PUBLIC FUND INVESTMENT BOOT CAMP

1) What is the first analysis that should be done when managing a public fund operating portfolio?

a) Technical Analysis
b) Interest Rate Analysis
c) Cash Flow Analysis
d) Credit Analysis

PUBLIC FUND INVESTMENT BOOT CAMP

2) Callable bonds generally outperform (produce more investment income) over the long run in which rate environment?

a) Rates Up
b) Rates Down
c) Rates Unchanged
d) All of the Above

CDIAC

PUBLIC FUND INVESTMENT BOOT CAMP

3) Which type of return/benchmarking performance is best to express the realized income your entity received?

a) Book Return
b) Total Return
c) Weighted Book Yield

LEVERAGING AVAILABLE DATA AND TECHNOLOGY

DON'T LET ACCOUNTING PRACTICES HAMSTRING YOUR PORTFOLIO

1) If two securities in your portfolio, same par value, same coupon dates, have different day counts, the daily interest accrual for each security will be:

a) The same
b) Different
c) Day count doesn't impact accrual
d) Not enough info to determine

CDIAC

DON'T LET ACCOUNTING PRACTICES HAMSTRING YOUR PORTFOLIO

2) If a municipal entity chooses a modified accrual method, purchase interest accrued is usually counted against current month earnings. Offsetting purchase accrued with current month earnings could:

a) Lead to a positive increase
b) Smooth out return numbers
c) Create negative income for the month
d) Is the primary reason to buy secondary issues

DURATION AND ASSET/LIABILITY MANAGEMENT (ALM): A PRACTICAL APPROACH, THEORY AND CASE STUDY

1. In determining the duration of a portfolio strategy to ensure adequate liquidity, the core component is:

    a) Following your Investment Policy
    b) Cash Flow Immunization
    c) Market dynamics
    d) Asset sector selection

CDIAC

DURATION AND ASSET/LIABILITY MANAGEMENT (ALM): A PRACTICAL APPROACH, THEORY AND CASE STUDY

2. What is the benefit of using a cash flow based/ALM approach to developing portfolio strategy:

a) Uses simple methods by utilizing a single/multiple indices that are easily observed

b) Captures the alpha that makes for a successful total return strategy

c) Uses an institution's actual cash flow data to measure future liabilities and derive a duration

CDIAC

Buy & Hold versus Total Return Strategy: A Brief Overview

1) The characteristics of a Buy and Hold Investment strategy in managing publics funds are:

a) Securities are purchased to immunize portfolio cash outflows
b) Produces stable investment returns
c) Requires fewer resources and is relatively easy to implement and monitor
d) Emphasis is on optimizing portfolio earnings not portfolio growth
e) All of the above

CDIAC

Buy & Hold versus Total Return Strategy: A Brief Overview

2) The characteristics of a Total Return Strategy in managing public funds are:

a) Emphasis is focused on taking advantage of market inefficiencies and price appreciation after liquidity needs are satisfied
b) Requires substantial resources and market sophistication
c) Portfolio needs to able to take losses
d) Returns can be very volatile
e) All of the above

Overview of Day One: Critical Considerations for Portfolio Management

Questions??????

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CDIAC

CHANDLER ASSET MANAGEMENT

CDIAC and CMTA

Advanced Public Funds Investing Case Study

January 26, 2023

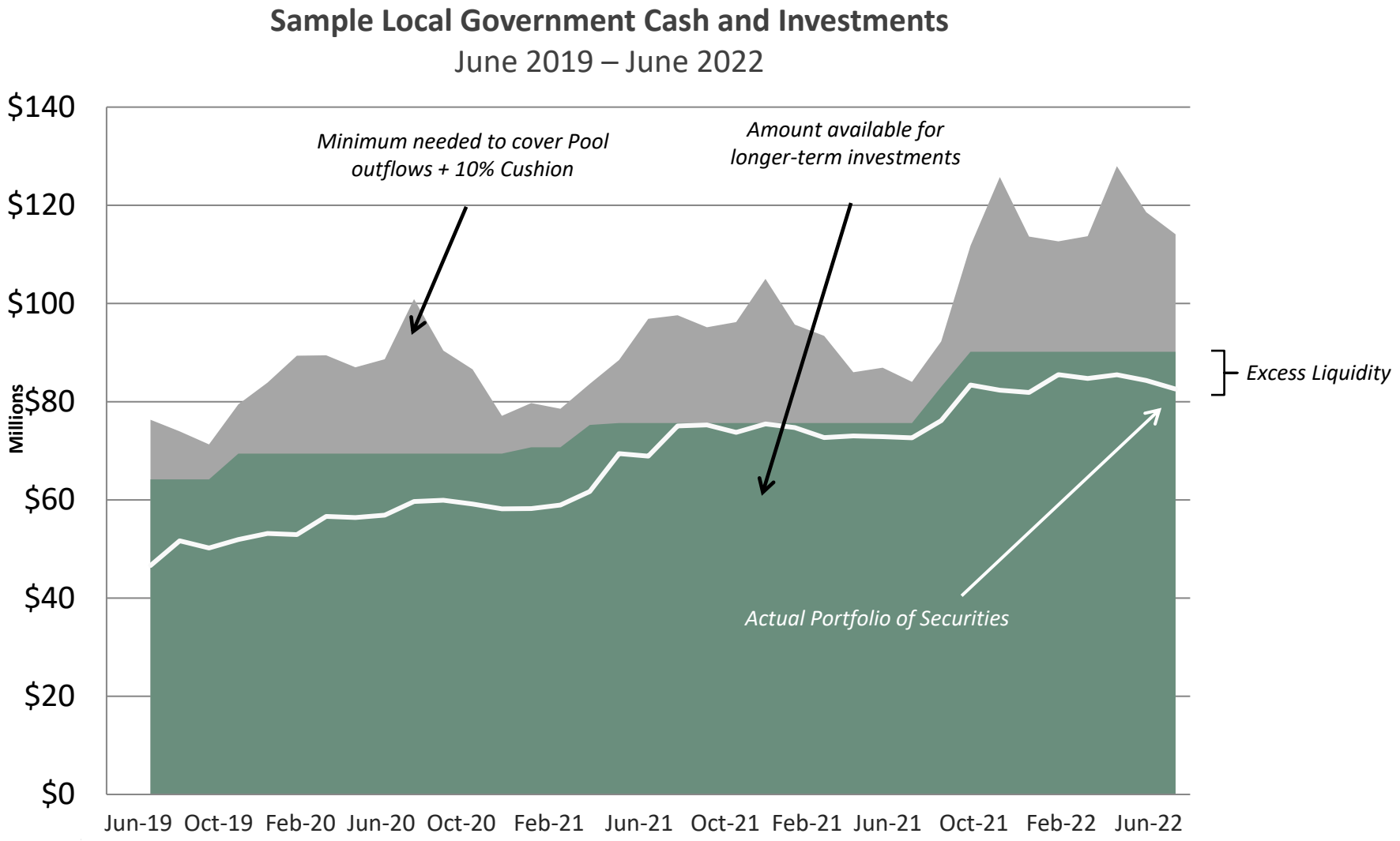
Karl Meng
Portfolio Strategist

Carlos Oblites
Senior Portfolio Strategist

Approach to Building an Optimal Investment Program

Steps to building an investment program

Historical Balances - Statistical Analysis



This sample illustration is being provided to demonstrate the tools on how we analyze cash balances. Please see disclosures at the end of this presentation.

Segmenting the Portfolio for Optimal Structure

Liquid Funds

- Local Government Investment Pool (LGIP)
- Matching maturities to known expenditures
  - Common money market instruments
    - Agency Discount Notes
    - Commercial Paper
    - Certificates of Deposit

Long Term Funds

- Target generally to a higher duration to enhance the potential to increase earnings
  - Invest in all securities allowed by Code and the Agency's policy, such as:
    - U.S. Treasury Securities
    - U.S. Agency Securities
    - High-Grade Credit

Portfolio Management Considerations

1. **What are the objectives of the investment program**

2. **What are the investment constraints**
   a. State Statutes and/or Code
   b. Investment Policy
   c. Government's risk tolerances
   d. Investment staff experience

3. **What strategies can be implemented that achieve stated objectives and are compliant with constraints**

Defining Investment Objectives

- **Safety?**
  - Preserve capital?
  - High credit quality?
  - Political considerations?
- **Liquidity?**
  - LAIF or other pools?
  - Short maturity investments?
  - Marketable securities?
- **Return?**
  - Earnings target?
  - Growth of portfolio?
  - Good relative performance?

Yield versus Total Return

1. **Yield**
    a. Snapshot in time earnings rate expressed on an annualized basis to measure future interest income earnings
    b. Assumes reinvestment at the same rate
    c. Presumes no changes in the portfolio

2. **Return**
    a. Measures value added to the portfolio over a specified period of time
    b. Book Return: includes **INTEREST INCOME** as well as **REALIZED** gains and losses
    c. Total Return: includes **INTEREST INCOME** as well as **REALIZED AND UNREALIZED** gains and losses

Strategies for Different Needs

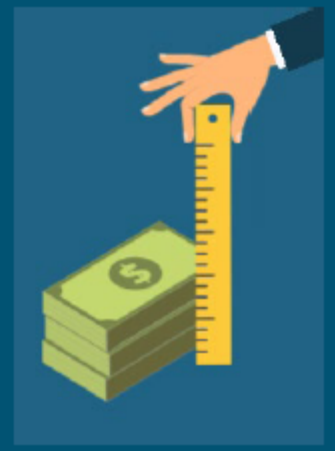
- **Liquid Funds Strategy**
  - Emphasis in increasing *interest income*
  - Generally designed to meet or surpass an earnings target
  - Mostly hold-to-maturity, but may include sales before maturity
- **Long-Term Funds Strategy**
  - Encompasses *interest income* as well as *fair value appreciation*.
  - Designed to grow the City's funds over time
  - Assumes periodic sales before maturity to rebalance the portfolio

Yield Focuses On Income

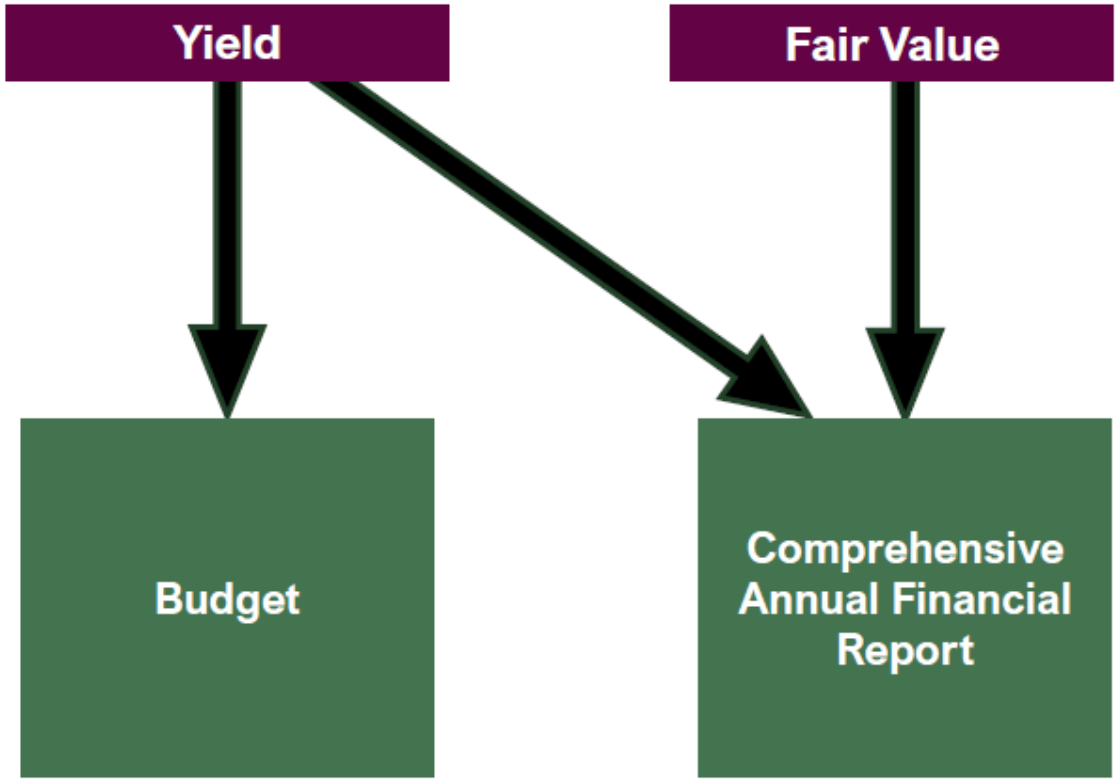
$$\text{Yield} = \frac{\text{Annual Income}}{\text{Investment Value}}$$

Return Includes Interest Income and Fair Value Appreciation

Yield + Fair Value Change = Return

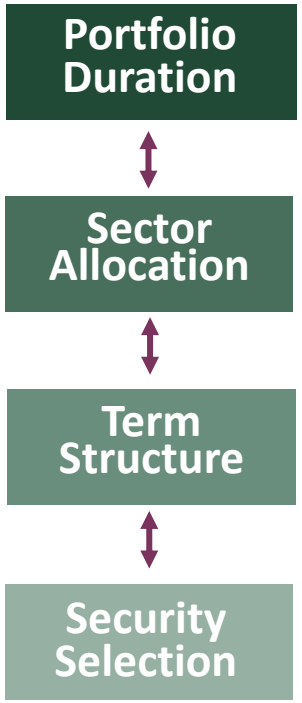


Fair Value Doesn't Necessarily Change Budgets But Definitely Moves Financial Position



Adding Value and Controlling Risk

Four Key Elements of Investing Fixed-Income Funds



Constraining portfolio duration relative to the benchmark

Strategic allocations to key sectors, with value-based rotation

Positioning securities along the yield curve to capture value across maturities

Selecting bonds that are undervalued and offer the greatest potential for risk-adjusted return

External Factors

1. **Economic Environment**
   a. Expanding/contracting
   b. Employment
   c. Inflation
   d. Monetary Policy
   e. Fiscal Policy

2. **Market Environment**
   a. Shape of yield curve
   b. Interest rate expectations
   c. Spread analysis

3. **Global Environment**
   a. Economic
   b. Markets
   c. Geo-political

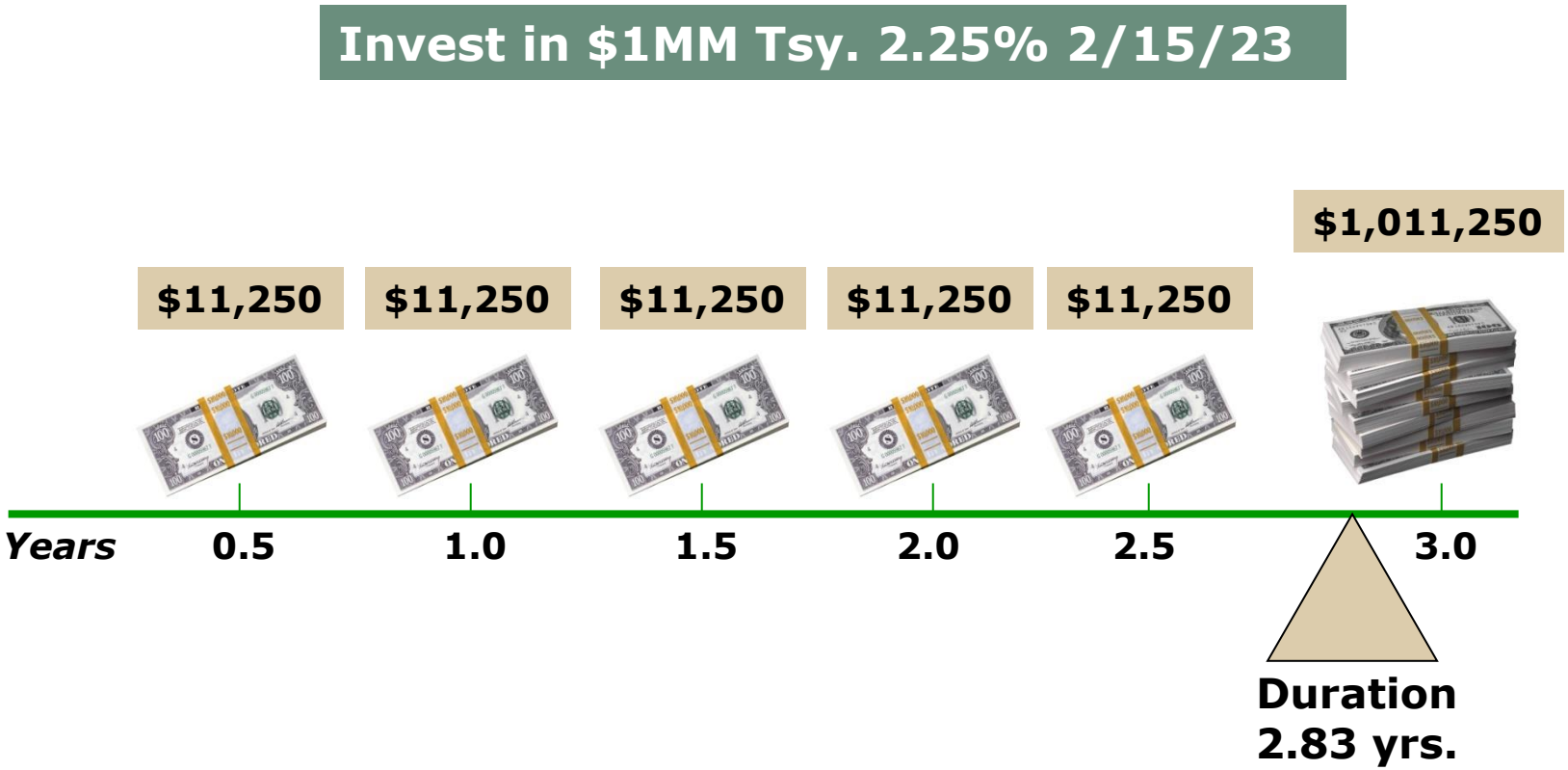
Active Management Portfolio Strategy

1. **Interest rate analysis**
   a. Interest rate trend
   b. Shape of yield curve
   c. Direction of yield curve (e.g. steepening; flattening, inverting)

2. **Selecting securities**
   a. Identify securities with good relative value
   b. Examine characteristics of bond
      - **Coupon, maturity, credit quality, options**
   c. Construct a portfolio that maximizes return/yield given a targeted level of risk

Duration

Measures price sensitivity of a bond to changes in interest rates



For illustrative purposes only. References to specific securities and their characteristics are examples of securities held in a portfolio managed by Chandler and are not intended to be, and should not be interpreted as an offer, solicitation, or recommendation to purchase or sell any financial instrument, an indication that the purchase of such securities was or will be profitable, or representative of the composition or performance of the portfolio. The information contained in this report is subject to change and obtained from sources we believe top be reliable, but we do not guarantee its accuracy. Past performance is not indicative of future success. Please see disclosures at the end of this presentation.

Impact of Duration

Portfolio #1: $50 million and 2.0 duration

- If rates **increase** 2.25%, then **($2,250,000) Loss**

  $50 million x 2 x 2.25% x -1 = $50 million x -4.5% = **($2,250,000)**

- If rates **decrease** 2.25%, then **$2,250,000 Gain**

  $50 million x 2 x 2.25% x 1 = $50 million x 4.5% = **2,250,000**

Portfolio 2 = $50 million and 1.0 duration

- If rates **increase** 2.25%, then **($1,125,000) Loss**

  $50 million x 1 x 2.25% x -1 = $50 million x -2.25% = **($1,125,000)**

- If rates **decrease** 2.25%, then **$1,125,000 Gain**

  $50 million x 1 x 2.25% x 1 = $50 million x 2.25% = **$1,125,000**

For illustrative purpose only; Please see disclosures at the end of this presentation.

Risk/Return Trade-off With Longer Duration Mandates

Annual Benchmark Study

Period Ending December 31, 2021

	ICE BofA 0-3 Yr US Treasury	ICE BofA 1-3 Yr US Treasury & Agency	ICE BofA 1-5 Yr US Treasury & Agency
0-6 months	13.50%		
6-12 months	17.03%		
1-3 years	69.47%	100.00%	62.17%
3-5 years			37.84%
5-10 years			
Treasury	100.00%	96.64%	96.58%
Agency		3.36%	3.42%
Corporate			
Modified Duration 12/31/2021	1.40	1.82	2.57
10 Year Annualized Total Return	0.99%	1.10%	1.35%
10 Year Standard Deviation	1.13%	1.28%	1.68%
Sharpe Ratio	0.32	0.37	0.43
Qualitative Risk Objective	**12/31/2001 – 12/31/2021**	**12/31/2002 – 12/31/2021**	**12/31/2001 – 12/31/2021**
Negative Quarterly Return Occurrences	13	14	19
2 Consecutive Negative Quarterly Return Occurrences	2	3	2
Negative Return For Year Occurrences	1	1	2
Worst Year Total Return	-0.37%	-0.55%	-1.09%

Source: ICE BofA Indices.

Index returns assume reinvestment of all distributions. Historical performance results for investment indexes generally do not reflect the deduction of transaction and/or custodial charges or the deduction of an investment management fee, the incurrence of which would have the effect of decreasing historical performance results. It is not possible to invest directly in an index. Please see disclosures at the end of this presentation.

Interest Rate Expectations

1. **Alter portfolio's duration (sensitivity to rate changes) based on interest rate forecast**
   a. Increase duration if rates are expected to fall and decrease duration if rates are expected to rise (relative to the benchmark)
   b. Degree to which the duration is permitted to diverge from the benchmark can be limited by the policy

2. **Portfolio is realigned through swapping to achieve duration target**

3. **Challenge: forecasting interest rates is very difficult. must be right on each of the following:**
   a. Direction
   b. Timing
   c. Magnitude

Yield Curve Strategies

1. **Position portfolio to capitalize on expected changes in the yield curve**

2. **The duration and spacing of the maturity of bonds will have a significant impact on the total rate of return (TRR) over a short horizon**

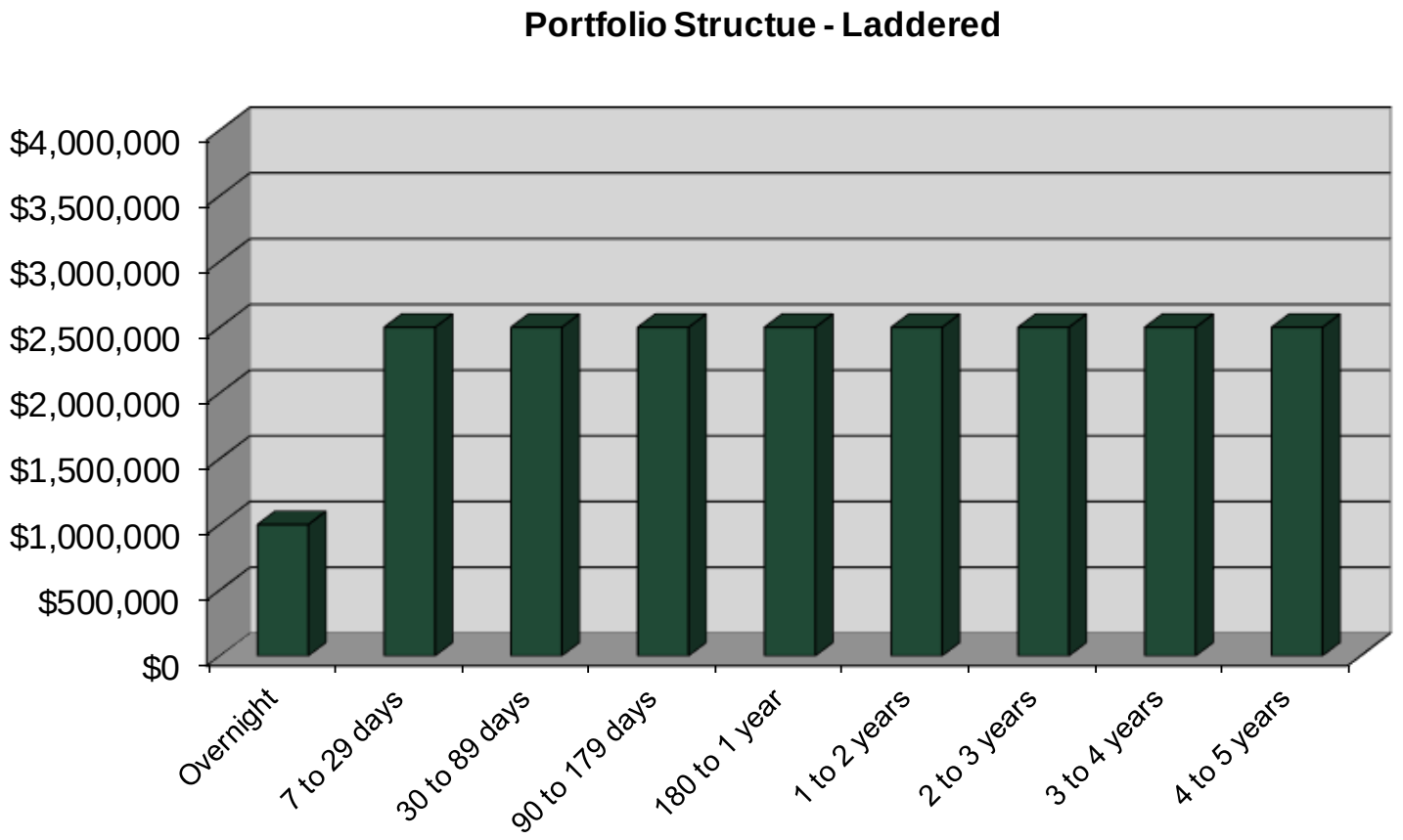
3. **Three Yield Curve Strategies**

   a. Bullet - maturity of the bonds in the portfolio are highly concentrated at one point on the curve

   b. Barbell - securities are concentrated at 2 extreme maturities

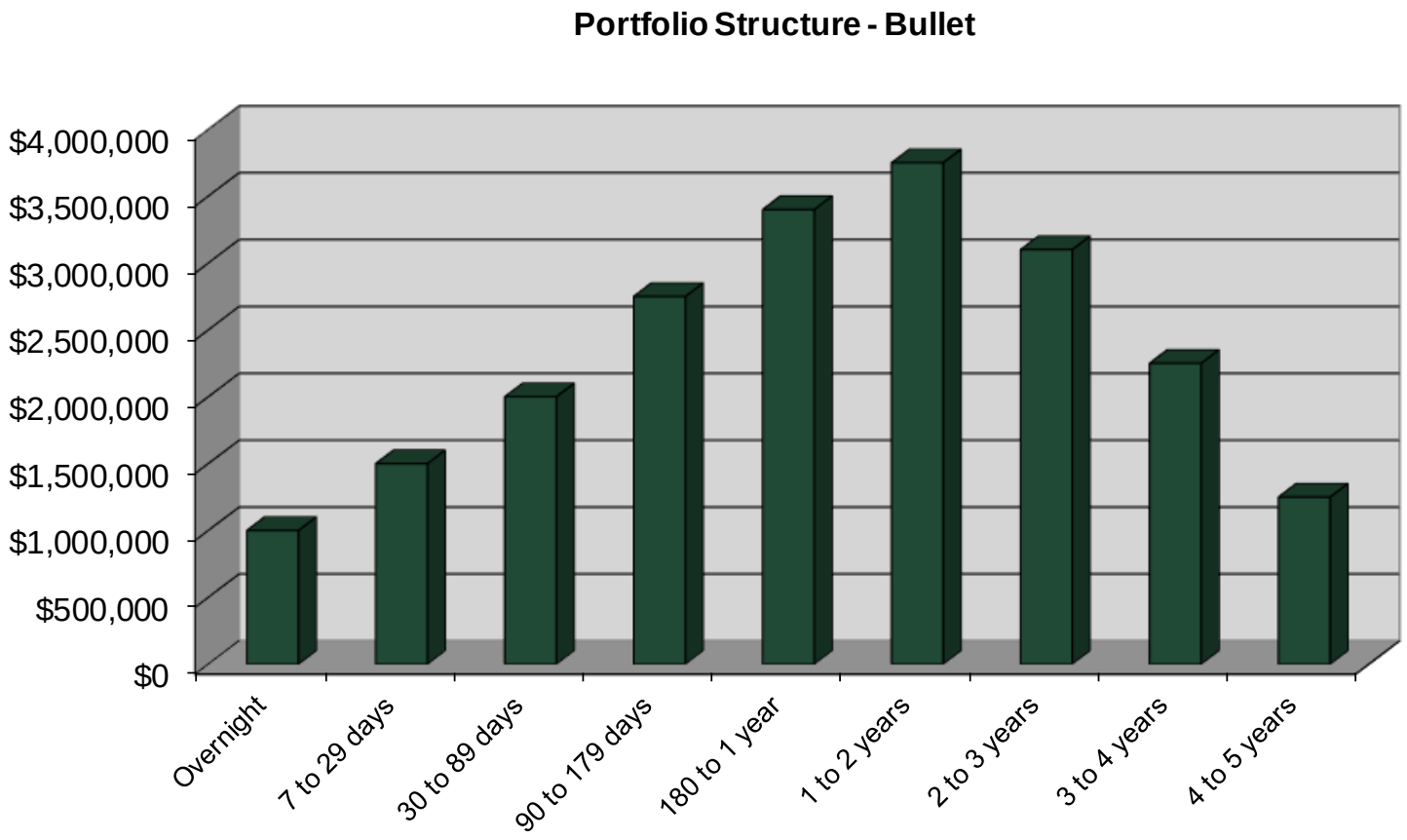
   c. Ladder - equal amounts at each maturity. For example, equal amounts maturing each month or quarter

Portfolio Structure—Ladder



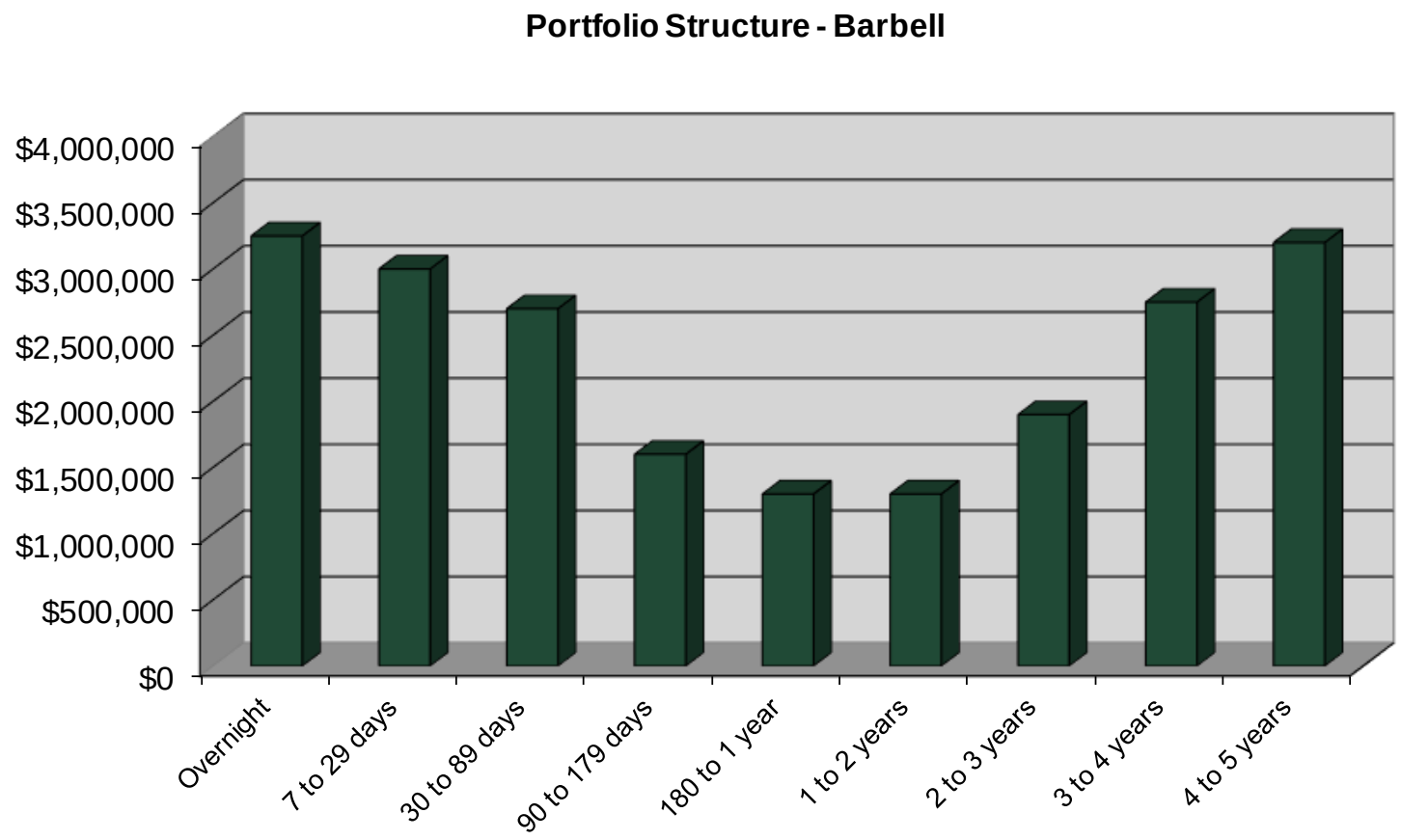
This sample illustration is being provided to demonstrate the Ladder portfolio structure.

Portfolio Structure—Bullet



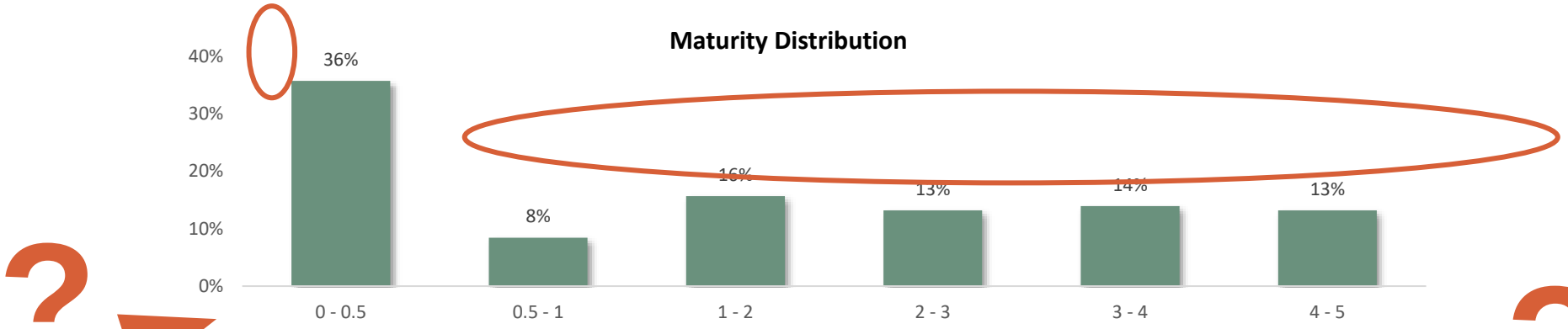
This sample illustration is being provided to demonstrate the Bullet portfolio structure.

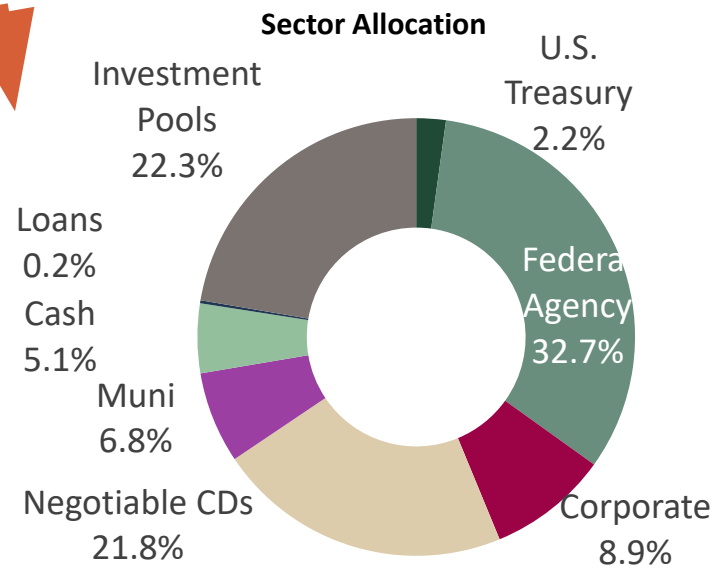
Portfolio Structure—Barbell

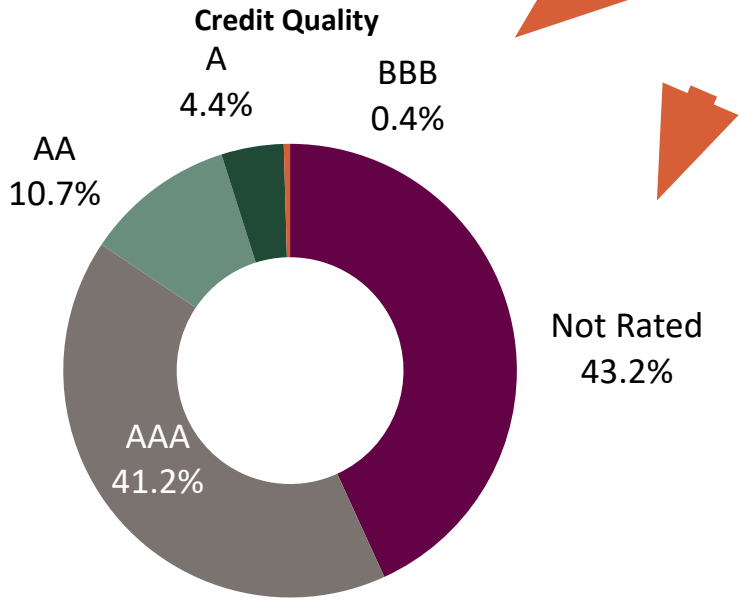


This sample illustration is being provided to demonstrate the Barbell portfolio structure.

Sample Portfolio—WWYD???







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Disclosure

The information herein is provided for informational purposes only and should not be construed as a recommendation of any security, strategy or investment product, nor an offer or solicitation for the purchase or sale of any financial instrument. References to asset classes, securities, portfolio structure, or strategies are for informational purposes and do not imply that managing portfolios with those securities will achieve comparable returns. Past performance is not indicative of future results. Unless otherwise noted, Chandler is the source of data contained in this presentation.

Index returns assume reinvestment of all distributions. Historical performance results for investment indexes generally do not reflect the deduction of transaction and/ or custodial charges or the deduction of an investment management fee, the incurrence of which would have the effect of decreasing historical performance results. It is not possible to invest directly in an index. Past performance is not indicative of future results.

Any forecasts, forward-looking statements and assumptions are inherently limited and should not be relied upon as an indicator of future results. Any opinions or views constitute judgements made by the author at the date of this presentation and may become outdated or suspended at any time without notice. Any statements concerning financial market trends are based on current market conditions, which will fluctuate.

Fixed income investments are subject to interest, credit and market risk. Interest rate risk: the value of fixed income investments will decline as interest rates rise. Credit risk: the possibility that the borrower may not be able to repay interest and principal. Low rated bonds generally have to pay higher interest rates to attract investors willing to take on greater risk. Market risk: the bond market in general could decline due to economic conditions, especially during periods of rising interest rates.

The California State Local Agency Investment Fund (LAIF) is an investment portfolio managed by the State Treasurer. All securities are purchased under the authority of Government Code Section 16430 and 16480.4 and include securities issued by entities of the US Government, including the US Treasury and Agencies, Corporate debt, Certificates of Deposit, Mortgage Backed Securities and certain loans to the State and state agencies. The average maturity of the Fund will be between 120 days and 18 months.

Disclosures

ICE BofA 0-3 Year US Treasury Index
The ICE BofA 0-3 Year US Treasury Index tracks the performance of US Dollar denominated Sovereign debt publicly issued by the US government in its domestic market with maturities less than three years. Qualifying securities must have at least 18 months to maturity at point of issuance, at least one month and less than three years remaining term to final maturity, a fixed coupon schedule, and a minimum amount outstanding of $1 billion.

ICE BofA 1-3 Year US Treasury & Agency Index
The ICE BofA 1-3 Year US Treasury & Agency Index tracks the performance of US dollar denominated US Treasury and nonsubordinated US agency debt issued in the US domestic market. Qualifying securities must have an investment grade rating (based on an average of Moody's, S&P and Fitch). Qualifying securities must have at least one year remaining term to final maturity and less than three years remaining term to final maturity, at least 18 months to maturity at time of issuance, a fixed coupon schedule, and a minimum amount outstanding of $1 billion for sovereigns and $250 million for agencies.

ICE BofA 1-5 Year US Treasury & Agency Index
The ICE BofA US Treasury & Agency Index tracks the performance of US dollar denominated US Treasury and nonsubordinated US agency debt issued in the US domestic market. Qualifying securities must have an investment grade rating (based on an average of Moody's, S&P and Fitch). Qualifying securities must have at least one-year remaining term to final maturity and less than five years remaining term to final maturity, at least 18 months to maturity at time of issuance, a fixed coupon schedule and a minimum amount outstanding of $1 billion for sovereigns and $250 million for agencies. (Index: GVA0. Please visit www.mlindex.ml.com for more information).

LUNCH

Skyview Room

Developing a Benchmark

Concepts

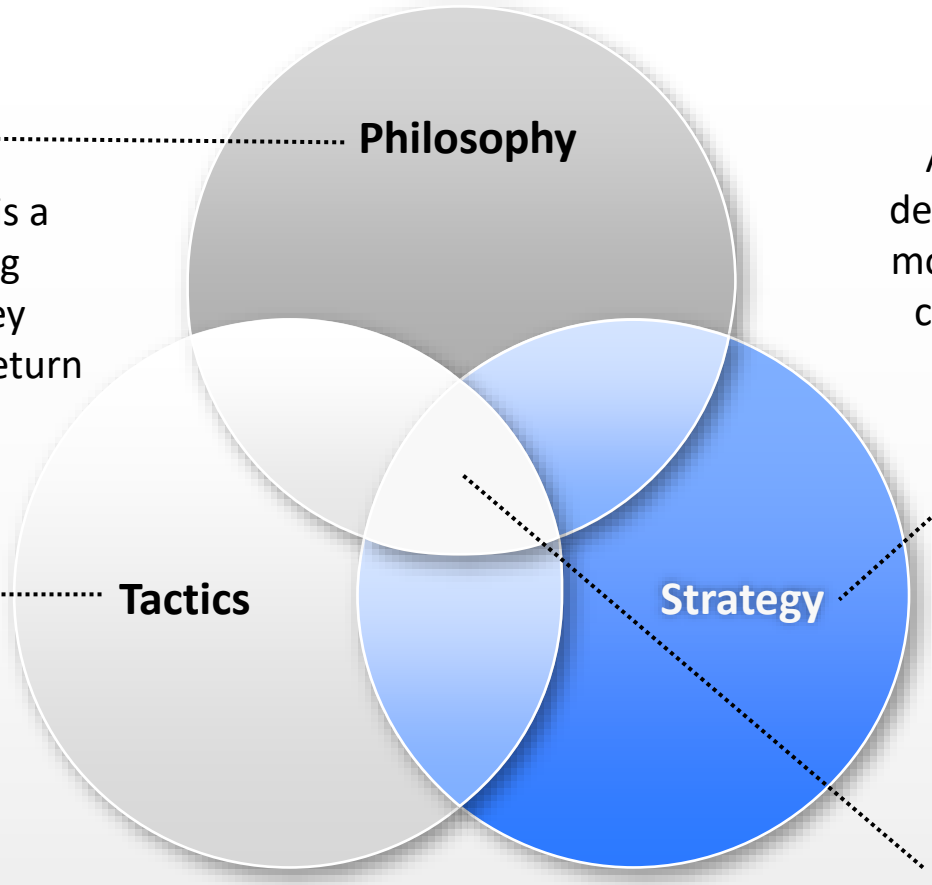
Kevin Webb, CFA
KpWebb@RwBaird.com
RW Baird

Philosophy, Strategy & Tactics

Where Does this Fit?

Philosophy

Investment Philosophy is a coherent way of thinking about markets (how they work), efficiency, risk, return & investor behaviour.



A plan of action or policy designed to achieve one or more goals – usually under conditions of uncertainty.

Tactics

Resources, skills and methods used to achieve or advance the goal of a strategy.

The intersection of philosophy, strategy & tactics is the world of portfolio management

The difference between strategy and tactics: Strategy is done above the shoulders, Tactics are done below the shoulders.

Understanding Benchmarks - Concepts

Agenda

Assumptions/Definitions

Benchmark/Index Examples

What Should I Benchmark?

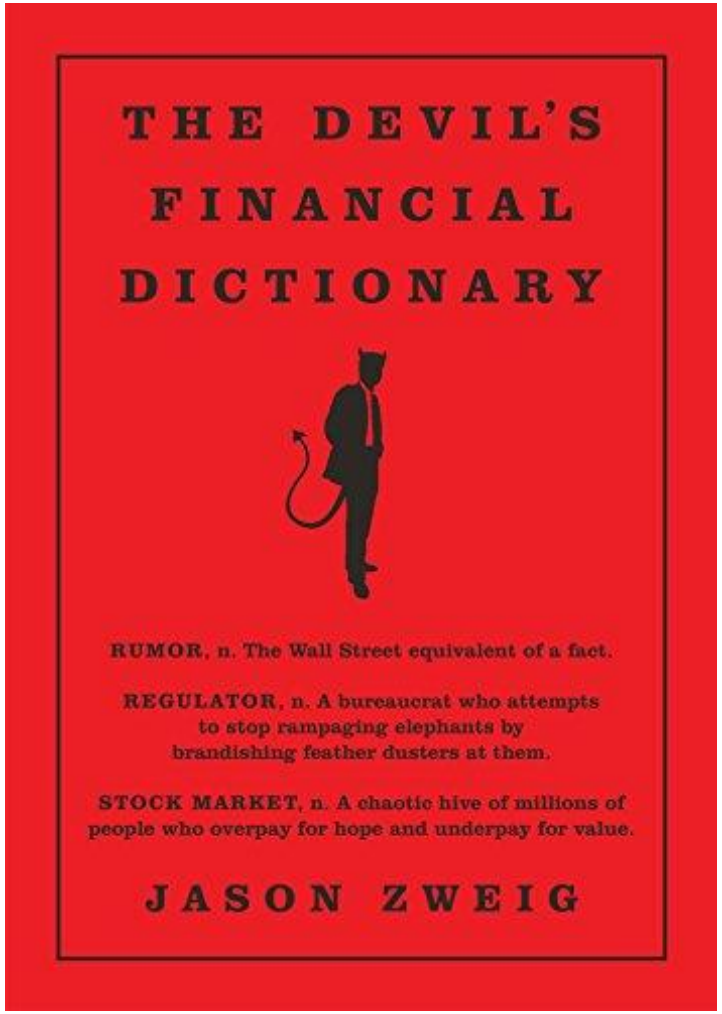
How Should I Benchmark?


WARNING
ASSUMPTIONS
A H E A D

Risk Defined

More things can happen than will happen.

> … It has been philosophically defined by finance professor Elroy Dimson of London Business School this way: ***"Risk means more things can happen than will happen."*** In the end, risk is the gap between what investors think they know and what they end up learning— about their investments, about the financial markets, and about themselves.

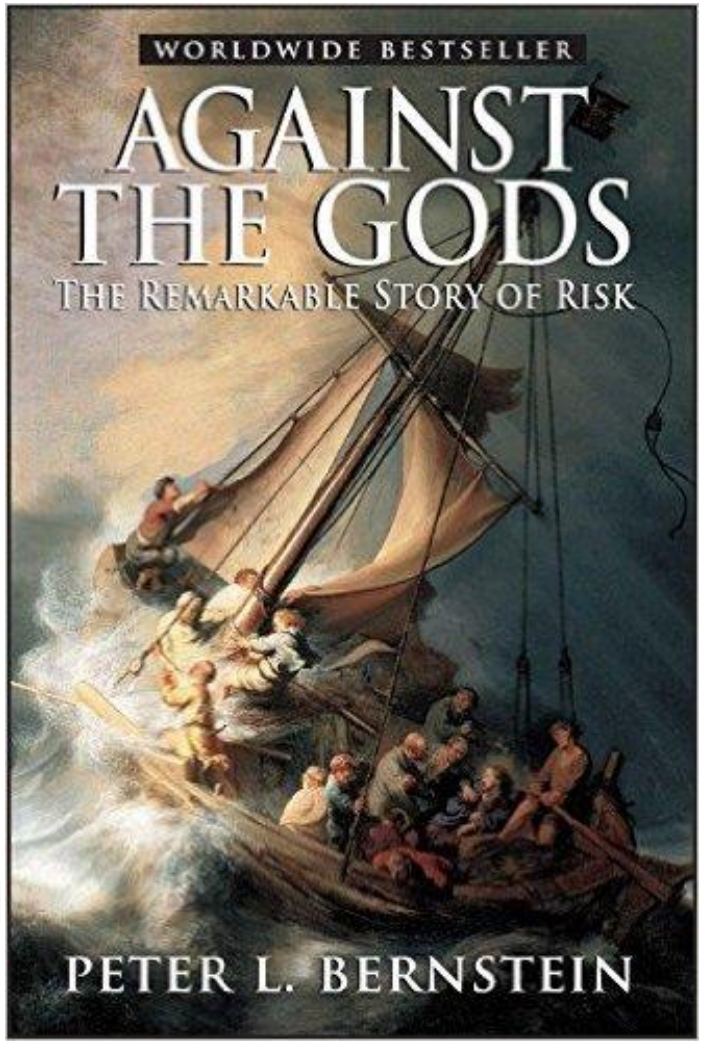


Zweig, Jason. The Devil's Financial Dictionary (p. 182). PublicAffairs. Kindle Edition. Emphasis added.

Risk & Return are Related

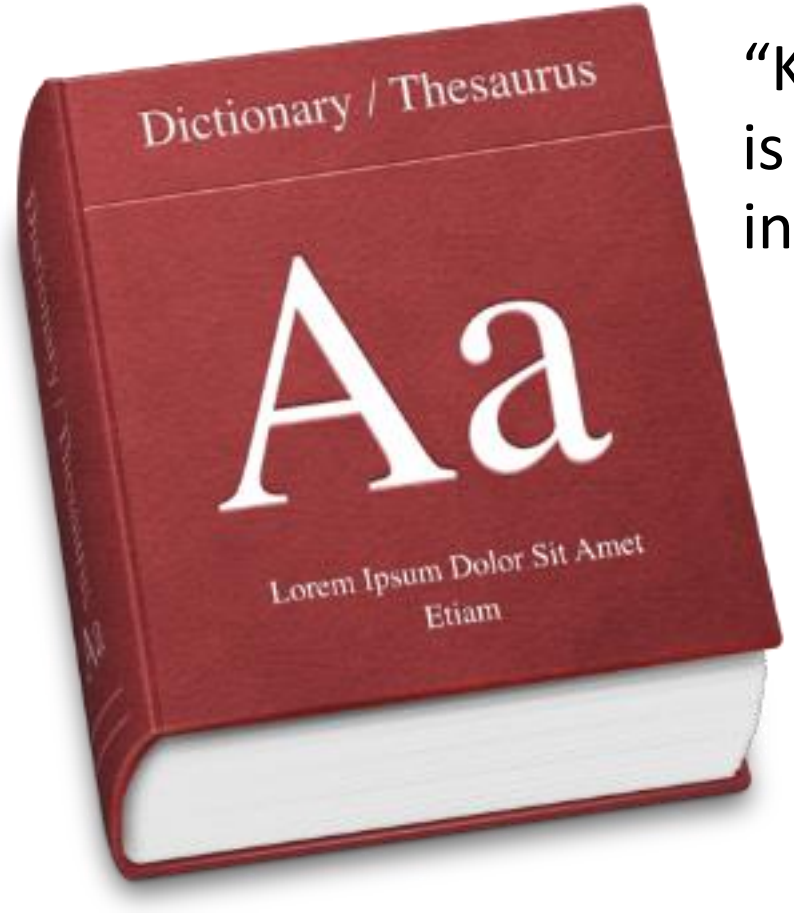
Finding the right trade-off is the key

> *The scientist who developed the Saturn 5 rocket that launched the first Apollo mission to the moon put it this way: ***"You want a valve that doesn't leak and you try everything possible to develop one. But the real world provides you with a leaky valve. You have to determine how much leaking you can tolerate."*** (Obituary of Arthur Rudolph, in The New York Times, January 3, 1996.)



Peter L. Bernstein. Against the Gods: The Remarkable Story of Risk (Kindle Locations 69-71). Kindle Edition. Emphasis added.

Definitions



"Knowledge is knowing a tomato is a fruit; Wisdom is not putting it in a fruit salad."

Brandreth, Gyles. Oxford Dictionary of Humorous Quotations (Kindle Location 4265). OUP Oxford. Kindle Edition.
See this useful Microsoft Help page for Microsoft Word on the definition/history of "Lorem Ipsum Dolor Sit Amet Etiam":
https://support.microsoft.com/en-us/kb/114222

Benchmark

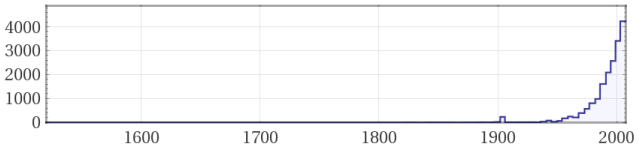
Definitions :

1 noun a standard by which something can be measured or judged

2 noun a surveyor's mark on a permanent object of predetermined position and elevation used as a reference point

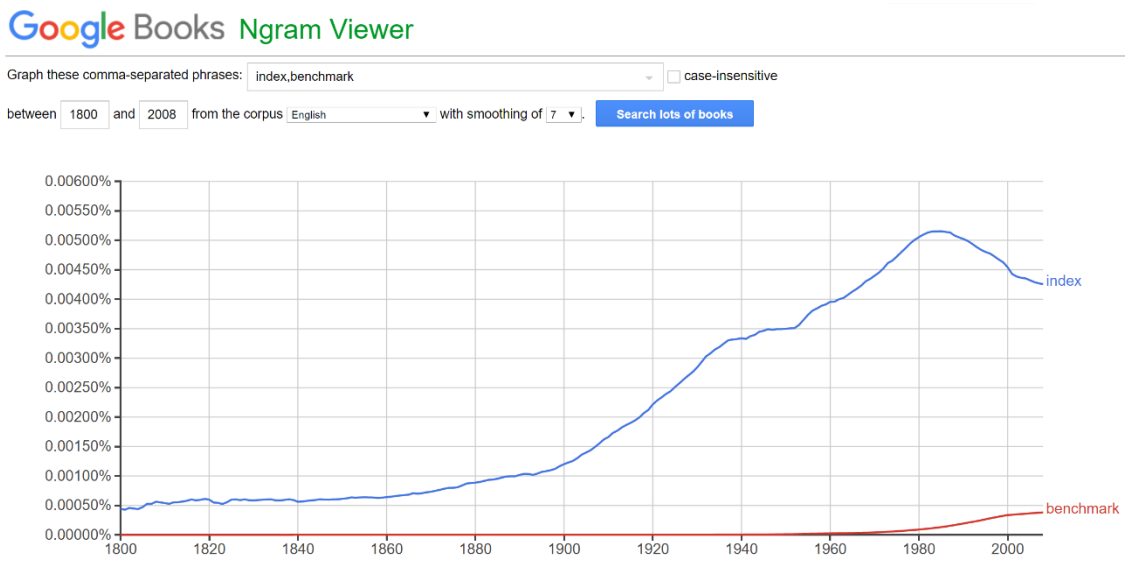
benchmark | Computed by Wolfram|Alpha

Word frequency history :



(from 1539 to 2007) (in occurrences per billion words per year)

benchmark | Computed by Wolfram|Alpha



WolframAlpha, http://www.wolframalpha.com/input/?i=benchmark&rawformassumption=%7B%22C%22,+%22benchmark%22%7D+-%3E+%7B%22Word%22%7D&rawformassumption=%7B%22DPClash%22,+%22FinancialE%22,+%22benchmark%22%7D+-%3E+%7B%22NYSE:BHE%22%7D (December 30, 2016).

Benchmarks ~ Expectations

Index

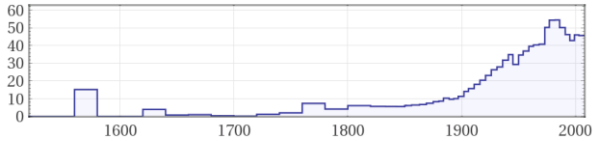
Definitions :

1	noun	a numerical scale used to compare variables with one another or with some reference number
2	noun	a number or ratio (a value on a scale of measurement) derived from a series of observed facts; can reveal relative changes as a function of time
3	noun	a mathematical notation indicating the number of times a quantity is multiplied by itself
4	noun	an alphabetical listing of names and topics along with page numbers where they are discussed
5	noun	the finger next to the thumb
6	verb	list in an index
7	verb	provide with an index
8	verb	adjust through indexation

(8 meanings)

index | Computed by Wolfram|Alpha

Word frequency history :



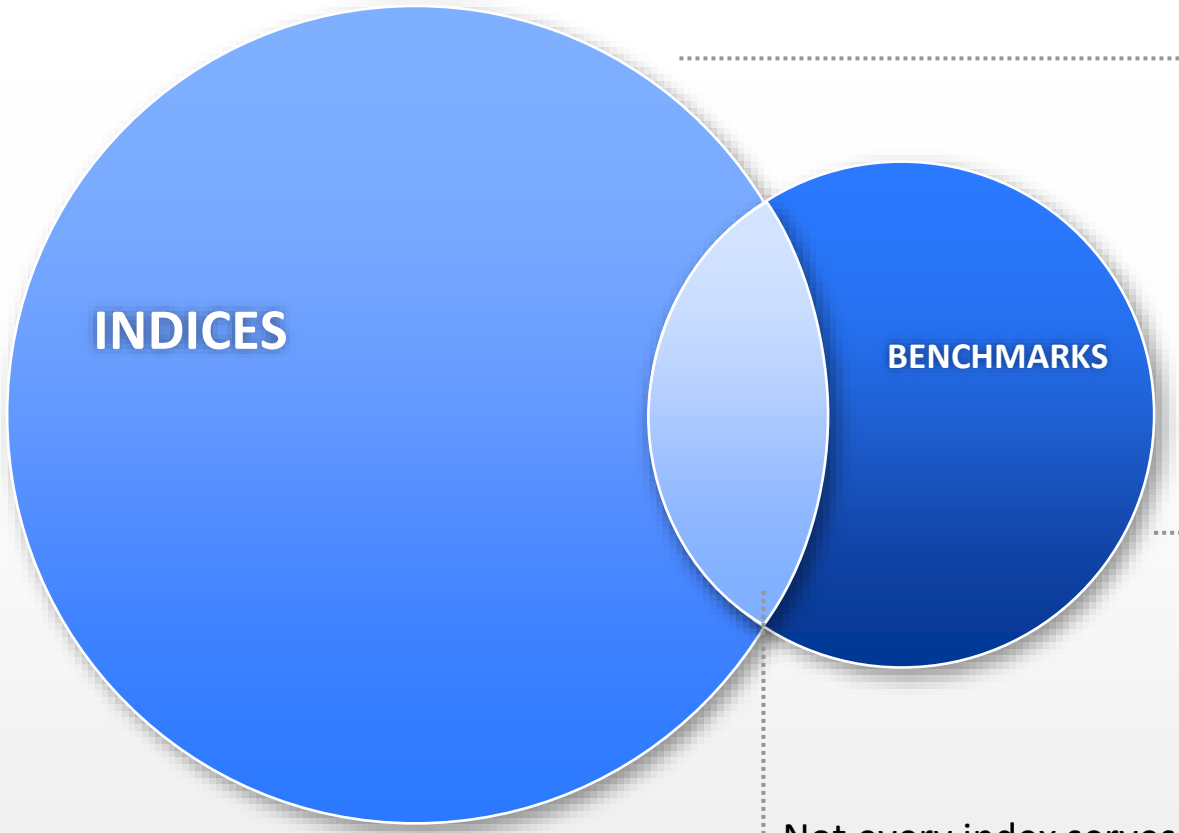
(from 1539 to 2007) (in occurrences per million words per year)

index | Computed by Wolfram|Alpha

WolframAlpha, http://www.wolframalpha.com/input/?i=index (December 30, 2016).

Benchmark/Index Examples

Benchmark does not necessarily mean an Index

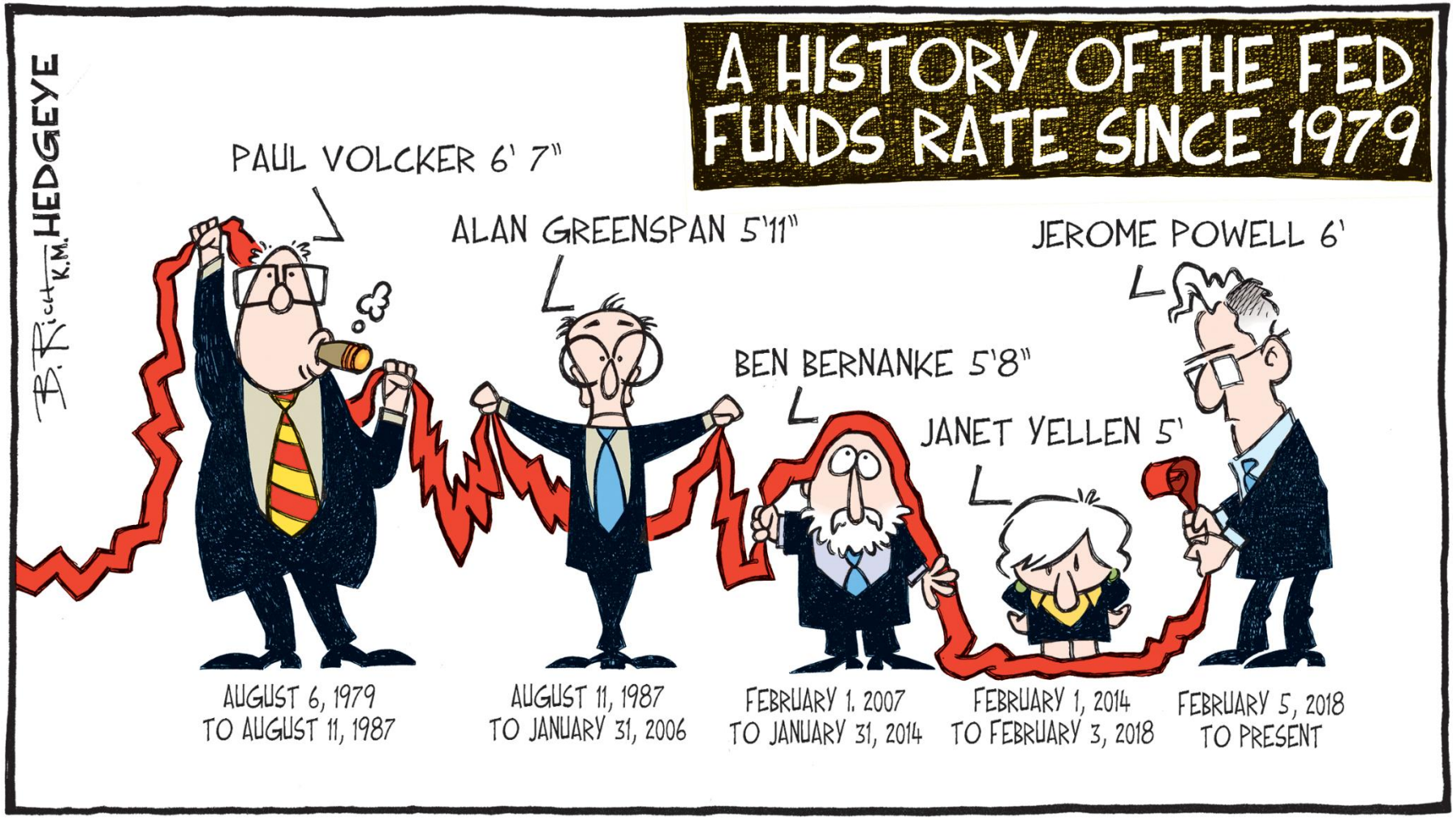


Index
a numerical scale used to compare variables with one another or with some reference number ... can reveal relative changes as a function of time.

Benchmark
A standard by which something can be measured or judged. Can help set expectations.

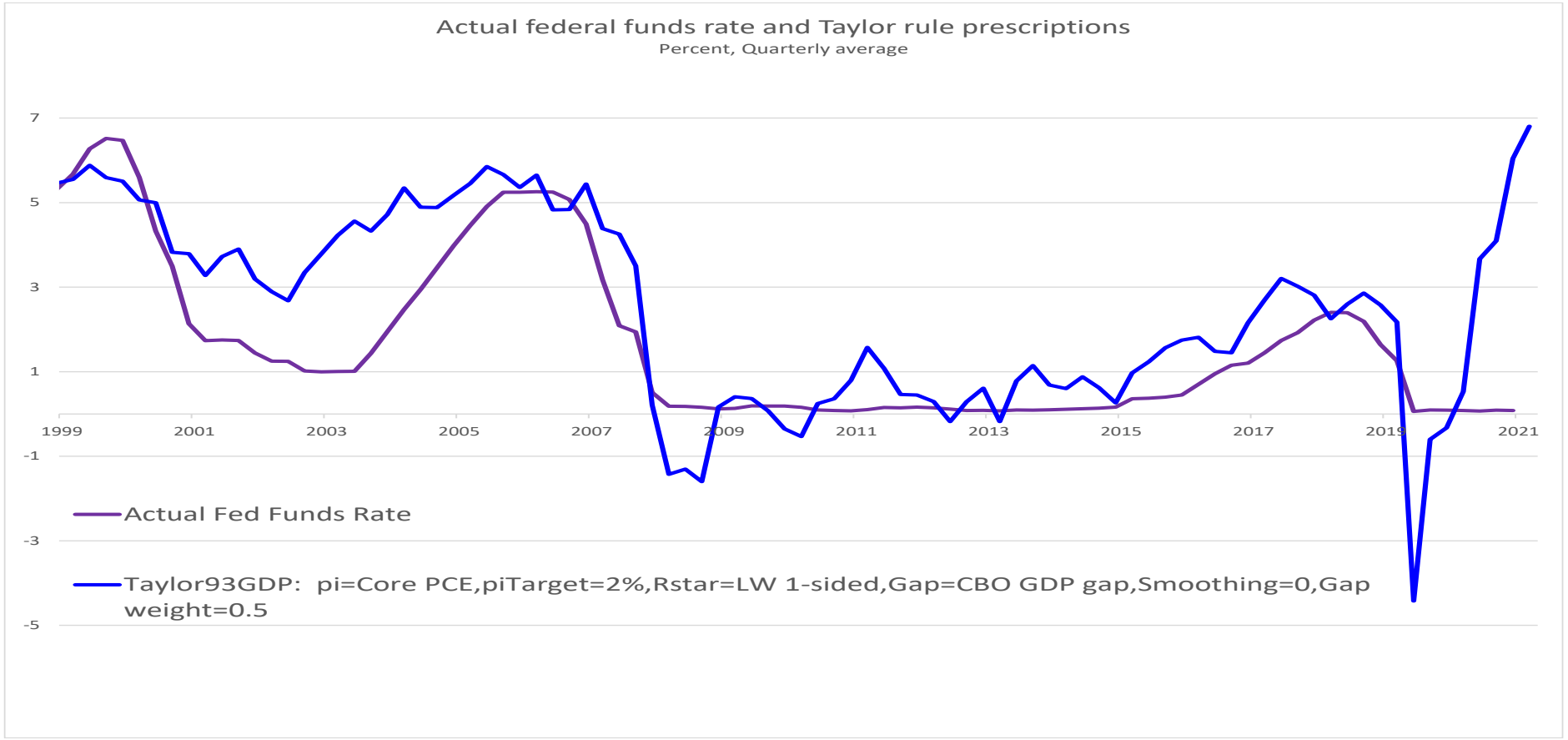
Not every index serves as a benchmark and not every benchmark is an index.

Benchmarking Fed Funds?



Pure Benchmark Example – The Taylor Rule

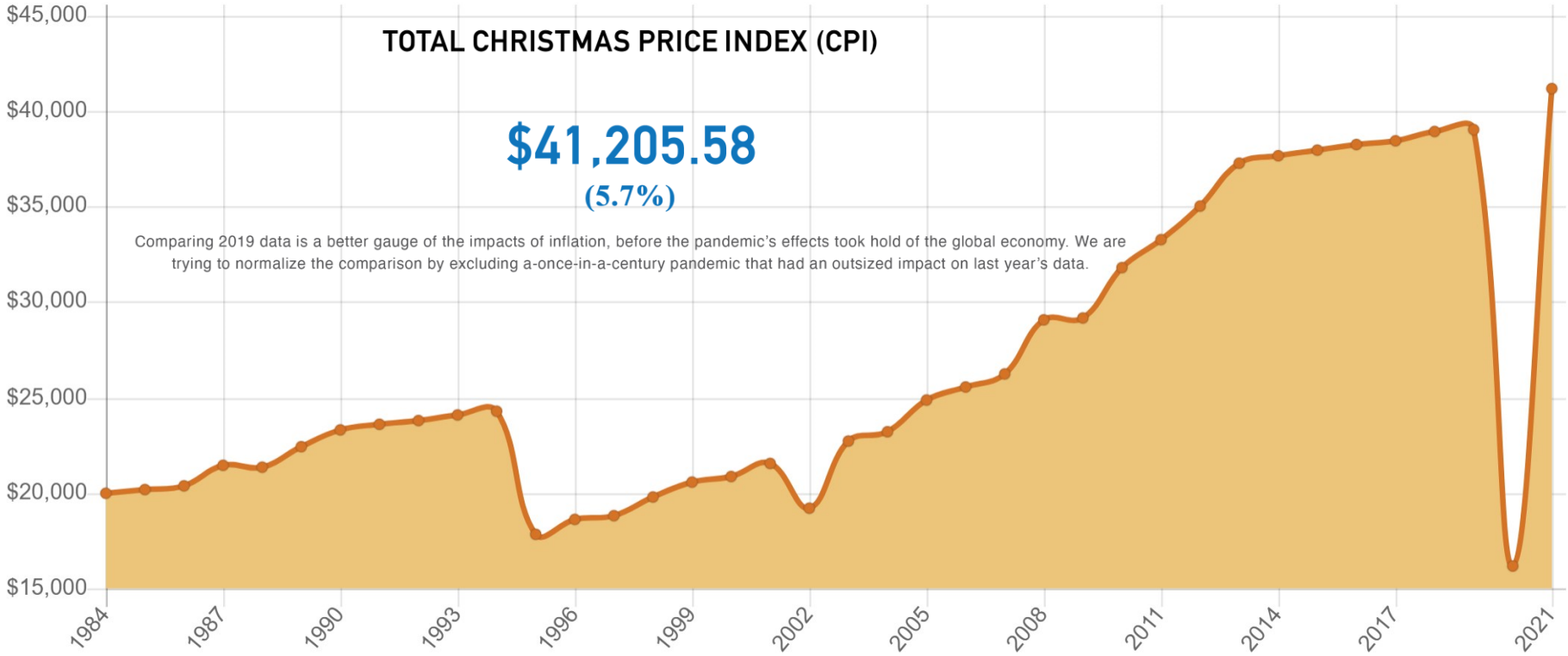
"The Taylor rule is an equation John Taylor introduced in a 1993 paper that prescribes a value for the federal funds rate—the short-term interest rate targeted by the Federal Open Market Committee (FOMC)—based on the values of inflation and economic slack such as the output gap or unemployment gap."



Center for Quantitative Economic Research, Federal Reserve Bank of Atlanta, https://www.frbatlanta.org/cqer/research/taylor-rule.aspx (Feb 1, 2022). *See http://www.investopedia.com/video/play/taylor-rule-calculating-monetary-policy/ for a short video explaining The Taylor Rule and further details on the equation.

Pure Index Example – Christmas Price Index

The PNC Christmas Price Index® shows the current cost for one set of each of the gifts given in the song "The Twelve Days of Christmas."



TOTAL CHRISTMAS PRICE INDEX (CPI)

$41,205.58

(5.7%)

Comparing 2019 data is a better gauge of the impacts of inflation, before the pandemic's effects took hold of the global economy. We are trying to normalize the comparison by excluding a-once-in-a-century pandemic that had an outsized impact on last year's data.

TRUE COST OF CHRISTMAS IN SONG

$179,454.19

(+5.4%)

This represents the total cost of all the gifts bestowed by True Love when you count each repetition of the song, totaling 364 presents. Spreading cheer throughout the year in 2021 costs 5.4% more than in 2019.

"CORE" INDEX (EXCLUDING SWANS)

$28,080.58

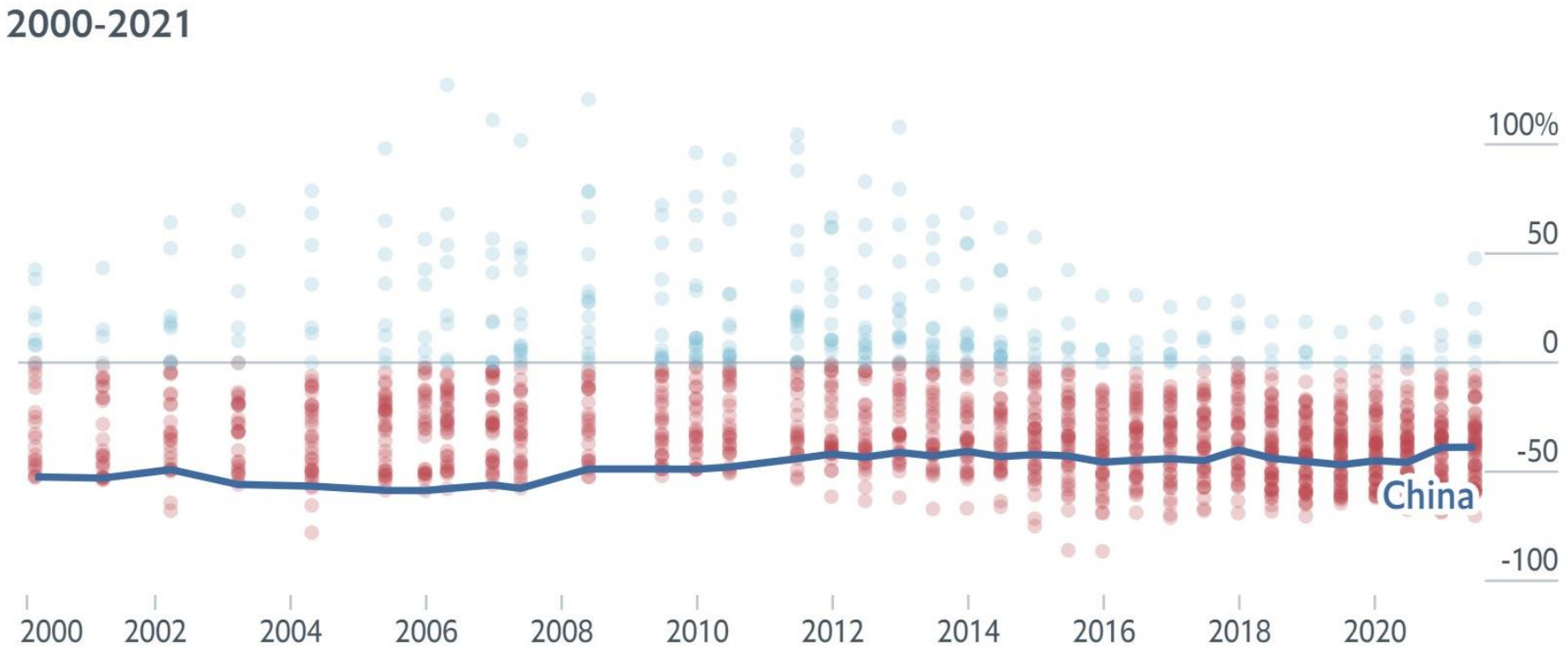
(+8.6%)

This version of the CPI removes the most unpredictable gift from the index - the Swans-a-Swimming.

The PNC Christmas Price index, https://www.pnc.com/en/about-pnc/topics/pnc-christmas-price-index.html (Dec 31, 2021).

Index as Benchmark Example – Big Mac Index

THE Big Mac index was invented by The Economist in 1986 as a lighthearted guide to whether currencies are at their "correct" level. It is based on the theory of purchasing-power parity (PPP) … For example, a Big Mac costs 22.40 yuan in China and US$5.65 in the United States. The implied exchange rate is 3.96. The difference between this and the actual exchange rate, 6.48, suggests the Chinese yuan is 38.8% undervalued



Interactive currency-comparison tool: The Big Mac index, The Economist, http://www.economist.com/content/big-mac-index (December 2021).

What Should I Benchmark?

Prudence Person Standard

"***Investments shall be made with judgment and care, under circumstances then prevailing***, which persons of prudence, discretion and intelligence exercise in the management of their own affairs, ***not for speculation, but for investment, considering the probable safety of their capital as well as the probable income to be derived.***"

General Objectives

"The primary objectives of investment activities shall be...

1. Safety

Investments shall be undertaken in a manner that seeks to ensure the preservation of capital in the overall portfolio. ***The objective will be to mitigate credit risk and interest rate risk. …***

2. Liquidity

The investment portfolio shall ***remain sufficiently liquid*** to meet all operating requirements that may be reasonably anticipated.

3. Return

The investment portfolio shall be designed with the objective of attaining a ***market rate of return throughout budgetary and economic cycles***…"

GFOA Sample Investment Policy, accessed 12/31/16, page 2. Emphasis added.

The primary objectives, in priority order, of the entity's) investment activities shall be:

4.1 **Safety**: Safety of principal is the foremost objective of the investment program. Investments of the (entity) shall be undertaken in a manner that seeks to ensure the preservation of capital in the overall portfolio. ***To attain this objective, the (entity) will diversify its investments by investing funds among a variety of securities offering independent returns and financial institutions***.

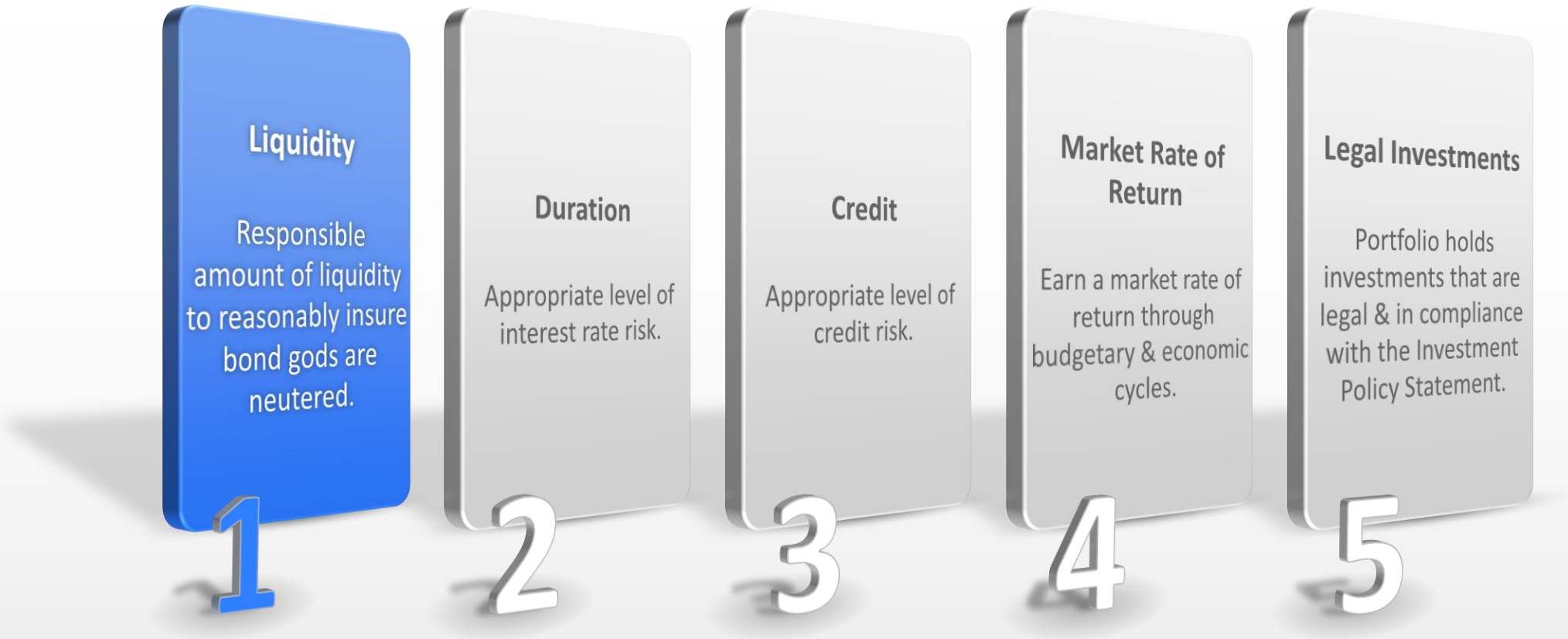
4.2 **Liquidity**: The (entity's) investment portfolio will ***remain sufficiently liquid*** to enable the (entity) to meet all operating requirements which might be reasonably anticipated.

4.3 **Return on Investments**: The (entity's) investment portfolio shall be designed with the ***objective of attaining a benchmark rate of return throughout budgetary and economic cycles***, commensurate with the (entity's) investment risk constraints and the cash flow characteristics of the portfolio.

GFOA Sample Investment Policy, accessed 02/01/2022, page 6. Emphasis added.

What Measures to Benchmark?

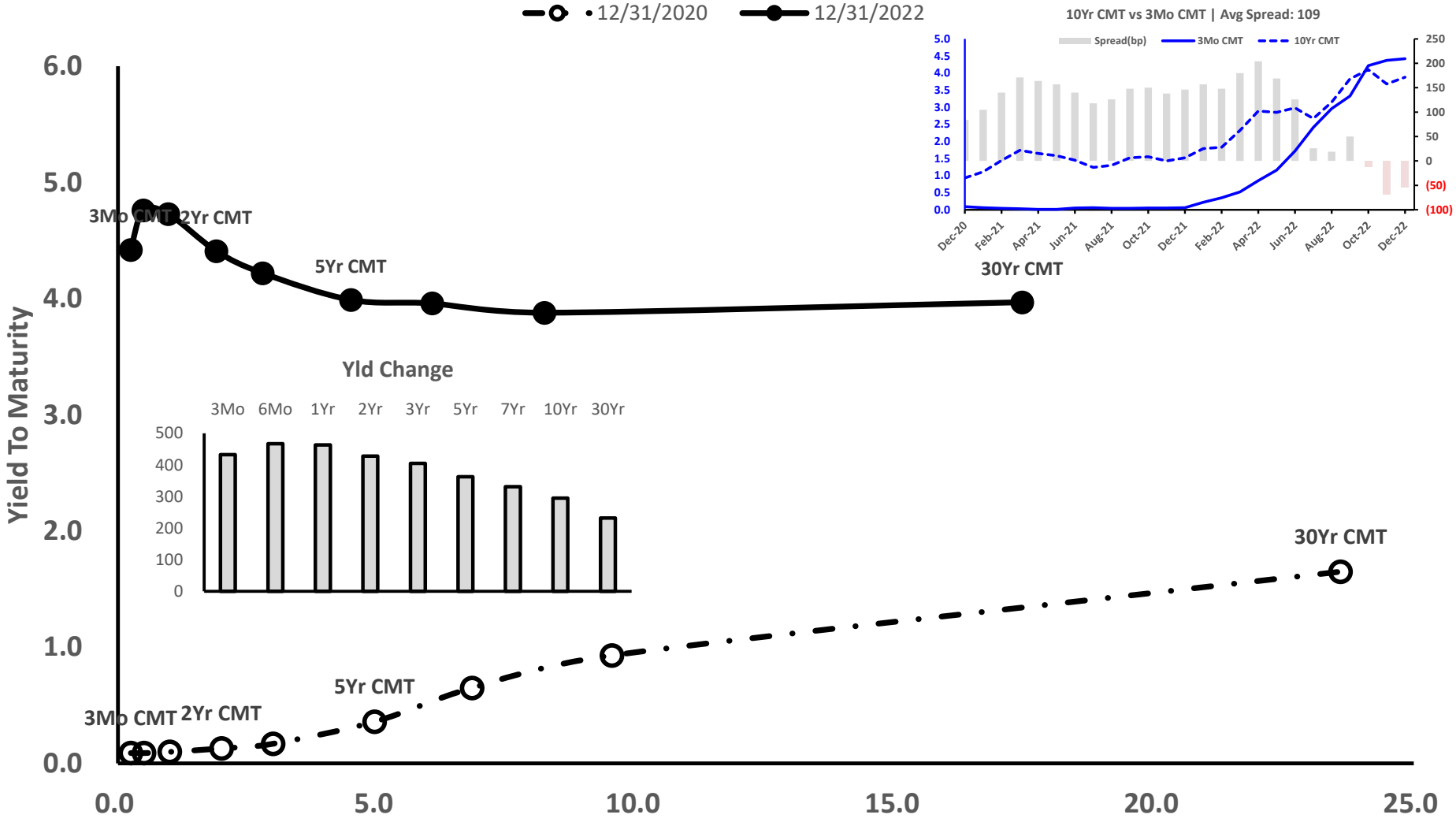
The 5 Points of Suitability



Interest Rate Risk

The 5 Points of Suitability

Yield Curve(s): 12/31/20 vs 12/31/22



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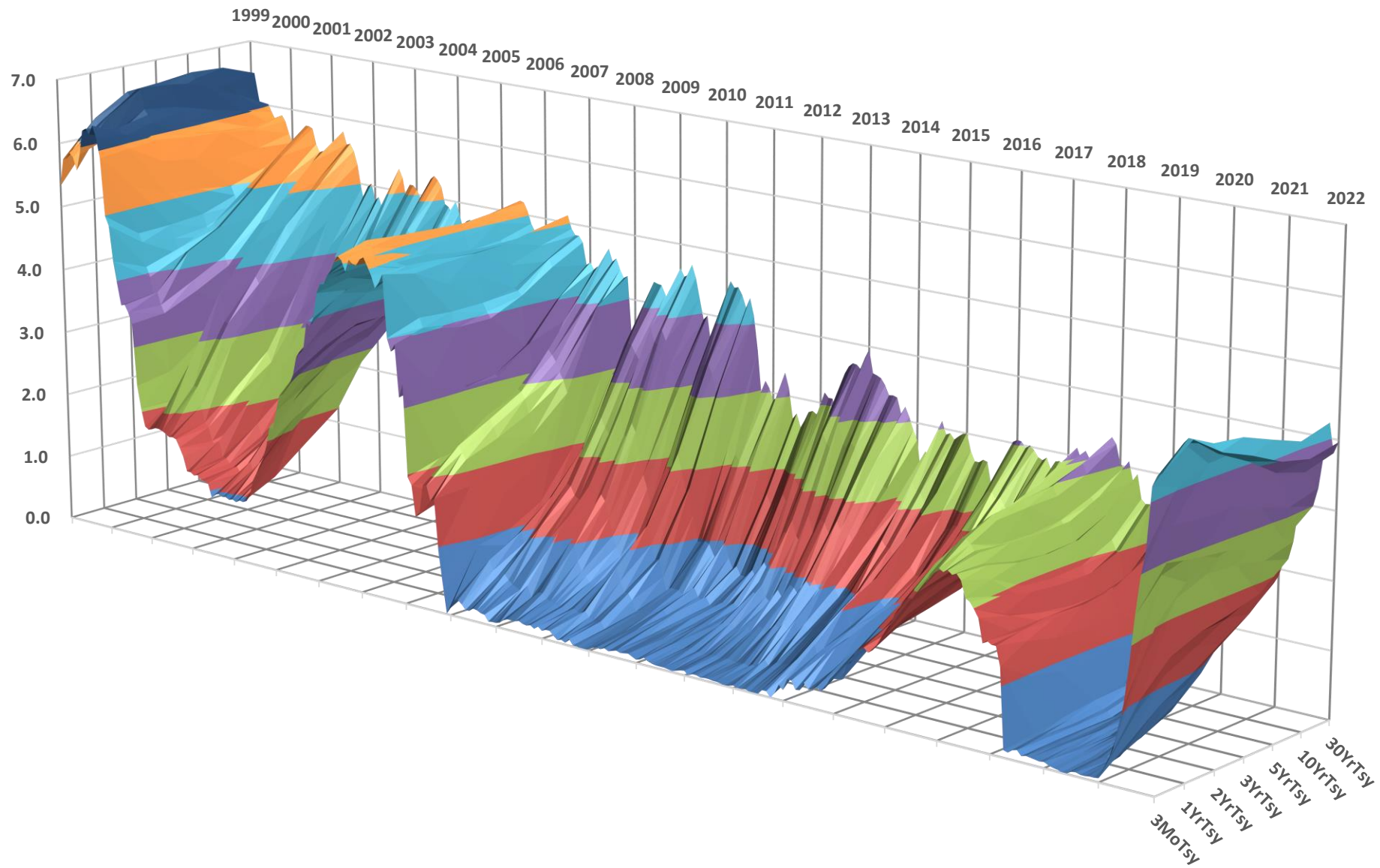
Strategy Webb Yield Curve Perspective: Dec-99 to Dec-2022



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Strategy Webb Constant Maturity Treasury Yield, Duration & Convexity Calculations

		Treasury Yield Curve on 12/31/22				
Par Amount:	**$1,000,000.00**	Maturity	Duration	Yield	Slope(bp)	Slope(bp) to 3Mo
Treasury Maturity (Yrs):	**5.00**	0.00	0.00	4.33%		
Treasury Settlement Date:	**12/31/22**	0.25	0.24	4.42%		
Treasury Maturity Date:	**12/31/27**	0.50	0.49	4.76%	34.00	34.00
Coupon Rate:	**3.99%**	1.00	0.97	4.73%	(3.00)	31.00
Yield:	**3.99%**	2.00	1.89	4.41%	(32.00)	(1.00)
Price:	**100.000**	3.00	2.79	4.22%	(19.00)	(20.00)
Coupon Frequency:	**2.000**	5.00	4.49	3.99%	(23.00)	(43.00)
Price (Excel):	***100.000***	10.00	8.22	3.88%	(11.00)	(54.00)
Yield (Excel):	***3.99%***	30.00	17.44	3.97%	9.00	(45.00)
Modified Duration (Excel):	***4.492***					
	Table Calc Price:	**100.000**		**99.899**		
	Table Calc Yield (IRR):	**3.990%**		**4.012%**		
	Table Calc Duration:	**4.492**		**4.494**		
	Table Calc Convexity:	**0.2351**		**0.2352**		

Semi-Annual Periods	Cash Flow	Present Value @ 3.99% Yield	Maturity Matched Discount Rates	Present Value @ Maturity Matched Rates	Weighted Time To Receipt @ 3.99% Yield	Weighted Time To Receipt @ Matched Rates
0	(1,000,000.00)	(1,000,000.00)	4.33%	(1,000,000.00)	0.0000	0.0000
1	19,950.00	19,559.78	4.76%	19,486.23	0.0196	0.0195
2	19,950.00	19,177.20	4.73%	19,038.82	0.0192	0.0191
3	19,950.00	18,802.10	4.57%	18,642.62	0.0188	0.0187
4	19,950.00	18,434.33	4.41%	18,283.29	0.0184	0.0183
5	19,950.00	18,073.76	4.32%	17,930.47	0.0181	0.0179
6	19,950.00	17,720.24	4.22%	17,600.83	0.0177	0.0176
7	19,950.00	17,373.64	4.16%	17,271.14	0.0174	0.0173
8	19,950.00	17,033.81	4.11%	16,957.18	0.0170	0.0170
9	19,950.00	16,700.63	4.05%	16,658.33	0.0167	0.0167
10	1,019,950.00	837,124.51	3.99%	837,124.51	0.8371	0.8380
Total	1,199,500.00	1,000,000.00		998,993.42		

Strategy Webb Toolkit Sector Overview

Analysis Begin Date: 12/31/2000 **Analysis End Date:** 12/31/2022

Fixed Income Sector	Average Edur	Average Ytw	Main Street Ratio	Annualized Total Return StdDev	Annualized Total Return	Sharpe Ratio (Total Return)
3-mo US Treasury Bill	0.236	1.340	0.000	0.484	1.436	0.000
US Treasury Current 2 Yr	**1.923**	**1.786**	**0.232**	**1.620**	**2.167**	**0.452**
USTreasury Current 3 Yr	2.820	2.000	0.234	2.490	2.649	0.487
US Treasury Current 5 Yr	**4.647**	**2.418**	**0.232**	**4.281**	**3.192**	**0.410**
US Treasury Current 10 Yr	8.607	3.054	0.199	7.434	3.416	0.266
US Treasury Current 30 Yr	**18.279**	**3.702**	**0.129**	**14.384**	**4.184**	**0.191**

Graph Item Definitions

Average Edur (Left Axis)

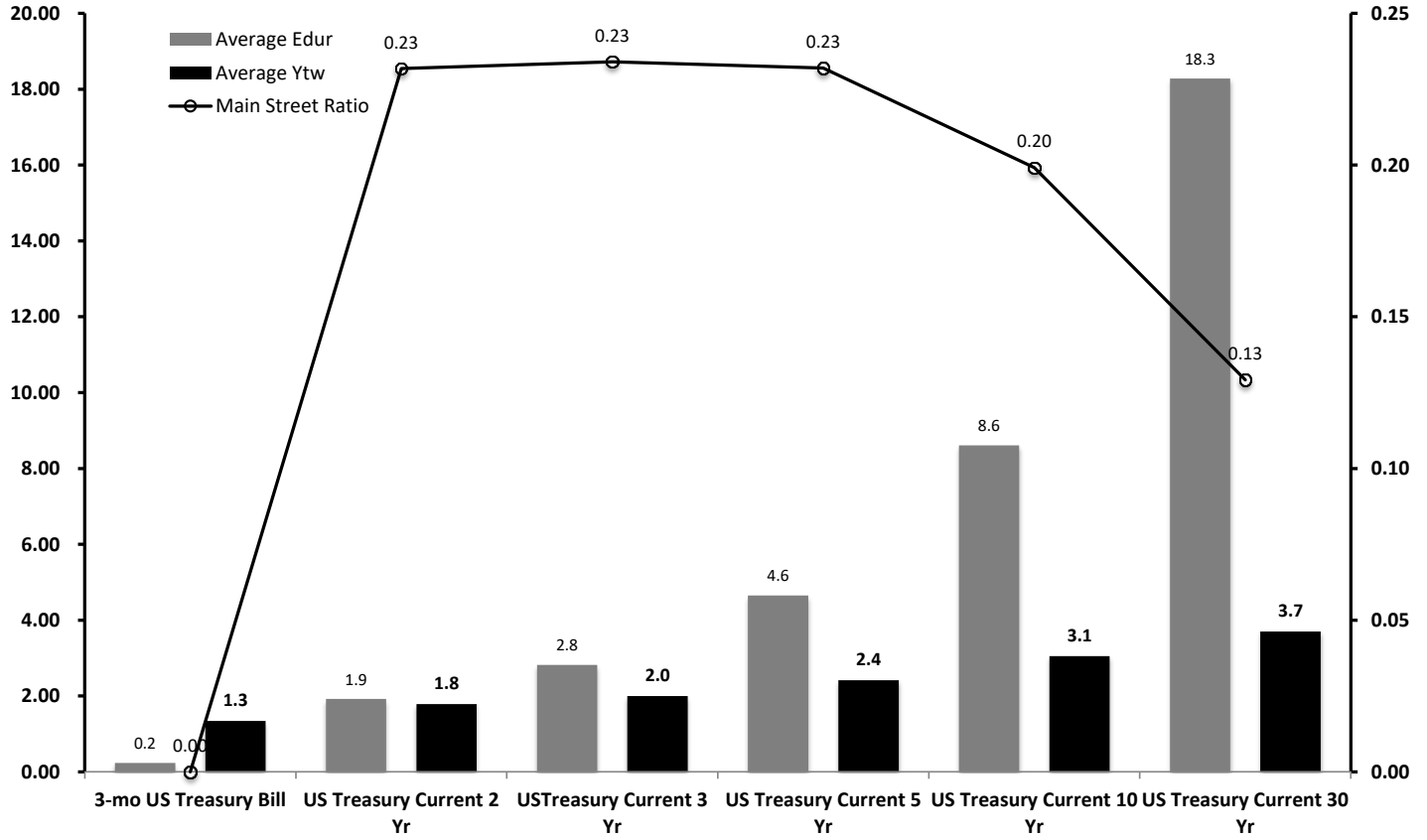
This is the average of the monthly effective durations over the period. Effective Duration is the by-product of an option model that takes into consideration any possible early redemption features and is read as a percent which gives the inverse percent change in market value for a given percent change in interest rates.

Average Ytw (Left Axis)

This is the Average Yield To Worst and represents the average over the period of all the yield to worsts. Yield to Worst is the lowest potential yield that can be received without a default. Yield To Worst over a given period can act as a proxy for what the expected book income might have been. A higher number, all things equal, is better.

Main Street Ratio (Right Axis)

The Main Street Ratio measures the average excess Yield To Worst that could have been earned over the risk-free rate (US 3 Month Tsy Bill) per unit of average interest rate risk (Average Effective Duration) over the period. It is (Avg YTW-3MoTBillYTW)/Avg Edur. All things being equal, a higher ratio is better.



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Strategy Webb Toolkit Sector Overview

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Graph Item Definitions

Annualized Total Return StdDev (Left Axis)

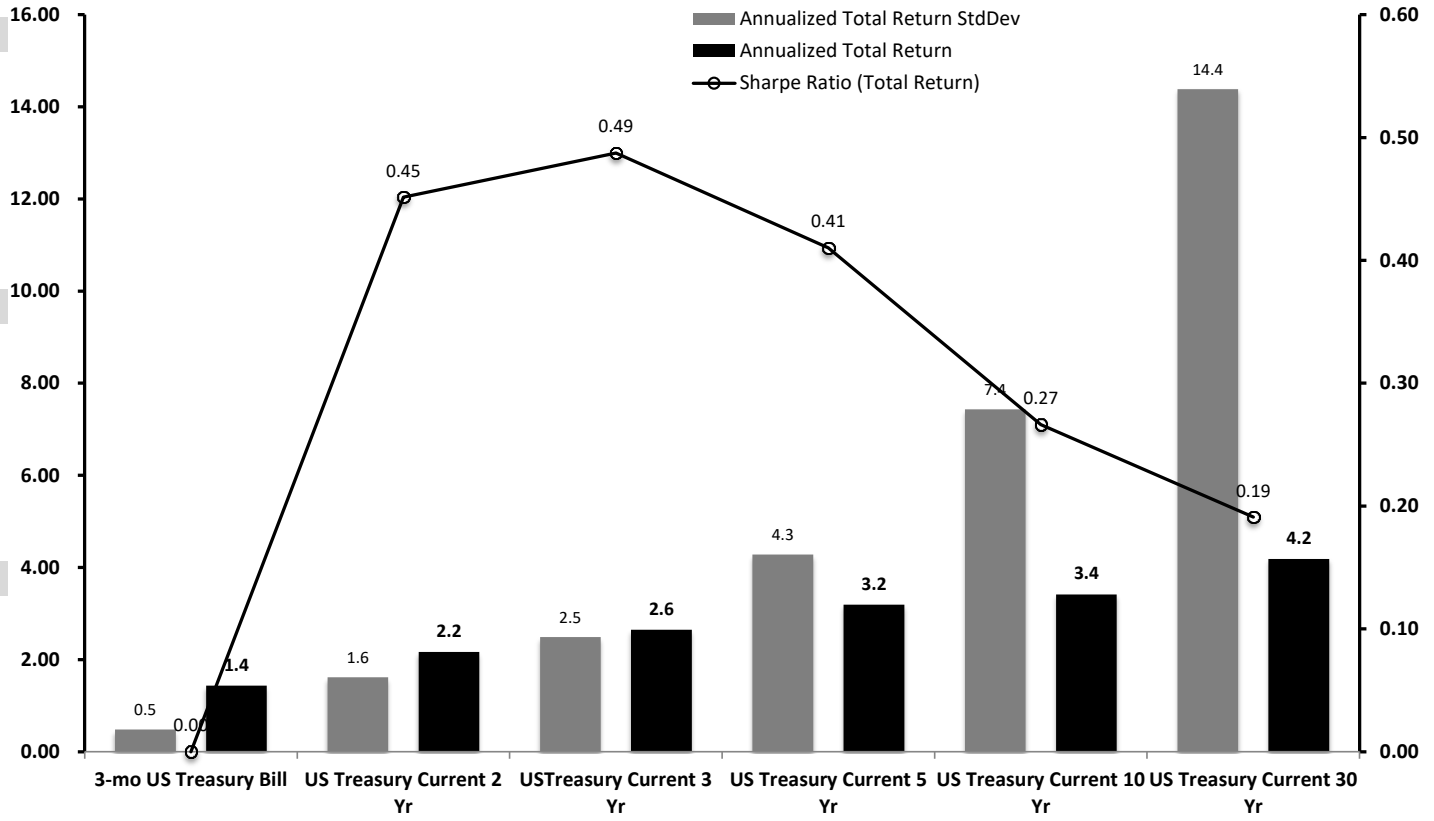
The Standard Deviation of the Monthly Return Annualized. Gives an indication of the historical market value volatility. The higher the number the more volatile. A lower number, all things being equal, is better.

Annualized Total Return (Left Axis)

The monthly total returns annualized over the period. This includes return from price and coupon. A higher number, all things being equal, is better.

Sharpe Ratio (Total Return) (Right Axis)

Named after Nobel Laureate William Sharpe, the Sharpe Ratio shows the excess return over the risk-free rate (the US 3 Month Tsy Bill) per unit of risk (the standard deviation of the total return of the index being analyzed). The ultimate industry standard "how much bang for the buck" ratio. All things being equal, a higher ratio is better.



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Strategy Webb Portfolio Enhancment Table

	Scenario #1	Scenario #2	Scenario #3
Current Portfolio Par:	$100,000,000	$100,000,000	$100,000,000
Current Purchase Yield:	2.46%	2.46%	2.46%
Proposed Yield Pickup(bp):	19	42	63
Proposed New Purchase Yield:	2.650%	2.88%	3.09%
Additional Income Produced:	$190,000	$420,000	$630,000
Portfolio Additional $ Needed to Produce Proposed Income:	$7,723,577	$17,073,171	$25,609,756
Treasury 1 (Shorter Maturity):	3Mo CMT	3Mo CMT	3Mo CMT
Treasury 2 (Longer Maturity):	1Yr CMT	2Yr CMT	3Yr CMT
Begin Date:	12/31/2002	12/31/2002	12/31/2002
End Date:	12/31/2022	12/31/2022	12/31/2022
	Median Spread	Median Spread	Median Spread
Basis Point Pickup	19	42	63
Addition Income from Pickup	$190,000	$420,000	$630,000
Portfolio Purchase Yield	$ Needed @ Current Purchase Yield to get new income		
1.230%	15,447,154	34,146,341	51,219,512
1.476%	12,872,629	28,455,285	42,682,927
1.722%	11,033,682	24,390,244	36,585,366
1.968%	9,654,472	21,341,463	32,012,195
2.214%	8,581,752	18,970,190	28,455,285
2.460%	**7,723,577**	**17,073,171**	**25,609,756**
2.706%	7,021,434	15,521,064	23,281,596
2.952%	6,436,314	14,227,642	21,341,463
3.198%	5,941,213	13,133,208	19,699,812
3.444%	5,516,841	12,195,122	18,292,683
3.690%	5,149,051	11,382,114	17,073,171

Strategy Webb Portfolio Enhancment Table			
	Scenario #1	Scenario #2	Scenario #3
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Treasury 2 (Longer Maturity):	1Yr CMT	2Yr CMT	3Yr CMT
Begin Date:	12/31/2002	12/31/2002	12/31/2002
End Date:	12/31/2022	12/31/2022	12/31/2022
	Median Spread	Median Spread	Median Spread
Basis Point Pickup	19	42	63
Addition Income from Pickup	$190,000	$420,000	$630,000

Scenario #2 Explanation:

The current portfolio purchase yield of 2.46% provides an income of $2,460M per year from a par value of $100,000M.

Making a strategic move to increase the portfolio's average maturity from 3Mo CMT to 2Yr CMT would add 42bp to the overall portfolio purchase yield (moving it to a 2.88%). The increase of 42bp on a portfolio of $100,000M provides an additional $420,000 in income per year.

A total of $17,073M would have to be raised to add to the current portfolio par value to get the same income if the 2.46% purchase yield remained in place.

Scenario #3 Explanation:

The current portfolio purchase yield of 2.46% provides an income of $2,460M per year from a par value of $100,000M.

Making a strategic move to increase the portfolio's average maturity from 3Mo CMT to 3Yr CMT would add 63bp to the overall portfolio purchase yield (moving it to a 3.09%). The increase of 63bp on a portfolio of $100,000M provides an additional $630,000 in income per year.

A total of $25,610M would have to be raised to add to the current portfolio par value to get the same income if the 2.46% purchase yield remained in place.

Strategy Webb Indices Comparison: 12/31/00 to 12/31/22

Fixed Income Sector	Average Edur	Average Ytw	Main Street Ratio	Annualized Total Return StdDev	Annualized Total Return	WEBB Ratio
US Treasuries 1-3yr	1.813	1.769	0.237	1.464	2.162	0.293
Agy Bullet 1-3Yr	1.821	1.964	0.342	1.553	2.496	0.402
Agy Callable 1-3Yr	1.228	1.996	0.534	1.039	1.779	0.632
US Treasuries 3-5yr	3.751	2.243	0.241	3.408	3.158	0.265
Agy Bullet 3-5Yr	3.648	2.479	0.312	3.264	3.636	0.349
Agy Callable 3-5Yr	2.161	2.399	0.490	2.016	2.150	0.525
US Treasuries 1-5yr	2.538	1.946	0.239	2.127	2.527	0.285
Agy Bullet 1-5Yr	2.364	2.122	0.331	2.026	2.831	0.386
Agy Callable 1-5Yr	1.545	2.138	0.516	1.391	1.874	0.574
1-5Yrs AAA-A Bullet Ex Yanks	2.751	2.979	0.596	3.109	3.509	0.527
US Corp Finance 1-5yr	2.722	3.509	0.797	4.538	3.668	0.478
U.S Industrial Corp 1-5yr	2.793	3.268	0.690	3.080	3.842	0.626

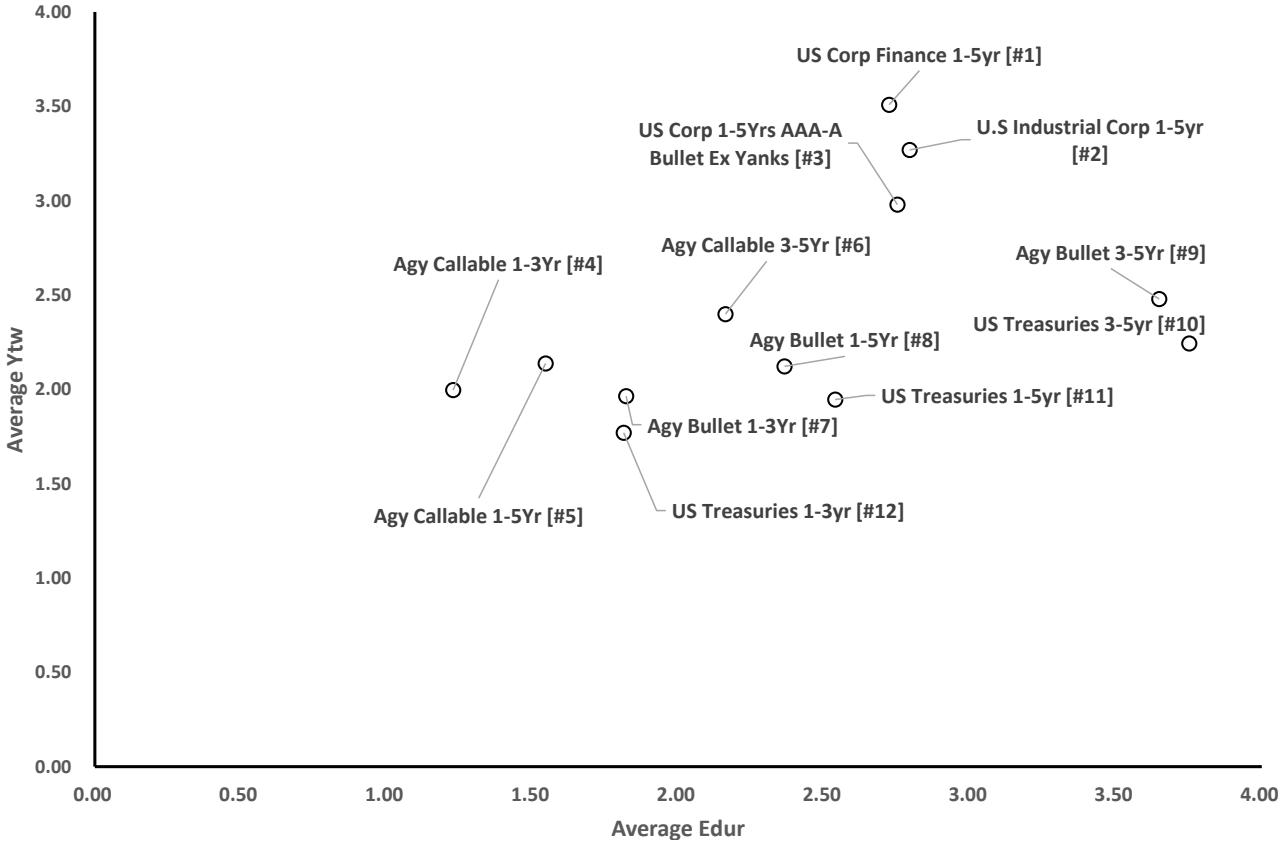
Graph Item Definitions

Average Edur (Horizontal Axis)

This is the average of the monthly effective durations over the period. Effective Duration is the by-product of an option model that takes into consideration any possible early redemption features and is read as a percent which gives the inverse percent change in market value for a given percent change in interest rates.

Average Ytw (Vertical Axis)

This is the Average Yield To Worst and represents the average over the period of all the yield to worsts. Yield to Worst is the lowest potential yield that can be received without a default. Yield To Worst over a given period can act as a proxy for what the expected book income might have been. A higher number, all things equal, is better.



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Credit Risk

The 5 Points of Suitability

Strategy Webb Toolkit Sector Overview

Analysis Begin Date: 12/31/2000 **Analysis End Date:** 12/31/2022

Fixed Income Sector	Average Edur	Average Ytw	Main Street Ratio	Annualized Total Return StdDev	Annualized Total Return	Sharpe Ratio (Total Return)
US Corp AAA	7.661	3.538	0.287	6.077	3.884	0.403
US Corp AA	**6.181**	**3.575**	**0.362**	**5.154**	**3.920**	**0.482**
US Corp A	6.553	4.003	0.406	5.999	4.355	0.487
US Corp BBB	**6.711**	**4.799**	**0.515**	**6.659**	**5.197**	**0.565**
US Financial Corp 1-5yr	2.738	3.458	0.774	3.851	3.766	0.605
U.S Industrial Corp 1-5yr	**2.793**	**3.268**	**0.690**	**3.080**	**3.842**	**0.781**

Graph Item Definitions

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Main Street Ratio (Right Axis)

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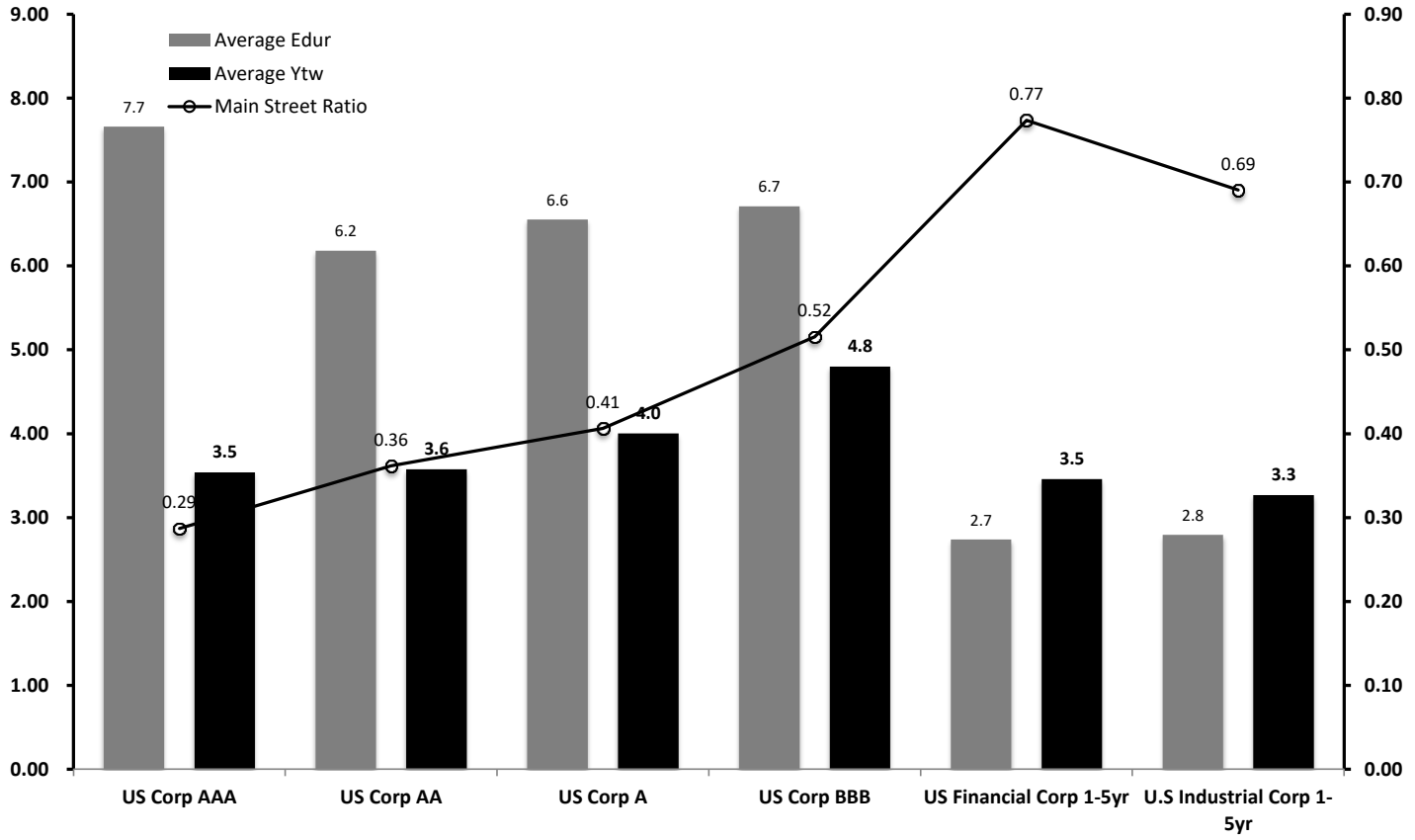

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Strategy Webb Toolkit Sector Overview

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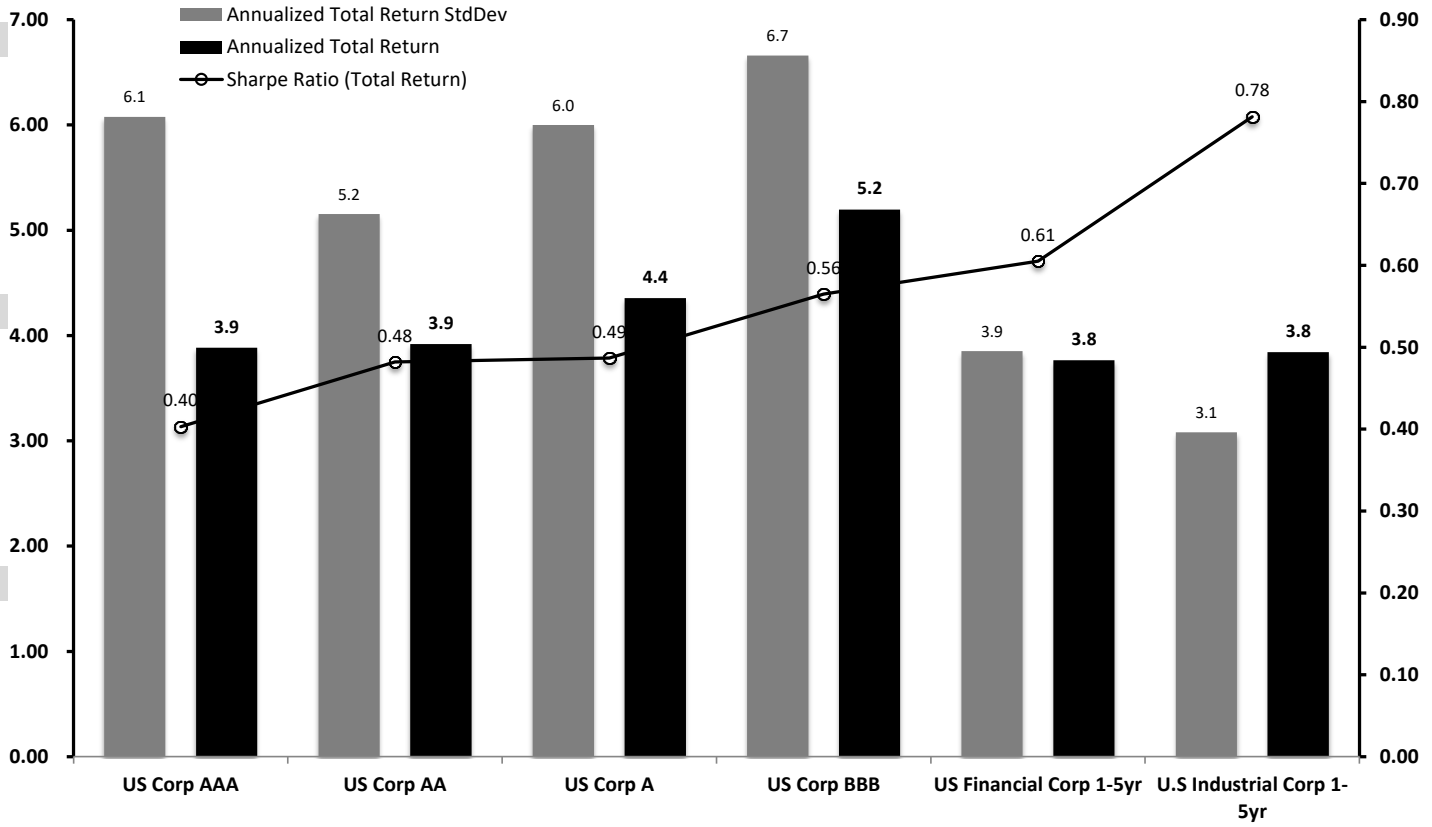

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1-5Yr A-AAA US$/USD Corporates: 12/31/2000 to 12/31/2022

Analysis uses 1-5Yr Maturity Bonds for Issuers with Outstanding Amount >=250MM

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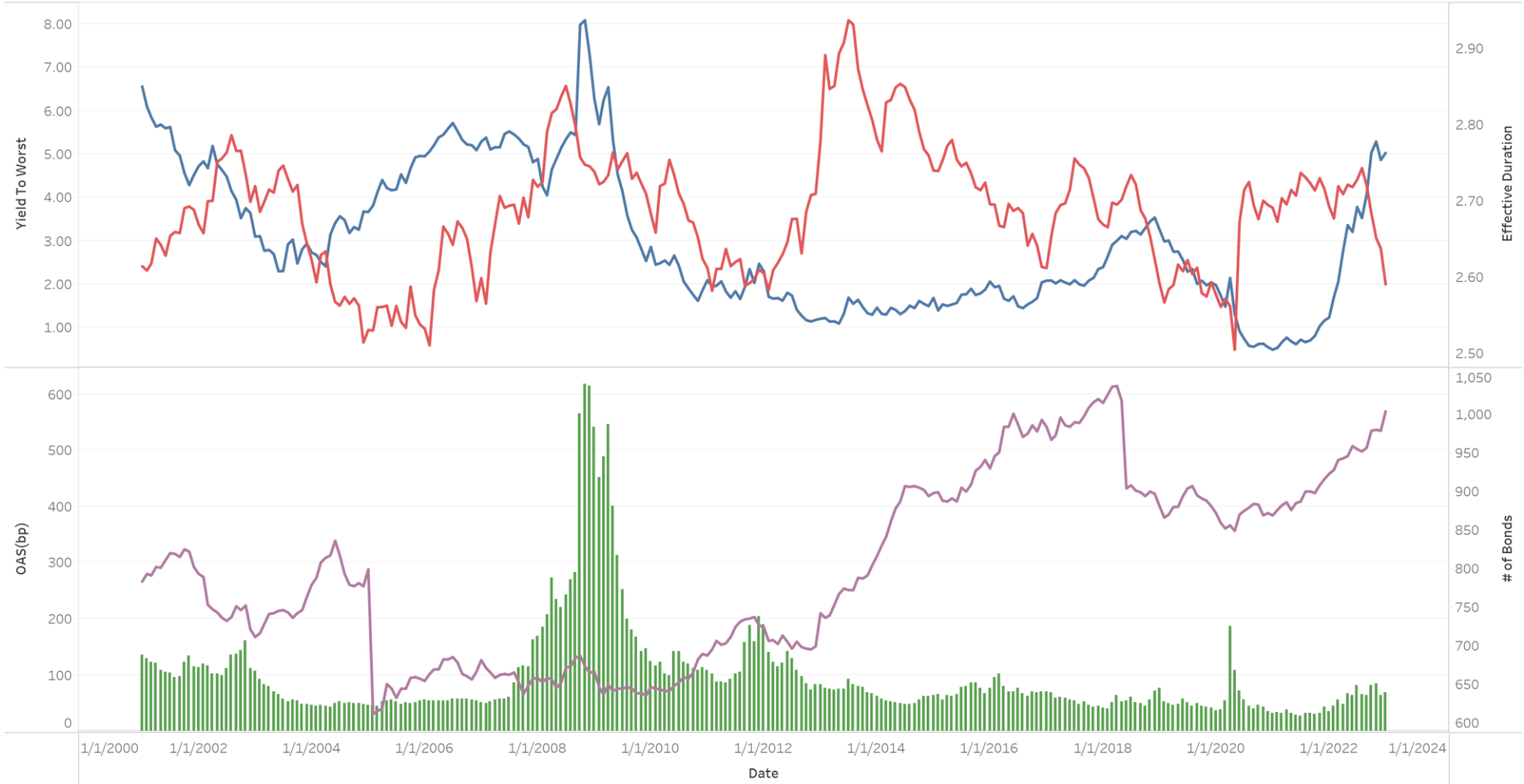

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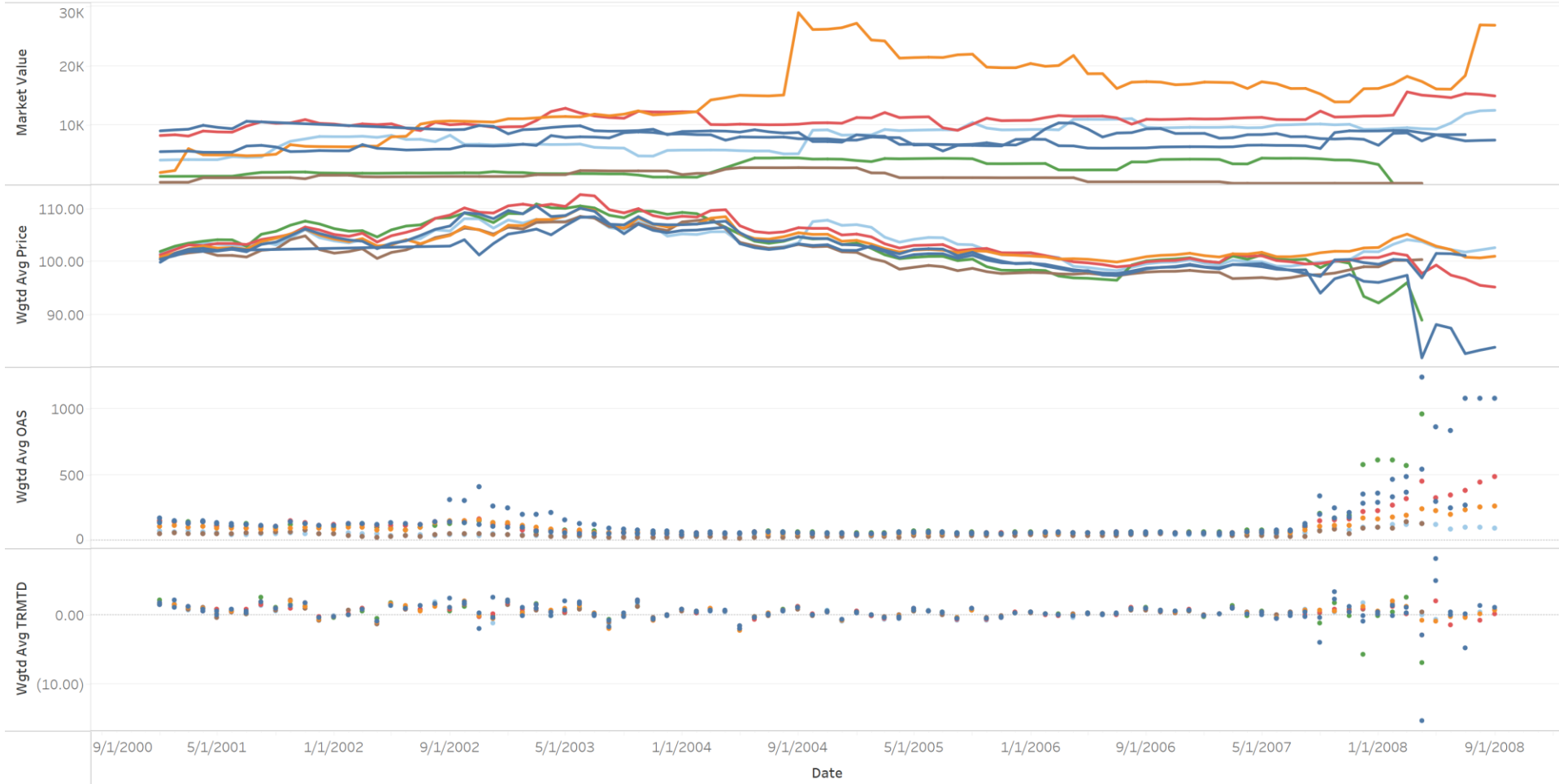
The Noise: 12/31/2000 to 8/31/2008

BSC, CIT, JPM and 4 more

Analysis uses 1-5Yr Maturity Bonds for Issuers with Outstanding Amount >=250MM

Designed & Created by Kevin Webb, CFA



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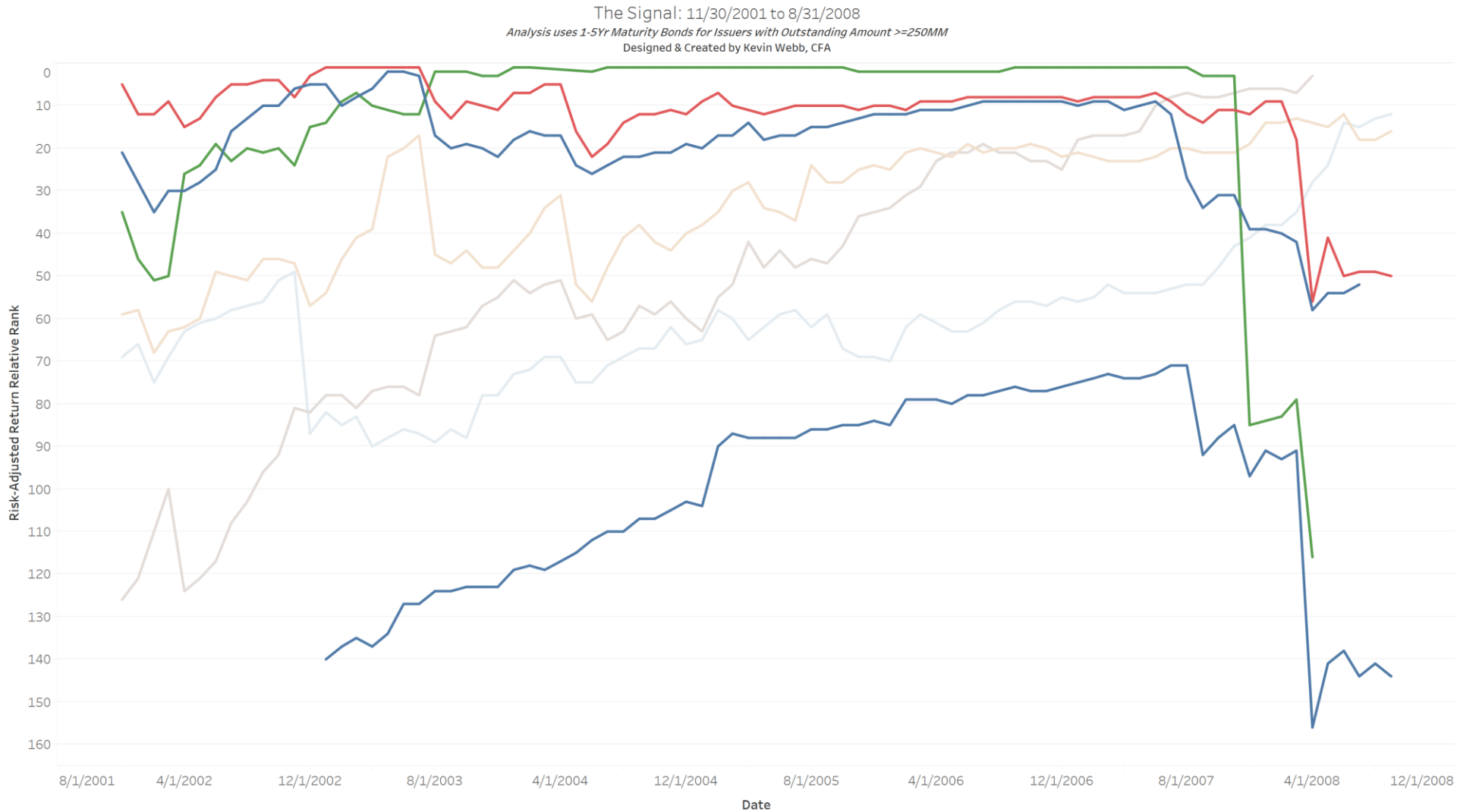

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Issuer Focus List for 1-5Yr US Corp A-AAA by Risk-Adjusted Return as of 12/31/22

	Ticker	Rank Last Month	Rank 6 Months Ago	Rank 1 Year Ago	Rank 3 Years Ago	Rank 5 Years Ago	Rolling 12 Month Rank	Description	Composite Rating Month End	Composite Rating 6 Months Ago	Industry	Num Issues	Market Value ($MM)	Index Weight	Wgtd Avg Years To Maturity	Wgtd Avg Price	Wgtd Avg Yield	Risk Adjusted Return
1	BK	1	3	8	8	10	39	The Bank of New York Mellon Corporation	A1	A1	Financial Services	1	957.60	0.10	1.82	95.37	4.79	1.4465
2	WMT	2	1	3	6	5	74	Walmart Inc	AA2	AA2	Retail	9	8,979.58	0.94	2.76	97.00	4.53	1.4233
3	JPM	3	5	2	3	2	48	JPMorgan Chase & Co.	A1 / A3	A2 / A3	Banking	33	66,761.42	7.02	2.84	94.27	5.42	1.4136
4	UNH	5	4	4	5	4	47	UnitedHealth Group Inc.	A2	A2	Healthcare	14	11,090.64	1.17	2.90	95.83	4.70	1.4045
5	PFE	4	2	1	1	1	82	Pfizer Inc. / Wyeth	A1	A2	Healthcare	6	5,819.72	0.61	2.62	95.86	4.64	1.4044
6	WEC	6	6	6	2	3	174	Wisconsin Electric Power Company / Wisconsin F	A2	A2	Utility	3	832.84	0.09	2.42	97.33	4.95	1.3969
7	CAT	7	7	10	10	14	125	Caterpillar Financial Services Corporation / Caterp	A2	A2	Capital Goods	20	14,290.07	1.51	2.32	94.71	4.71	1.3771
8	WFC	8	9	7	7	8	27	Wells Fargo & Company	A2	A2	Banking	16	42,732.01	4.50	2.88	94.55	5.31	1.3182
9	SO	9	14	18	15	19	4	Alabama Power Company	A2	A2	Utility	3	1,073.55	0.11	3.09	96.64	4.84	1.3126
10	IBM	10	10	11	14	18	104	International Business Machines Corporation	A3	A3	Technology & Electronics	11	14,179.65	1.50	2.78	96.59	4.89	1.3065
11	EMR	11	8	5	4	6	90	Emerson Electric Co.	A2	A2	Capital Goods	3	1,574.36	0.17	3.65	89.91	4.74	1.2852
12	DE	12	15	14	18	24	89	Deere & Company / John Deere Capital Corporati	A2	A2	Capital Goods	27	15,563.26	1.64	2.55	94.87	4.67	1.2783
13	DTE	13	17	23	17	21	83	DTE Electric Company	A1	A1	Utility	2	741.13	0.08	1.65	97.72	4.98	1.2633
14	EXC	14	16	15	19	23	92	Baltimore Gas & Electric Company / Potomac Elec	A1 / A2	A1 / A2	Utility	6	2,106.26	0.22	2.95	94.80	4.81	1.2604
15	HON	15	13	12	11	13	155	Honeywell International Inc.	A2	A2	Capital Goods	6	4,850.79	0.51	2.88	93.02	4.69	1.2456
16	PEP	16	18	22	25	31	66	Pepsico Inc	A1	A1	Consumer Goods	8	7,885.59	0.83	2.95	95.39	4.55	1.2260
17	KO	17	11	13	13	15	11	The Coca-Cola Company	A1	A1	Consumer Goods	4	3,729.17	0.39	3.67	92.92	4.45	1.2100
18	TGT	19	21	16	16	17	115	Target Corporation	A2	A2	Retail	4	4,288.49	0.45	2.70	94.50	4.64	1.2012
19	ALL	20	19	17	12	20	118	The Allstate Corporation	A3	A3	Insurance	2	1,067.01	0.11	3.46	91.84	4.79	1.1980
20	PG	18	12	9	9	11	146	The Procter & Gamble Company	AA3	AA3	Consumer Goods	7	5,288.71	0.56	3.68	91.85	4.43	1.1978
21	LLY	21	20	20	22	27	60	Eli Lilly & Co.	A2	A2	Healthcare	3	1,301.23	0.14	3.52	97.63	4.60	1.1825
22	CB	22	24	25	27	33	53	Chubb INA Holdings Inc	A2	A2	Insurance	3	2,913.29	0.31	2.57	96.50	4.80	1.1570
23	USB	23	26	26		12	65	U.S. Bancorp. / U.S. Bank National Association	A1 / AA3	AA3	Banking	2	2,501.86	0.26	2.52	99.17	4.90	1.1523
24	NRUC	24	27	30	30	36	145	National Rural Utilities Cooperative Finance Corp.	A2	A2	Financial Services	10	4,394.14	0.46	2.37	94.88	5.02	1.1476
25	MET	25	29	31	32	41	124	Met Tower Global Funding / Metropolitan Life Ins	A2 / AA3	A2 / AA3	Insurance	18	10,796.54	1.14	2.59	94.75	5.08	1.1369
26	PEG	26	28	33	34	42	58	Public Service Electric and Gas Company	A2	A2	Utility	7	2,263.79	0.24	2.84	93.88	4.86	1.1254
27	NTRS	28	25	21	23	28	158	Northern Trust Corporation	A2	A2	Financial Services	2	1,060.01	0.11	3.29	95.86	5.03	1.1192
28	COST	27	23	28	33	40	6	Costco Wholesale Corporation	A1	A1	Consumer Goods	3	3,028.65	0.32	3.44	92.87	4.53	1.1105
29	CL	29	31	38	40	45	9	Colgate-Palmolive Company	AA3	AA3	Consumer Goods	3	1,467.54	0.15	2.80	96.72	4.45	1.1056
30	BRK	30	22	19	24	32	14	Berkshire Hathaway Finance Corporation / Berksl	AA3	AA3	Financial Services	2	3,119.48	0.33	3.43	95.14	4.45	1.0873
31	MMM	31	30	27	35	43	20	3M Company	A1	A1	Capital Goods	6	3,923.04	0.41	2.79	94.90	4.69	1.0871
32	ABT	32	32	29	29		105	Abbott Laboratories	A1	A1	Healthcare	4	4,166.33	0.44	2.63	97.71	4.54	1.0811
33	SRE	34	34	32	36	39	43	San Diego Gas & Electric Company / Southern Ca	A2 / AA3	A2 / AA3	Utility	6	2,684.90	0.28	3.20	95.13	4.83	1.0771
34	HSY	33	35	35	31	38	133	Hershey Co (The)	A2	A2	Consumer Goods	4	1,317.42	0.14	2.78	93.52	4.73	1.0730
35	DUK	35	36	36	42	48	7	Duke Energy Carolinas LLC / Duke Energy Progr	A1 / A2	A1 / A2	Utility	3	1,681.12	0.18	3.59	95.09	4.63	1.0646
36	DIS	36	33	24	28	37	87	Walt Disney Company	A3	A3	Media	11	10,137.93	1.07	2.88	94.73	4.77	1.0621
37	GS	37	38	39	45	46	18	Goldman Sachs Group Inc.	A3	A3	Financial Services	21	48,876.80	5.15	2.86	93.84	5.36	1.0555
38	MRK	38	37	37	39	44	67	Merck & Co. Inc	A1	A1	Healthcare	4	5,400.51	0.57	2.74	93.20	4.71	1.0268
39	BAC	39	40	43	49	54	57	Bank of America Corporation	A2 / A3	A2 / A3	Banking	35	77,987.63	8.22	2.80	94.75	5.41	1.0201
40	MFCCN	41	43	49	56		50	John Hancock Life Insurance Company Inc.	A2	A2	Insurance	1	471.21	0.05	1.13	101.93	5.57	1.0065
41	C	40	41	42	48	55	71	Citibank N.A. / Citigroup Inc.	A1 / A3	A1 / A3	Banking	21	43,037.81	4.54	2.89	94.06	5.48	1.0047
42	AXP	42	45	56	58	63	15	American Express Company	A3	A3	Financial Services	1	1,970.94	0.21	1.34	98.00	4.93	0.9933
43	ED	44	42	47		16	166	Consolidated Edison Company of New York Inc.	A3	A3	Utility	3	792.60	0.08	3.70	92.97	5.29	0.9676
44	CSCO	43	39	34	41	53	109	Cisco Systems Inc.	A1	A1	Technology & Electronics	4	3,624.04	0.38	2.74	95.65	4.67	0.9587
45	BHI	45	47	50	26	30	126	Baker Hughes Holdings LLC / Baker Hughes Co-C	A3	A3	Energy	2	1,177.38	0.12	2.35	93.42	4.94	0.9576
46	CMA	46	52	53		52	164	Comerica Bank	A3	A3	Banking	1	485.48	0.05	1.56	96.00	5.20	0.9566
47	PPL	47	46	45	46	51	170	Kentucky Utilities Company / Louisville Gas and E	A2	A2	Utility	2	529.68	0.06	2.75	95.48	5.08	0.9419
48	XEL	49	53	57	63	69	8	Public Service Company of Colorado / Southwest	A1 / A3	A1 / A3	Utility	2	587.76	0.06	1.83	96.78	4.94	0.9364
49	CVX	48	44	41	50	58	28	Chevron Corporation / Chevron USA Inc	AA3	AA3	Energy	8	9,042.99	0.95	2.86	93.69	4.63	0.9339
50	PFG	52	55	51	37	47	157	Principal Financial Group / Principal Life Global Fu	A1 / A3	A1 / A3	Insurance	12	5,491.82	0.58	2.61	91.99	5.18	0.9050
51	TXN	50	48	40	52	60	134	Texas Instruments Incorporated	A1	A1	Technology & Electronics	5	2,211.54	0.23	2.91	93.83	4.55	0.9041
52	ITW	53	51	46	51	62	123	Illinois Tool Works Inc.	A2	A2	Capital Goods	2	1,630.78	0.17	2.72	95.34	4.74	0.8997
53	MASSMU	51	54	48	43	56	156	Massmutual Global Funding II	AA2	AA2	Insurance	8	4,108.09	0.43	2.53	94.61	5.03	0.8995
54	HD	54	49	44	47	57	38	Home Depot Inc	A2	A2	Retail	9	7,821.90	0.83	3.19	95.20	4.59	0.8811
55	KMB	55	56	54	55	65	107	Kimberly-Clark Corporation	A2	A2	Consumer Goods	4	1,428.87	0.15	3.43	91.70	4.65	0.8779
56	BMY	56	57	55	60	66	113	Bristol-Myers Squibb Company	A2	A2	Healthcare	8	7,418.27	0.78	3.01	94.74	4.65	0.8745
57	CARGIL	57	58	61	68	76	62	Cargill Inc.	A2	A2	Consumer Goods	4	2,158.29	0.23	2.81	95.48	4.92	0.8353
58	D	58	59	60	62	70	56	The East Ohio Gas Company / Virginia Electric an	A3	A3	Utility	7	3,536.26	0.37	3.26	94.74	4.97	0.8309
59	KEY	59	62	66	76	80	10	KeyBank National Association	A3	A3	Banking	3	3,002.43	0.32	3.35	99.15	5.09	0.8193
60	APD	60	61	63	66	74	63	Air Products & Chemicals Inc.	A2	A2	Basic Industry	3	1,484.12	0.16	3.09	92.35	4.69	0.8090
61	GD	61	60	59	61	67	64	General Dynamics Corporation	A3	A3	Capital Goods	7	4,036.06	0.43	3.17	94.51	4.69	0.7984

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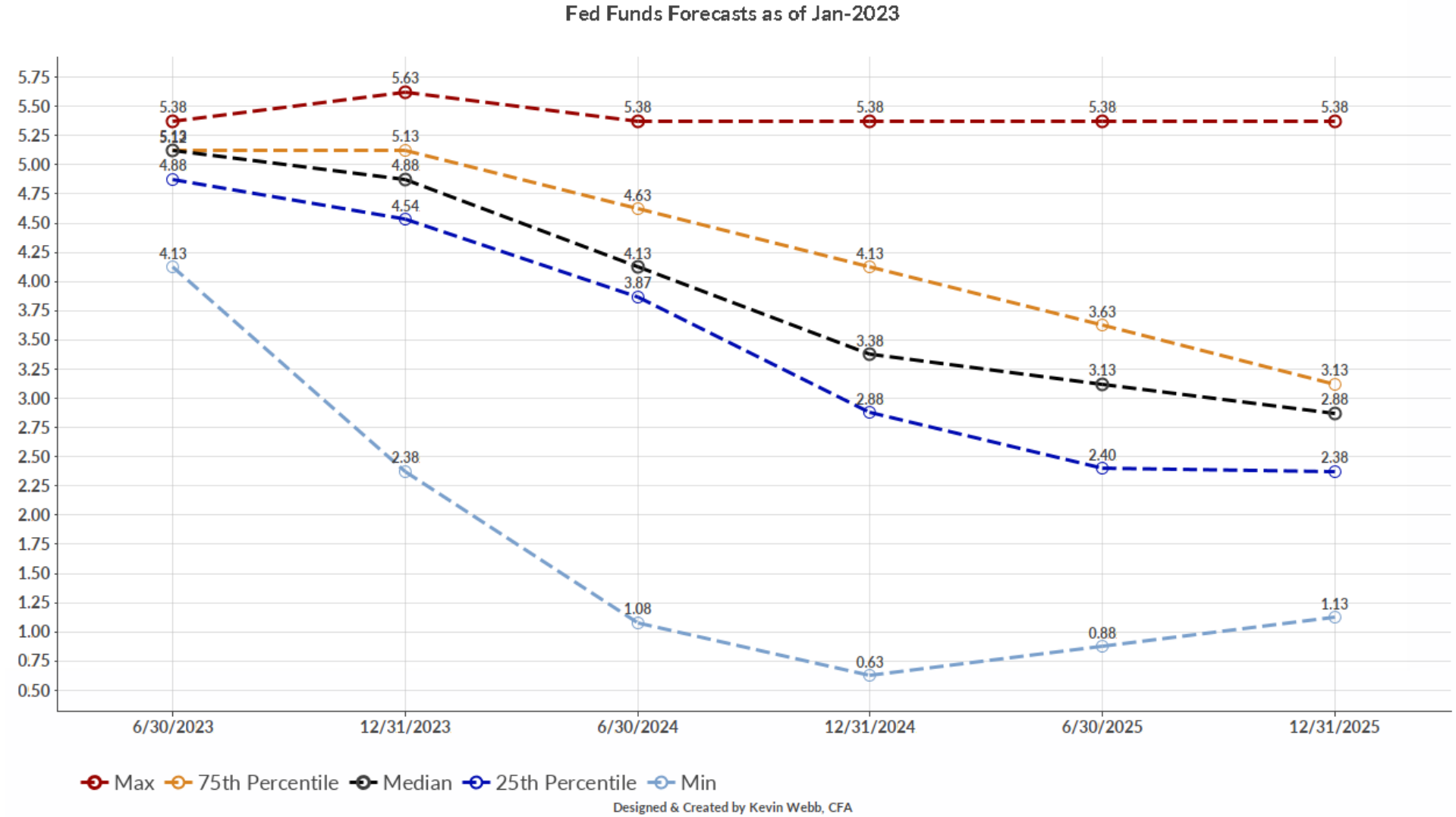
62	PNC	62	63	64	70	71	122	PNC Financial Services Group Inc	A3	A3	Banking	1	937.93	0.10	3.56	92.65	4.87	0.7867
63	COP	63	66	67	64	68	188	ConocoPhillips Co.	A2	A3	Energy	1	416.01	0.04	1.88	97.31	4.87	0.7606
64	AEE	64	65	71	38	49	5	Ameren Illinois Company / Union Electric Compar	A2	A2	Utility	3	1,018.81	0.11	2.72	95.90	4.83	0.7493
65	HSBC	66	70	77	81	82	49	HSBC USA Inc.	A2	A2	Banking	2	1,730.16	0.18	1.43	97.86	5.21	0.7355
66	PPG	67	67	69	77	84	131	PPG Industries Inc.	A3	A3	Basic Industry	2	913.49	0.10	2.71	90.95	5.09	0.7304
67	JNJ	65	64	62	71	81	69	Johnson & Johnson	AAA	AAA	Healthcare	6	6,594.44	0.69	3.14	92.92	4.46	0.7284
68	AFL	68	72	72	57	72	85	Aflac Incorporated	A3	A3	Insurance	2	637.64	0.07	3.47	90.70	4.92	0.7116
69	PCAR	69	69	70	65	79	138	Paccar Financial Corp	A1	A1	Automotive	11	3,932.12	0.41	2.20	95.20	4.79	0.7116
70	FITB	71	68		69	75		Fifth Third Bank of Cincinnati	A3	A3	Banking	1	547.42	0.06	4.09	90.30	4.90	0.6923
71	ROK	70	73	76		86	94	Rockwell Automation Inc.	A2	A2	Capital Goods	1	290.91	0.03	2.17	96.01	4.83	0.6859
72	PGR	72	71		73	78		The Progressive Corporation	A2	A2	Insurance	2	926.90	0.10	4.12	91.76	4.70	0.6727
73	HBAN	73	76	78	89	101	1	Huntington National Bank Maryland	A3	A3	Banking	2	1,887.39	0.20	2.91	98.74	5.50	0.6433
74	DHR	74			75	83		DH Europe Finance II SARL / Danaher Corporatio	A3		Healthcare	2	1,155.08	0.12	2.23	95.69	4.86	0.6324
75	TOYOTA	75	75	74	80	89	93	Toyota Motor Credit Corp.	A1	A1	Automotive	25	21,011.14	2.21	2.63	95.08	4.83	0.6273
76	BLK	76	74	68	79	90	31	BlackRock Inc.	AA3	AA3	Financial Services	2	1,663.13	0.18	2.42	96.89	4.77	0.6046
77	AMP	77	82	81	90	104	132	Ameriprise Financial Inc.	A3	A3	Financial Services	3	1,492.97	0.16	2.55	95.57	5.03	0.6021
78	SLB	78	83	85	88	98	54	Schlumberger Finance Canada Ltd / Schlumberger	A2 / A3	A2 / A3	Energy	4	3,613.57	0.38	1.76	97.34	5.02	0.5948
79	HNDA	79	81	79	87	100	120	American Honda Finance Corporation	A3	A3	Automotive	12	8,180.16	0.86	2.17	93.43	4.92	0.5937
80	SCHW	80	80	75	83	92	73	The Charles Schwab Corporation	A2	A2	Financial Services	13	9,445.99	1.00	2.81	94.06	4.82	0.5630
81	ETR	82	84	82	78	91	22	Entergy Arkansas LLC / Entergy Louisiana LLC	A2	A2	Utility	7	2,699.64	0.28	2.89	96.47	4.99	0.5619
82	LNT	81			128	142		Wisconsin Power and Light Company	A3		Utility	1	279.11	0.03	4.79	92.39	4.85	0.5588
83	MMC	85	87	88	95	109	68	Marsh & McLennan Companies Inc.	A3	A3	Insurance	4	2,677.38	0.28	1.88	97.85	4.96	0.5506
84	MSFT	83	79	73	84	96	112	Microsoft Corporation	AAA	AAA	Technology & Electronics	6	16,531.43	1.74	2.81	96.19	4.47	0.5494
85	PL	86	86	90	100	106	130	Protective Life Global Funding	AA3	AA3	Insurance	9	3,390.56	0.36	2.38	93.01	5.37	0.5466
86	UPS	84	85	83	98	107	100	United Parcel Service Inc.	A2	A2	Transportation	5	3,274.90	0.35	3.12	95.79	4.59	0.5448
87	ADM	87	77	65	67	77	119	Archer-Daniels-Midland Company	A2	A2	Consumer Goods	1	938.08	0.10	3.61	92.84	4.68	0.5359
88	KPERM	88	78		99	111		Kaiser Foundation Hospitals/Health Plan Inc.	AA3	AA3	Healthcare	1	541.93	0.06	4.34	93.72	4.77	0.5186
89	BEN	89	90	89	85	97	185	Franklin Resources	A2	A2	Financial Services	1	384.18	0.04	2.25	95.32	5.08	0.5164
90	SPG	90	92	98	107	108	59	Simon Property Group L.P.	A3	A3	Real Estate	8	6,179.16	0.65	2.74	94.84	5.10	0.5039
91	CTAS	91	88		110			Cintas Corporation No. 2	A3	A3	Services	2	1,364.20	0.14	3.70	96.62	4.69	0.4811
92	CMS	93	97	101	97	125	21	Consumers Energy Company	A1	A1	Utility	1	244.00	0.03	1.67	96.55	5.33	0.4800
93	SWK	92	93	96	105	112	96	Stanley Black & Decker Inc.	A3	A3	Capital Goods	2	960.43	0.10	2.66	95.07	4.95	0.4778
94	EL	94	95	93	111	114	102	The Estee Lauder Companies Inc.	A1	A1	Consumer Goods	2	953.12	0.10	3.07	94.76	4.69	0.4742
95	XOM	95	89	80	92	113	30	Exxon Mobil Corporation	AA3	AA3	Energy	7	10,638.59	1.12	2.59	95.83	4.66	0.4684
96	LMT	96	96	92	103		88	Lockheed Martin Corporation	A3	A3	Capital Goods	3	2,271.95	0.24	3.61	99.77	4.56	0.4614
97	PRU	98	98	105	118	116	161	Pricoa Global Funding I / The Prudential Insurance	A2 / AA3	A2 / AA3	Insurance	7	3,109.16	0.33	2.67	93.61	5.13	0.4575
98	NKE	97	91	84	91		55	Nike Inc.	A1	A1	Retail	3	2,832.08	0.30	3.43	93.84	4.50	0.4556
99	PM	99	94	87	86	103	40	Philip Morris International Inc.	A2	A2	Consumer Goods	9	7,282.79	0.77	3.16	96.63	4.95	0.4549
100	CME	100	99	102	117	123	84	CME Group Inc.	AA3	AA3	Financial Services	1	731.80	0.08	2.21	96.69	4.59	0.4442
101	EOG	101	101	108	101		19	EOG Resources Inc.	A3	A3	Energy	2	1,237.34	0.13	2.73	97.53	4.79	0.4338
102	HRL	102	100	106	113	119	180	Hormel Foods Corp	A2	A2	Consumer Goods	1	898.52	0.09	1.43	94.21	4.92	0.4336
103	STT	103	103	109	124	126	86	State Street Corporation	A1	A1	Financial Services	3	2,983.90	0.31	2.59	96.64	4.61	0.4281
104	MTB	104			127	127		M&T Bank Corporation / Manufacturers & Trader	A3		Banking	3	1,464.25	0.15	4.03	96.57	5.30	0.4197
105	TTXCO	106	106	110	120	139	186	TTX Co.	A2	A2	Transportation	2	750.70	0.08	1.71	97.04	5.62	0.4025
106	AMAT	105	102	100	109	115	33	Applied Materials Inc.	A2	A2	Technology & Electronics	2	1,840.33	0.19	3.69	96.00	4.68	0.3904
107	TIAAGL	108	109	118	94	94	162	TIAA Asset Management Finance Company LLC /	A2 / AA3	A2 / AA3	Insurance	2	1,320.16	0.14	1.81	96.95	6.02	0.3878
108	BX	107		122	136	155		Blackstone Holdings Finance Co. L.L.C.	A1		Financial Services	2	882.44	0.09	4.82	97.40	5.68	0.3861
109	STNFRD	109				102		Stanford University	AAA		Services	1	261.17	0.03	4.42	86.95	4.59	0.3709
111	EQR	114	104	91	96	117	23	ERP Operating Limited Partnership	A3	A3	Real Estate	3	1,272.65	0.13	3.58	93.63	5.10	0.3449
112	MS	113	115	125	142	132	42	E Trade Financial LLC / Morgan Stanley	A2	A2	Financial Services	26	56,115.78	5.92	2.83	94.48	5.35	0.3448
113	L	112	111	116	126		52	Loews Corporation	A2	A2	Insurance	1	487.87	0.05	3.25	96.64	4.88	0.3432
114	HCSERV	115	114	112			159	Health Care Service Corp.	A2	A2	Healthcare	1	460.29	0.05	2.42	91.93	5.09	0.3404
115	TJX	111	105	95	108	122	25	The TJX Companies Inc.	A2	A2	Retail	1	922.44	0.10	3.71	91.58	4.75	0.3328

Market Rate of Return

The 5 Points of Suitability


Fed Funds Forecasts as of Jan-2023
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4.54
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2.88
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2.38
4.13
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0.63
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6/30/2023
12/31/2023
6/30/2024
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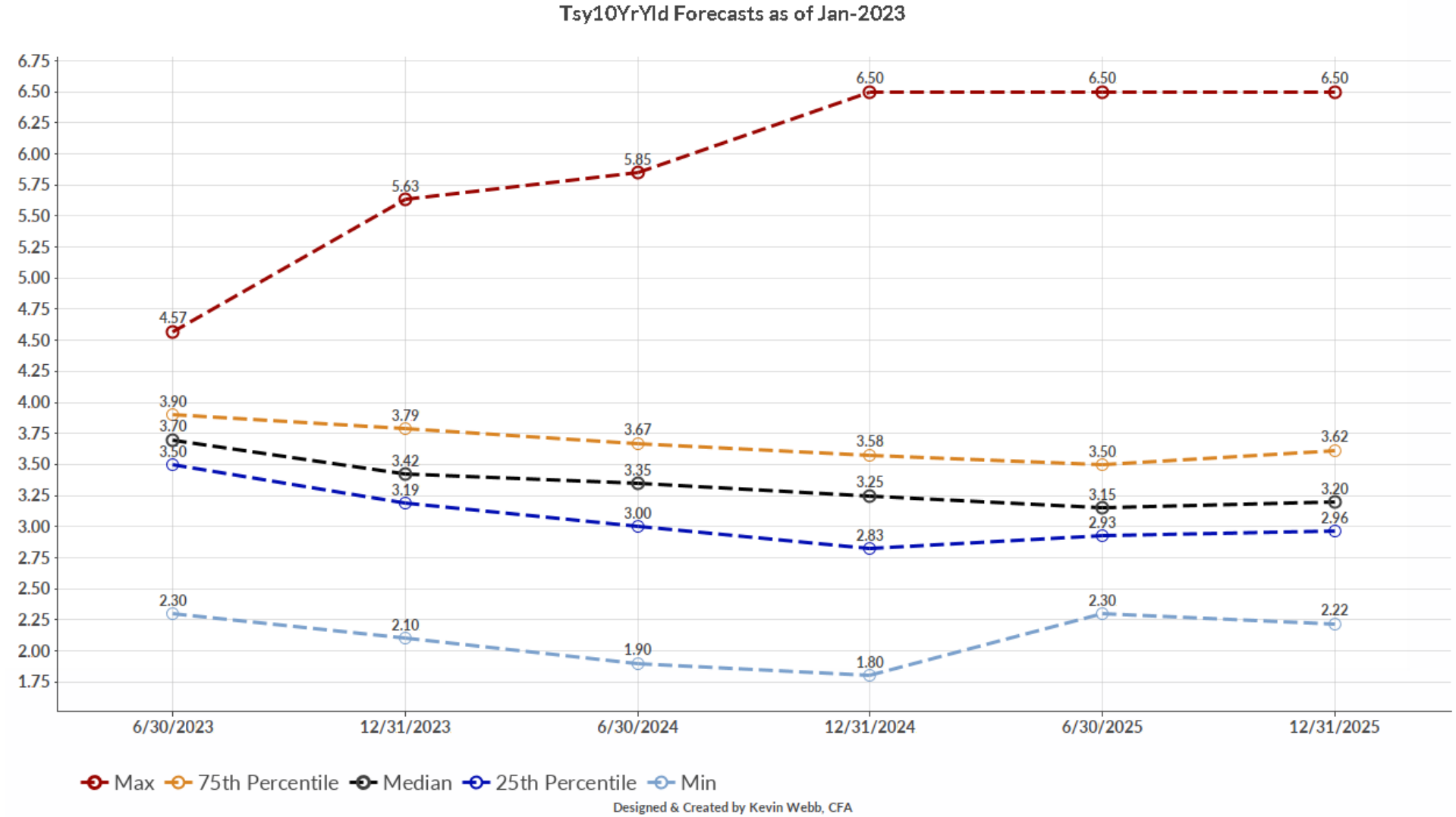
12/31/2025
Max
75th Percentile
Median
25th Percentile
Min
Designed & Created by Kevin Webb, CFA


Tsy10YrYld Forecasts as of Jan-2023
6.75
6.50
6.25
6.00
5.75
5.50
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4.75
4.50
4.25
4.00
3.75
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6.50
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5.63
4.57
3.90
3.79
3.67
3.58
3.50
3.62
3.70
3.42
3.35
3.25
3.15
3.20
3.50
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3.00
2.83
2.93
2.96
2.30
2.10
1.90
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6/30/2023
12/31/2023
6/30/2024
12/31/2024
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Max
75th Percentile
Median
25th Percentile
Min
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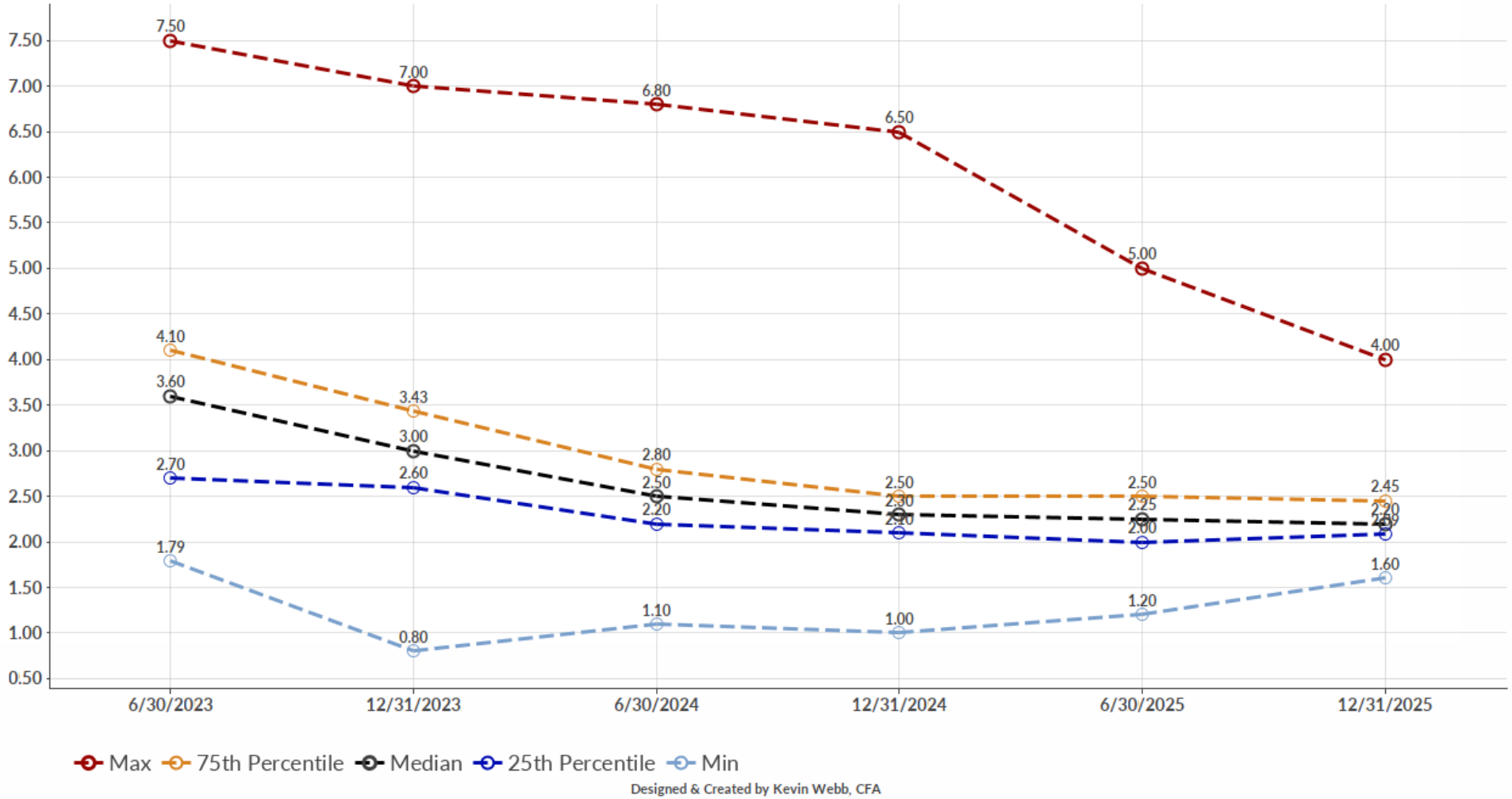
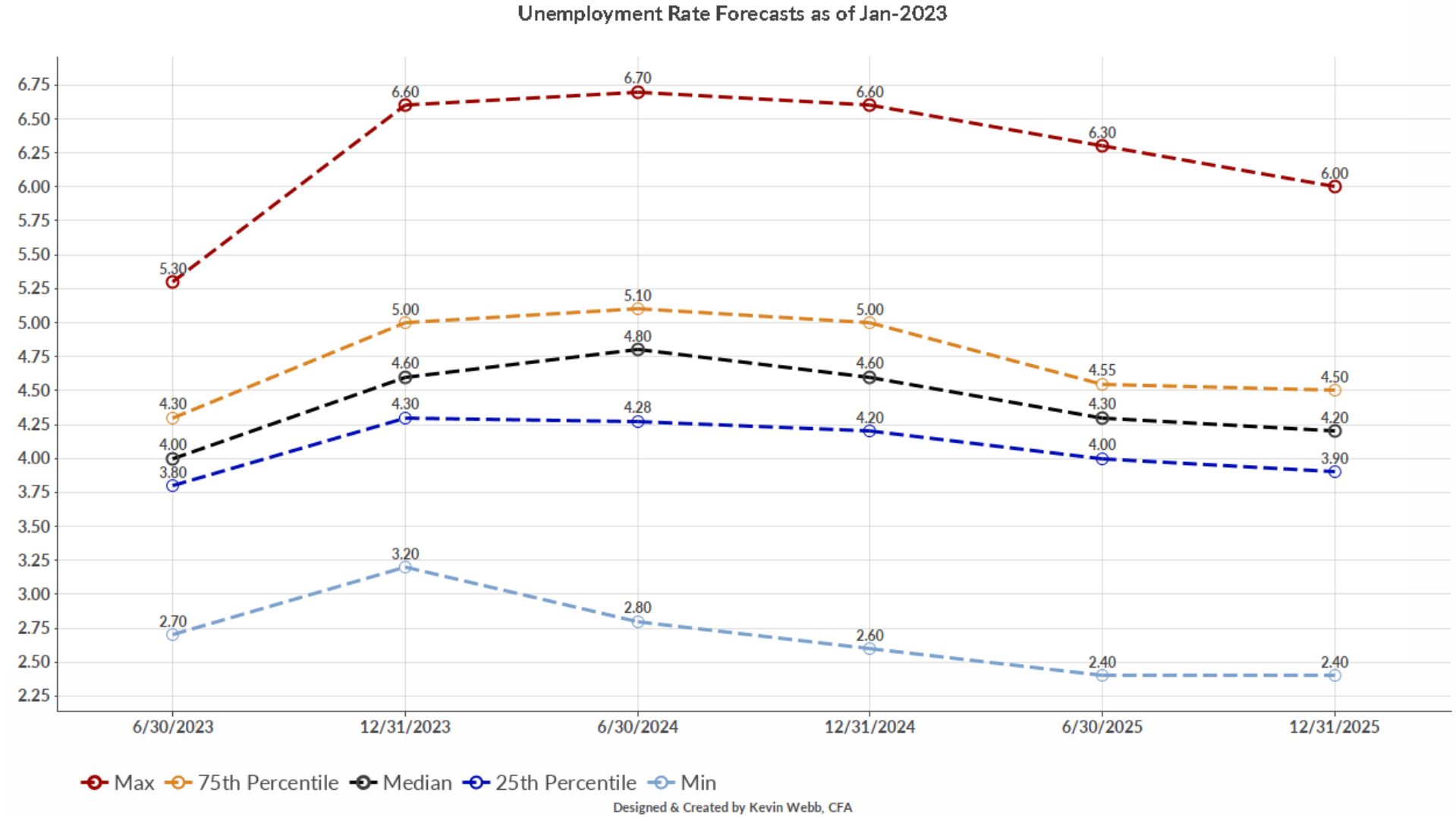
CPI Rate Forecasts as of Jan-2023



Designed & Created by Kevin Webb, CFA


Unemployment Rate Forecasts as of Jan-2023
6.75
6.50
6.25
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5.50
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4.00
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4.00
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6/30/2023
12/31/2023
6/30/2024
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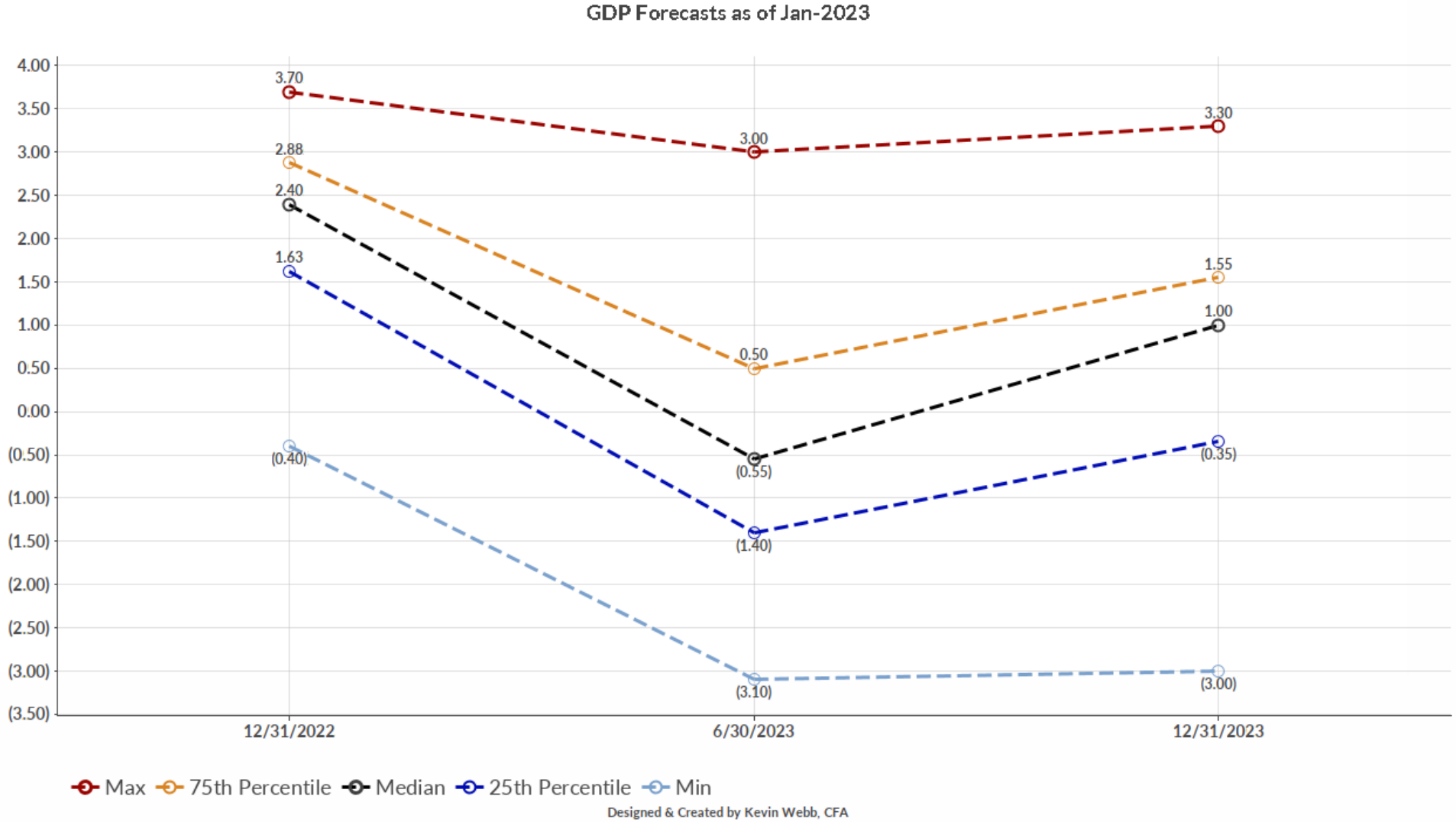
Max
75th Percentile
Median
25th Percentile
Min
Designed & Created by Kevin Webb, CFA


GDP Forecasts as of Jan-2023
4.00
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2.00
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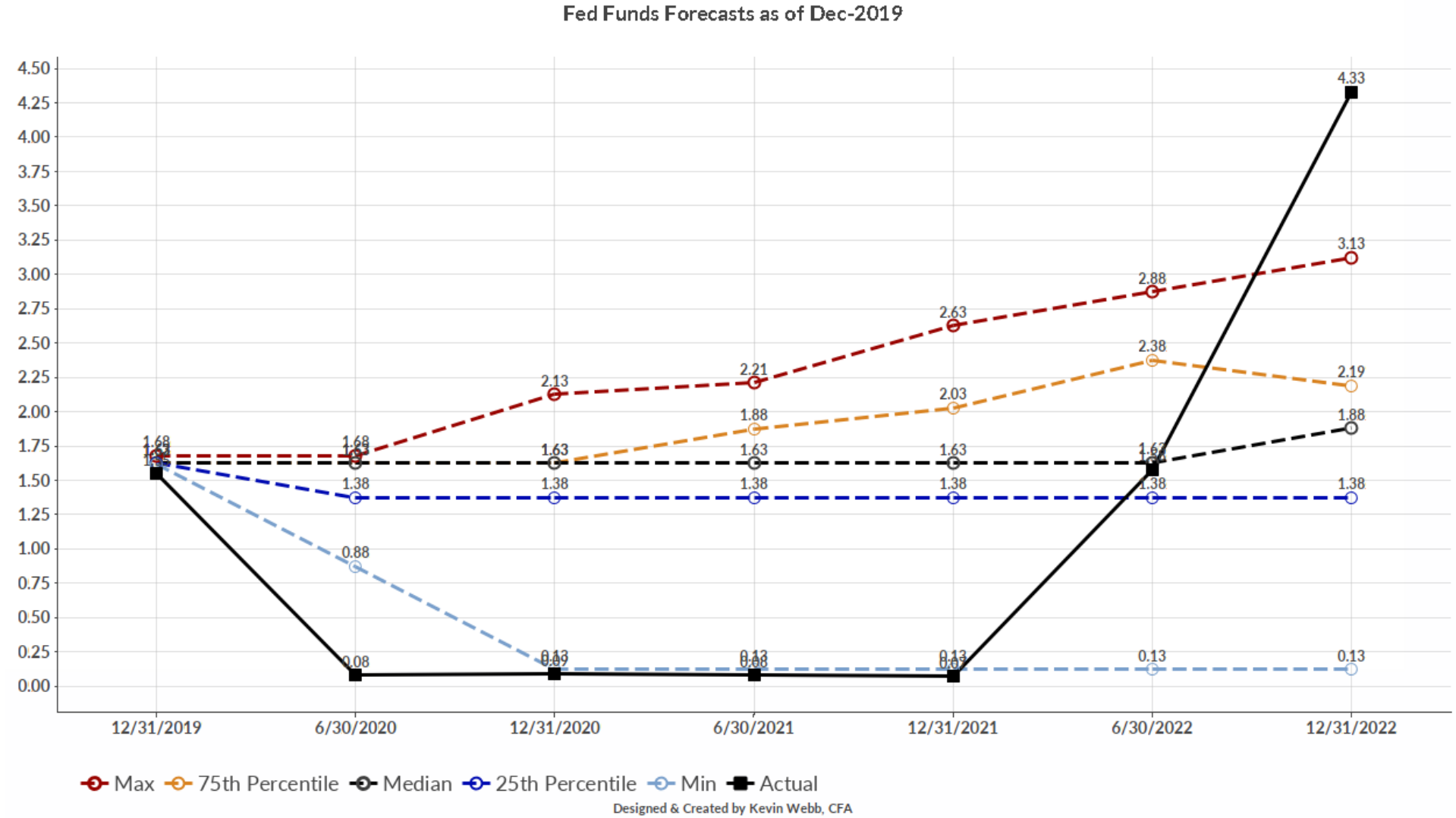
Max
75th Percentile
Median
25th Percentile
Min
Designed & Created by Kevin Webb, CFA


Fed Funds Forecasts as of Dec-2019
4.50
4.25
4.00
3.75
3.50
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3.00
2.75
2.50
2.25
2.00
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12/31/2019
6/30/2020
12/31/2020
6/30/2021
12/31/2021
6/30/2022
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1.68
1.68
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2.21
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2.88
3.13
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2.03
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Median
25th Percentile
Min
Actual
Designed & Created by Kevin Webb, CFA

Strategy Webb Toolkit Sector Overview

Analysis Begin Date: 12/31/2000 **Analysis End Date:** 12/31/2022

Fixed Income Sector	Average Edur	Average Ytw	Main Street Ratio	Annualized Total Return StdDev	Annualized Total Return	Sharpe Ratio (Total Return)
3-mo US Treasury Bill	0.236	1.340	0.000	0.484	1.436	0.000
US Treasury Current 2 Yr	**1.923**	**1.786**	**0.232**	**1.620**	**2.167**	**0.452**
USTreasury Current 3 Yr	2.820	2.000	0.234	2.490	2.649	0.487
US Treasury Current 5 Yr	**4.647**	**2.418**	**0.232**	**4.281**	**3.192**	**0.410**
US Treasury Current 10 Yr	8.607	3.054	0.199	7.434	3.416	0.266
US Treasury Current 30 Yr	**18.279**	**3.702**	**0.129**	**14.384**	**4.184**	**0.191**

Graph Item Definitions

Average Edur (Left Axis)

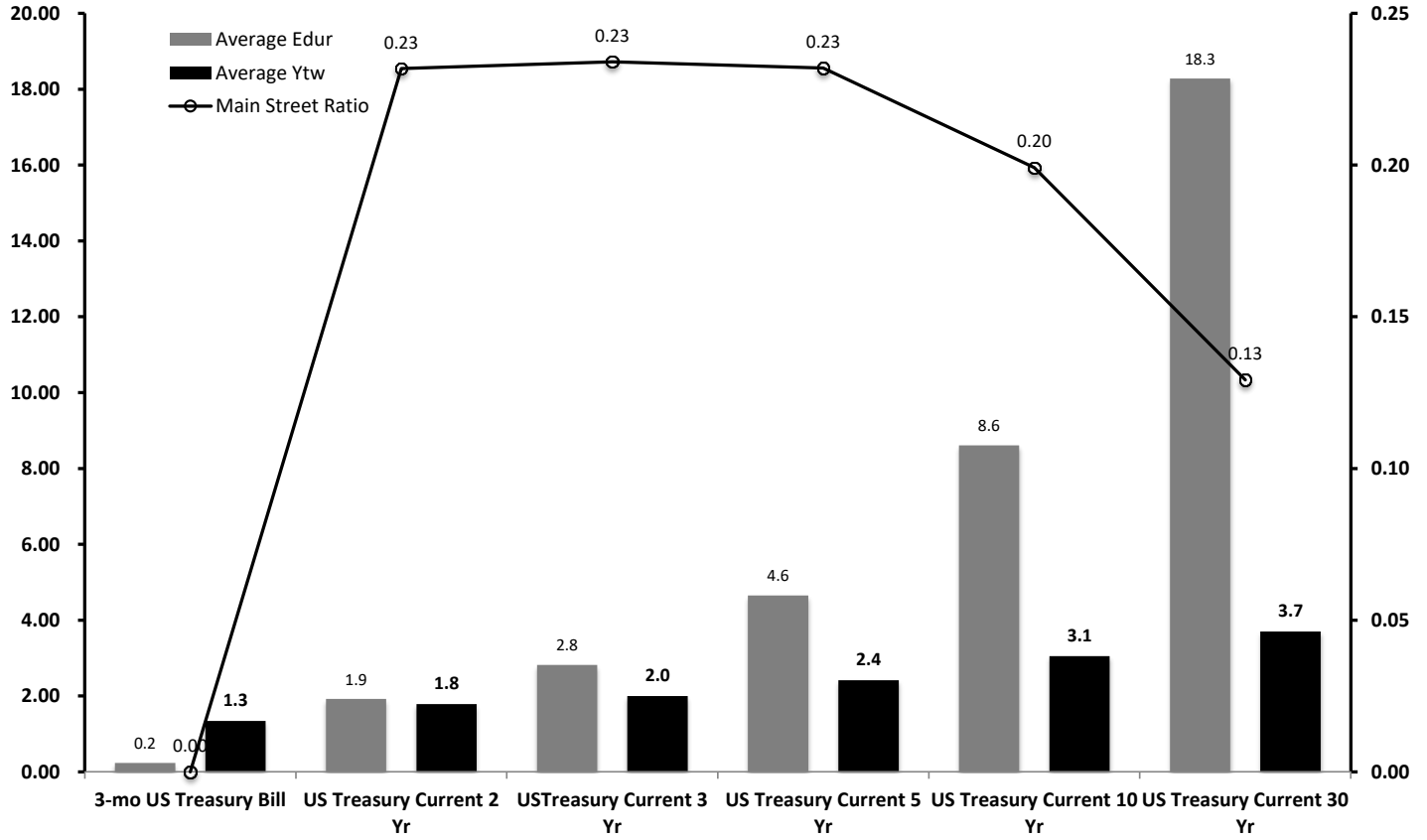
This is the average of the monthly effective durations over the period. Effective Duration is the by-product of an option model that takes into consideration any possible early redemption features and is read as a percent which gives the inverse percent change in market value for a given percent change in interest rates.

Average Ytw (Left Axis)

This is the Average Yield To Worst and represents the average over the period of all the yield to worsts. Yield to Worst is the lowest potential yield that can be received without a default. Yield To Worst over a given period can act as a proxy for what the expected book income might have been. A higher number, all things equal, is better.

Main Street Ratio (Right Axis)

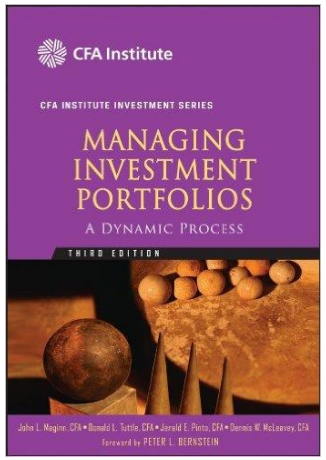
The Main Street Ratio measures the average excess Yield To Worst that could have been earned over the risk-free rate (US 3 Month Tsy Bill) per unit of average interest rate risk (Average Effective Duration) over the period. It is (Avg YTW-3MoTBillYTW)/Avg Edur. All things being equal, a higher ratio is better.



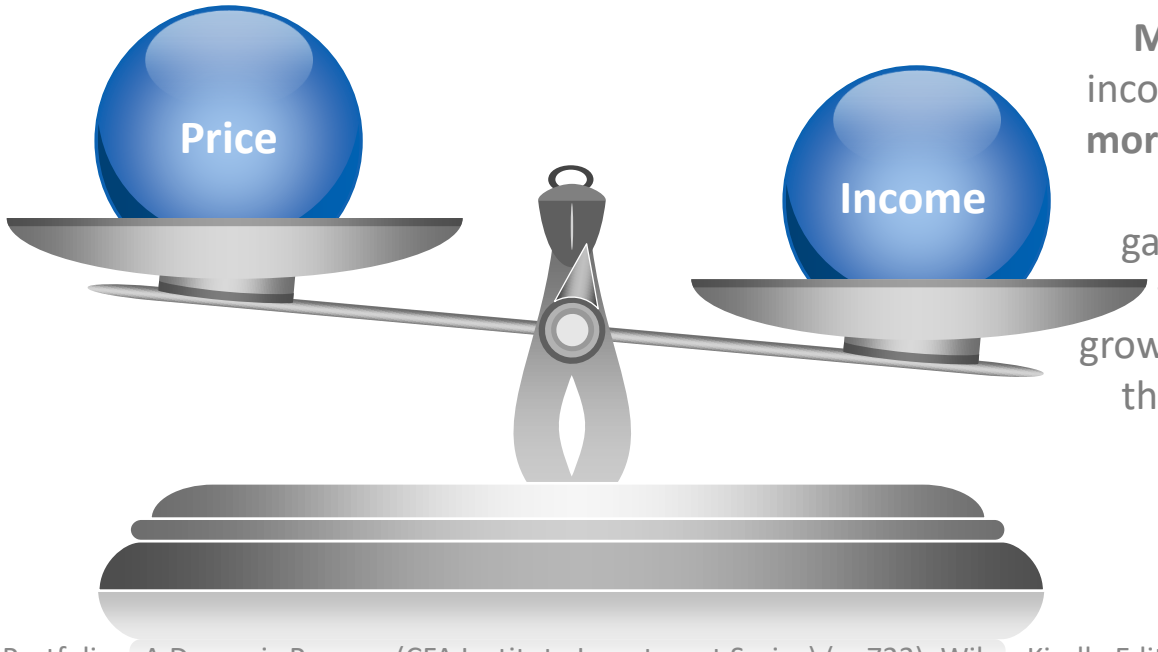
Designed & created by Kevin Webb, CFA. Data from FRED, Wilshire, Bloomberg, Federal Reserve & US Treasury. Calculations are my own.

What are your Return Preferences?

Total Return assumes indifference between Price return & Income return.



Total rate of return measures the increase in the investor's wealth due to both investment income (for example, dividends and interest) and capital gains (both realized and unrealized). ***The total rate of return implies that a dollar of wealth is equally meaningful to the investor whether that wealth is generated by the secure income from a 90-day Treasury bill or by the unrealized appreciation in the price of a share of common stock.***



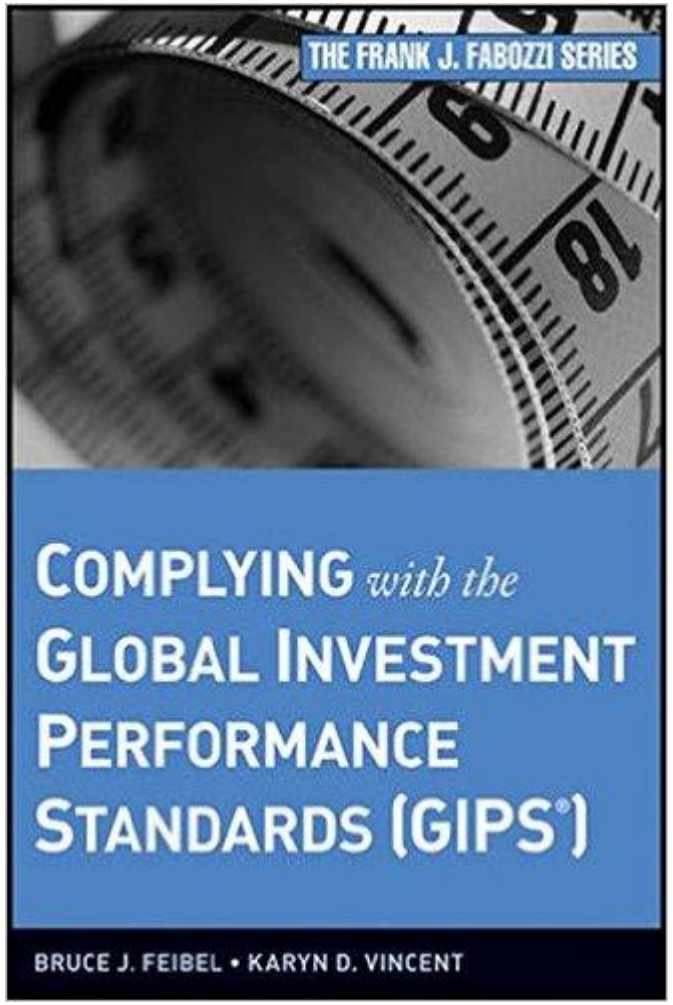
Income

Most public funds are income oriented and **put more weight on income.** If you don't budget gains/losses and aren't tasked with portfolio growth from investments then you likely have an income preference.

Managing Investment Portfolios: A Dynamic Process (CFA Institute Investment Series) (p. 723). Wiley. Kindle Edition. Emphasis added.

What about GIPS?

The Global Investment Performance Standards



> The GIPS standards are typically used when performance information is communicated between an investment firm and prospective institutional investors ... there is no law that an investment firm must create its marketing materials according to the GIPS standards ...

Feibel, Bruce J.; Vincent, Karyn D.. Complying with the Global Investment Performance Standards (GIPS) (Frank J. Fabozzi Series) (Kindle Locations 321-326). Wiley. Kindle Edition.

The first thing I get asked about the portfolio is…

Return is last for primary objectives but usually the first question asked…

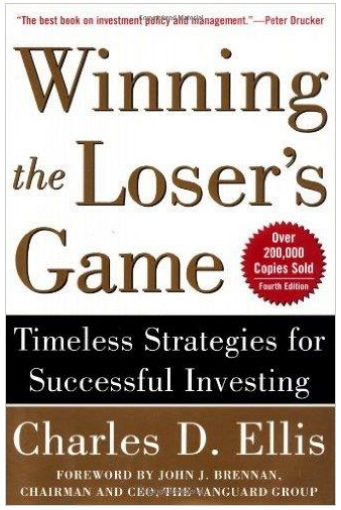
"...**the basic assumption that most institutional investors can outperform the market is false.** The institutions are the market. They cannot, as a group, outperform themselves. In fact, given the cost of active management—fees, commissions, and so forth—most investment managers will, over the long term, underperform the overall market. ...

For any one manager to outperform the other professionals, he must be so skillful and so quick that he can regularly catch other professionals making errors—and can systematically exploit those errors faster than other professionals can. ...

The beginning of wisdom for you is to understand that few—if any—major investment organizations will outperform the market averages over long periods of time and that it is very difficult to estimate which managers will outperform. ...

The truly important but not very difficult task to which investment managers and their clients could and should devote themselves involves four steps: (1) understanding the client's real needs, (2) defining realistic investment objectives that can meet a client's realistic needs, (3) establishing the right asset mix for each particular portfolio, and (4) developing well-reasoned, sensible investment policies designed to achieve the client's realistic and specified long-term investment objectives. In this work, success can be easily achieved."

Ellis, Charles D.. Winning the Loser's Game: Timeless Strategies for Successful Investing (Winning the Loser's Game, 3rd ed) (Kindle Locations 243-540). McGraw-Hill Education. Kindle Edition.



GFOA Sample IPS

General Objectives

"The primary objectives, in priority order...

1. Safety

Safety of principal is the foremost objective… ***The goal will be to mitigate credit risk and interest rate risk.***

2. Liquidity

The investment portfolio shall ***remain sufficiently liquid*** to meet all operating requirements that may be reasonably anticipated.

3. Return

The investment portfolio shall be designed with the objective of attaining a ***market rate of return throughout budgetary and economic cycles***, taking into account the investment risk constraints of safety and liquidity needs."

GFOA Sample Investment Policy, accessed 12/31/16, pages 1-2. Emphasis added.

Suitability Benchmark Process

You decide your benchmarks. Don‘t let an index decide.

1. Liquidity

Examine historical cash flows to determine optimal liquidity.

2. Interest Rate Risk

Use Treasury Bellwethers to get a “feel” for your interest rate risk preference.

4. Market Rate of Return

Use indices or liabilities to determine optimal market rate of return benchmark point/range.

3. Credit Risk

Use credit analysis to determine preference for credit volatility.

Strategy Webb Toolkit Sector Overview

Analysis Begin Date: 12/31/2000 **Analysis End Date:** 12/31/2022

Fixed Income Sector	Annualized Price Return	Annualized Coupon Return	Average Ytw	Main Street Ratio	Sharpe Ratio (Total Return)	WEBB Ratio
3-mo US Treasury Bill	1.436	0.000	1.340	0.000	0.000	0.000
US Treasuries 1-5yr	**(0.272)**	**2.681**	**1.946**	**0.239**	**0.513**	**0.285**
Agy Bullet 1-5Yr	(0.335)	3.007	2.122	0.331	0.689	0.386
Agy Callable 1-5Yr	**(0.426)**	**2.142**	**2.138**	**0.516**	**0.315**	**0.574**
US Financial Corp 1-5yr	(0.700)	4.057	3.458	0.774	0.605	0.550
U.S Industrial Corp 1-5yr	**(0.811)**	**4.169**	**3.268**	**0.690**	**0.781**	**0.626**

Graph Item Definitions

Annualized Price Return (Left Axis)

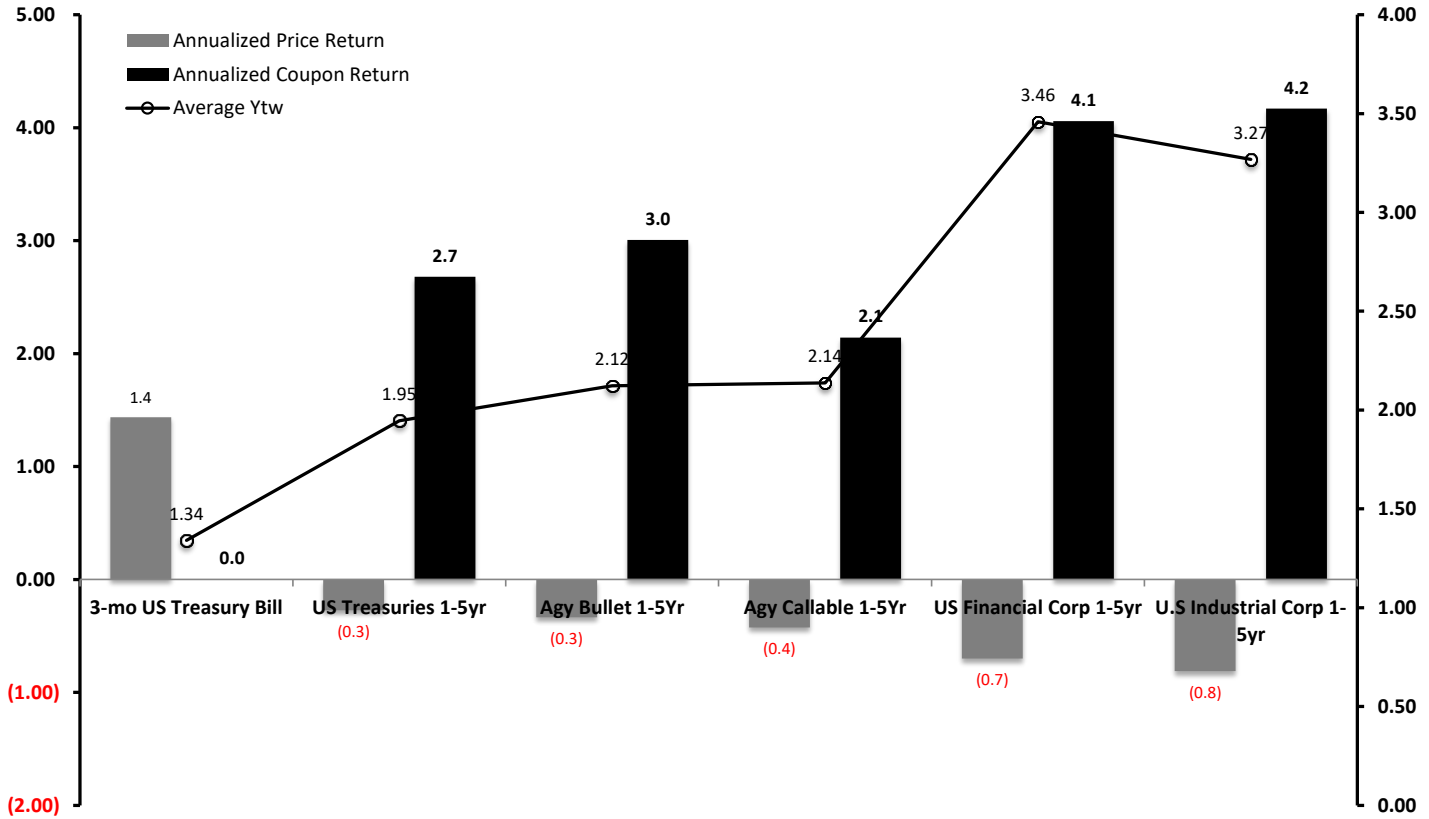
The monthly price returns annualized over the period. This includes only that portion of the return due to price fluctuations. A higher number, all things being equal, is better.

Annualized Coupon Return (Left Axis)

The monthly couponl returns annualized over the period. This is a derived piece of data calculated by taking the difference in the monthly total return and the monthly price return. A higher number, all things being equal, is better.

Average Ytw (Right Axis)

This is the Average Yield To Worst and represents the average over the period of all the yield to worsts. Yield to Worst is the lowest potential yield that can be received without a default. Yield To Worst over a given period can act as a proxy for what the expected book income might have been. A higher number, all things equal, is better.



Strategy Webb Toolkit Sector Overview

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Graph Item Definitions

Main Street Ratio (Left Axis)

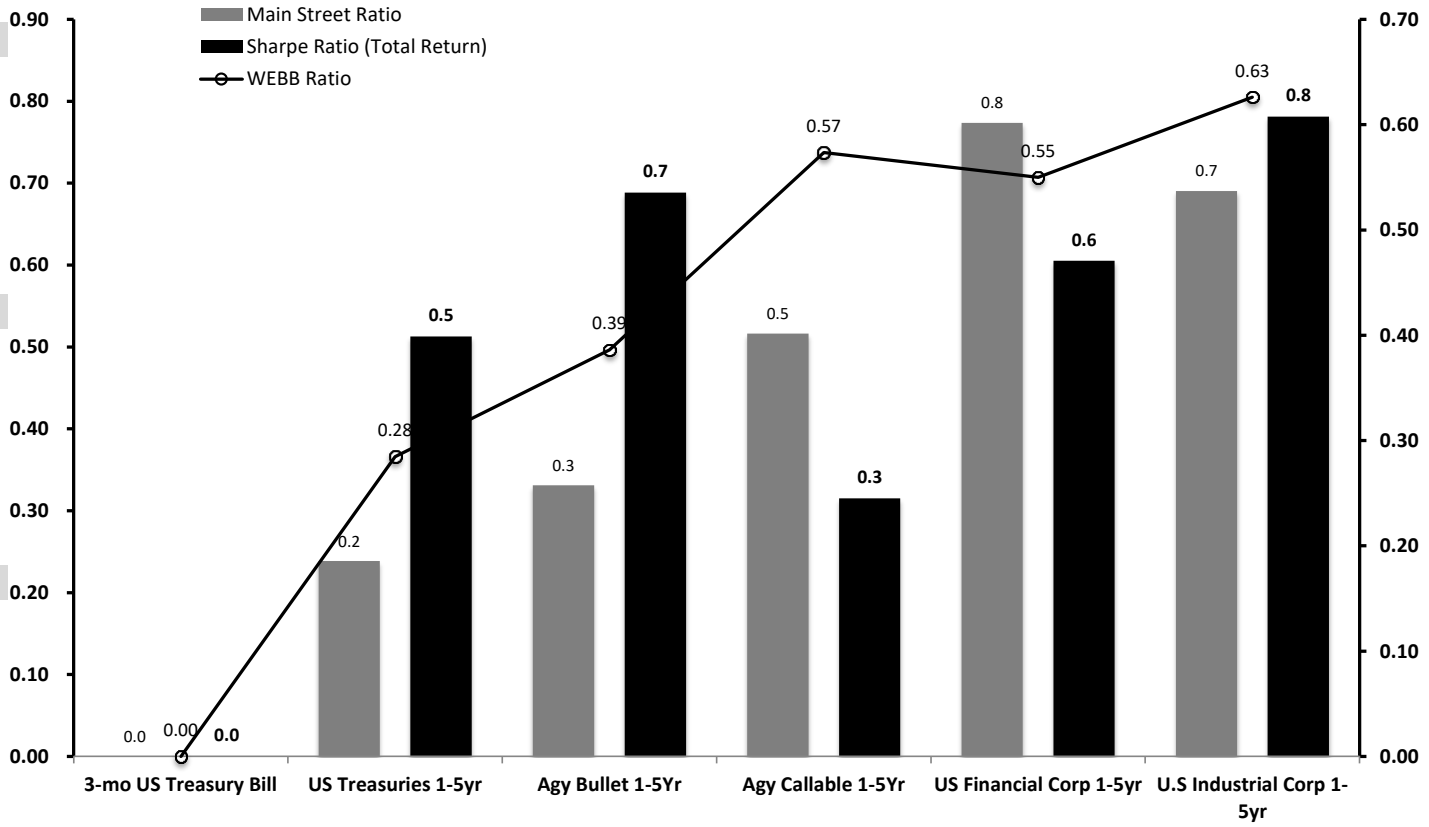
The Main Street Ratio measures the average excess Yield To Worst that could have been earned over the risk-free rate (US 3 Month Tsy Bill) per unit of average interest rate risk (Average Effective Duration) over the period. It is (Avg YTW-3MoTBillYTW)/Avg Edur. All things being equal, a higher ratio is better.

Sharpe Ratio (Total Return) (Left Axis)

Named after Nobel Laureate William Sharpe, the Sharpe Ratio shows the excess return over the risk-free rate (the US 3 Month Tsy Bill) per unit of risk (the standard deviation of the total return of the index being analyzed). The ultimate industry standard "how much bang for the buck" ratio. All things being equal, a higher ratio is better.

WEBB Ratio (Right Axis)

The WEBB Ratio is an estimate of Book Income adjusted for Total Risk. It divides the Average Yield To Worst by the Annualized Total Return Standard Deviation. Provides an estimate of how much average income per unit of risk was obtained over the historical period. A higher number, all things equal, is better.



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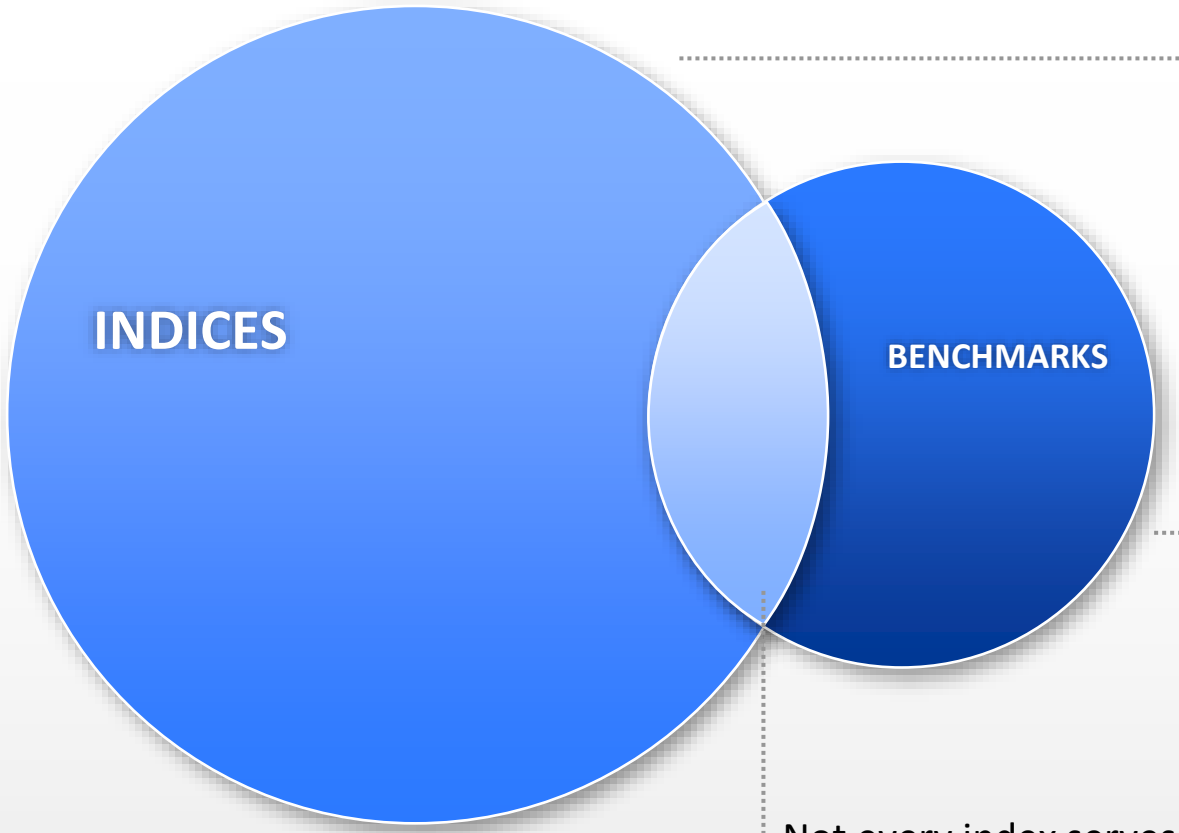
Benchmark/Index Examples

Benchmark does not necessarily mean an Index



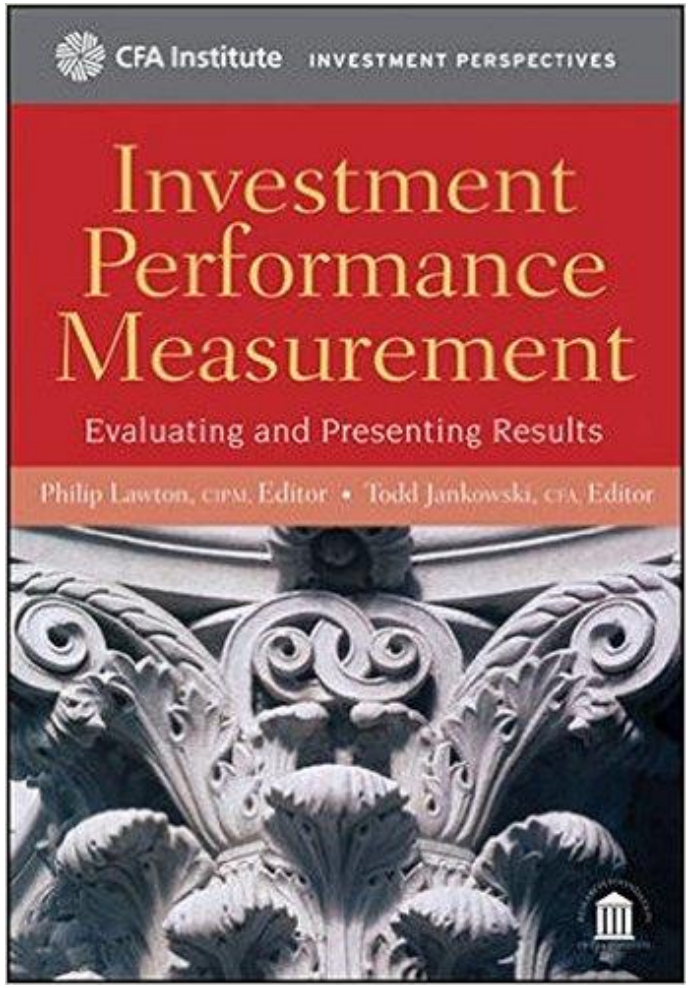
Index
a numerical scale used to compare variables with one another or with some reference number ... can reveal relative changes as a function of time.

Benchmark
A standard by which something can be measured or judged. Can help set expectations.

Not every index serves as a benchmark and not every benchmark is an index.

Problems Using Bond Indices as Benchmarks

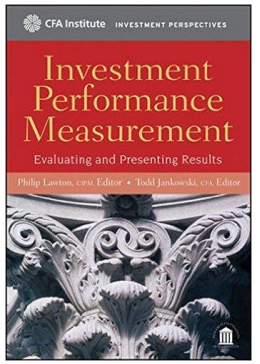
Bums & Duration



> Fixed-income benchmarks embody a great many complex issues … two issues: the duration problem and the "bums" problem. …The duration problem is the fact that the duration of the benchmark comes from issuer preferences and is not necessarily the duration that a given investor should hold. The bums (or deadbeats) problem is that the biggest debtors (whether companies, countries, or other entities) have the largest weights in the benchmark.

Investment Performance Measurement: Evaluating and Presenting Results (CFA Institute Investment Perspectives) (Kindle Locations 4006-4012). Wiley. Kindle Edition.

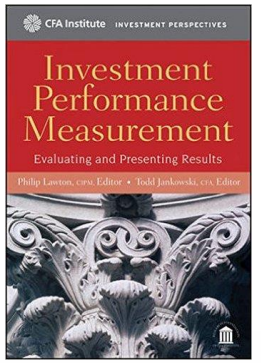
The Duration Problem



> The duration structure of a cap-weighted bond benchmark—that is, the proportions of bonds in short-, intermediate-, and long-term categories—reflects the maturity or duration preferences of issuers, who are seeking to minimize their (apparent) cost of capital. Investors, however, are not trying to minimize their returns (which are the issuers' costs of capital) but to maximize returns. Moreover, an investor usually has specific time-horizon preferences that make one duration more advantageous than another. These preferences do not necessarily match those of issuers in the aggregate, whose preferences are reflected in the benchmark. ... ***Because the benchmark duration is a historical accident, the optimal portfolio for an investor with no defined time horizon should be set by that investor's risk tolerance rather than by matching the duration of the benchmark.***

Investment Performance Measurement: Evaluating and Presenting Results (CFA Institute Investment Perspectives) (Kindle Locations 4067-4082). Wiley. Kindle Edition. Emphasis added.

The “bums” Problem

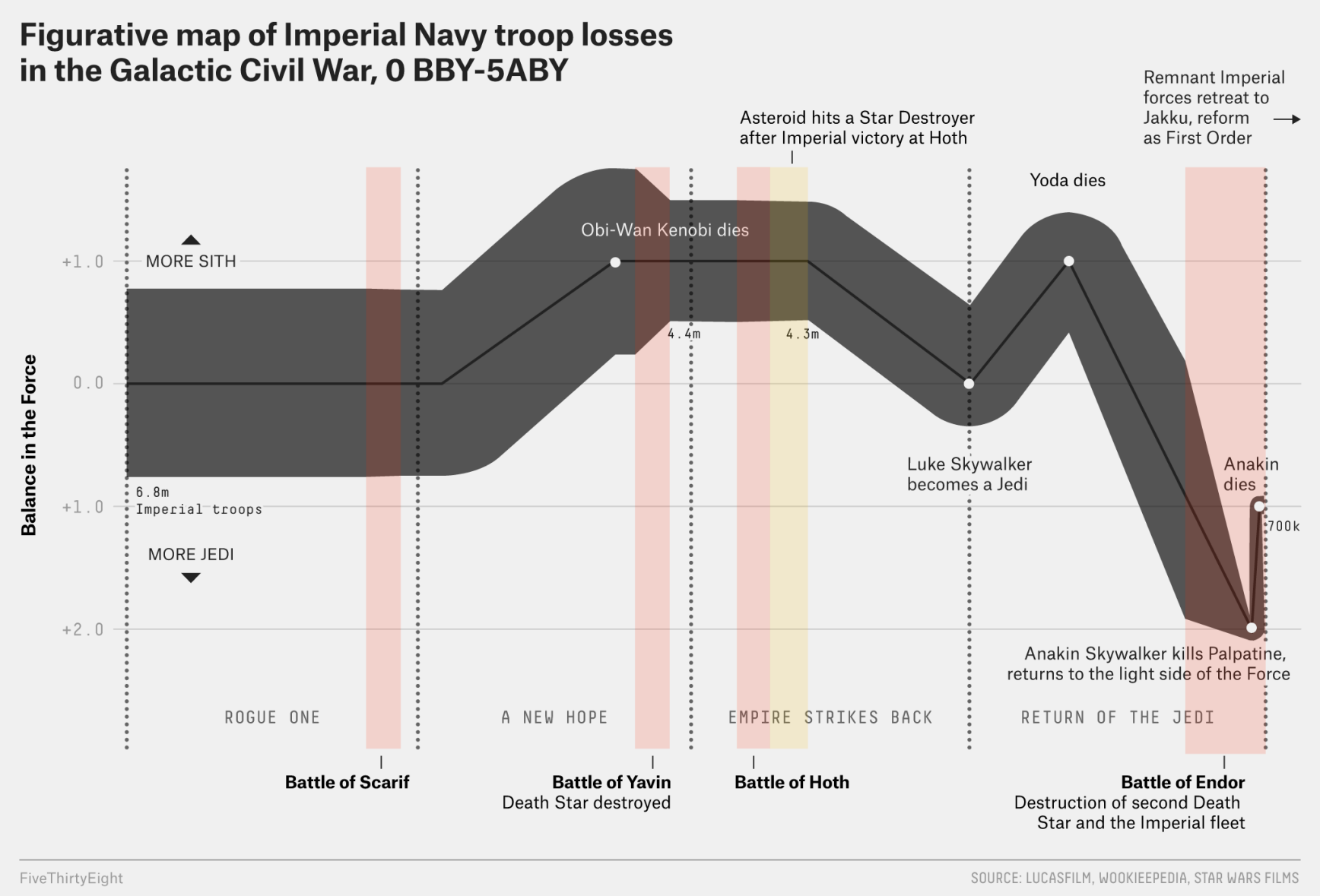


> ***Because the issuers who manage to go deepest into debt—the biggest bums—have the largest weights in a cap-weighted benchmark, such a benchmark is not likely to be mean-variance efficient.*** If you are tracking such a benchmark, when someone issues a security, you have to buy it in proportion to its capitalization weight to minimize tracking error to the benchmark, even if the security is only marginally of high enough quality to make it into the benchmark and even if the size of the issue, and hence its weight in the benchmark, is inordinately large. Such securities would seem to be the most likely to be downgraded or to default. The bums problem applies to countries in an international sovereign bond benchmark just as it does to corporations in a U.S. bond benchmark.

Investment Performance Measurement: Evaluating and Presenting Results (CFA Institute Investment Perspectives) (Kindle Locations 4102-4107). Wiley. Kindle Edition. Emphasis added.

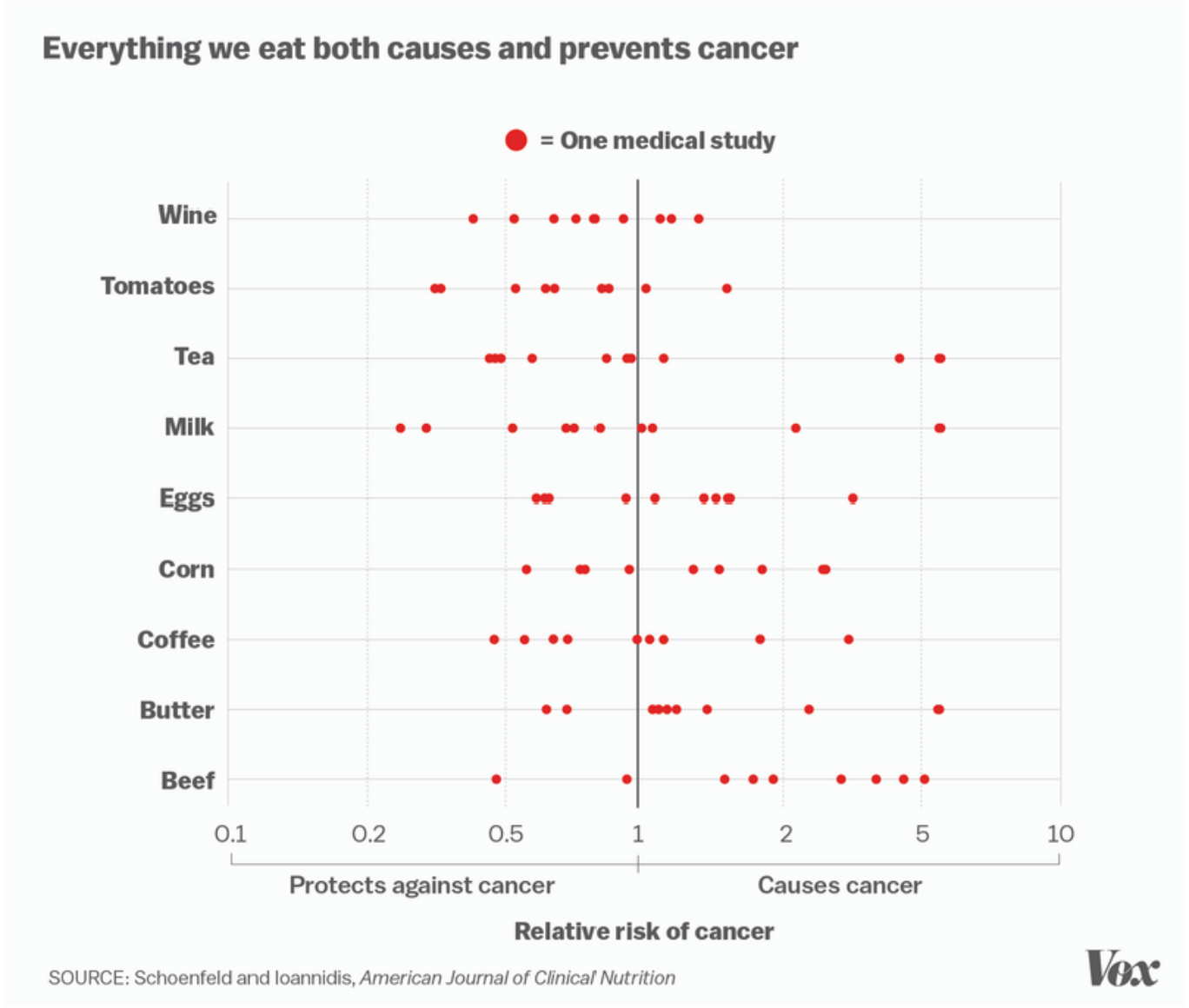
Visualizing the Portfolio versus the Benchmarks

Good visualizations bring together a complex narrative…



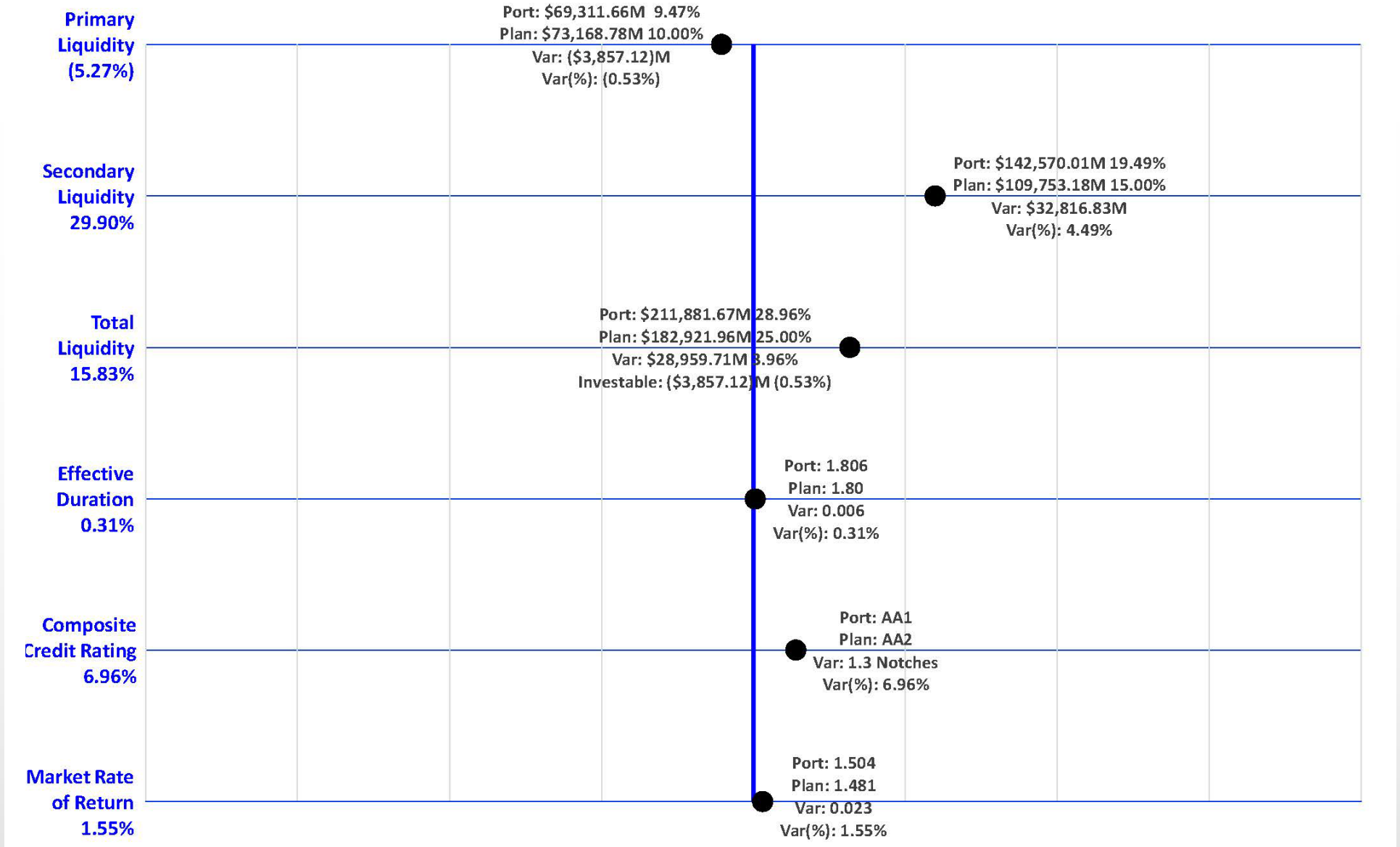
Visualizing the Portfolio versus the Benchmarks

… and allow relative comparisons across different measures.

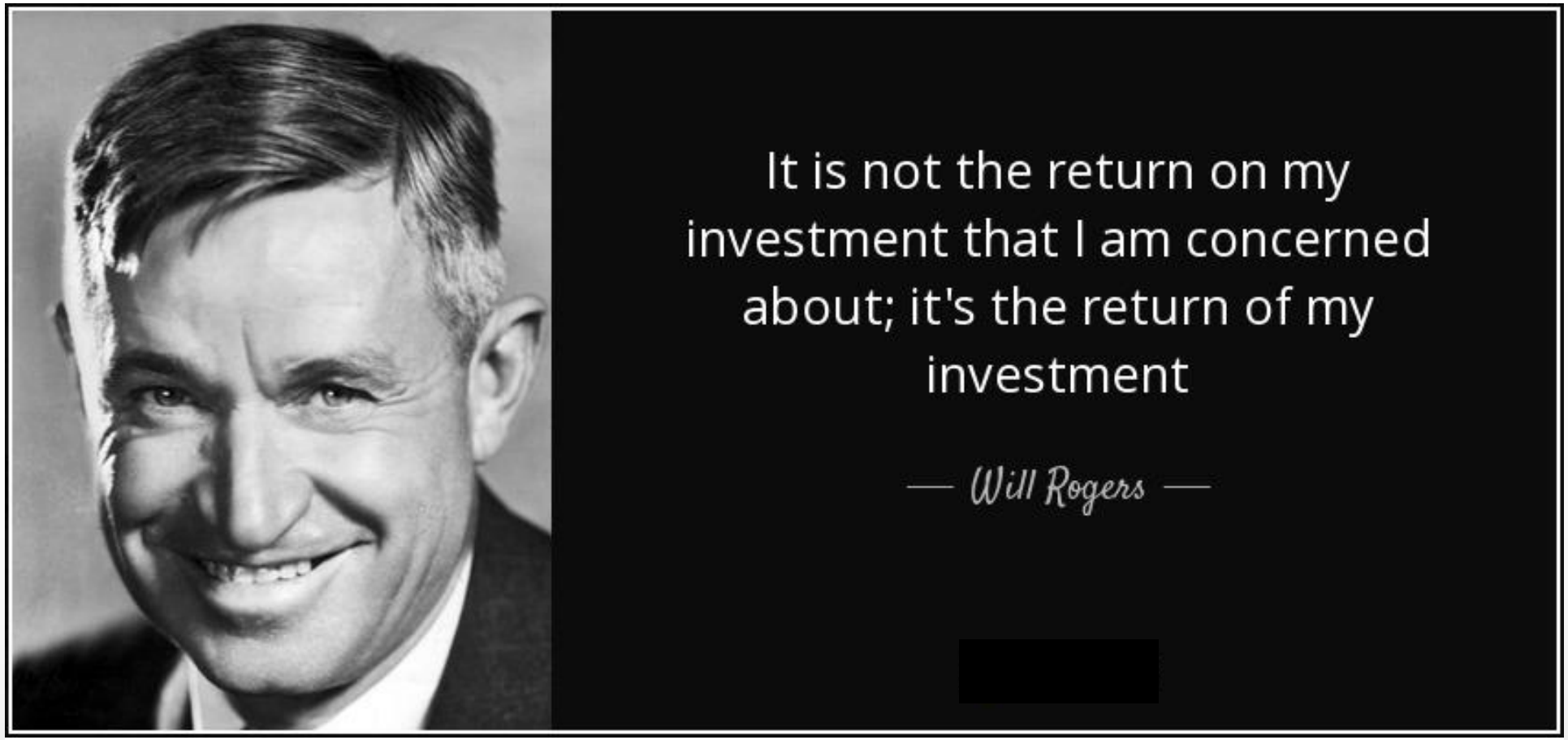


Suitability Benchmark Visualization Analysis

Vertical blue line represents benchmark for each measure.



A Note on Total Return / Market Rate of Return



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Please complete the workshop evaluation and leave it at your table.

Upcoming **CDIAC** Events

Municipal Market Disclosure

March 28-29 | Folsom, CA