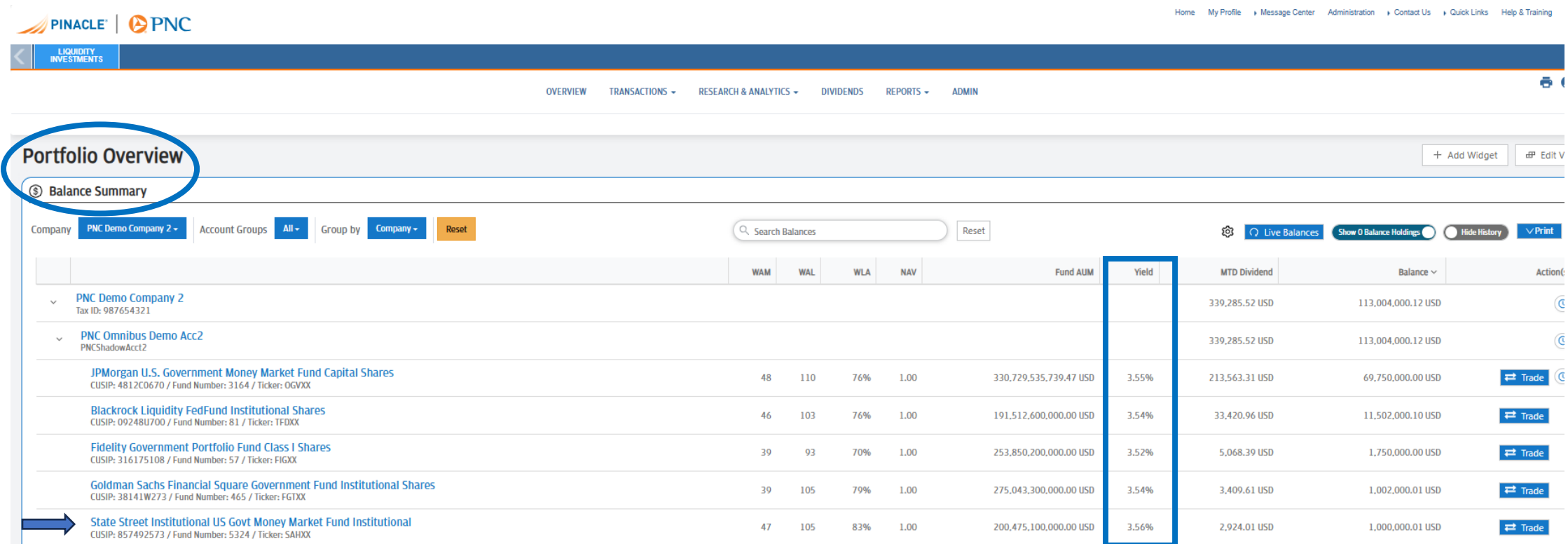
INCEPTION DATE

07/13/1981

NET ASSETS FOR VMFXX

\$379.6 B
as of 03/31/2026

Sample Money Market Fund Portal



Portfolio Overview

Balance Summary

Company: PNC Demo Company 2 Account Groups: All Group by: Company Reset

Search Balances Reset

Live Balances Show 0 Balance Holdings Hide History Print

	WAM	WAL	WLA	NAV	Fund AUM	Yield	MTD Dividend	Balance	Action
PNC Demo Company 2 Tax ID: 987654321							339,285.52 USD	113,004,000.12 USD	
PNC Omnibus Demo Acc2 PNCShadowAcct2							339,285.52 USD	113,004,000.12 USD	
JPMorgan U.S. Government Money Market Fund Capital Shares CUSIP: 4812C0670 / Fund Number: 3164 / Ticker: OGVXX	48	110	76%	1.00	330,729,535,739.47 USD	3.55%	213,563.31 USD	69,750,000.00 USD	Trade
Blackrock Liquidity FedFund Institutional Shares CUSIP: 09248U700 / Fund Number: 81 / Ticker: TFDXX	46	103	76%	1.00	191,512,600,000.00 USD	3.54%	33,420.96 USD	11,502,000.10 USD	Trade
Fidelity Government Portfolio Fund Class I Shares CUSIP: 316175108 / Fund Number: 57 / Ticker: FIGXX	39	93	70%	1.00	253,850,200,000.00 USD	3.52%	5,068.39 USD	1,750,000.00 USD	Trade
Goldman Sachs Financial Square Government Fund Institutional Shares CUSIP: 38141W273 / Fund Number: 465 / Ticker: FGTXX	39	105	79%	1.00	275,043,300,000.00 USD	3.54%	3,409.61 USD	1,002,000.01 USD	Trade
State Street Institutional US Govt Money Market Fund Institutional CUSIP: 857492573 / Fund Number: 5324 / Ticker: SAHXX	47	105	83%	1.00	200,475,100,000.00 USD	3.56%	2,924.01 USD	1,000,000.01 USD	Trade

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Sample Money Market Fund Portal

Fund Performance

FILTERS

Reset

> SAVED FILTERS

> REGION ☐ All

> BY FUND TYPE ☒ All

> BY FUND FAMILY ☒ All

Performance Data

Search Fund Performance

Save Filters

My Positions

Chart(s)

Fund Information				Daily Information				Monthly Information		Fund Documents	
☐	Fund Name	1 Day Yield	7 Day Current Yield	30 Day Curr Yield	NAV	Daily Dividend Factor	WAM (Days)	WAL (Days)	As Of Date		
☐	Fidelity Government Portfolio Fund Class I Shares	3.52%	3.54%	3.52%	1.00	0.000096567	39	93	Trade		
☐	Goldman Sachs Financial Square Federal Instruments Fund Institutional Shares	3.50%	3.48%	3.51%	1.00	0.000095904	56	113	Trade		
☐	Goldman Sachs Financial Square Government Fund Institutional Shares	3.54%	3.53%	3.55%	1.00	0.000096898	39	105	Trade		
☐	JPMorgan Federal Money Market Fund Institutional Shares	3.48%	3.49%	3.48%	1.00	0.000095464	51	80	Trade		
☐	JPMorgan U.S. Government Money Market Fund Capital Shares	3.55%	3.55%	3.54%	1.00	0.000097227	48	110	Trade		
☐	State Street Institutional US Govt Money Market Fund Institutional	3.56%	3.57%	3.56%	1.00	0.000097606	47	105	Trade		

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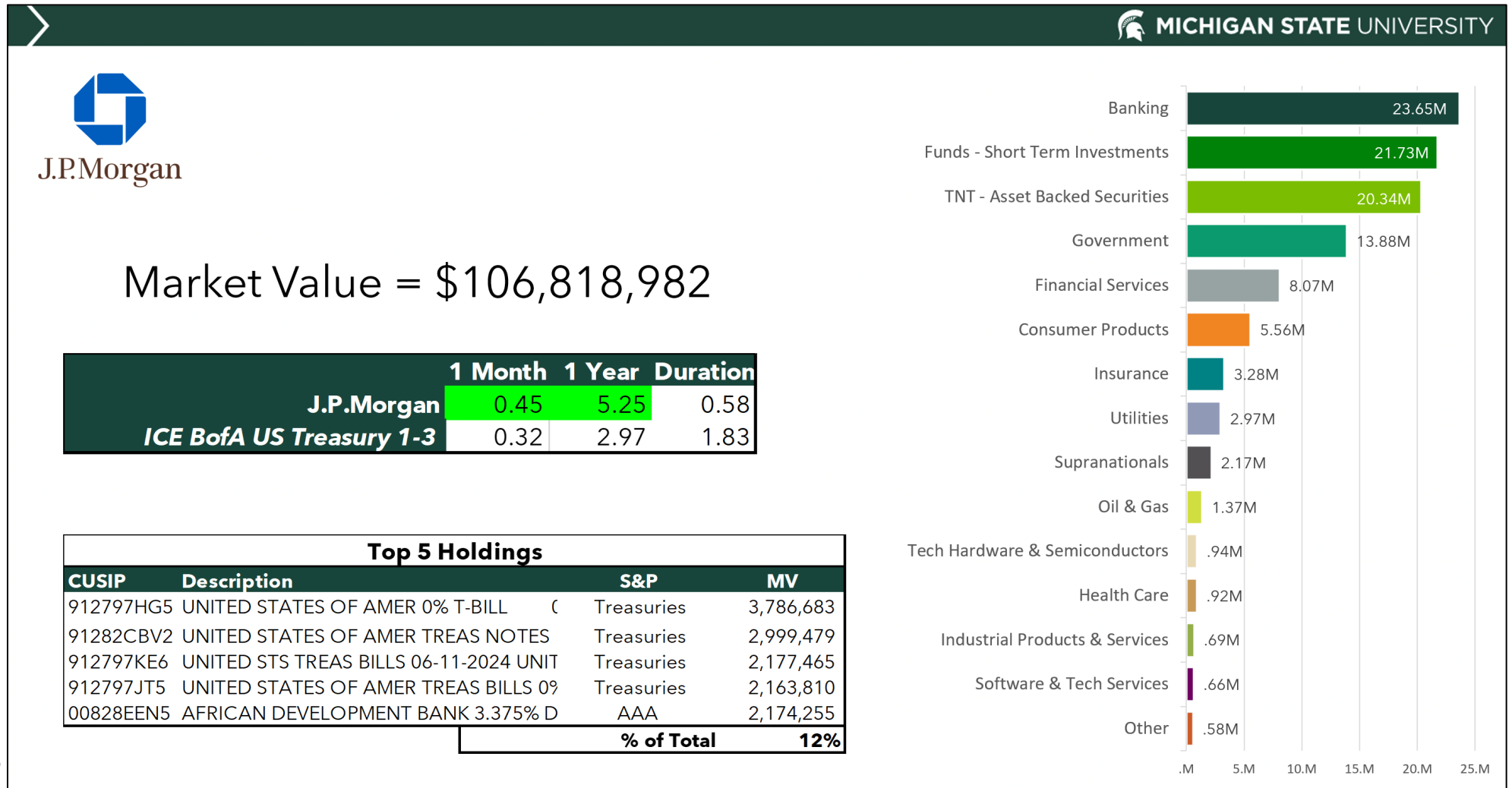
Fixed Income Mutual Funds

- Longer maturities
 - Low duration
 - Average maturity 1 to 3 years
 - Intermediate duration
 - Average maturity 3 to 5 years
- Fixed income securities
 - Government issues
 - CDs
 - Commercial Paper
 - High-quality corporate bonds
- Higher average returns
- Higher risk of fluctuating NAV
 - No fixed-unit/stable NAV
- Used for matching strategy

Separately Managed Accounts

- Customized investment allocations/policy
- Lower net investment fees than mutual funds
- Direct interaction with managers
- Minimum investment ~ \$100 million
- Require a third-party custodian

Separately Managed Accounts



Investment Fund Oversight

- Fund Manager
 - Assets under management
 - Breadth of experience
 - Commitment to fixed income
 - Training resources
 - Manager operational updates
- Investment Teams & Process
 - Experienced investment team
 - Fund objectives are safety, liquidity and return (in that order of priority)
 - Team meetings for reviews
- Continuous Oversight
 - Access to portfolio managers
 - Quarterly investment reviews
 - On-site due diligence meetings

Investment Risks

Regulatory Risk

- SEC Rule 2a-7 revised with new liquidity, maturity and disclosure requirements, as well as mitigation of systemic risks

Opportunity Risk

- Yield curve challenges
- FOMC actions
- Identify pockets of cash with no medium-term needs, return on cash may be maximized by adding incremental interest rate and credit duration

Liquidity Risk

- Create an accurate picture of your cash position
- Liquidity review
- Determining your Limited Term Assets

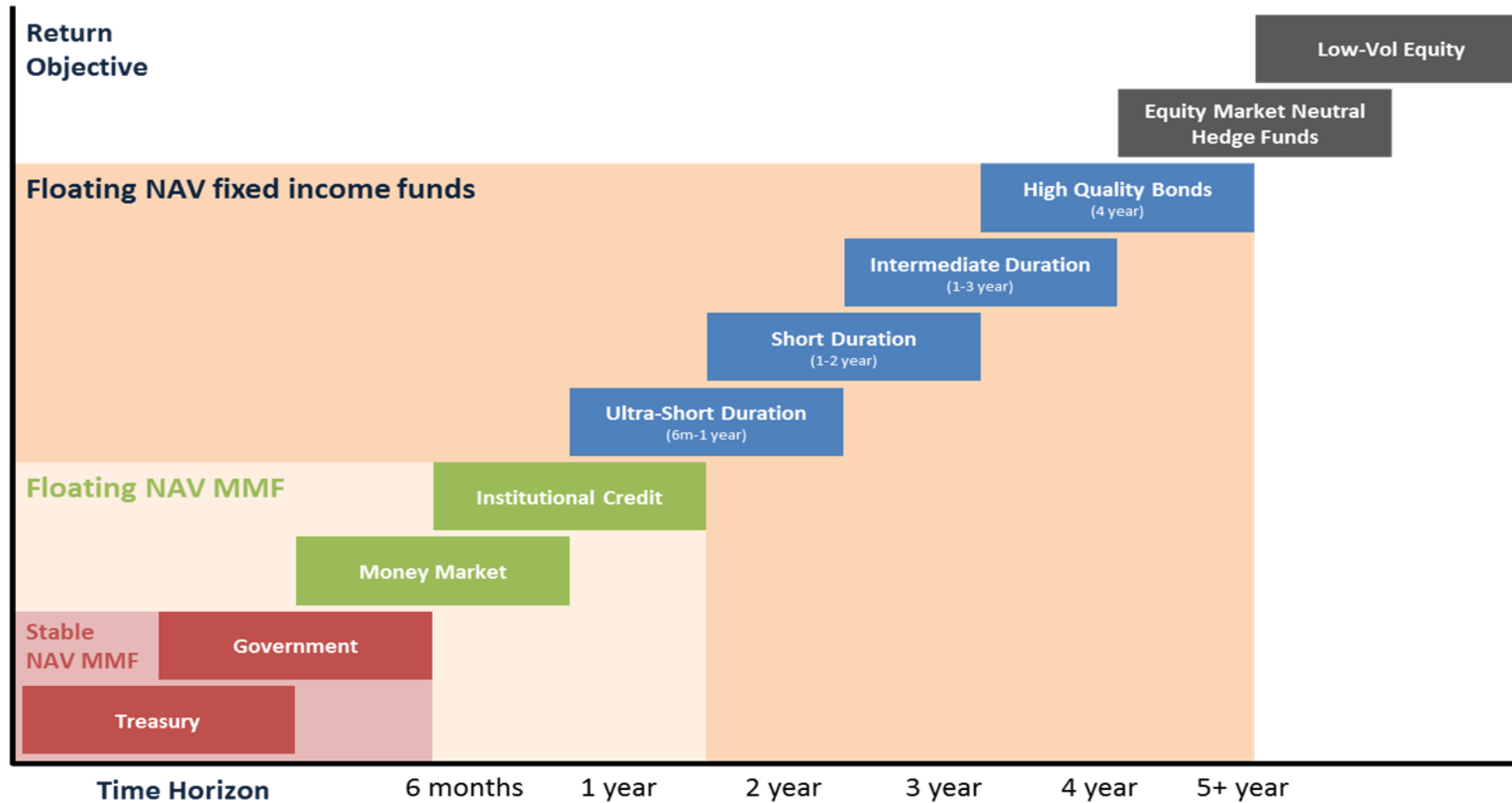
Concentration Risk

- Diversify cash assets & holdings
- Utilize providers with strong capital bases

Other

- Credit Risk
- Market Risk
- Inflation Risk
- Geopolitical Risk

Operating Fund Allocations



Source: Commonfund Institute

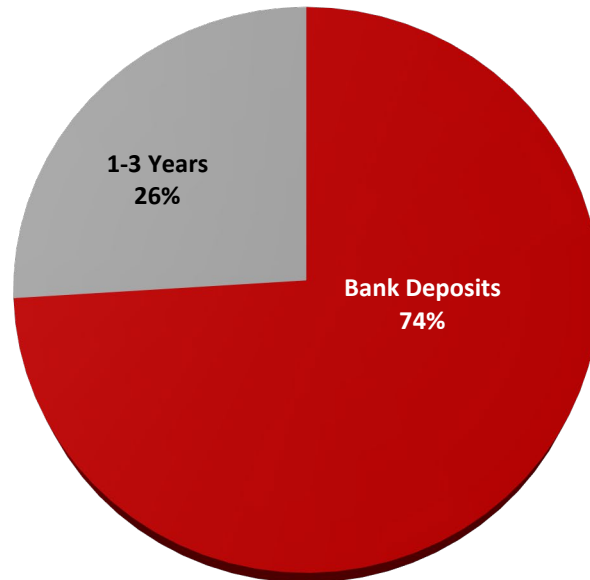
Operating Fund Allocations



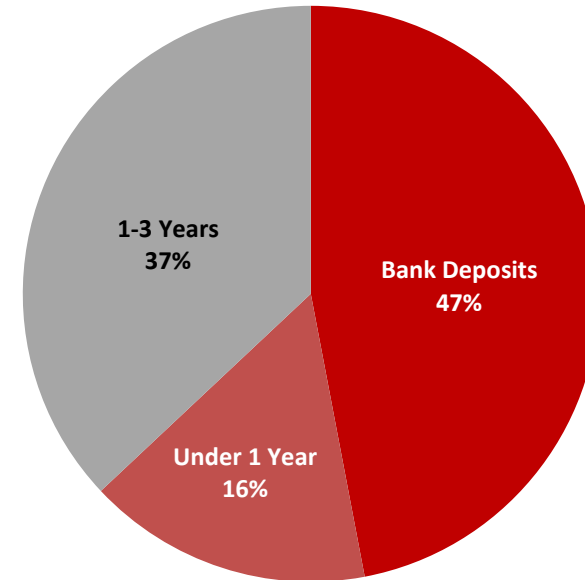
OSU Operating Fund Segmentation

Determining Investment Allocations

Previous



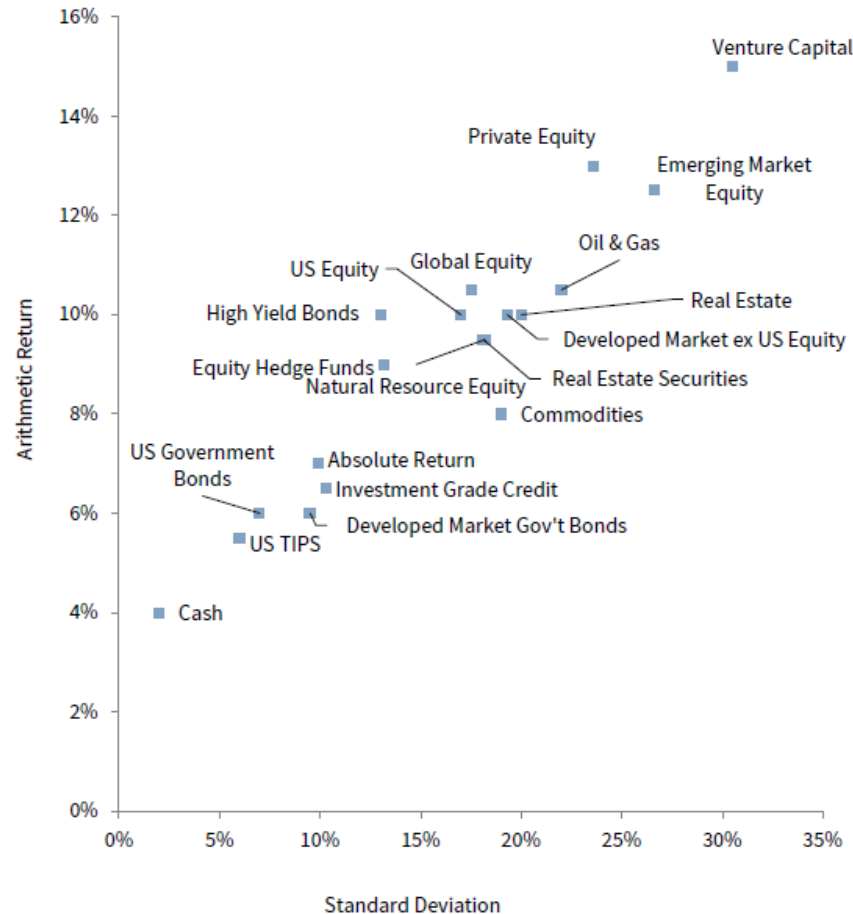
Revised



Capital Market Return & Volatility Projections

Equilibrium Asset Class Assumptions (Nominal)

RISK AND RETURN



	NOMINAL ARITHMETIC RETURN	STANDARD DEVIATION	25TH-75TH PERCENTILE RANGE ¹	NOMINAL COMPOUND RETURN
US Equity	10.0	17.0	7.8 - 12.3	8.7
Developed Market ex US Equity	10.0	19.3	7.5 - 12.5	8.3
Emerging Market Equity	12.5	26.6	9.2 - 15.9	9.5
Global Equity	10.5	17.5	8.2 - 12.8	9.1
Absolute Return	7.0	9.9	5.7 - 8.3	6.5
Equity Hedge Funds	9.0	13.2	7.3 - 10.8	8.2
Venture Capital	15.0	30.5	11.3 - 18.9	11.2
Private Equity	13.0	23.6	10.0 - 16.1	10.6
Commodities	8.0	19.0	5.6 - 10.5	6.4
Natural Resource Equity	9.5	18.2	7.2 - 11.9	8.0
Real Estate Securities	9.5	18.1	7.2 - 11.9	8.0
Real Estate	10.0	20.0	7.4 - 12.6	8.2
Oil & Gas	10.5	22.0	7.7 - 13.4	8.4
US Government Bonds	6.0	7.0	5.1 - 6.9	5.8
US TIPS	5.5	6.0	4.7 - 6.3	5.3
Developed Market Gov't Bonds	6.0	9.5	4.7 - 7.3	5.6
Investment Grade Credit	6.5	10.3	5.1 - 7.9	6.0
High Yield Bonds	10.0	13.0	8.3 - 11.7	9.2
Cash	4.0	2.0	3.7 - 4.3	4.0

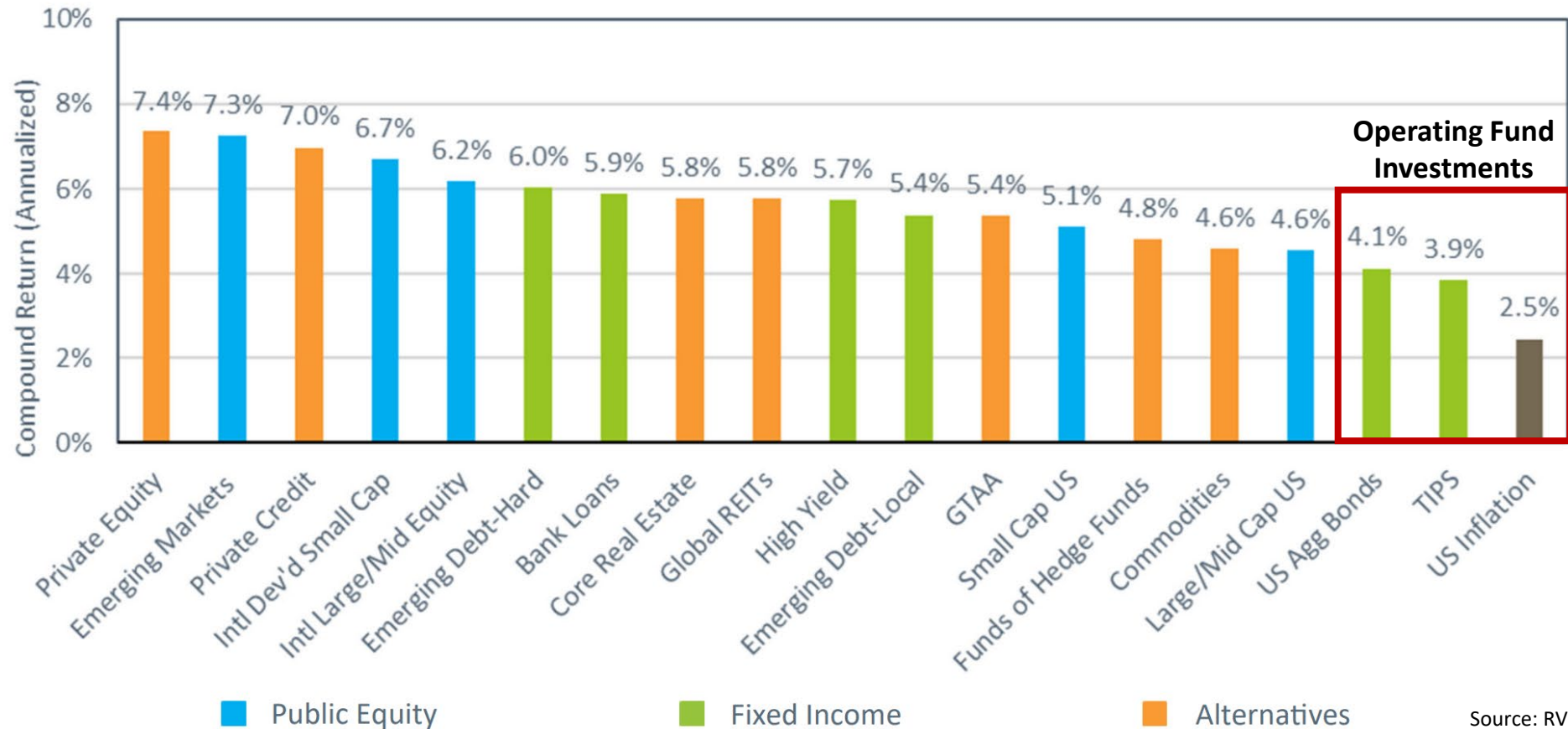
Source: Cambridge Associates LLC.

Note: Private Credit assumes a 200 basis point return premium to investment-grade credit and volatility and correlations commensurate with high-yield bonds

¹ Over 25-year periods arithmetic returns are expected to fall within the range half the time.

Return Expectations

2026 Long-Term Return Expectations and Uncertainty of Returns

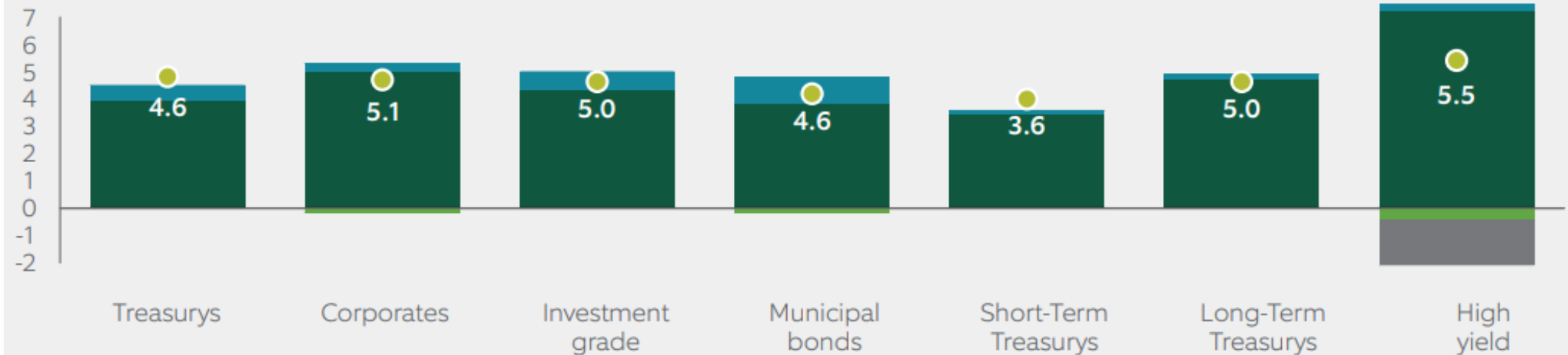


Source: RVK

Fixed Income Return Expectations

Northern Trust 10-Year Annualized U.S. Fixed Income Return Forecasts (%)

● Total return ■ Average yield ■ Roll ■ Valuation ■ Default



Source: Northern Trust Asset Management, FactSet. Average yield calculated as yield to worst, which is the yield on a callable bond, where the issuer may pay off a bond before its maturity date, that assumes a bond is called at the earliest opportunity. Please see index proxies and important forecast disclosures on pages 34 and 37. It is not possible to invest directly in any index.

Evaluating Historical Returns

2011 - 2025		Ann.	Vol.	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	YTD
Large Cap	Small Cap	REITs	REITs	REITs	REITs	Small Cap	REITs	REITs	Small Cap	EM Equity	Cash	Large Cap	Small Cap	REITs	Comdty.	Large Cap	Large Cap	EM Equity	Comdty.
14.1%	20.3%	8.3%	19.7%	38.8%	28.0%	2.8%	21.3%	37.5%	1.8%	31.5%	1.8%	31.5%	20.0%	41.3%	16.1%	26.3%	25.0%	34.4%	24.2%
Small Cap	EM Equity	Fixed Income	High Yield	Large Cap	Large Cap	Large Cap	High Yield	DM Equity	Fixed Income	Fixed Income	Fixed Income	REITs	EM Equity	Large Cap	Cash	DM Equity	Small Cap	DM Equity	REITs
9.5%	17.5%	7.8%	19.6%	32.4%	13.7%	1.4%	14.3%	25.6%	0.0%	25.6%	0.0%	3.7%	18.7%	28.7%	1.5%	18.9%	11.5%	31.9%	2.2%
REITs	REITs	High Yield	EM Equity	DM Equity	Fixed Income	Fixed Income	Large Cap	Large Cap	Small Cap	Large Cap	Small Cap	Large Cap	Comdty.	High Yield	Small Cap	Asset Alloc.	Large Cap	EM Equity	EM Equity
7.8%	16.4%	3.1%	18.6%	23.3%	6.0%	0.5%	12.0%	21.8%	-4.0%	25.5%	18.4%	27.1%	-12.7%	16.9%	10.0%	17.9%	1.0%	1.0%	1.0%
Asset Alloc.	DM Equity	Large Cap	DM Equity	Asset Alloc.	Asset Alloc.	Cash	Comdty.	Small Cap	High Yield	DM Equity	Asset Alloc.	Small Cap	Fixed Income	Asset Alloc.	High Yield	Asset Alloc.	High Yield	Asset Alloc.	Cash
7.3%	15.7%	2.1%	17.9%	14.9%	5.2%	0.0%	11.8%	14.6%	-4.1%	22.7%	10.6%	14.8%	-13.0%	14.1%	9.2%	15.8%	0.9%	0.9%	0.9%
DM Equity	Comdty.	Cash	Small Cap	High Yield	Small Cap	DM Equity	EM Equity	Asset Alloc.	Large Cap	Asset Alloc.	Large Cap	Asset Alloc.	DM Equity	Asset Alloc.	Asset Alloc.	High Yield	EM Equity	Comdty.	Fixed Income
7.1%	15.4%	0.1%	16.3%	7.3%	4.9%	-0.4%	11.6%	14.6%	-4.4%	19.5%	8.3%	13.5%	-13.9%	14.0%	8.1%	15.8%	-0.3%	-0.3%	-0.3%
High Yield	Large Cap	Asset Alloc.	Large Cap	REITs	Cash	Asset Alloc.	REITs	High Yield	Asset Alloc.	EM Equity	Fixed Income	DM Equity	DM Equity	REITs	Comdty.	Small Cap	Asset Alloc.	Asset Alloc.	Asset Alloc.
5.7%	14.7%	-0.7%	16.0%	2.9%	0.0%	-2.0%	8.6%	10.4%	-5.8%	18.9%	7.5%	11.8%	-14.0%	11.4%	5.4%	12.8%	-1.0%	-1.0%	-1.0%
EM Equity	Asset Alloc.	Small Cap	Asset Alloc.	Cash	High Yield	High Yield	Asset Alloc.	REITs	Small Cap	High Yield	High Yield	High Yield	Large Cap	EM Equity	Cash	High Yield	DM Equity	DM Equity	DM Equity
4.2%	10.1%	-4.2%	12.2%	0.0%	0.0%	-2.7%	8.3%	8.7%	-11.0%	12.6%	7.0%	-18.1%	10.3%	5.3%	12.1%	-1.5%	-1.5%	-1.5%	-1.5%
Fixed Income	High Yield	DM Equity	Fixed Income	Fixed Income	EM Equity	Small Cap	Fixed Income	Fixed Income	Comdty.	Fixed Income	Cash	Cash	EM Equity	Fixed Income	REITs	Fixed Income	High Yield	High Yield	High Yield
2.4%	5.1%	-11.7%	4.2%	-2.0%	-1.8%	-4.4%	2.6%	3.5%	-11.2%	8.7%	0.5%	0.0%	-19.7%	5.5%	4.5%	7.3%	-1.1%	-1.1%	-1.1%
Cash	Fixed Income	Comdty.	Cash	EM Equity	DM Equity	EM Equity	DM Equity	Comdty.	DM Equity	Comdty.	Comdty.	Fixed Income	Small Cap	Cash	DM Equity	Cash	Cash	Small Cap	Small Cap
1.5%	4.6%	-13.3%	0.1%	-2.3%	-4.5%	-14.6%	1.5%	1.7%	-13.4%	7.7%	-3.1%	-1.5%	-20.4%	5.1%	4.3%	4.3%	-1.5%	-1.5%	-1.5%
Comdty.	Cash	EM Equity	Comdty.	Comdty.	Comdty.	Comdty.	Cash	Cash	EM Equity	Cash	REITs	EM Equity	REITs	Comdty.	Fixed Income	REITs	Large Cap	Large Cap	Large Cap
-1.1%	0.9%	-18.2%	-1.1%	-9.5%	-17.0%	-24.7%	0.3%	0.8%	-14.2%	2.2%	-5.1%	-2.2%	-24.9%	-7.9%	1.3%	2.3%	-7.1%	-7.1%	-7.1%

Source: Bloomberg, FactSet, MSCI, NAREIT, Russell, Standard & Poor's, J.P. Morgan Asset Management.
 Large Cap: S&P 500, Small Cap: Russell 2000, EM Equity: MSCI EME, DM Equity: MSCI EAFE, Comdty: Bloomberg Commodity Index, High Yield: Bloomberg Global HY Index, Fixed Income: Bloomberg U.S. Aggregate, REITs: NAREIT Equity REIT Index, Cash: Bloomberg 1-3m Treasury. The "Asset Allocation" portfolio is for illustrative purposes only and assumes annual rebalancing with the following weights: 25% in the S&P 500, 10% in the Russell 2000, 15% in the MSCI EAFE, 5% in the MSCI EME, 25% in the Bloomberg U.S. Aggregate, 5% in the Bloomberg 1-3m Treasury, 5% in the Bloomberg Global High Yield Index, 5% in the Bloomberg Commodity Index and 5% in the NAREIT Equity REIT Index. Annualized (Ann.) return and volatility (Vol) represents the period from 12/31/2010 to 12/31/2025. Please see the disclosure page at the end for index definitions. All data represent total return for stated period. Past performance is no guarantee of future results.
 Guide to the Markets - U.S. Data are as of March 30, 2026.

Operating Investment Policy/Guidelines

Key requirements

- Objectives
- Oversight/roles and responsibilities
- Cash Flow/liquidity requirements
- Investment policies and permitted investments
 - Define liquidity tiers
 - Define overall and per tier risk limits/metrics
- Manager/fund selection
- Performance evaluation
- Risk Management
- Reporting
- Costs

Liquidity Review

- Define allocations/tiers:
 - 1) Liquidity tier – daily needs
 - 2) Short-term tier – annual needs
 - 3) Intermediate tier – longer-term funds/needs
 - 4) Long-term tier/Endowment – 10+ years/permanent reserves

UK Operating Investment Program

Delegation of Authority

- The Executive Vice President for Finance and Administration (“EVPFA”) has delegated to the Treasurer the responsibility for the custody, investment and disbursement of University funds

Treasury Staff (“Staff”)

- Includes the Treasurer, Assistant Treasurer/Training and Policy Director, Debt and Liquidity Principal Director, the Debt and Liquidity Analyst Senior, Debt and Liquidity Analyst and employees in the Treasury Services department
- Manages the daily operating fund investments and prepares analysis and recommendations to the Operating Fund Investment Committee (“OFIC”)
 - The OFIC consists of the EVPFA, Treasurer, Chief Investment Officer, Assistant Treasurer/Training and Policy Director and Controller and meets periodically to review operating fund investments and to advise Staff on investment allocations

University Financial Services may retain the services of a qualified investment manager(s) to invest funds. In collaboration with the OFIC, the Staff may appoint, monitor and evaluate external investment managers for investment of Tier III funds

UK Operating Investment Program

Tier	Description	Manager	Liquidity/ Duration	Investment/Return Objective
Tier I	Cash, overnight and short-term investments	Staff / external manager(s)	Daily	Principal preservation and liquidity
Tier II	Cash on deposit with Commonwealth ¹	Office of Financial Management	Daily	Principal preservation and liquidity
Tier III	Other operating investments	Staff / external manager(s)	0 to 5 years and >5 to 10 years	Principal preservation and enhanced return on investment
Tier IV	Operating funds invested in Endowment Investment Pool ²	Staff / external manager(s)	>10 years	Long-term principal preservation and increased return on investment
Tier V	Operating funds allocated for internal loans ³	Staff	N/A	N/A

1 The University is required to deposit all receipts collected with the State Treasury within 30 days of receipt, except for amounts received as gifts, grants, endowments, or received by affiliated corporations.

2 The total of any such funds invested, including existing Tier IV funds, shall not exceed 35% of the overall operating cash and investments contained in Tier I through III at the time of investment. Additionally, the maximum amount that can be added to the University Operating Quasi-Endowment Fund within a fiscal year is \$75,000,000.

3 Operating funds allocated for internal loans shall be utilized to help minimize the overall cost of capital for the University and provide flexibility on funding for capital projects.

UK Operating Investment Program

- Policy requires a minimum of 60 days cash on hand for the total of Tiers I and II investments for day-to-day operating liquidity.
- The Debt Management Committee annually approves the days cash on hand target range for Tiers I-III investments.

University of Kentucky

FY 2027 Approved Preliminary Liquidity Targets

Category	Liquidity / Duration	Investment Return / Objective	Approved Days Cash on Hand Minimum / Target
Tier I - Cash, Overnight & Short-Term Investments	Daily	Principal preservation and liquidity	60 day minimum per Operating Fund Investment Policy
Tier II - Cash on Deposit with Commonwealth (subject to KRS 164A.555)	Daily	Principal preservation and liquidity	
Tier III - Other Operating Investments: Short / Intermediate Term Investments Intermediate / Long-Term Investments	0 to 5 years > 5 to 10 years	Principal preservation and enhanced return on investment	
Total Operating Fund Tiers I-III Days Cash on Hand Approved by DMC			125 to 200 days

UK Operating Investment Program

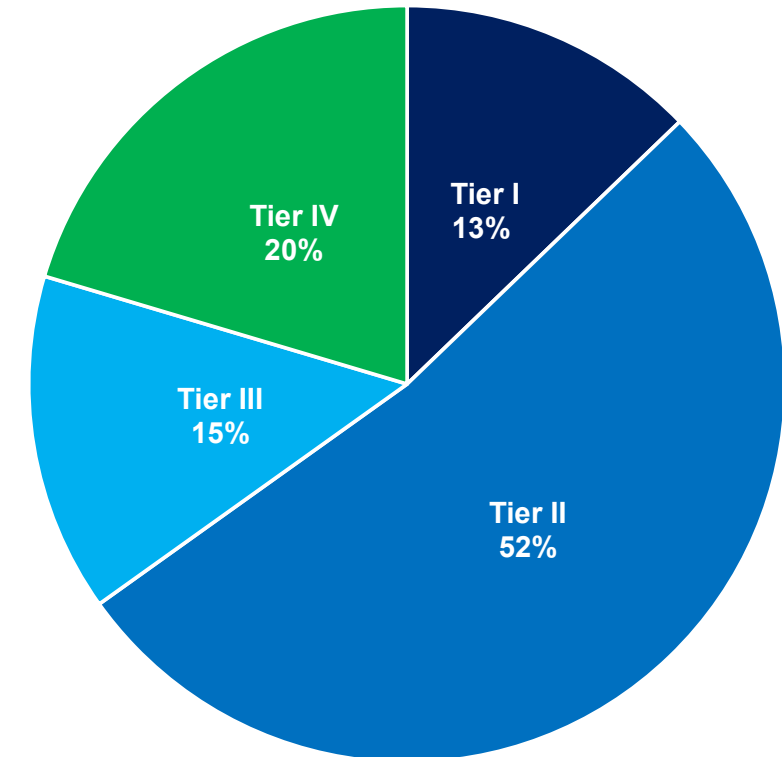
As of February 28, 2026

Total Operating Cash and Days Cash on Hand (DCOH) ^{1,2}		
	Month End Balance	DCOH
Tier I - Cash, Overnight and Short-Term Investments	\$ 486,748,184	33
Tier II - Cash on Deposit with Commonwealth*	1,988,766,389	135
Tier III - Other Operating Investments	<u>550,198,618</u>	<u>37</u>
Subtotal	<u>3,025,713,191</u>	<u>205</u>
Tier IV - Operating Funds Invested in the Endowment	<u>775,369,000</u>	<u>53</u>
Total Funds for Operations	<u>\$ 3,801,082,191</u>	<u>258</u>

* Cash on Deposit with Commonwealth includes investment in the State's limited investment pool (LIP) and intermediate investment pool (IIP)

(1) Days cash on hand is based on FY 25 expenses per day of \$14.8 million

(2) Bond proceeds are not reflected in Tiers I through III



Tier I benchmark: FTSE 3-month Treasury Bill Index

Tier II benchmark: Indices established by State

Tier III benchmark: blended 50% FTSE 3-month Treasury Bill Index and 50% Barclays 1-5 Government Credit Index

Operating Investment Management

Current Challenges & Trends

- ~~Uncertain~~ Elevated interest rate environment
 - Uncertainty regarding inflation and timing of future Fed actions
- Federal and State political pressures
 - State support reductions
 - Threats to research funding
 - Uncertainty surrounding Medicare/Medicaid reimbursements
- Geopolitical risks
- Black Swan events

Polling Question #3

Are you involved in the management of the endowment-investment program at your institution?

a. Yes

b. No

Polling Question #4

What is the size of your institution's endowment portfolio?

- a. \$0 to \$249 million
- b. \$250 million to \$499 million
- c. \$500 million to \$999 million
- d. \$1 billion or greater
- e. Not sure

Role of Endowment Funds in Higher Education

- Primary Role/Objective
 - **Perpetual** source of funding
 - Invested in **perpetuity**
 - Provide stable, reliable income stream
- Secondary Role/Objective
 - Provide long-term matching of assets and liabilities
 - Century Bond

- Characteristics
 - Individual funds pooled and invested together
 - Long-term investment horizon
 - Diversified investment pool with stocks, bonds and various alternative investments
 - Defined spending policy to smooth distributions from year to year

Intergenerational Equity

“The trustees of endowed institutions are the guardians of the future against the claims of the present. Their task is to preserve equity among generations.”

**- James Tobin
Yale University**

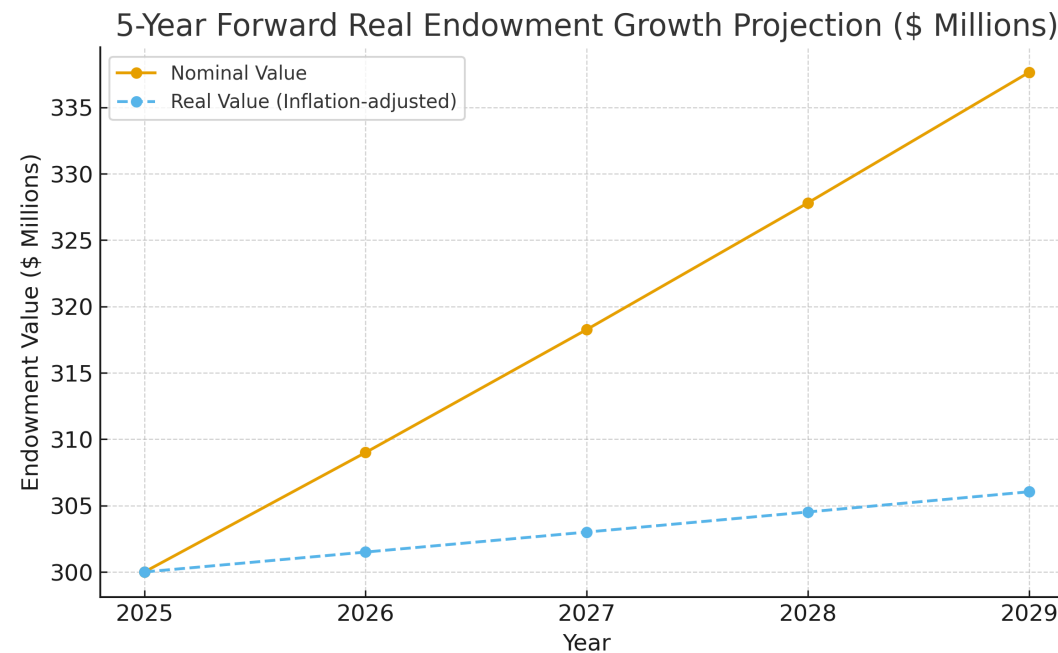
UPMIFA

Uniform Prudent Management of Institutional Funds Act

- A state law governing fiduciaries of donor-restricted investment funds
 - Model act approved by the Uniform Law Commission in 2006 and adopted in all states except PA
 - UPMIFA replaced UMIFA (Uniform Management of Institutional Funds Act), which was adopted in 1972
- Three principal areas addressed:
 - Scope of coverage
 - Investment obligations
 - Expenditure of funds

The Endowment Model

- Return goal over time: CPI + spending
- Key endowment investment principles:
 - Equity bias
 - Diversification
 - Illiquidity premium



Investment Fund Oversight

- Fund Sponsor
 - Capital
 - Commitment to the business
- Investment Teams & Process
 - Experienced investment team
 - Defined process and objectives appropriate to strategy
 - Team meetings for reviews
- Continuous Oversight
 - Access to portfolio managers
- Annual due diligence meetings
 - Onsite visits optimal

Management Structures/Models

- Consultant-driven model
 - Used with smaller institutions to support staff
- In-house staff model
 - Includes Chief Investment Officer and supporting staff
- Outsourced Chief Investment Officer (OCIO) model
 - Implementation of asset allocation and day-to-day management of portfolio delegated to external service provider

Management Structures/Models

Current Structure



Outsourced Chief Investment Officer

- 80/20 structure
 - 80% equity/stocks
 - 20% fixed income/bonds/cash
- Low-cost index and ETF funds
- Laddered Treasury investments
- Low-cost manager fee 8 bps
- 12/31/25 performance net of fees
 - One-year return 14.8%
 - Three-year return 12.5%
 - Five-year average annual return 7.3%

Passive/Simple 80/20 Funds



Vanguard Strategy Growth Fund VASGX

- 80/20 structure
- Expense Ratio 14 bps
- 12/31/25 performance net of fees
 - One-year return 19.6%
 - Three-year return 17.1%
 - Five-year average annual return 8.8%

BlackRock Allocation Fund BIAPX

- 80/20 structure
- Expense Ratio 33 bps
- 12/31/25 performance net of fees
 - One-year return 18.4%
 - Three-year return 17.3%
 - Five-year average annual return 9.3%

Hire an Active Manager



- Launch RFP to select active institutional manager(s)
- Morgan Stanley, JPMorgan, Bank of America, Blackrock, others
- Fees 25 to 100 bps + fund expenses
- Ability to include/exclude asset categories
- Likely to include alternative investments
- May require an independent custody account at additional cost
- Sample: JPM managed growth portfolio
 - 12/31/25 performance net of fees
 - One-year return 16.7%
 - Three-year return 16.5%
 - Five-year average annual return 9.0%

IWU Active Management



- Combination of solutions or separately managed account(s)
 - Requires additional staff work for endowment investment monitoring, rebalancing, trading, liquidity, reporting & management
- *Proposed* ETFs and Index Funds
 - 32.5% S&P 500 (IVV)
 - 32.5% NASDAQ (QQQ)
 - 15% MSCI World (URTH)
 - 5% U.S. Treasury Bond (GOVT)
 - 15% Core International Bond (IAGG)
- 12/31/25 estimated performance
 - One-year return 17.4%
 - Three-year return 21.6%
 - Five-year average annual return 11.5%

Endowment Investment Policy

Key Requirements

- Objectives
- Oversight/roles and responsibilities
- Asset allocation
- Spending/payout policy
- Liquidity policy
- Manager/fund selection
- Performance evaluation
- Risk management
- Reporting
- Costs

Endowment Investment Management

Current Challenges & Trends

- Unpredictable geopolitical risks
- Impact of inflation
- ~~Uncertain~~ Elevated rate environment
- Concentration of public equity markets
- Unexpected dislocations/new opportunities
 - Differentiating potential impact and winners of AI versus hype
- Slowdown in private investment fundraising and distributions
 - Portfolio liquidity
- Federal and State political pressures

2025 NACUBO-Commonfund Study of Endowments

Summary observations from the 2025 NACUBO-Commonfund Study of Endowments

657

colleges, universities, and education-related
foundations completed the FY25 survey

\$253.6 million

median endowment size for FY25 survey respondents

\$944.3 billion

of endowment assets represented in the
FY25 survey

90%

of schools that participated in FY25 also participated in the
FY24 study

\$33.4 billion

total amount spent from survey respondents' endowments in
FY25

**The Survey was conducted from September 3
through December 12, 2025, and covers the 2025
fiscal year (July 1, 2024 – June 30, 2025).**

SOURCE: 2025 NACUBO-COMMONFUND STUDY OF ENDOWMENTS

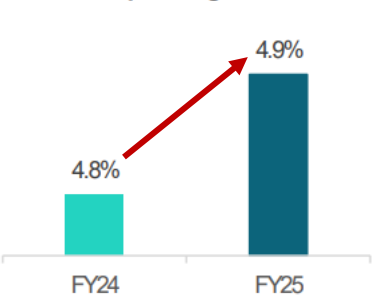
2025 NACUBO-Commonfund Study of Endowments

Endowment spending: Both spending \$ and spending rates increased again in FY25

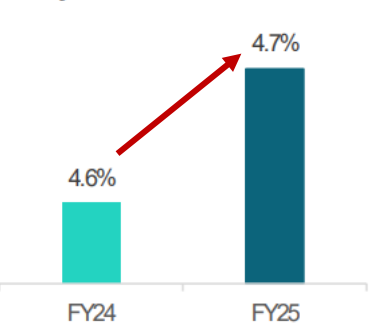
Participating institutions withdrew a total of \$33.4 billion from their endowments in FY25, a nearly 11 percent increase over the \$30.1 withdrawn in FY24 – 83.5 percent were distributions within the institution’s spending policy and 5.3 percent were special appropriations above the normal spending policy. Institutions’ average annual effective spending rate increased moderately to 4.9 percent from 4.8 percent in FY24. By purpose, the largest share of spending in FY25, 47.4 percent, went to student financial aid, a level that was nearly three times more than the 17.7 percent spent on academic programs and research.

Spending rates and withdrawals from endowment

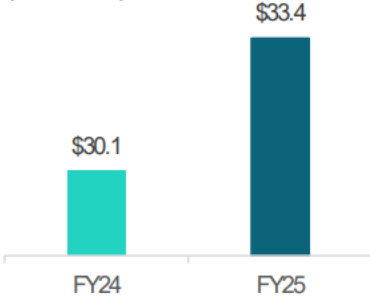
Average Annual Effective Spending Rates



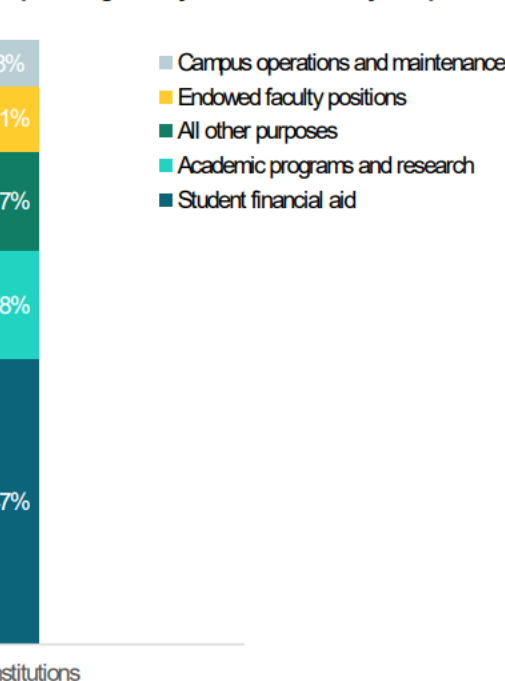
Policy Rates



Total Withdrawals (\$ billions)



Spending Policy Distributions by Purpose

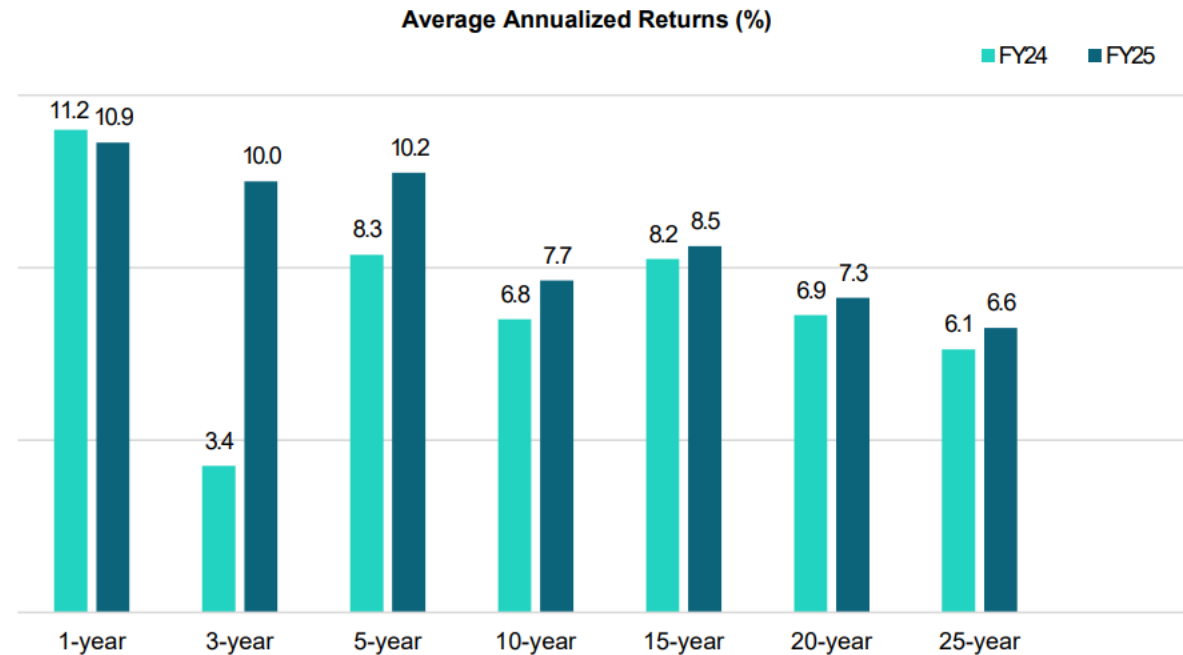


SOURCE: 2025 NACUBO-COMMONFUND STUDY OF ENDOWMENTS

2025 NACUBO-Commonfund Study of Endowments

Investment returns: Long-term mission support despite uncertainty and volatility

Despite periods of uncertainty and bouts of volatility during FY25, portfolio diversification—across both asset classes and strategies—delivered returns that supported the long-term missions and ongoing operations of endowed colleges and universities. Many of the same forces that drove FY24 performance remained in place: a generally sound U.S. economy, positive employment data, moderating inflation, and, most notably, continued investor enthusiasm for all things AI. The key difference was that FY25 unfolded against the backdrop of a presidential election.



SOURCE: 2025 NACUBO-COMMONFUND STUDY OF ENDOWMENTS

2025 NACUBO-Commonfund Study of Endowments

Return objectives: Unique to each institution

If an institution of higher education aspires to maintain the purchasing power of the investment pool over time, then assumptions must be made about the long-term spending rate from the endowment, the anticipated rate of inflation and investment management costs.

The conventional approach for many endowments is to set CPI or HEPI +5% (i.e., inflation plus a spending/distribution percentage) as a return target. Often, there may be other unique variables for organizations which can influence their return targets and those should also be considered.

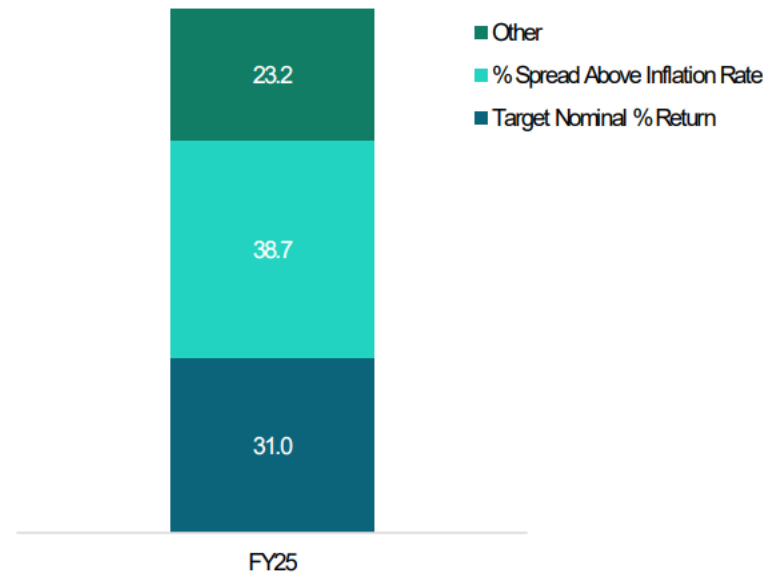
Average target nominal return for FY24

7.3%

Average spread above the rate of inflation for FY24

4.9%

Method Used to Define Return Objective (%)



SOURCE: 2025 NACUBO-COMMONFUND STUDY OF ENDOWMENTS

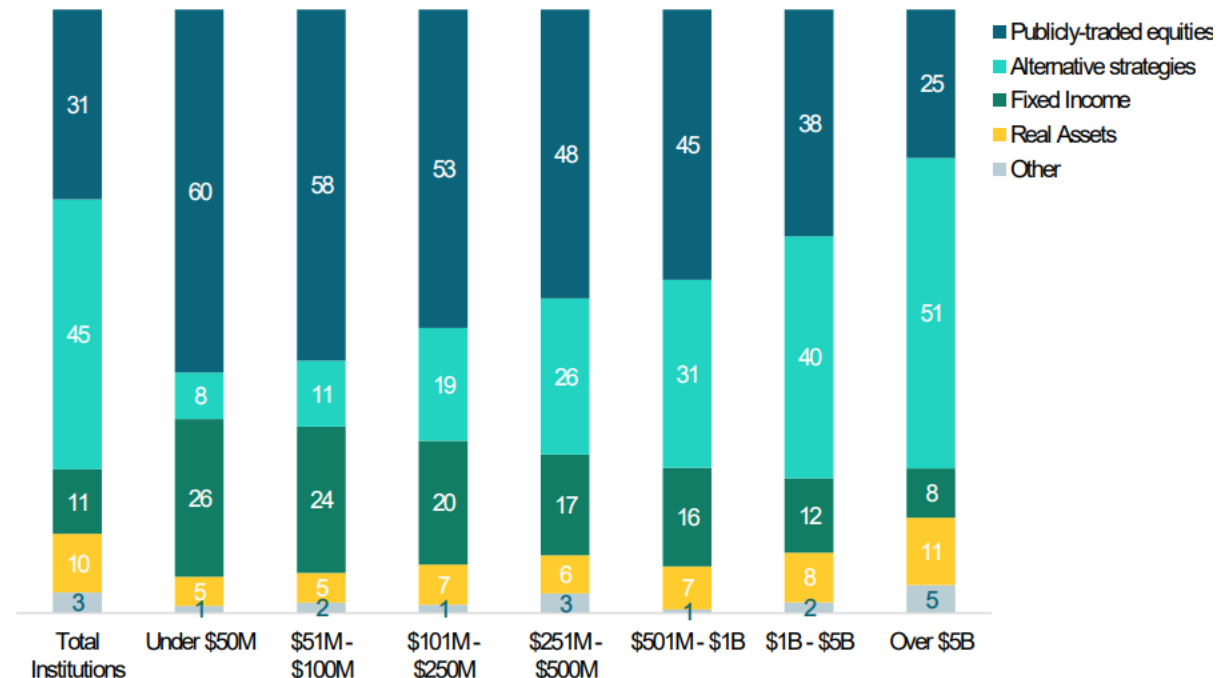
2025 NACUBO-Commonfund Study of Endowments

Asset allocation: Private equity, marketable alternatives and U.S. equities led other strategies

Asset allocation across the different strategies did not reflect material changes from FY24 to FY25 (measured on a dollar-weighted basis).

The comparatively level returns reported for FY25 across the various size segments—as noted, only 130 basis points separating high from low—may be attributed to good performance across asset classes and strategies. U.S., non-U.S. and global equities along with emerging markets posted the best gains but private strategies were not far behind.

Dollar-Weighted Asset Allocations by Size of Endowment for FY25 (%)



SOURCE: 2025 NACUBO-COMMONFUND STUDY OF ENDOWMENTS

2025 NACUBO-Commonfund Study of Endowments

ASSET ALLOCATION | EQUAL-WEIGHTED BY ENDOWMENT SIZE

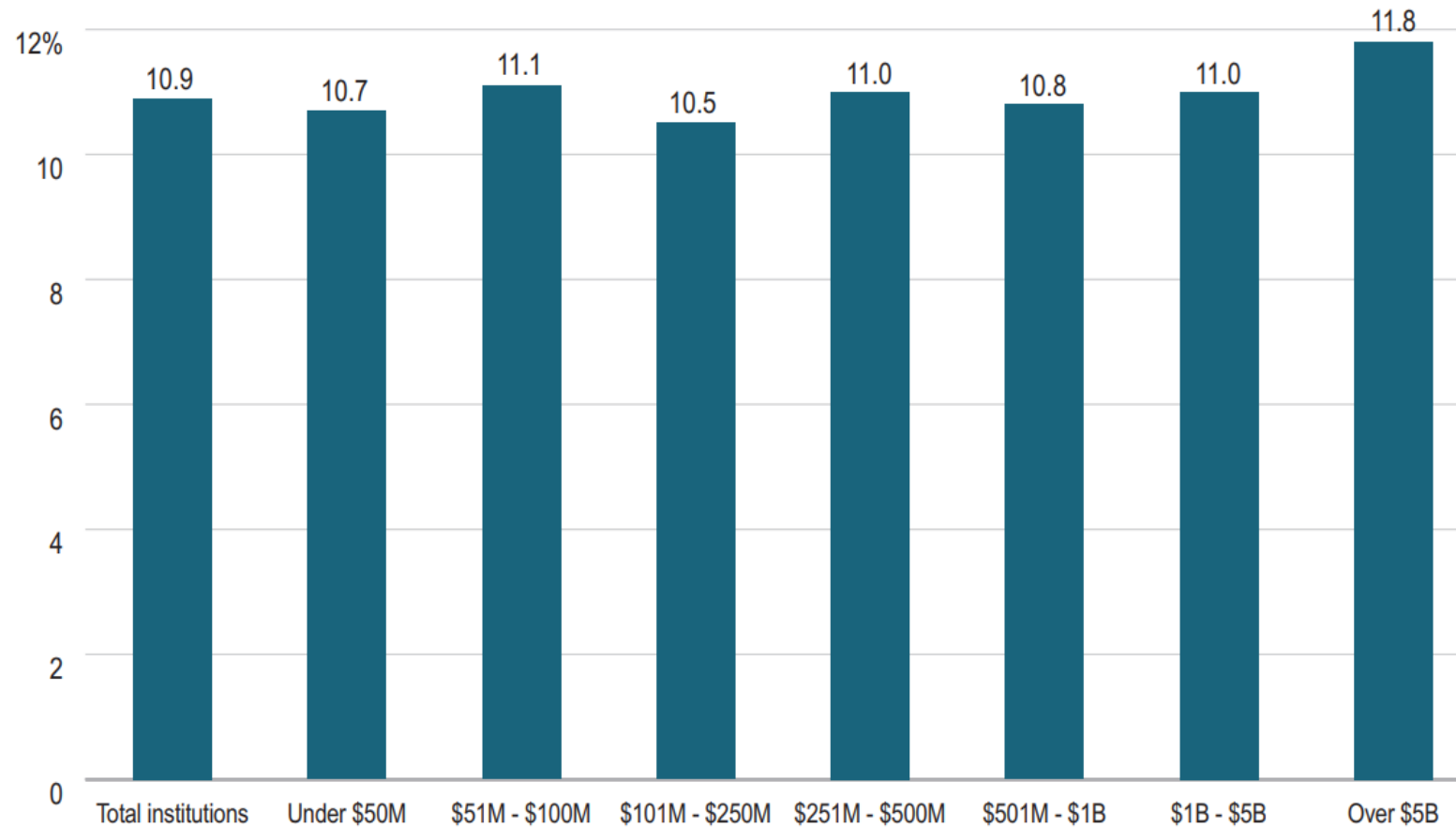
Numbers in percent (%)	TOTAL INSTITUTIONS	UNDER \$50M	\$51M - \$100M	\$101M - \$250M	\$251M - \$500M	\$501M - \$1B	\$1B - \$5B	OVER \$5B
TOTAL INSTITUTIONS	657	76	96	154	102	74	125	30
U.S. equities	28.6	44.1	38.8	30.9	27.3	21.4	17.6	11.6
Non-U.S. equities	8.5	9.9	8.8	9.2	8.6	9.1	7.3	4.4
Emerging markets	2.9	2.6	2.5	2.5	2.8	3.3	3.4	3.7
Global equities	8.9	2.8	7.7	10.2	9.3	11.6	10.1	7.7
Marketable alternatives	8.7	2.9	4.5	6.4	10.6	10.7	13.8	15.8
Private equity	9.9	2.4	5.5	8.5	11.3	14.3	14.2	16.3
Private venture capital	4.7	0.7	0.7	2.8	3.1	5.7	10.6	15.2
Secondaries	0.4	0.3	0.2	0.5	0.6	0.4	0.4	0.4
Fixed income	18.7	26.1	24.4	20.7	16.9	16.2	12.8	8.9
Real assets	6.7	5.1	5.1	6.7	6.0	6.9	8.1	11.1
Sustainable investments	0.1	0.2	0.2	0.0	0.3	0.0	0.1	0.1
Other	2.0	3.1	1.7	1.4	3.2	0.6	1.7	4.7

In general, larger institutions have higher allocations to private strategies and alternatives.

Private institutions also have higher allocations to privates and alternatives.

2025 NACUBO-Commonfund Study of Endowments

AVERAGE ONE-YEAR RETURNS BY ENDOWMENT SIZE



In general, larger institutions have achieved higher returns over the last ten years due to higher allocations to private strategies and alternatives.

SOURCE: 2025 NACUBO-COMMONFUND STUDY OF ENDOWMENTS

Polling Question #5

What is the primary objective/objectives of higher ed operating fund portfolios?

- a. Principal preservation
- b. Maximize investment income
- c. Maintain adequate liquidity
- d. (a) and (c)

Polling Question #6

What is the primary role of higher ed endowment fund portfolios?

- a. Provide long-term matching of assets and liabilities
- b. Maximize Investment Returns
- c. Provide a stable, reliable income stream/perpetual source of funding
- d. Provide tax benefits for alumni and donors
- e. Provide source of funding and management fees for hedge/private equity funds

Polling Question #7

Which of the following is not a Kentucky bourbon?

- a. Jack Daniel's
- b. Maker's Mark
- c. Blanton's
- d. Pappy Van Winkle

Additional Materials

- University of Kentucky Operating Investment Policy
- University of Kentucky Debt Policy
- University of Kentucky Internal Loan Program Policy
- University of Kentucky Endowment Investment Policy
- Indiana Wesleyan University Investment Policy

Resources

- **The Treasury Institute for Higher Education**
<https://www.treasuryinstitute.org/>
- **Association for Financial Professionals**
<https://www.afponline.org/>
- **National Association of College and University Business Officers**
<https://www.nacubo.org/>
- **Investment Company Institute**
 - <https://www.ici.org/>
- **Cambridge Associates**
 - <https://www.cambridgeassociates.com/>
- **Commonfund Institute**
 - <https://www.commonfund.org/institute>



THANK YOU!



APPENDIX: SUMMARY OF UPMIFA

UPMIFA

Uniform Prudent Management of Institutional Funds Act

- A state law governing fiduciaries of donor-restricted investment funds
 - Model act approved by the Uniform Law Commission in 2006 and adopted in all states except PA
 - UPMIFA replaced UMIFA, which was adopted in 1972
- Three principal areas addressed:
 - Scope of coverage
 - Investment obligations
 - Expenditure of funds

UPMIFA

Uniform Prudent Management of Institutional Funds Act

Scope of Coverage

- Applies to funds held in any form, including nonprofit corporate form, except charitable trusts, with a commercial or individual trustee
- Establishes a statutory standard of prudence for the behavior of fiduciaries who have authority over donor-restricted funds
 - Incorporates the fiduciary standards of the Uniform Prudent Investor Act (UPIA)
 - UPMIFA's prudence standard is designed to complement the three fiduciary duties of care, loyalty and obedience

UPMIFA

Uniform Prudent Management of Institutional Funds Act

Investment Provisions

- Good Faith Prudence Standard
 - “...each person responsible for managing and investing an institutional fund shall manage and invest the fund in good faith and with the care an ordinarily prudent person in a like position would exercise under similar circumstances.”
- Required use of special skills
 - “A person that has special skills or expertise, has a duty to use those skills or that expertise in managing and investing institutional funds.”

UPMIFA

Uniform Prudent Management of Institutional Funds Act

Investment Provisions

- Must consider the charitable purposes of the institution and the purposes of the fund, subject to the intent of the donor expressed in the gift instrument
- Costs must be appropriate and reasonable in relation to the assets, the purposes of the institution and the skills available to the institution
- Must make reasonable effort to verify facts related to the management/investment of the fund

UPMIFA

Uniform Prudent Management of Institutional Funds Act

Investment Provisions

- Pooling of funds for investment permitted
- Decisions must be made in the context of the portfolio as a whole as part of an overall investment strategy having risk/return objectives (modern portfolio theory)
- May invest in any kind of property or type of investment
- Diversification required unless purposes of the fund are better suited without diversification
- Rebalancing required

UPMIFA

Uniform Prudent Management of Institutional Funds Act

Investment Provisions

- Must consider the following factors:
 - General economic conditions
 - Possible effect of inflation or deflation
 - Expected tax consequences
 - Role of each investment or course of action to the overall portfolio
 - Expected total return from income and appreciation
 - Other resources of the institution
 - Needs of the institution/fund to make distributions and to preserve capital
 - An asset's special relationship or value to the charitable purposes of the institution

UPMIFA

Uniform Prudent Management of Institutional Funds Act

Expenditure Provisions

- Total return expenditure authorized
 - May appropriate for expenditure as much of the endowment the institution determines is prudent, subject to the intent of the donor expressed in the gift instrument
 - UPMIFA abolished the historic dollar value limitation imposed by UMIFA
- Good Faith Prudence Standard
 - “In making a determination to appropriate or accumulate, the institution shall act in good faith, with the care an ordinarily prudent person in a like position would exercise under similar circumstances,…”

UPMIFA

Uniform Prudent Management of Institutional Funds Act

Expenditure Provisions

- Must consider the following factors:
 - Duration and preservation of the endowment fund
 - Purposes of the institution and endowment fund
 - General economic conditions
 - Possible effect of inflation or deflation
 - Expected total return from income and appreciation
 - Other resources of the institution
 - Investment policy of the institution
- Optional seven percent rule
 - Expenditure > 7% creates a rebuttable presumption of imprudence

UPMIFA

Uniform Prudent Management of Institutional Funds Act

Other Provisions

- Delegation of Management/Investment
 - Prudent delegation in good faith; care standard of prudent person
 - Agent has duty of reasonable care
 - Agent subject to court jurisdiction
 - Delegation to committees, officers or employees as authorized by other law
- Release or Modification of Restrictions
 - Detailed provisions on release or modification of restrictions with Court approval; prior notice to Attorney General required
 - Detailed provisions on release or modification of purpose restrictions with Court approval; prior notice to Attorney General required and must be consistent with donor's intent
 - Detailed provisions on release or modification of restrictions on small, old funds without Court approval; prior notice to Attorney General required