RVK

Wyoming Investment Funds Committee

Asset Allocation Discussion

March 6, 2025

Capital Market Assumptions

Themes for 2025 Capital Market Assumptions

Inflation

Past and future inflation levels are studied and considered given market conditions, break-even indicators, sovereign intervention, and inflation component pricing behavior. *Our 2025 inflation assumption remained constant. This reflects short-term inflationary concerns while also accounting for long-term deflationary factors such as deficits, debt, demographics, automation, and globalization.*

Equity Valuations

Mean reversion is considered for asset classes that demonstrated weak/strong performance over the last year (or longer). *Equity return assumptions were decreased, given elevated valuation levels following strong 2024 returns.*

Bond Yields

Yield history, current environment, and prospective environments are considered. *The majority of domestic fixed income return assumptions were increased – further shrinking the equity risk premium – and reflects elevated current yields and a "higher-for-longer" interest rate environment.*

RVK

Summary of Expected Return Methodology

Building Block Methodology	Income + Inflation + Real Growth ± Valuation Change
Cash Equivalents	Income + Expected interest rate changes
Fixed Income	Income + OAS change + Expected interest rate changes (and duration impact)
TIPS	Real Income + Inflation
Public Equity	Income + Inflation + Real GDP/earnings growth +/- Currency Effect +/- Valuation
Core Real Estate	Income + Inflation +/- Valuation – Manager Fees
Hedge Funds	Income (collateral return, cash) + Beta return + Alpha return (net)
Commodities	Collateral return (cash assumption) + Spot return (inflation assumption) + Roll return

Spread Methodology	Beta assumption + Illiquidity premium
Private Credit	Bank loan assumption + Return premium
Private Equity	US Large/Mid cap equity assumption + Return premium

Asset Blend Methodology	
GTAA	30% global equity + 25% US Agg fixed income + 5% int'l developed fixed income + 10% EMD (local) + 10% TIPS + 10% high yield + 10% commodities
Diversified Inflation Strategies	1/3 TIPS + 1/3 commodities + 1/3 global REITs

While the above factors generally inform the direction and magnitude of the capital market assumptions, RVK also considers qualitative, triangulation, and other factors as needed, when arriving at final assumption values.

Estimated Asset Class Yields

Asset Class	Dec-2023 Yield (%)	Dec-2024 Yield (%)	One Year Adjustment
Broad US Equity	1.51	1.27	-0.24
Small Cap US Equity	1.48	1.33	-0.15
Broad International Equity	3.02	2.95	-0.07
MLPs	6.7	5.75	-0.95
Core Real Estate	3.58	3.85	0.27
Non-Core Real Estate	2.12	1.12	-1.00
US Aggregate Fixed Income	4.53	4.91	0.38
Long Duration Fixed Income	4.71	5.34	0.63
Low Duration Fixed Income	4.53	4.4	-0.13
Bank Loans	9.47	7.79	-1.68
EMD (Custom Blend)	6.91	6.89	-0.02
Private Core Infrastructure	5	4	-1.00
Private Credit	11.47	9.79	-1.68
Cash Equivalents	5.09	4.25	-0.84
Private Equity	--	--	--
Custom Hedge Funds	--	--	--

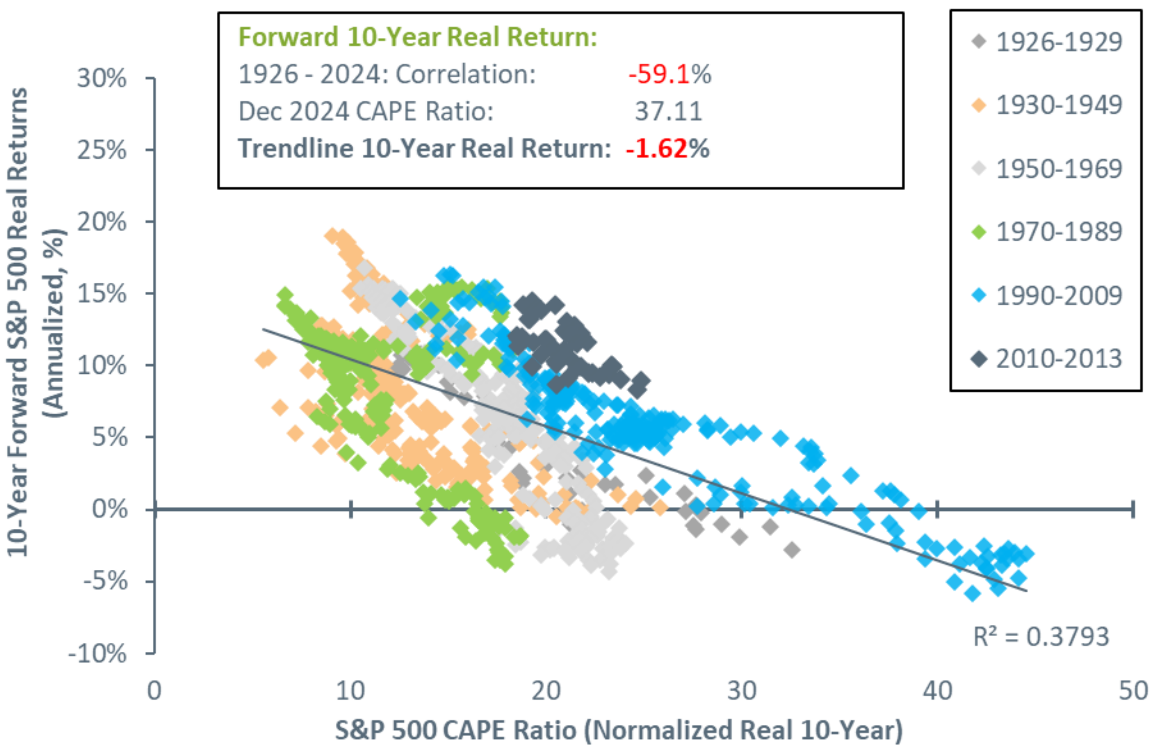
Estimated asset class yields are benchmark specific, with the exception of real estate, infrastructure, and diversified hedge funds—which are specific to Wyoming's current managers.
Fixed income yields are yield to maturity.

RVK

Public Equity – Domestic

Public Equity: US									
Asset Class	2024			2025			One Year Adjustment		
	Nominal Return	Risk (StDev)	Nominal Return (Geo.)	Nominal Return	Risk (StDev)	Nominal Return (Geo).	Nominal Return	Risk (StDev)	Nominal Return (Geo.)
Large/Mid Cap US	6.50%	16.00%	5.32%	6.00%	16.00%	4.81%	-0.50%	--	-0.51%
Small Cap US	7.00%	19.00%	5.35%	6.75%	19.00%	5.10%	-0.25%	--	-0.25%
Broad US Equity	6.50%	16.10%	5.30%	6.04%	16.04%	4.84%	-0.46%	-0.06%	-0.46%

Relationship between Valuations and Forward 10 Year Returns



- US equity return forecasts all decreased relative to 2024.
- The decrease was mostly driven by elevated valuations, as domestic equities rallied in 2024 supported by strong consumer spending, technology (AI) developments and prospects of near-term monetary easing.
- Year-end LC US valuation, as represented by the Shiller CAPE ranked in the 98th percentile of historical values going back to 1926.
- Thus, return assumptions remain lower than historical averages.

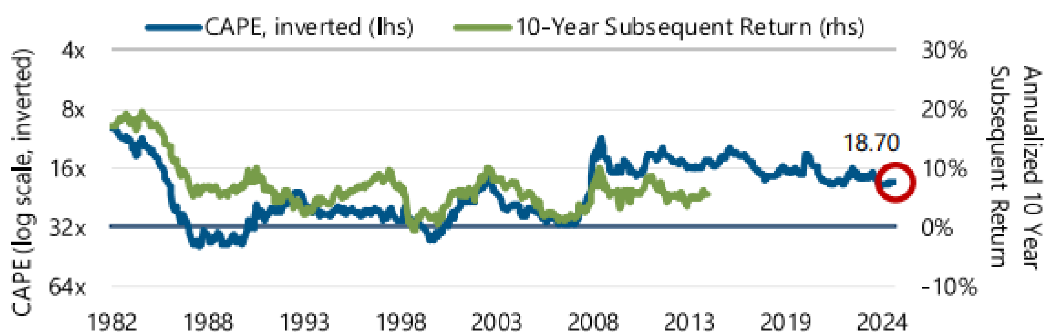
RVK Broad US Equity assumption is a combination of 95.3% Large/Mid Cap US Equity and 4.7% Small Cap US Equity.
Source: RVK, based on data from FactSet (2025). December 2024 CAPE ratio uses the S&P 500 earnings estimate for the Q4 2024.

Public Equity – International

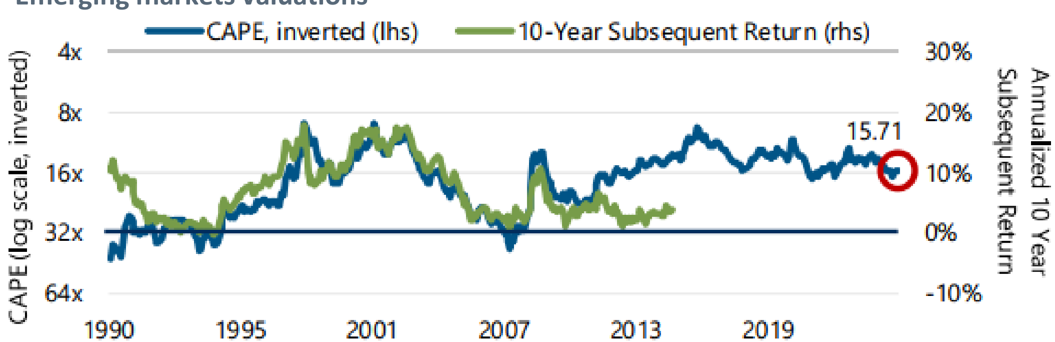
Public Equity: International									
	2024			2025			One Year Adjustment		
Asset Class	Nominal Return	Risk (StDev)	Nominal Return (Geo.)	Nominal Return	Risk (StDev)	Nominal Return (Geo).	Nominal Return	Risk (StDev)	Nominal Return (Geo.)
Intl Large/Mid Equity	8.25%	17.00%	6.94%	8.25%	17.00%	6.94%	--	--	--
Intl Dev'd Small Cap	9.00%	20.00%	7.21%	9.00%	20.00%	7.21%	--	--	--
Emerging Markets	11.25%	25.00%	8.54%	10.75%	25.00%	8.03%	-0.50%	--	-0.51%
Broad International	9.15%	18.85%	7.56%	9.07%	18.47%	7.54%	-0.08%	-0.38%	-0.02%

Valuations: Cyclically-adjusted P/E

EAFE valuations



Emerging markets valuations



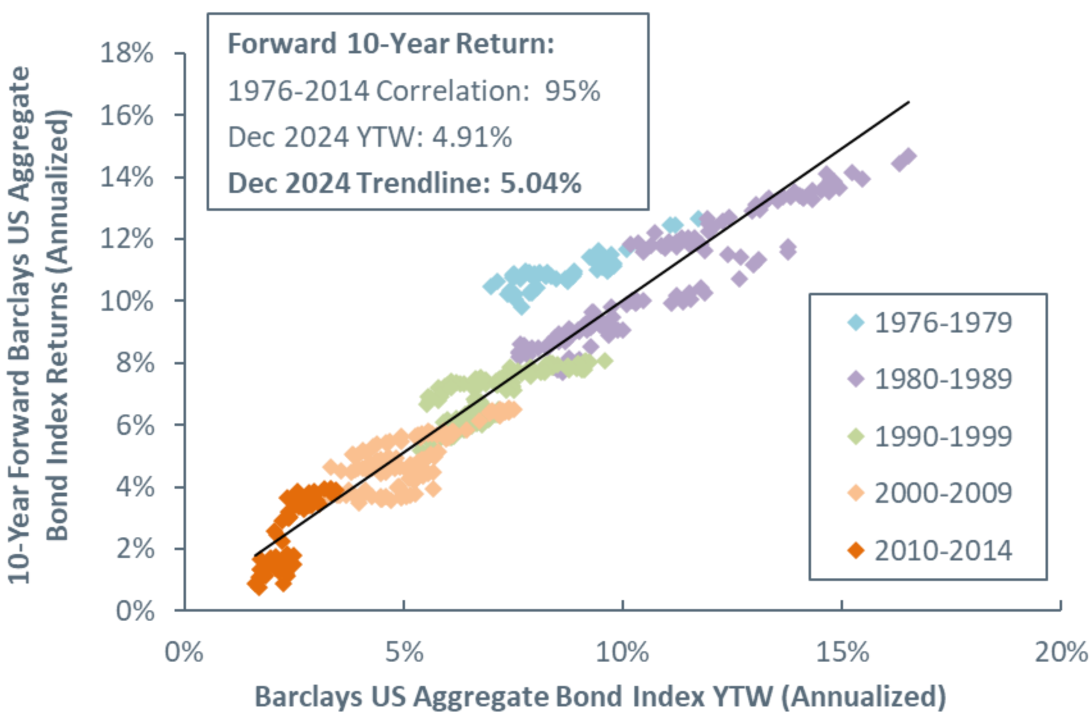
- Developed international equity assumptions were unchanged due to offsetting factors of improved dividend yields as well as inflation and currency expectations paired with deteriorating real growth/earnings expectations and valuations.
- The Emerging markets return assumption was decreased due to lower real growth/earnings expectations, lower dividend yields and increased valuations.

RVK Broad International Equity is a mix of 60.5% Dev'd Large/Mid Cap Int'l Equity, 9.7% Dev'd Small Cap Int'l Equity, and 29.8% Emerging Markets Equity.
Source: Research Affiliates (RA); EAFE valuations represented by MSCI EAFE CAPE calculations by RA since December 1982; EM represented by MSCI EM CAPE calculations by RA since Jan 1990. Data as of December 31, 2024.

Fixed Income

Fixed Income									
Asset Class	2024			2025			One Year Adjustment		
	Nominal Return	Risk (StDev)	Nominal Return (Geo.)	Nominal Return	Risk (StDev)	Nominal Return (Geo).	Nominal Return	Risk (StDev)	Nominal Return (Geo.)
US Aggregate	4.00%	5.00%	3.88%	4.50%	5.00%	4.38%	+0.50%	--	+0.50%
Non-US Dev. Sovereign	2.50%	8.50%	2.15%	2.50%	8.50%	2.15%	--	--	--
Low Duration	3.25%	2.50%	3.22%	3.50%	2.50%	3.47%	+0.25%	--	+0.25%
Long Duration	5.00%	10.00%	4.53%	5.50%	10.00%	5.03%	+0.50%	--	+0.50%
TIPS	4.00%	5.50%	3.85%	4.00%	5.50%	3.85%	--	--	--

Relationship between YTW and Forward 10 Year Returns



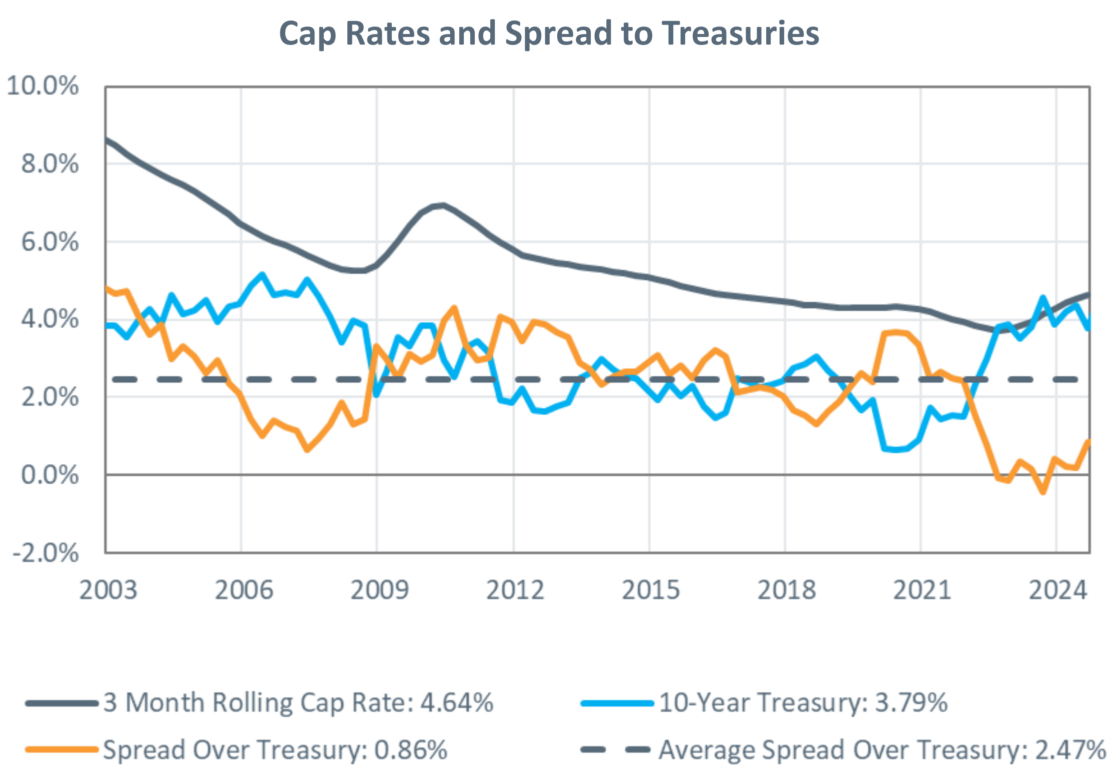
- The starting bond yield has historically been rather strongly correlated with future bond returns.
- Domestic fixed income return assumptions were increased, reflecting increased yields and somewhat offsetting spread changes, as well as the expectation that the inverted yield curve will normalize over time but remain “higher for longer” overall.
- Duration changes were generally nominal and thus did not have material impacts on return forecasts.

Source: FactSet (2025).

RVK

Real Estate

Real Estate									
Asset Class	2024			2025			One Year Adjustment		
	Nominal Return	Risk (StDev)	Nominal Return (Geo.)	Nominal Return	Risk (StDev)	Nominal Return (Geo).	Nominal Return	Risk (StDev)	Nominal Return (Geo.)
Core Real Estate	5.75%	12.50%	5.02%	6.25%	12.50%	5.52%	+0.50%	--	+0.50%
Global REITs	7.75%	21.00%	5.76%	7.75%	21.00%	5.76%	--	--	--

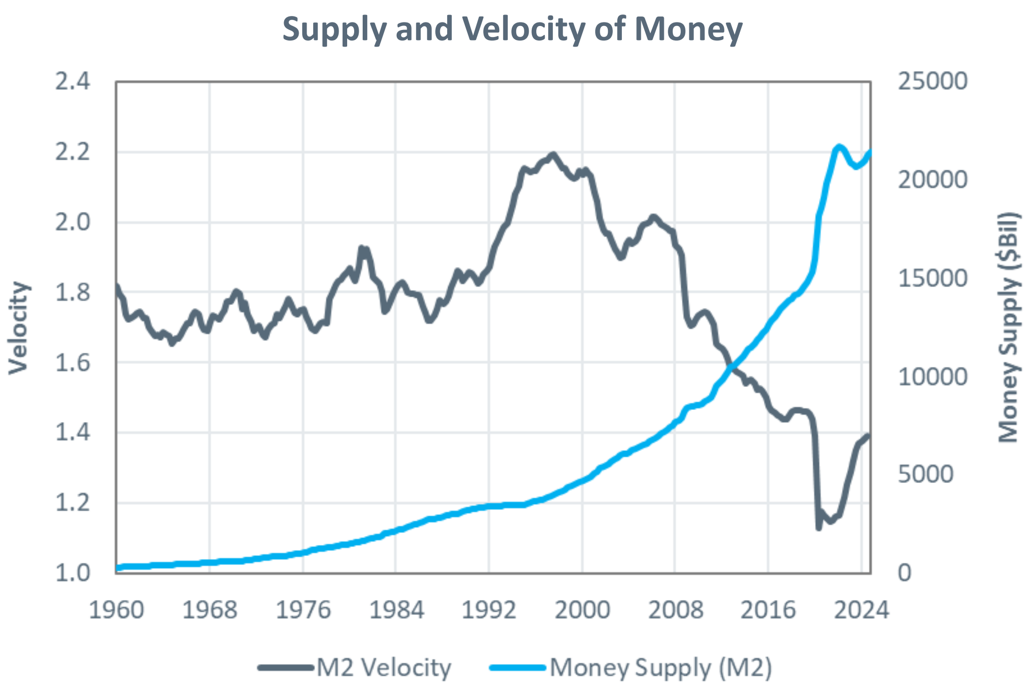


- The core real estate return assumption was increased, due to improved valuations and increased income.
- Cap rates increased modestly in 2024.
- However, on a relative basis spreads over Treasuries remained well below long-term averages.
- The global REITs assumption remained unchanged as yields and valuations did not significantly change.

Source: NCREIF and FactSet (2025). Data as of September 30, 2024.

US Inflation & Cash Equivalents

US Inflation & Cash Equivalents									
	2024			2025			One Year Adjustment		
Asset Class	Nominal Return	Risk (StDev)	Nominal Return (Geo.)	Nominal Return	Risk (StDev)	Nominal Return (Geo).	Nominal Return	Risk (StDev)	Nominal Return (Geo.)
US Inflation	2.50%	2.50%	2.47%	2.50%	2.50%	2.47%	--	--	--
Cash Equivalents	2.75%	2.00%	2.73%	2.75%	2.00%	2.73%	--	--	--

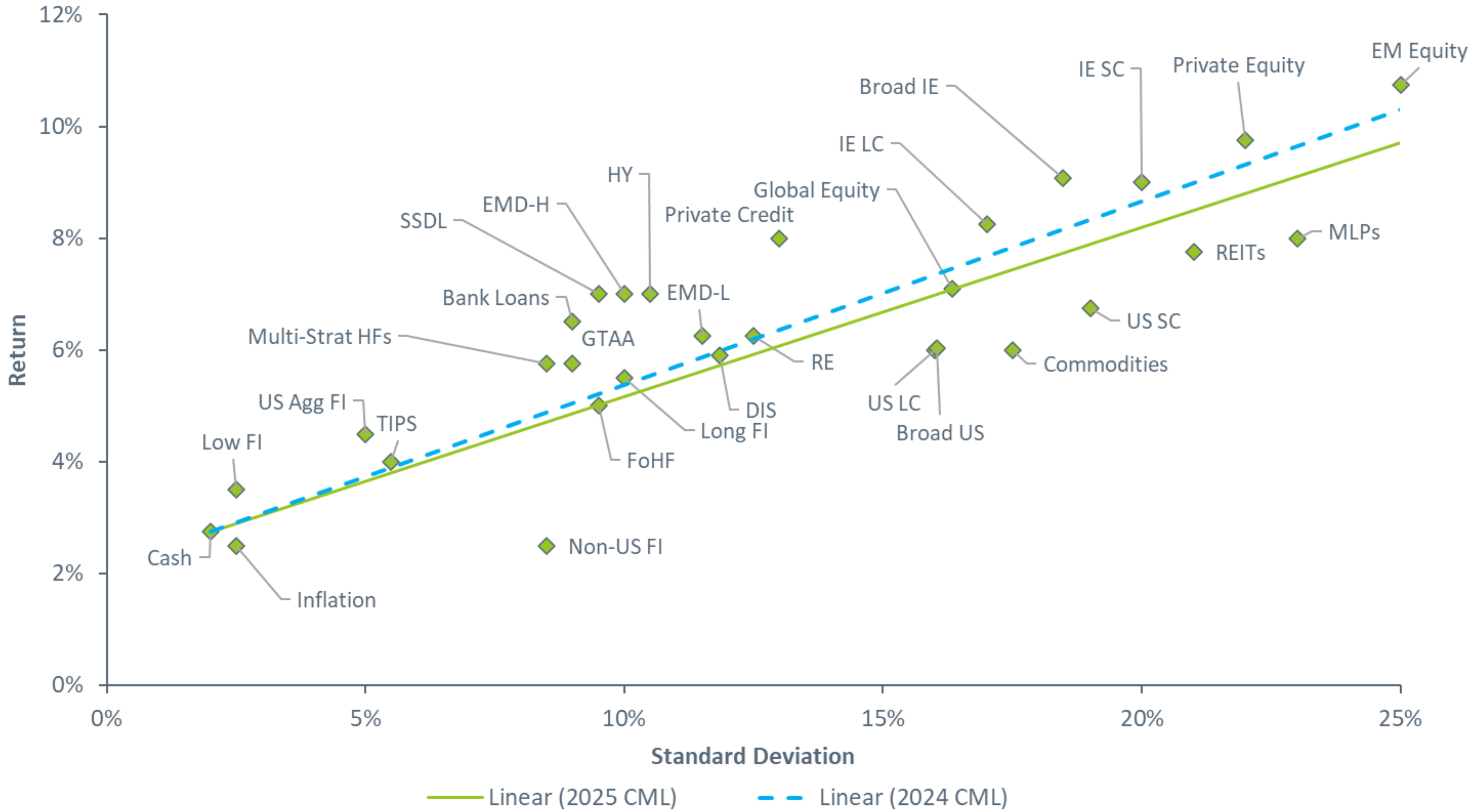


- The inflation assumption remained constant, balancing the uncertainty of near-term inflationary pressures and long-term deflationary factors.
- The cash assumption maintained a positive real return and was unchanged.

As of December 31, 2024	5-Year	7-Year	10-Year	20-Year	30-Year
Treasury Yield	4.38%	4.48%	4.58%	4.86%	4.78%
TIPS Yield	2.00%	2.13%	2.24%	2.41%	2.48%
Implied Expected Inflation	2.38%	2.35%	2.34%	2.45%	2.30%

Source: FactSet (2025).

2025 Capital Markets Line



RVK 2025 Capital Market Assumptions

Asset Class	2025 Nominal Return (Geo.)	2025 Risk (StDev)	2025 Nominal Return (Arith.)	2025 Return / Risk Ratio	2024 Nominal Return (Geo.)	2024 Risk (StDev)	2024 Nominal Return (Arith.)	2024 Return / Risk Ratio	One Year Adjustment (2025 - 2024) Nominal Return (Geo.)	One Year Adjustment (2025 - 2024) Risk (StDev)	One Year Adjustment (2025 - 2024) Nominal Return (Arith.)	One Year Adjustment (2025 - 2024) Return / Risk Ratio
Large/Mid Cap US Equity	4.81%	16.00%	6.00%	0.38	5.32%	16.00%	6.50%	0.41	-0.51%	--	-0.50%	-0.03
Small Cap US Equity	5.10%	19.00%	6.75%	0.36	5.35%	19.00%	7.00%	0.37	-0.25%	--	-0.25%	-0.01
Broad US Equity	4.85%	16.04%	6.04%	0.38	5.30%	16.10%	6.50%	0.40	-0.46%	-0.06%	-0.46%	-0.03
Dev'd Large/Mid Cap Int'l Equity	6.94%	17.00%	8.25%	0.49	6.94%	17.00%	8.25%	0.49	--	--	--	--
Emerging Markets Equity	8.03%	25.00%	10.75%	0.43	8.54%	25.00%	11.25%	0.45	-0.51%	--	-0.50%	-0.02
Broad International Equity	7.54%	18.47%	9.07%	0.49	7.58%	18.70%	9.15%	0.49	-0.04%	-0.23%	-0.08%	+0.00
MLPs	5.63%	23.00%	8.00%	0.35	5.89%	23.00%	8.25%	0.36	-0.26%	--	-0.25%	-0.01
US Aggregate Fixed Income	4.38%	5.00%	4.50%	0.90	3.88%	5.00%	4.00%	0.80	+0.50%	--	+0.50%	+0.10
Low Duration Fixed Income	3.47%	2.50%	3.50%	1.40	3.22%	2.50%	3.25%	1.30	+0.25%	--	+0.25%	+0.10
Long Duration Fixed Income	5.03%	10.00%	5.50%	0.55	4.53%	10.00%	5.00%	0.50	+0.50%	--	+0.50%	+0.05
Bank Loans	6.12%	9.00%	6.50%	0.72	6.12%	9.00%	6.50%	0.72	--	--	--	--
Custom EMD	5.81%	9.72%	6.25%	0.64	5.73%	9.70%	6.17%	0.64	+0.08%	+0.02%	+0.08%	+0.01
EMD (Local)	5.63%	11.50%	6.25%	0.54	5.38%	11.50%	6.00%	0.52	+0.25%	--	+0.25%	+0.02
EMD (Hard)	6.54%	10.00%	7.00%	0.70	6.54%	10.00%	7.00%	0.70	--	--	--	--
EMD (Corp)	5.07%	9.50%	5.50%	0.58	5.07%	9.50%	5.50%	0.58	--	--	--	--
Core Real Estate	5.52%	12.50%	6.25%	0.50	5.02%	12.50%	5.75%	0.46	+0.50%	--	+0.50%	+0.04
Non-Core Real Estate	6.45%	20.00%	8.25%	0.41	6.19%	20.00%	8.00%	0.40	+0.25%	--	+0.25%	+0.01
Custom Hedge Funds	5.03%	8.64%	5.38%	0.62	5.05%	8.40%	5.38%	0.64	-0.02%	+0.24%	--	-0.02
Private Equity	7.61%	22.00%	9.75%	0.44	7.61%	22.00%	9.75%	0.44	--	--	--	--
Private Credit	7.23%	13.00%	8.00%	0.62	7.23%	13.00%	8.00%	0.62	--	--	--	--
Private Core Infrastructure	6.22%	15.00%	7.25%	0.48	6.22%	15.00%	7.25%	0.48	--	--	--	--
Cash Equivalents	2.73%	2.00%	2.75%	1.38	2.73%	2.00%	2.75%	1.38	--	--	--	--
US Inflation	2.47%	2.50%	2.50%	1.00	2.47%	2.50%	2.50%	1.00	--	--	--	--

Blue highlighted cells indicate values are being calculated base on a roll up of underlying asset classes.
Broad US Equity is a combination of 95.3% Large/Mid Cap US Equity and 4.7% Small Cap US Equity.
Broad International equity is a combination of 60.5% Dev'd Large/Mid Cap Int'l Equity, 9.7% Dev'd Small Cap Int'l Equity, and 29.8% Emerging Markets Equity.
Custom Hedge Funds is a combination of 50.0% Diversified Hedge Fund of Funds and 50.0% Multi-Strategy Hedge Funds.
Custom EMD is a combination of 33.33% Local Currency, 33.33% Hard Currency, 33.33% Corporate EMD.

RVK

RVK 2025 Correlation Matrix

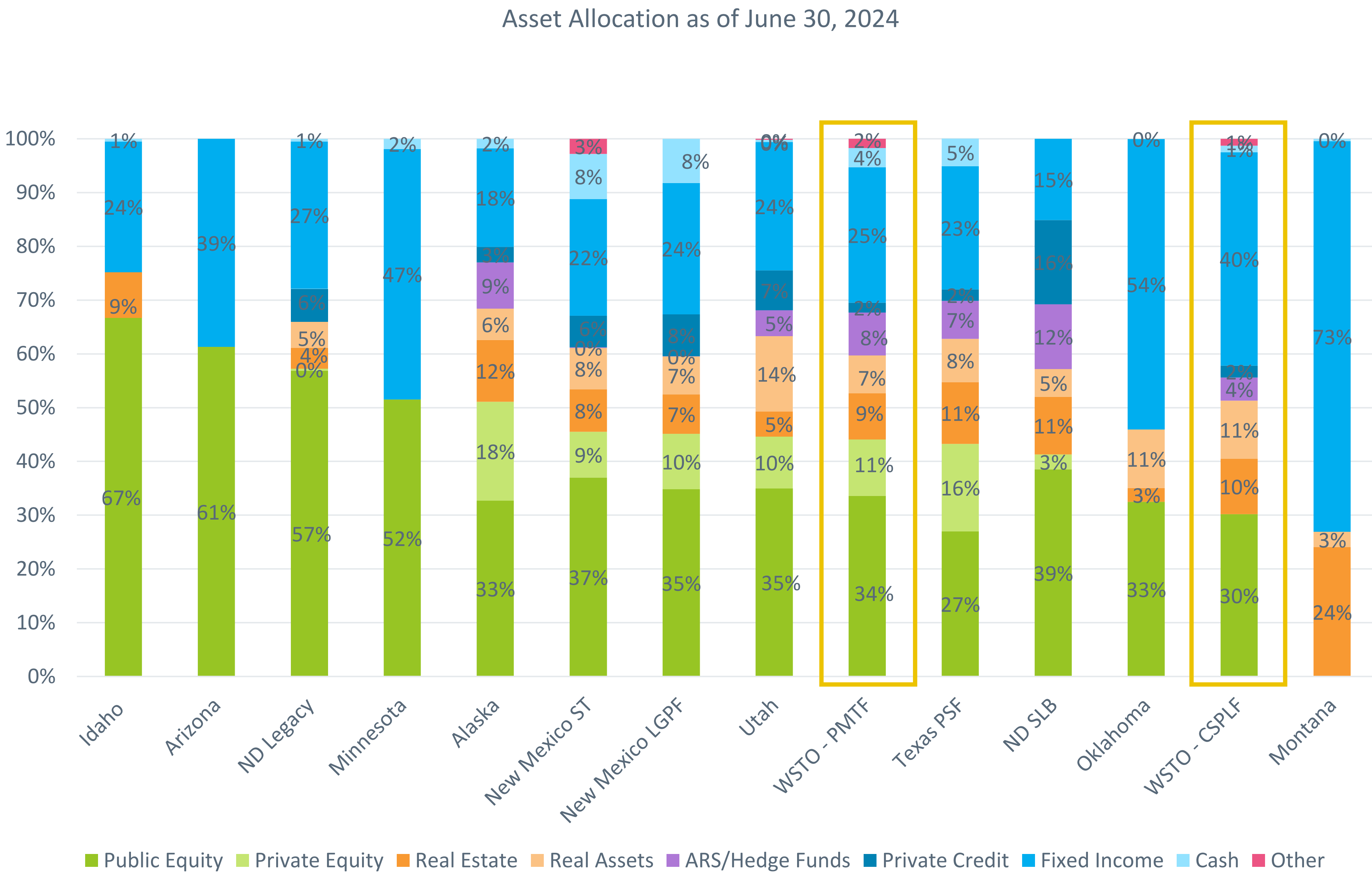
Interrelationship of Various Asset Class Pairings

	U.S. Inflation	Cash Equiv	Broad US Equity	Small/Mid Cap US Equity	Broad Int'l Equity	MLPs	Private Equity	Custom Emerging Markets Debt	Private Credit	US Agg Fixed Income	Low Duration Fixed Income	Real Estate	Non-Core Real Estate	Private Core Infra	Bank Loans	Custom Hedge Funds
U.S. Inflation	1.00	-0.01	0.01	0.00	0.03	0.07	-0.01	-0.06	0.29	-0.26	-0.27	0.08	0.03	-0.06	0.22	0.13
Cash Equivalents	-0.01	1.00	-0.05	-0.08	-0.02	-0.08	-0.21	0.01	-0.07	0.08	0.35	-0.22	-0.20	0.11	-0.08	-0.06
Broad US Equity	0.01	-0.05	1.00	0.92	0.87	0.59	0.67	0.66	0.79	0.27	0.11	0.33	0.23	0.12	0.61	0.75
Small/Mid Cap US Equity	0.00	-0.08	0.92	1.00	0.79	0.57	0.66	0.59	0.77	0.20	0.05	0.26	0.22	0.11	0.59	0.71
Broad International Equity	0.03	-0.02	0.87	0.79	1.00	0.54	0.70	0.81	0.85	0.31	0.20	0.31	0.21	0.16	0.63	0.82
MLPs	0.07	-0.08	0.59	0.57	0.54	1.00	0.39	0.44	0.61	0.06	0.02	0.19	0.16	0.08	0.59	0.61
Private Equity	-0.01	-0.21	0.67	0.66	0.70	0.39	1.00	0.54	0.74	0.02	-0.09	0.53	0.51	0.14	0.51	0.72
Custom Emerging Markets Debt	-0.06	0.01	0.66	0.59	0.81	0.44	0.54	1.00	0.67	0.57	0.43	0.16	0.08	0.04	0.60	0.68
Private Credit	0.29	-0.07	0.79	0.77	0.85	0.61	0.74	0.67	1.00	-0.06	-0.11	0.41	0.29	0.13	0.88	0.87
US Agg Fixed Income	-0.26	0.08	0.27	0.20	0.31	0.06	0.02	0.57	-0.06	1.00	0.81	0.10	-0.03	0.03	0.07	0.16
Low Duration Fixed Income	-0.27	0.35	0.11	0.05	0.20	0.02	-0.09	0.43	-0.11	0.81	1.00	-0.06	-0.10	0.06	-0.03	0.06
Real Estate	0.08	-0.22	0.33	0.26	0.31	0.19	0.53	0.16	0.41	0.10	-0.06	1.00	0.81	0.45	0.18	0.40
Non-Core Real Estate	0.03	-0.20	0.23	0.22	0.21	0.16	0.51	0.08	0.29	-0.03	-0.10	0.81	1.00	0.65	0.13	0.31
Private Core Infrastructure	-0.06	0.11	0.12	0.11	0.16	0.08	0.14	0.04	0.13	0.03	0.06	0.45	0.65	1.00	0.05	0.23
Bank Loans	0.22	-0.08	0.61	0.59	0.63	0.59	0.51	0.60	0.88	0.07	-0.03	0.18	0.13	0.05	1.00	0.80
Custom Hedge Funds	0.13	-0.06	0.75	0.71	0.82	0.61	0.72	0.68	0.87	0.16	0.06	0.40	0.31	0.23	0.80	1.00

Correlation greater than 0.50
Correlation between 0.00 and 0.50
Correlation less than 0.00

Peer Comparisons

Asset Allocation



Allocation to "Other" includes opportunistic investments.

Summary of 2024 Changes

Summary of 2024 Changes

Liquid Reserves

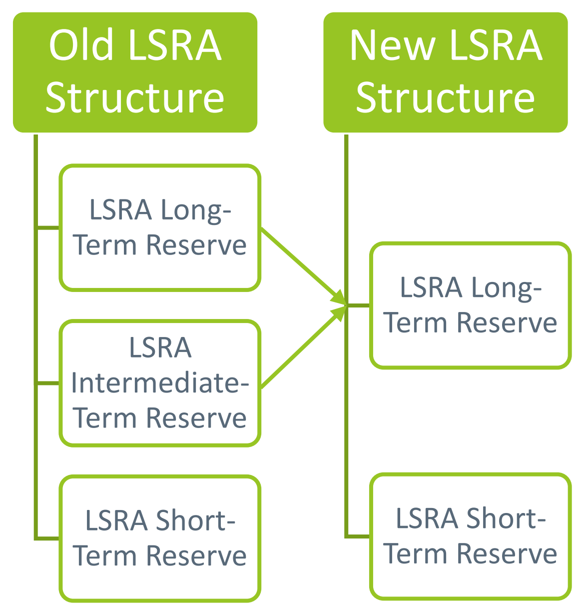
- Reserves of the Permanent Funds, Pool A, and LSRA have been optimized utilizing liquid assets only with a risk reference benchmark of 50-50 global equities / US debt.
- In 2024, target asset allocation benchmark weights began converging towards the newly established long-term targets across the pools.
- Pool A and LSRA Long-Term Reserve benchmarks have reached the long-term policy targets as of 12/1/24, with the Permanent Fund Reserves anticipated to reach the long-term policy targets on 6/1/25.

Liquid Reserves Long-Term Target

	Min	Long-Term Target	Max
Broad US Equity	5.50	11.00	16.50
Small Cap US Equity	1.50	3.00	4.50
Broad International Equity	6.50	13.00	19.50
MLPs	3.00	6.00	9.00
Emerging Markets Debt	4.00	8.00	12.00
Core Fixed Income	22.00	44.00	66.00
Bank Loans	2.50	5.00	7.50
Hedge Funds	5.00	10.00	15.00

LSRA Restructuring

- LSRA structure has been updated to reflect only a short-term and long-term reserve allocation—consolidating the intermediate-term reserves.



RVK

2025 Executive Summary

Summary Matrix – Target Asset Structure

Long-Term Permanent Funds

- No recommended changes – continue progressing toward long-term policy targets.

Reserve Funds

- No recommended changes – continue progressing toward long-term policy targets, and continued pool consolidation.

Fund and Portfolio Structure

	PMTF	CSPLF	Workers' Comp	LSRA	Pool A	Other State Agencies
Long-Term Endowment Portfolio	X	X	X			
Liquid Reserves	X	X		X	X	X
SAP						X
Liability Hedging			X			
Low Duration FI				X		

RVK

Investment Pool Characteristics

Long-Term Permanent Funds

	Long-Term Permanent Funds
Investment Objective	• Intergenerational Equity
Spending Constraints	• Only income may be spent (i.e. interest payments, dividends, rental income, and net realized gains).

Reserve Accounts	• Excess income above the spending policy amount is appropriated to the earnings reserve account.
	• Historically, capped at 150% of the spending policy amount. Legislation passed in 2023 however calls for permanent fund reserve accounts to be funded and maintain at least 5 (and preferably 7 years) of their respective annual spending obligations (potential obligations from the reserves).
	• Following the establishment of the new permanent reserve accounts, each Fund will have a different threshold for transferring excess revenues back to permanent fund corpus.
	    • PMTF: revenues in excess of 245% of spending policy amount.
	    • CSPLF: revenues in excess of 420% of spending policy amount.
	    • Higher Education: revenues in excess of 210% of spending policy amount.
	    • Hathaway: reserve account balance in excess of the greater of $47 million, or 8% of the previous 5 year average market value of the permanent fund.
	• While Wyoming's permanent funds are constitutionally protected from legislative appropriation, the state's permanent fund reserve accounts are not.

Spending Policy	• Corpus <u>cannot</u> be spent. • PMTF, CSPLF, Higher Education: 5% of the trailing 5-year average market value • Hathaway: Amount necessary to fully fund scholarships awarded under W.S. 21-16-1301 et seq.

Workers' Compensation Fund

	Workers' Compensation Fund
Investment Objective	To provide for a return that assures the Fund will be self-funding or nearly self-funding in order to substantially reduce or eliminate the need for employer contributions.
Investment Constraints	• The overall risk profile of funds which may be invested in equities excluding any specific public purpose investment, shall not materially exceed the risk profile of a reference portfolio that consists of seventy percent (70%) global equities and thirty percent (30%) domestic fixed income investments. The specific benchmarks are 70% MSCI All Country World Index and 30% Bloomberg Aggregate. • This fund retains income and capital gains.
Spending Policy	The exact cash level shall be determined by the Staff of the Wyoming Department of Workforce Services and dependent on the liquidity needs of the Fund. Those cash estimates shall be presented to the State Treasurer's Office on an annual basis.

Pool A Investment Account

(Formerly Tobacco Settlement Fund)

	Pool A Investment Account
Investment Objective	Stability and return on investment. Pool A is intended to be moderately liquid and safely invested, but also be invested for return and growth. • Pool A is one of two pools holding a diverse array of individual funds from agency budgets to reserve accounts.
Investment Constraints	• This fund dispenses income and capital gains. • Maximum of 60% of the total book value of Pool A may be invested in equities and alternative investments.
Spending Policy	Investment income (interest, dividends, and capital gains) is deposited as prescribed by statute.

RVK

Legislative Stabilization Reserve Account (LSRA)

	Legislative Stabilization Reserve Account (LSRA)
Investment Objective	To obtain the highest possible return while seeking to preserve the balance of the account necessary to address potential budget shortfalls or a structural budget deficit.
Investment Constraints	• This fund dispenses income and capital gains. • LSRA will be invested in 2 different pools, as detailed below • To the extent funds are available and prior to making any other investments, $500 million shall be invested in the short-term reserve.
Structure	• 2 separate pools: Long-Term and Short-Term • Long-term Reserve is invested in the Liquid Reserves asset allocation (liquid, balanced growth).

Asset Allocation Modeling

Long-Term Permanent Funds

Efficient Allocations: Combined PF

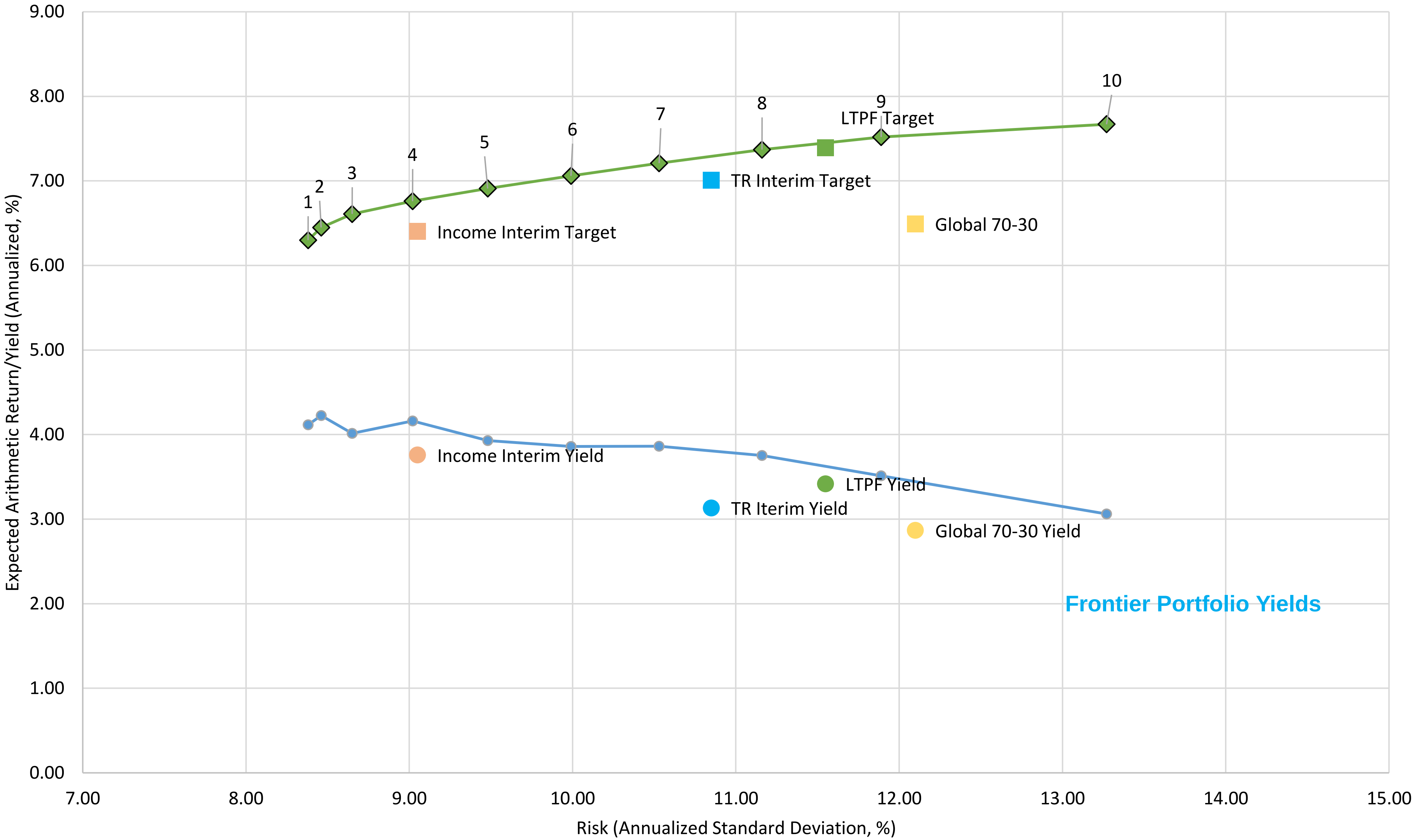
	Min	Max	1	2	3	4	5	6	7	8	9	10	LTPF Target	TR Interim Target	Income Interim Target	Global 70-30
Broad US Equity	**8**	**30**	16	11	8	8	8	8	8	8	10	14	10.0	12.0	11.0	40.0
Small Cap US Equity	**0**	**10**	0	0	0	0	0	0	0	2	2	4	2.0	3.0	2.0	0.0
Broad International Equity	**8**	**30**	8	8	8	11	12	12	12	14	19	26	16.0	19.0	17.0	30.0
MLPs	**0**	**6**	3	6	3	4	2	3	6	6	6	6	5.0	5.0	7.0	0.0
Private Equity	**0**	**15**	0	2	8	9	13	15	15	15	15	15	15.0	11.0	1.0	0.0
Custom Emerging Markets Debt	**0**	**5**	5	5	5	5	4	5	5	5	1	0	4.0	5.0	7.0	0.0
Private Credit	**0**	**10**	10	10	10	10	10	10	10	10	10	10	10.0	3.0	3.0	0.0
US Agg Fixed Income	**10**	**25**	25	25	25	25	25	21	16	12	10	10	10.0	12.0	13.0	30.0
Low Duration Fixed Income	**0**	**0**	0	0	0	0	0	0	0	0	0	0	0.0	6.0	12.0	0.0
Core Real Estate	**5**	**8**	8	8	8	8	6	6	8	8	7	5	7.0	6.0	9.0	0.0
Non-Core Real Estate	**0**	**5**	5	5	5	5	5	5	5	5	5	5	5.0	5.0	4.0	0.0
Private Core Infrastructure	**0**	**5**	5	5	5	5	5	5	5	5	5	0	5.0	2.0	3.0	0.0
Bank Loans	**0**	**5**	5	5	5	5	5	5	5	5	5	0	3.0	3.0	3.0	0.0
Custom Hedge Funds	**5**	**10**	10	10	10	6	5	5	5	5	5	5	8.0	8.0	8.0	0.0
Total			**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Total Equity			**27**	**27**	**27**	**32**	**35**	**38**	**41**	**45**	**52**	**65**	**48.0**	**50.0**	**38.0**	**70.0**
Total Growth Assets			**42**	**42**	**42**	**47**	**49**	**53**	**56**	**60**	**63**	**75**	**62.0**	**58.0**	**48.0**	**70.0**
Total Capital Preservation			**25**	**25**	**25**	**25**	**25**	**21**	**16**	**12**	**10**	**10**	**10.0**	**18.0**	**25.0**	**30.0**
Total Real Assets			**18**	**18**	**18**	**18**	**16**	**16**	**18**	**18**	**17**	**10**	**17.0**	**13.0**	**16.0**	**0.0**
Total Inflation Assets			**23**	**23**	**23**	**23**	**21**	**21**	**23**	**23**	**22**	**10**	**20.0**	**16.0**	**19.0**	**0.0**
Total Alpha Assets			**10**	**10**	**10**	**6**	**5**	**5**	**5**	**5**	**5**	**5**	**8.0**	**8.0**	**8.0**	**0.0**
Total Illiquid Assets			**28**	**30**	**36**	**37**	**39**	**41**	**43**	**43**	**42**	**35**	**42.0**	**27.0**	**20.0**	**0.0**
Expected Arithmetic Return			**6.30**	**6.45**	**6.61**	**6.76**	**6.91**	**7.06**	**7.21**	**7.37**	**7.52**	**7.67**	**7.39**	**7.01**	**6.40**	**6.49**
Expected Risk (Standard Deviation)			**8.38**	**8.46**	**8.65**	**9.02**	**9.48**	**9.99**	**10.53**	**11.16**	**11.89**	**13.27**	**11.55**	**10.85**	**9.05**	**12.10**
Expected Compound Return			**5.97**	**6.12**	**6.26**	**6.38**	**6.49**	**6.60**	**6.70**	**6.79**	**6.87**	**6.86**	**6.77**	**6.46**	**6.02**	**5.81**
Expected Return (Arithmetic)/Risk Ratio			0.75	0.76	0.76	0.75	0.73	0.71	0.68	0.66	0.63	0.58	0.64	0.65	0.71	0.54
RVK Expected Eq Beta (LCUS Eq = 1)			0.46	0.46	0.46	0.48	0.50	0.53	0.56	0.60	0.64	0.74	0.62	0.60	0.50	0.73
RVK Liquidity Metric (T-Bills = 100)			59	56	52	53	52	50	49	49	51	58	49	60	66	91
Total Fixed Income			45	45	45	45	44	41	36	32	26	20	27	29	38	30
Estimated Yield (12/31/24)			4.12	4.23	4.01	4.16	3.93	3.86	3.86	3.75	3.51	3.06	3.42	3.13	3.76	2.87

Group constraints: (i) Total US equity must be at least 60% of total public equity. (ii) US Small Cap equity may not exceed 20% of total US equity.
Interim targets represent 12/1/2024 targets.

RVK

Efficient Frontier: Combined PF

Expected Return & Risk



Monte Carlo: Combined PF

The table below shows the expected nominal return by percentile for each portfolio on Frontier 1 for the 1, 3, 5, and 10 year periods.

1 Year	1	2	3	4	5	6	7	8	9	10	LTPF Target	TR Interim Target	Income Interim Target	Global 70-30
1st Percentile	-12.78	-12.05	-13.08	-13.96	-15.96	-17.31	-17.51	-19.12	-21.16	-26.11	-20.75	-21.44	-16.10	-28.70
5th Percentile	-6.22	-5.87	-6.55	-7.14	-8.32	-9.10	-9.39	-10.50	-11.87	-14.68	-11.46	-11.44	-7.98	-15.70
25th Percentile	1.22	1.41	1.30	1.12	0.81	0.53	0.37	0.04	-0.38	-1.43	-0.29	-0.45	0.55	-2.25
50th Percentile	**5.96**	**6.08**	**6.23**	**6.34**	**6.47**	**6.62**	**6.75**	**6.87**	**6.99**	**7.06**	**6.88**	**6.57**	**6.14**	**6.34**
75th Percentile	11.02	11.12	11.60	12.04	12.78	13.24	13.57	14.28	15.08	16.48	14.69	14.31	12.17	15.46
95th Percentile	18.61	18.53	19.55	20.53	22.19	23.28	24.12	25.51	27.31	30.84	26.60	26.06	21.00	29.79
99th Percentile	24.42	24.23	25.87	27.31	29.74	31.42	32.70	34.70	37.27	42.29	36.31	35.25	27.82	40.60
3 Years														
5th Percentile	-1.55	-1.22	-1.54	-1.87	-2.69	-3.22	-3.39	-4.02	-4.89	-6.98	-4.67	-4.94	-2.72	-7.94
25th Percentile	3.01	3.16	3.15	3.07	2.88	2.77	2.71	2.56	2.29	1.61	2.32	2.16	2.58	0.55
50th Percentile	**5.82**	**5.95**	**6.12**	**6.22**	**6.34**	**6.46**	**6.53**	**6.65**	**6.76**	**6.81**	**6.68**	**6.41**	**5.90**	**5.73**
75th Percentile	8.74	8.81	9.20	9.48	9.94	10.29	10.51	10.92	11.33	12.12	11.12	10.83	9.35	11.17
95th Percentile	12.97	12.99	13.63	14.22	15.19	15.90	16.29	17.08	18.06	19.86	17.62	17.17	14.33	19.04
5 Years														
5th Percentile	0.05	0.32	0.10	-0.11	-0.67	-1.01	-1.11	-1.64	-2.31	-3.82	-2.17	-2.35	-0.87	-5.21
25th Percentile	3.57	3.76	3.77	3.73	3.56	3.49	3.51	3.40	3.18	2.59	3.17	2.92	3.27	1.58
50th Percentile	**5.82**	**5.95**	**6.09**	**6.19**	**6.31**	**6.42**	**6.50**	**6.60**	**6.71**	**6.69**	**6.62**	**6.35**	**5.92**	**5.73**
75th Percentile	8.11	8.18	8.48	8.72	9.09	9.36	9.58	9.89	10.25	10.80	10.05	9.77	8.58	9.91
95th Percentile	11.46	11.50	12.03	12.50	13.24	13.83	14.24	14.92	15.65	17.02	15.28	14.85	12.49	15.99
10 Years														
5th Percentile	1.63	1.93	1.75	1.63	1.26	1.02	0.94	0.61	0.18	-1.00	0.24	-0.08	0.98	-2.44
25th Percentile	4.19	4.36	4.39	4.40	4.33	4.32	4.34	4.26	4.12	3.67	4.10	3.89	3.99	2.62
50th Percentile	**5.82**	**5.95**	**6.09**	**6.19**	**6.31**	**6.41**	**6.51**	**6.60**	**6.67**	**6.66**	**6.59**	**6.33**	**5.90**	**5.69**
75th Percentile	7.49	7.60	7.81	8.02	8.31	8.54	8.70	8.96	9.23	9.67	9.06	8.81	7.87	8.76
95th Percentile	9.78	9.85	10.24	10.60	11.16	11.59	11.87	12.35	12.91	13.88	12.62	12.28	10.58	13.03

***Investment Policy Guidelines: Total portfolio risk should be managed with a goal of avoiding annual losses greater than 22% with a 99% confidence level.**

Monte Carlo: Combined PF

The table below shows the **percentage** chance of achieving or exceeding the given real return for each portfolio on Frontier 1 for the 1, 3, 5, and 10 year periods.

1 Year	1	2	3	4	5	6	7	8	9	10	LTPF Target	TR Interim Target	Income Interim Target	Global 70-30
Target 3%	52	53	54	54	54	54	55	55	55	55	55	54	53	52
Target 4%	47	47	48	49	49	50	51	51	51	52	51	50	48	50
Target 5%	41	42	43	44	45	46	47	47	48	48	47	47	43	46
3 Years	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Target 3%	52	54	55	56	56	57	57	57	57	56	57	55	53	51
Target 4%	43	44	46	47	48	49	50	51	51	51	51	49	45	46
Target 5%	34	35	37	38	40	42	43	44	45	46	44	42	37	41
5 Years	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Target 3%	53	55	56	57	58	58	58	59	59	57	58	56	54	51
Target 4%	41	43	45	46	48	49	50	50	51	51	50	48	43	45
Target 5%	30	31	34	36	38	40	41	42	44	44	43	40	34	39
10 Years	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Target 3%	54	57	59	60	60	61	62	62	62	60	62	59	55	51
Target 4%	38	40	42	45	46	48	49	50	51	51	50	47	41	42
Target 5%	24	25	28	30	33	35	37	39	40	41	39	36	28	34

RVK

Asset Allocation Modeling

Liquid Reserves

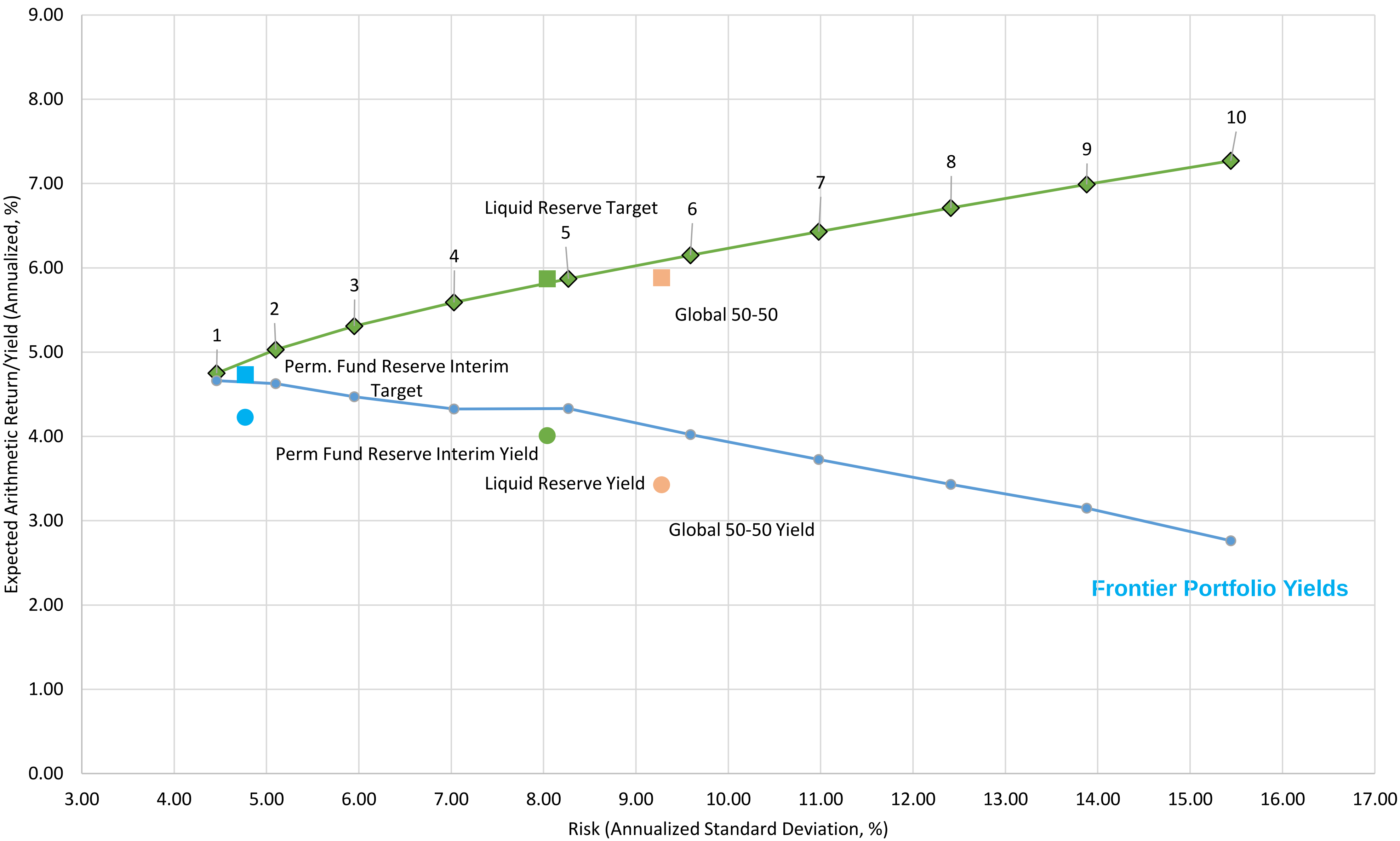
Efficient Allocations: Reserve Funds

	Min	Max	1	2	3	4	5	6	7	8	9	10	Liquid Reserve Target	Perm. Fund Reserve Interim Target	Global 50-50
Broad US Equity	0	40	0	1	5	10	16	20	25	30	35	40	11.0	6.0	30.0
Small Cap US Equity	0	15	0	0	1	2	4	5	6	7	9	10	3.0	2.0	0.0
Broad International Equity	0	40	0	1	4	8	13	17	21	25	29	33	13.0	7.0	20.0
MLPs	0	6	2	6	6	6	6	6	6	6	6	6	6.0	3.0	0.0
Custom Emerging Markets Debt	0	8	8	8	8	8	8	8	8	8	8	6	8.0	4.0	0.0
US Agg Fixed Income	0	60	60	60	60	54	49	39	29	19	9	0	44.0	22.0	50.0
Low Duration Fixed Income	0	15	15	8	1	0	0	0	0	0	0	0	0.0	49.0	0.0
Bank Loans	0	5	5	5	5	5	5	5	5	5	5	5	5.0	3.0	0.0
Custom Hedge Funds	0	10	10	10	10	7	0	0	0	0	0	0	10.0	5.0	0.0
Total			**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Total Equity			**2**	**8**	**16**	**26**	**39**	**48**	**58**	**68**	**79**	**89**	**33.0**	**18.0**	**50.0**
Total Growth Assets			**10**	**16**	**24**	**34**	**47**	**56**	**66**	**76**	**87**	**95**	**41.0**	**22.0**	**50.0**
Total Capital Preservation			**75**	**68**	**61**	**54**	**49**	**39**	**29**	**19**	**9**	**0**	**44.0**	**71.0**	**50.0**
Total Inflation Assets			**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5.0**	**3.0**	**0.0**
Total Alpha Assets			**10**	**10**	**10**	**7**	**0**	**0**	**0**	**0**	**0**	**0**	**10.0**	**5.0**	**0.0**
Total Illiquid Assets			**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**3**	**0**
Expected Arithmetic Return			**4.75**	**5.03**	**5.31**	**5.59**	**5.87**	**6.15**	**6.43**	**6.71**	**6.99**	**7.27**	**5.87**	**4.73**	**5.88**
Expected Risk (Standard Deviation)			**4.46**	**5.10**	**5.95**	**7.03**	**8.27**	**9.59**	**10.98**	**12.41**	**13.88**	**15.44**	**8.04**	**4.77**	**9.28**
Expected Compound Return			**4.66**	**4.91**	**5.14**	**5.36**	**5.55**	**5.72**	**5.87**	**6.00**	**6.10**	**6.18**	**5.57**	**4.62**	**5.48**
Expected Return (Arithmetic)/Risk Ratio			1.06	1.01	0.91	0.82	0.74	0.67	0.62	0.57	0.54	0.48	0.89	0.86	0.75
RVK Expected Eq Beta (LCUS Eq = 1)			0.12	0.20	0.26	0.33	0.42	0.51	0.61	0.70	0.79	0.95	0.32	0.34	0.41
RVK Liquidity Metric (T-Bills = 100)			77	78	75	75	76	77	77	78	79	90	70	66	80
Total Fixed Income			88	81	74	67	62	52	42	32	22	11	57	78	50
Estimated Yield (12/31/24)			4.66	4.63	4.47	4.33	4.33	4.02	3.73	3.43	3.15	2.76	4.01	4.23	3.43

Group constraints: (i) Total US equity must be at least 50% of total public equity. (ii) US Small Cap equity may not exceed 20% of total US equity.
Interim targets represent 3/1/2024 targets.

Efficient Frontier: Reserve Funds

Expected Return & Risk



Monte Carlo: Reserve Funds

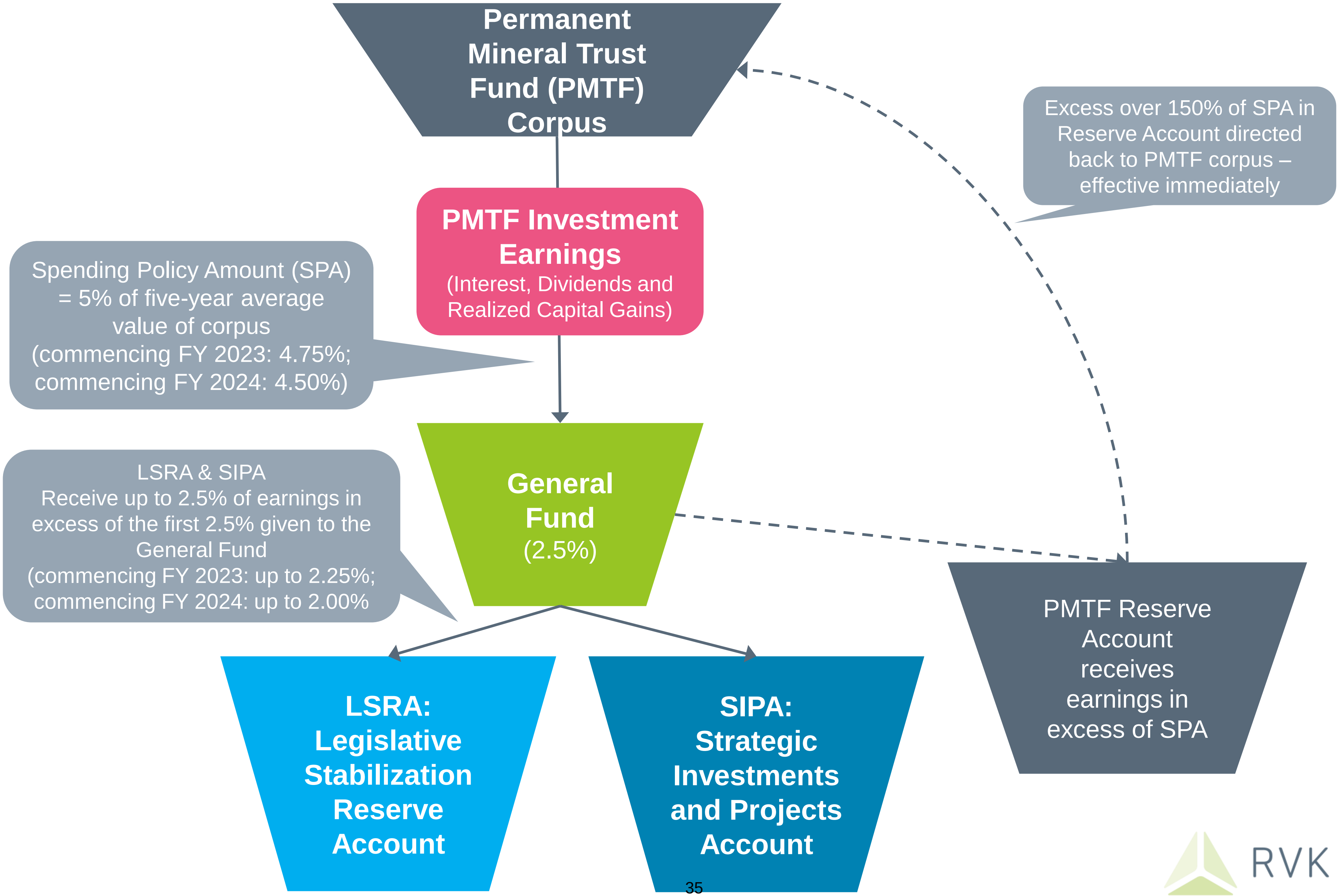
The table below shows the expected nominal return by percentile for each portfolio on Frontier 1 for the 1, 3, 5, and 10 year periods.

1 Year	1	2	3	4	5	6	7	8	9	10	Liquid Reserve Target	Perm. Fund Reserve Interim Target	Global 50-50
1st Percentile	-5.92	-6.93	-9.46	-12.99	-16.75	-21.58	-26.60	-31.36	-36.07	-40.96	-16.61	-8.70	-21.83
5th Percentile	-2.42	-2.91	-4.18	-6.10	-8.33	-10.62	-13.07	-15.57	-18.21	-20.96	-7.57	-3.94	-11.12
25th Percentile	1.76	1.71	1.42	0.84	0.11	-0.56	-1.26	-2.05	-2.80	-3.65	0.48	1.20	-0.90
50th Percentile	**4.70**	**5.02**	**5.35**	**5.63**	**5.85**	**6.09**	**6.36**	**6.62**	**6.97**	**7.26**	**5.93**	**4.74**	**5.76**
75th Percentile	7.75	8.32	9.18	10.30	11.58	12.96	14.37	15.77	17.19	18.68	11.38	8.29	12.70
95th Percentile	12.04	13.03	14.74	17.23	20.19	23.05	26.17	29.20	32.45	35.93	19.46	13.38	23.02
99th Percentile	14.96	16.62	19.01	22.62	26.85	31.00	35.42	40.19	44.52	49.54	25.71	17.32	31.28
3 Years													
5th Percentile	0.56	0.32	-0.38	-1.55	-2.90	-4.41	-5.98	-7.66	-9.39	-11.30	-2.58	-0.44	-4.78
25th Percentile	3.01	3.04	3.01	2.77	2.35	1.99	1.56	1.05	0.48	-0.17	2.60	2.66	1.66
50th Percentile	**4.74**	**4.96**	**5.22**	**5.46**	**5.69**	**5.89**	**6.09**	**6.30**	**6.46**	**6.59**	**5.77**	**4.68**	**5.56**
75th Percentile	6.38	6.82	7.42	8.18	8.96	9.79	10.64	11.49	12.31	13.16	8.87	6.68	9.49
95th Percentile	8.86	9.60	10.59	12.08	13.76	15.49	17.27	19.10	20.88	22.78	13.36	9.57	15.20
5 Years													
5th Percentile	1.41	1.29	0.78	-0.09	-1.20	-2.44	-3.71	-5.08	-6.67	-8.42	-0.88	0.60	-2.79
25th Percentile	3.36	3.48	3.49	3.28	3.01	2.71	2.33	1.92	1.47	0.94	3.20	3.09	2.34
50th Percentile	**4.66**	**4.93**	**5.20**	**5.45**	**5.63**	**5.86**	**6.03**	**6.19**	**6.27**	**6.37**	**5.69**	**4.66**	**5.49**
75th Percentile	6.03	6.41	6.91	7.51	8.15	8.85	9.55	10.18	10.83	11.49	8.13	6.22	8.52
95th Percentile	7.95	8.58	9.43	10.64	11.97	13.40	14.72	16.19	17.60	19.06	11.71	8.54	13.09
10 Years													
5th Percentile	2.34	2.35	2.06	1.50	0.71	-0.10	-1.04	-2.17	-3.43	-4.79	0.97	1.79	-0.42
25th Percentile	3.75	3.90	3.94	3.85	3.67	3.49	3.23	2.92	2.56	2.11	3.82	3.52	3.13
50th Percentile	**4.69**	**4.96**	**5.20**	**5.40**	**5.56**	**5.70**	**5.84**	**5.95**	**5.99**	**5.99**	**5.62**	**4.66**	**5.39**
75th Percentile	5.63	5.98	6.41	6.91	7.41	7.92	8.43	8.94	9.42	9.89	7.39	5.77	7.61
95th Percentile	6.99	7.48	8.21	9.13	10.12	11.13	12.16	13.24	14.36	15.41	9.96	7.39	10.87

RVK

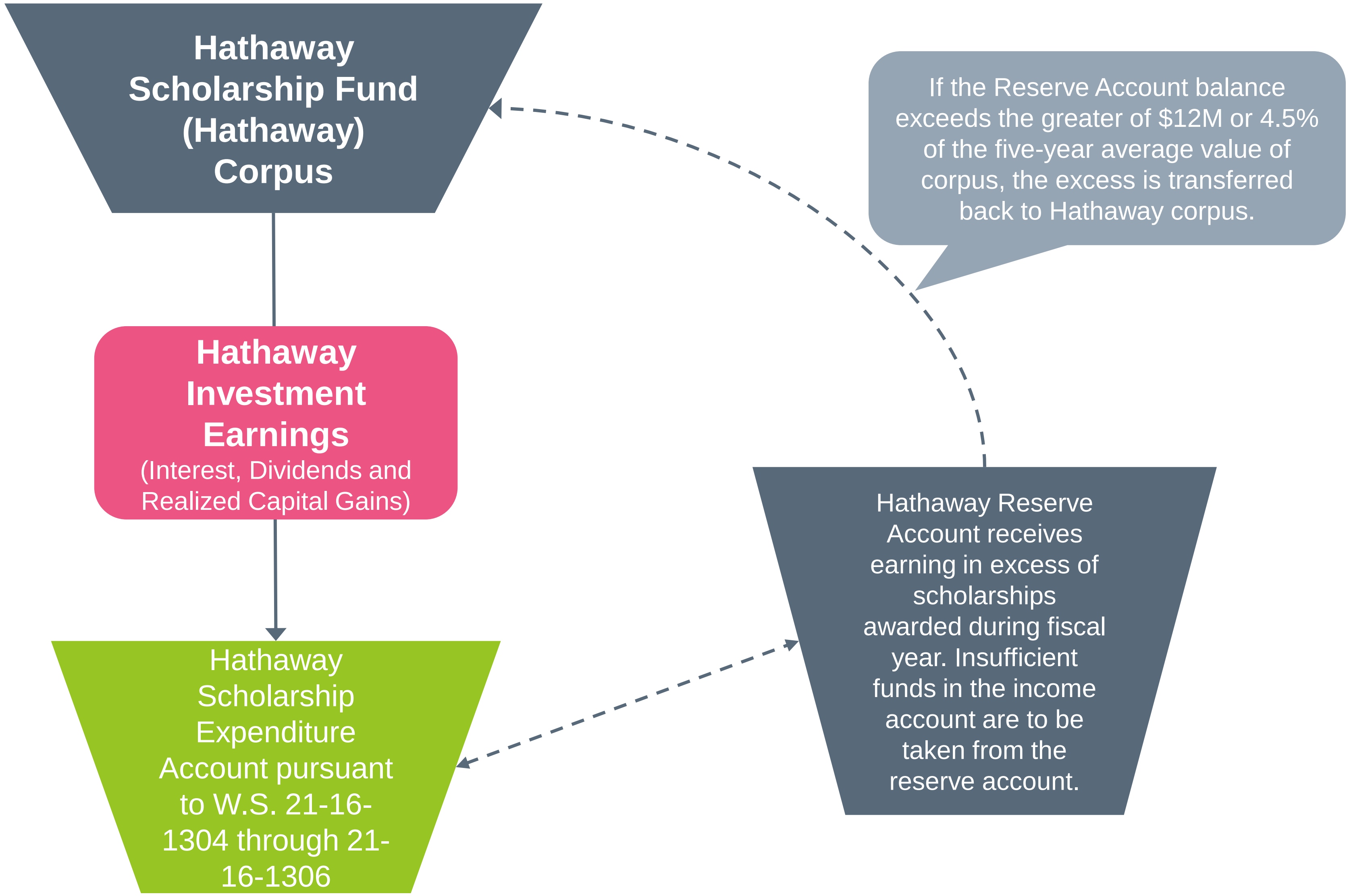
Appendix: Spending Policy Mechanics

Permanent Mineral Trust Fund Spending Policy

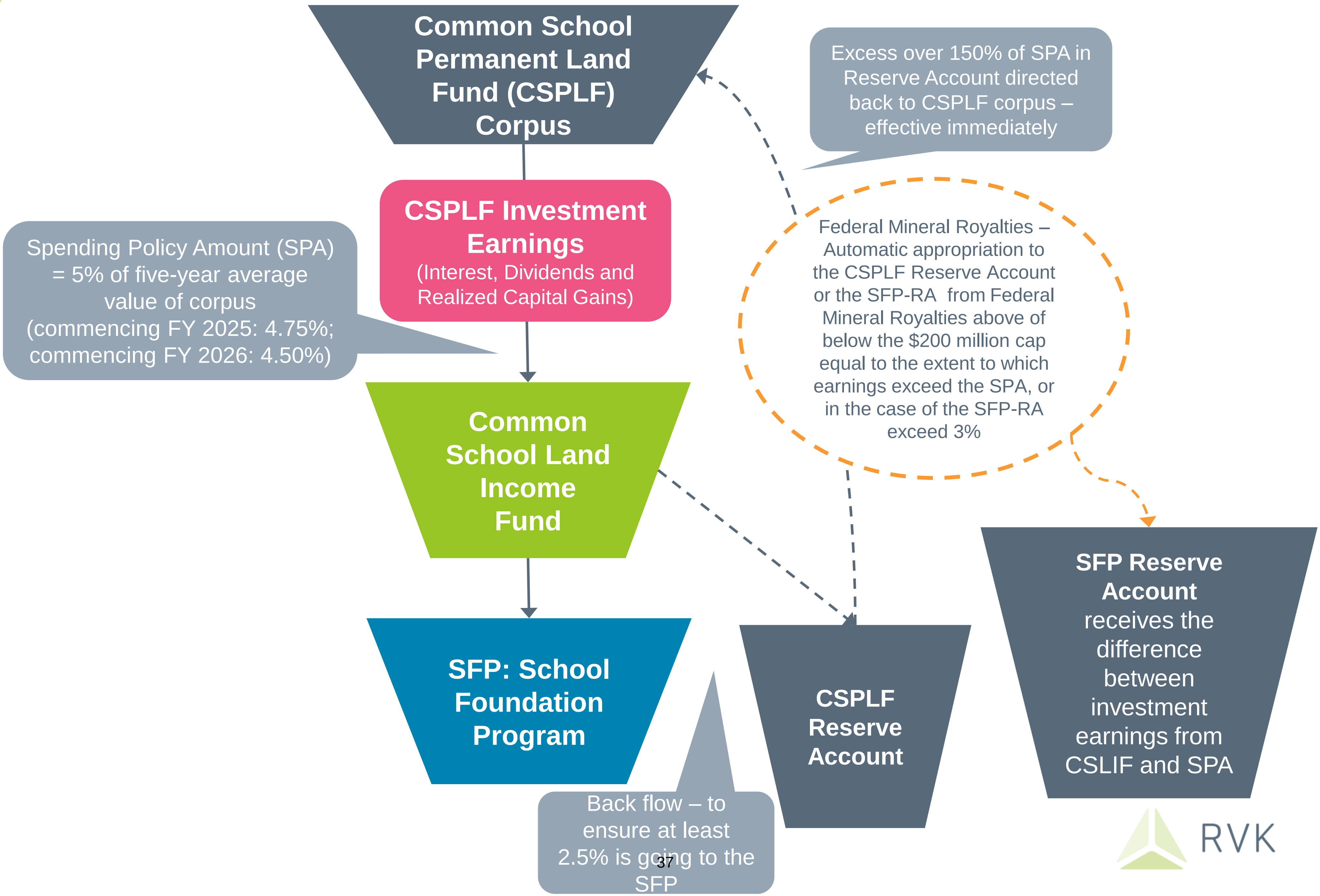


RVK

Hathaway Scholarship Fund Spending Policy

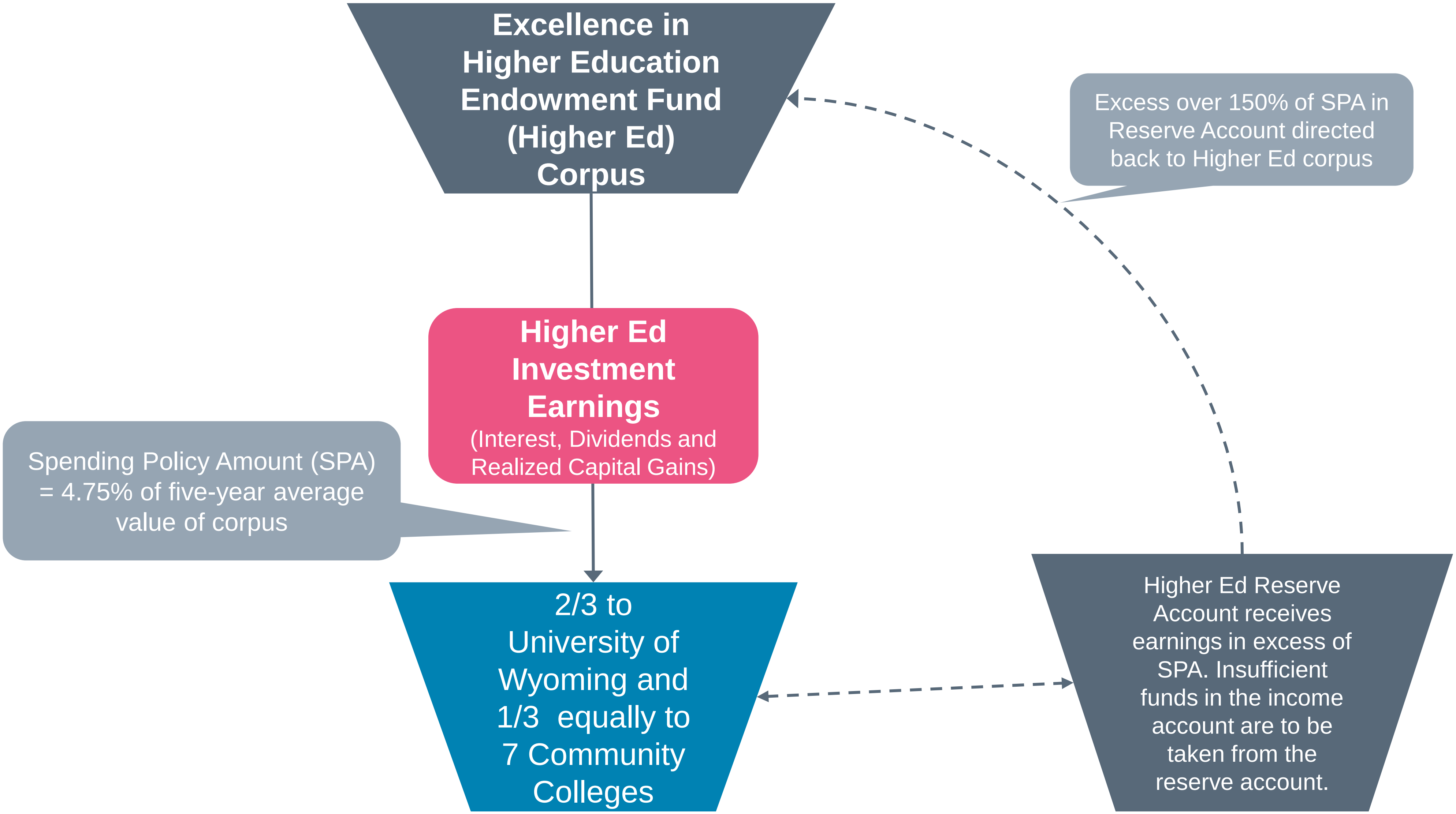


Common School Permanent Land Fund Spending Policy



RVK

Higher Education Endowment Fund Spending Policy



RVK