# Institutional Investing in Higher Education: Risks and Rewards

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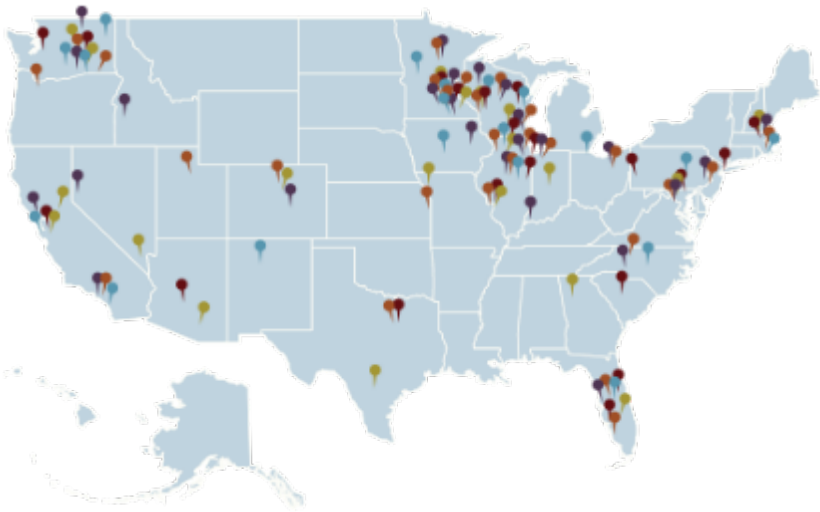
- A professional services firm with three distinct business lines
  - Wealth Advisory
  - Outsourcing
  - Audit, Tax, and Consulting
- More than 5,000 employees
- Offices coast to coast
- Serving higher education for more than 50 years



*Investment advisory services are offered through CliftonLarsonAllen Wealth Advisors, LLC.*

# Speaker Introduction

**Mark Griffin, CIMA®, Managing Principal**

Institutional Investment Services

CliftonLarsonAllen Wealth Advisors, LLC

**Don Loberg, CPA, Managing Principal**

Higher Education

CliftonLarsonAllen

# Learning Objectives

- Define an alternative investment
- Learn why the next full market cycle of forward (expected) returns is likely to be more modest than the recent past
- Explain the concepts of risk budgeting
- Demonstrate an understanding of how alternative investments can improve diversification and, therefore, risk-adjusted returns
- Outline the unique risks associated with alternative investments
- Identify better diligence practices related to employing alternative investments

# Rethinking Risk and Portfolio Construction

# Questions

- How many days cash on hand is enough to:
  - Meet short, medium and long term needs
  - Weather the unexpected
  - Support strategic initiatives
- What are your capital requirements over the next 5-10 years?
- How much of your investments are restricted for specific use and certain objectives?
- How much of your investment portfolio can be allocated to support operations or strategic initiatives?
- How does management and/or the governing body view the investments and the inherent risks?

# Questions about your portfolio

- Can you quantify the risk exposures in your portfolio(s)?
  - Duration
  - Beta
  - Credit
  - Currency (Fx)
  - Standard deviation
  - Value at Risk (VAR)
- Can you quantify what your risk exposures should be?
- Do you have reasonable (and supportable) expectations of what your forward returns are projected to be long-term?
- Do you know what your return target should be?

# Why not?

(yes, they were tricky questions)

# What is the norm in investing in Higher Education?

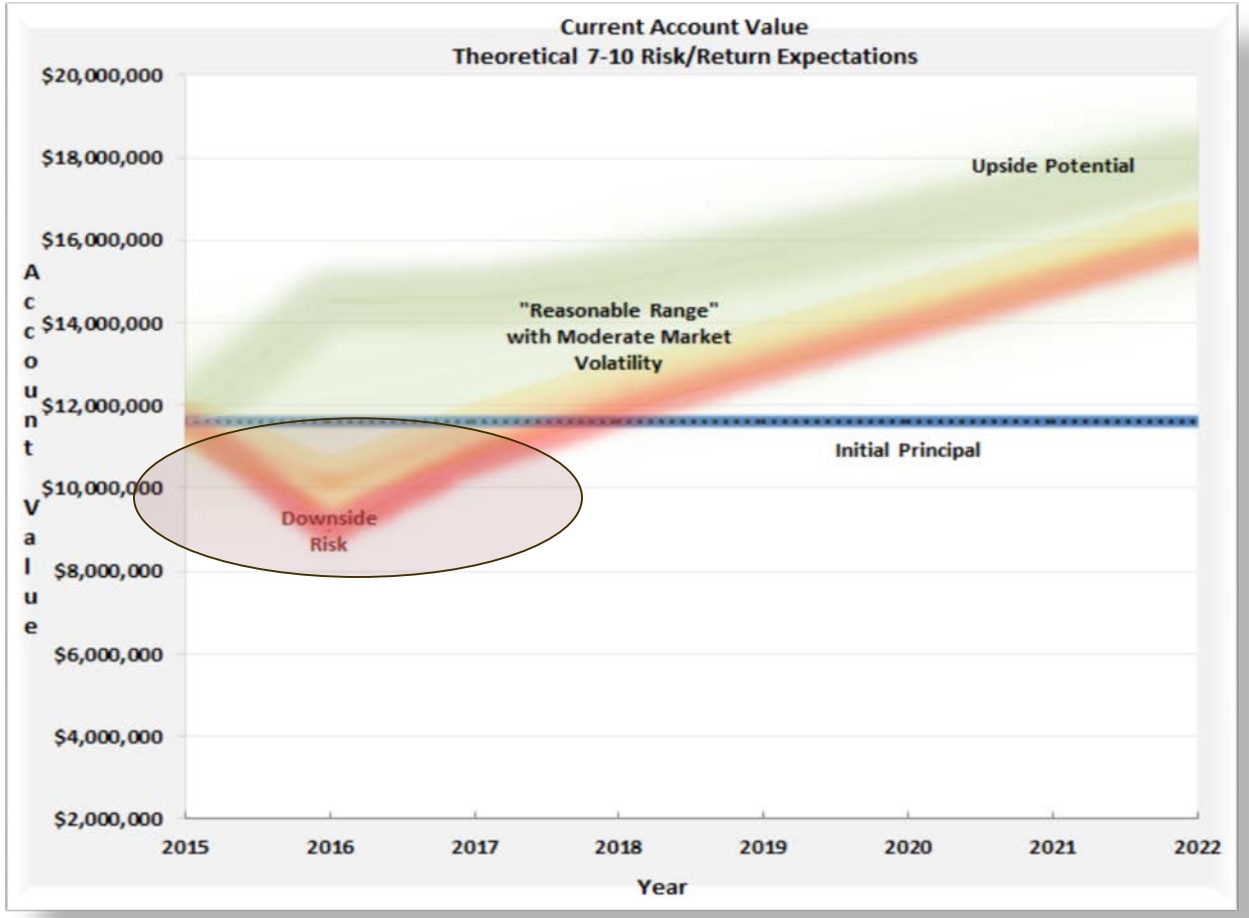
# How are we going to make sure all pieces fit?

## What do institutions want from their endowment?

**Meet their expected return without too much risk**

# The Problem With Volatility

It's a short-term risk that may lead us to actions which have long-term consequences.



# Where do investment returns come from?

By definition, investment returns come from a risk exposure, whether that be due to equity markets, credit markets, currencies, insurance (aleatory), interest rates, inflation, time, illiquidity, etc.

We invest to gain exposure to that risk - so that we may earn a return.

**We don’t want more risk in a portfolio**

**We want more (disparate) risks**

# Beta

$$\beta = \frac{[\ \mathrm{Cov}(r, Km)\ ]}{[\ \sigma(Km)\ ]^2}$$

Where:
r is the return rate of the investment;
Km is the return rate of the asset class.

# What is Beta?

$$\beta = \frac{[\ \mathrm{Cov}(r, Km)\ ]}{[\ \sigma(Km)\ ]^2}$$

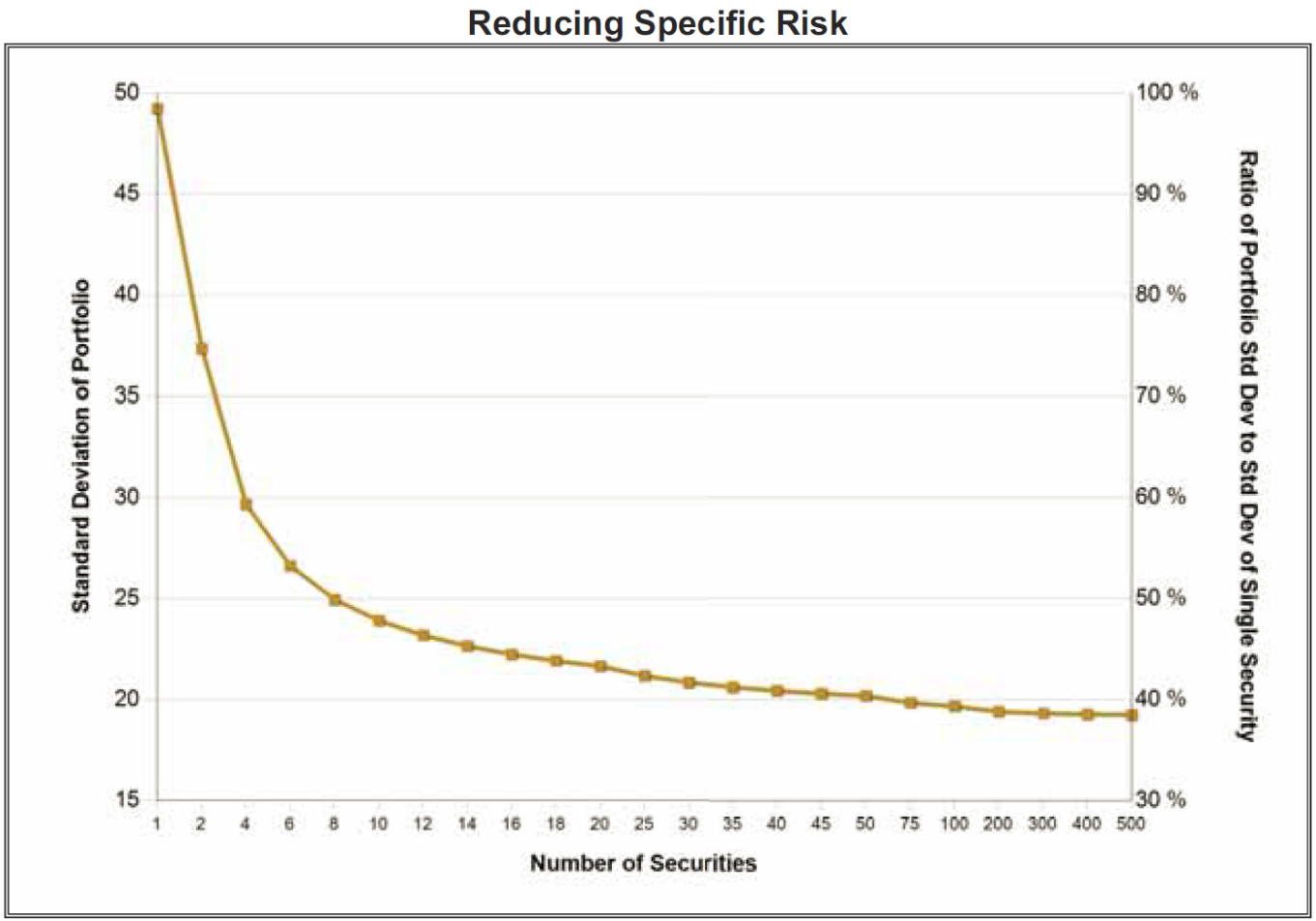
Where:
r is the return rate of the investment;
Km is the return rate of the asset class.

- Beta is the statistical measure of an investment's volatility in relation to the rest of the market.
- You cannot diversify away market risk with a common Beta.

# Limits of diversification with a common Beta

## You cannot diversify away market risk – only concentration risk






Source: Envestnet

Source: Meir Statman 1987 "How many stocks make a diversified Portfolio?"
*Journal of Finance and Qualitative Analysis*, 22(3), September:353-363

# Typical portfolio diversification = stocks and bonds



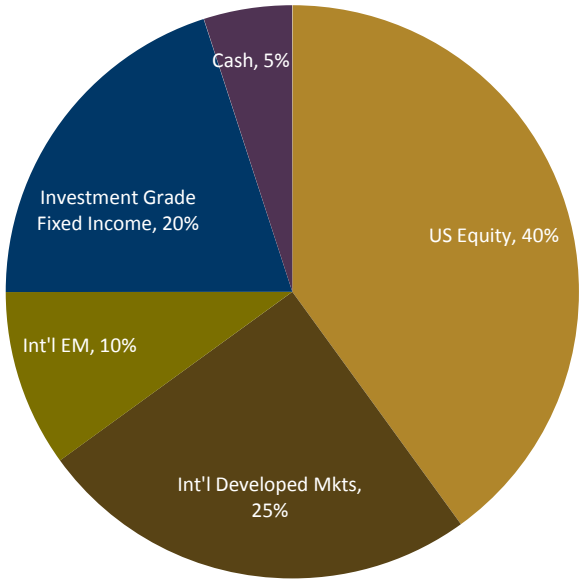
## Growth Assets

**U.S. Equity**
- Large cap
- Small cap

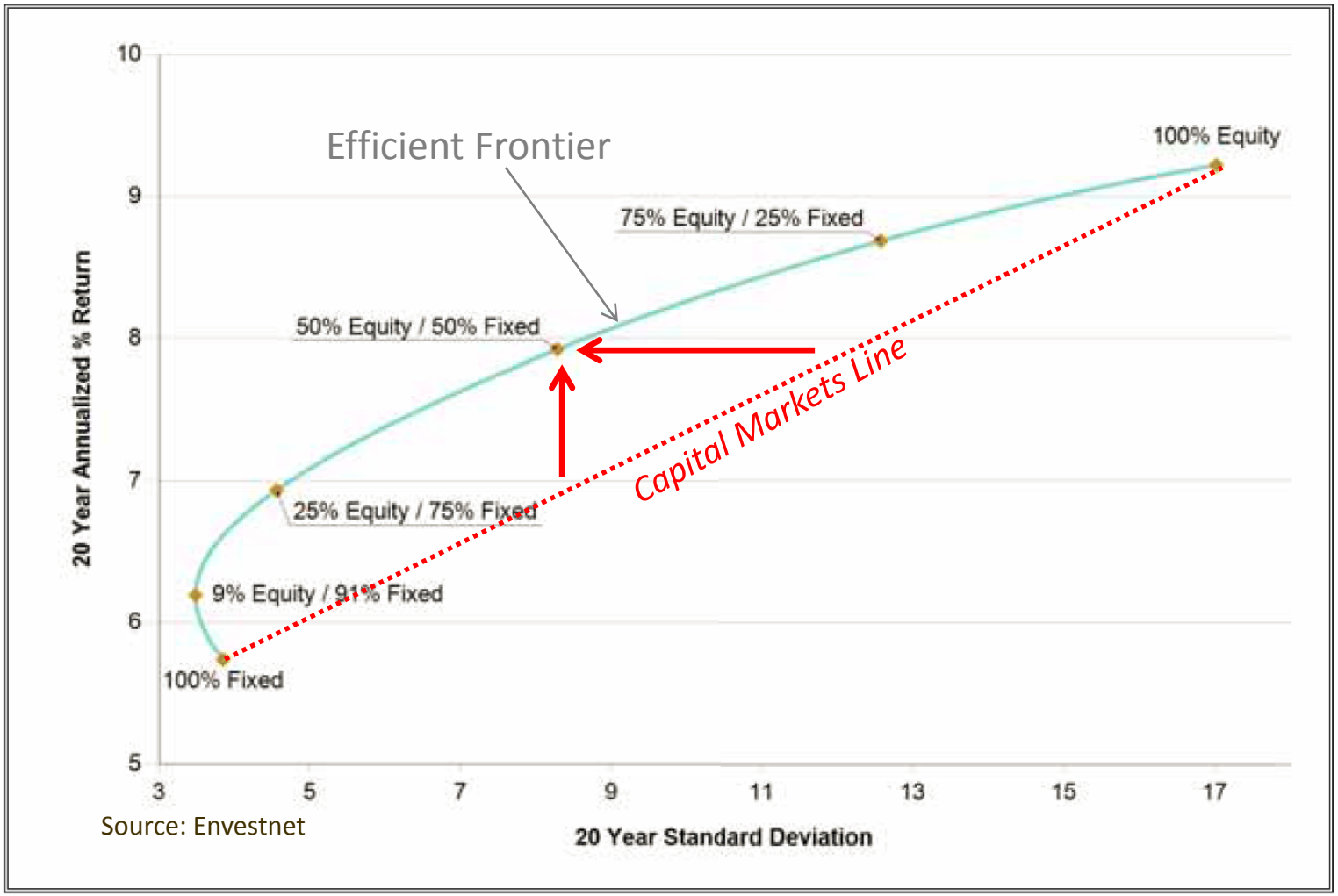
**International Equity**
- Developed markets
- Emerging markets

## Risk Reduction Assets

**Investment Grade Credit**
- Cash
- Municipals
- Treasuries
- Investment grade credit



# Combining stocks and bonds does improve results
## (Return per unit of Risk)




Source: Envestnet

# We can go farther and get better results

# Better Diversification



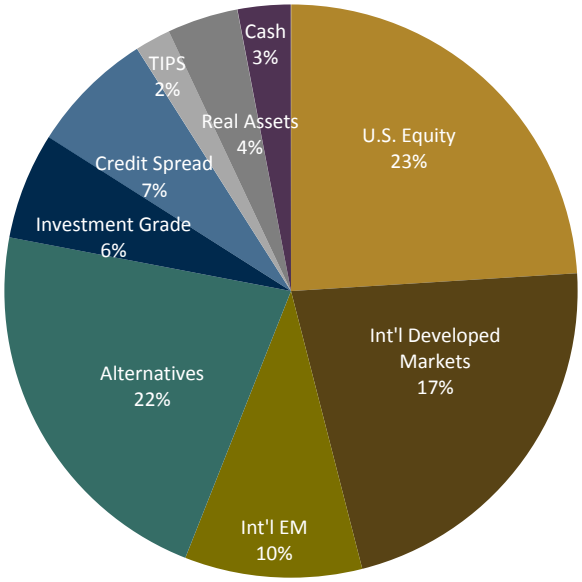
## Growth Assets

**U.S. Equity**
- Large cap
- Small cap

**International Equity**
- Developed markets
- Emerging markets
- Frontier markets

## Risk Reduction Assets

**Investment Grade Credit**
- Cash
- Municipals
- Treasuries
- Investment grade credit
- Emerging market debt




## Inflation Protection Assets

**Liquid Real Assets**
- TIPS
- REITs
- MLPs
- Real estate
- Energy, mining, and minerals

## Common Alternative Risk Assets

**Risk Reduction**
- Multi-asset managers
- Long/short equity
- Market neutral
- Merger arbitrage

**Opportunistic**
- Global macro
- Distressed debt
- Concentrated and special situation managers

## What about manager selection?

Can it help mitigate risk (protect on the downside or reduce volatility), or improve returns?

# Manager selection presumes Alpha

$$\alpha = Rp - [Rf + \beta\{p\} * (Rm - Rf)]$$

Jensen's alpha = Portfolio Return – [Risk Free Rate + Portfolio Beta * (Market Return – Risk Free Rate)]

# What is Alpha?

$\alpha$ = Rp - [Rf + $\beta${p} * (Rm - Rf)]

Jensen's alpha = Portfolio Return – [Risk Free Rate + Portfolio Beta * (Market Return – Risk Free Rate)]

Alpha is the statistical measure of an investment's excess return in relation to it's risk-adjusted return.

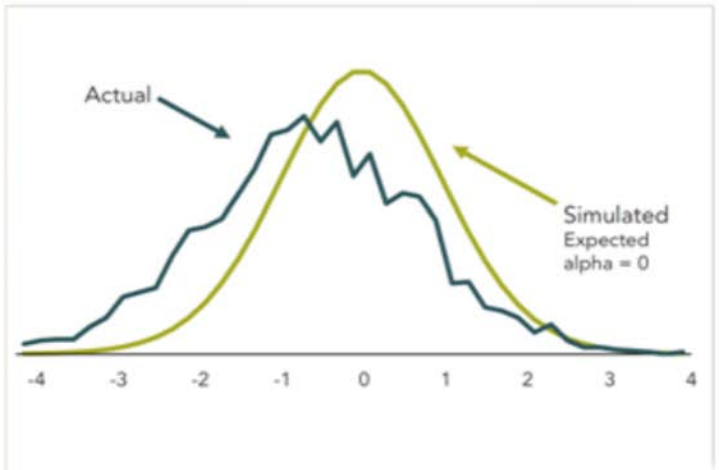
The data is highly convincing:

Alpha (if it exists at all) is fleeting in traditional (public market) asset classes.

# Active vs passive – why is this still debated?


## Skill versus Luck

Fama and French (2010), Journal of Finance




- Studied 3,156 US equity mutual funds from 1984 to 2006 (excluding index funds)
- "Few funds produce benchmark-adjusted expected returns sufficient to cover their costs."

**There is no evidence that trying to outguess market prices adds value.**

**Conclusion: Active managers performed no better than what would be expected by pure luck, lagging behind their benchmark by the amount of their fees.**

Alpha is really more attributable to luck and random distributions.

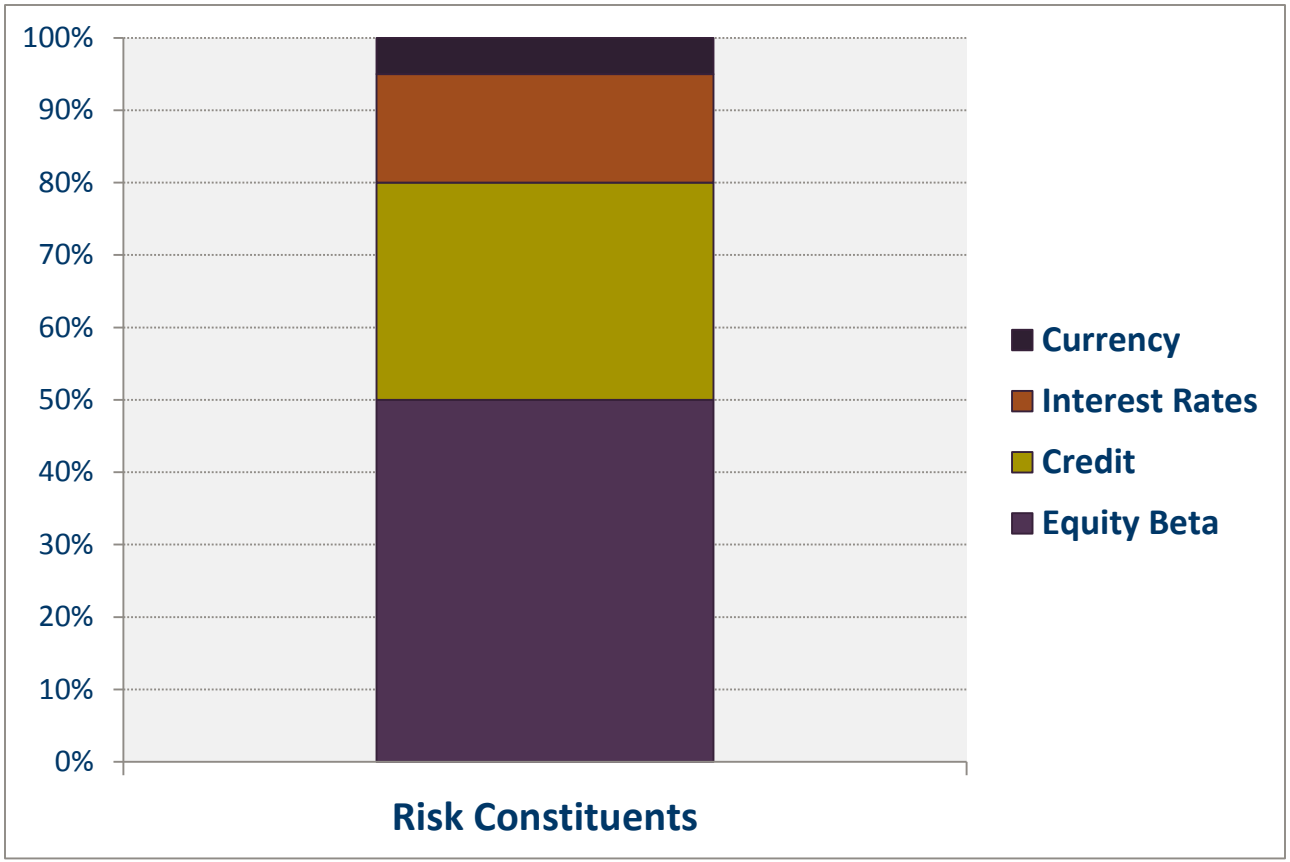
However, there's plenty of negative Alpha.

(Also known as expenses)

**So, we want to add more (disparate, and inexpensive) risks to a portfolio.**

**Is there a better way to approach it?**

# Risk Budgeting




**Risk Budgeting = Targeting Single and Aggregate Risk Exposures**

# Sample (simplified) risk budget



| Purpose | Asset Class | Equity Risk | Credit Risk | Duration Risk | Currency Risk | Composite Risk | Allocation | Portfolio Risk * |
|---|---|---|---|---|---|---|---|---|
| Growth | US Stocks | 12.3% | 1.5% | 2.3% | 0.0% | 16.1% | 35% | 5.6% |
| Growth | Foreign Stocks | 12.8% | 1.3% | 1.8% | 2.9% | 18.8% | 15% | 2.8% |
| Risk Reduction | Inv Grade Corporates | 0.0% | 0.9% | 2.9% | 0.0% | 3.8% | 30% | 1.1% |
| Inflation Protection | TIPS | 0.0% | 0.0% | 6.4% | 0.0% | 6.4% | 5% | 0.3% |
| Alternative Risks | Beta Delta Beta | 3.4% | 1.3% | 0.8% | 0.1% | 5.6% | 15% | 0.8% |
| Total Portfolio | | | | | | | 100% | 10.6% |

* Illustration simplified - doesn't factor in correlation/co-variance

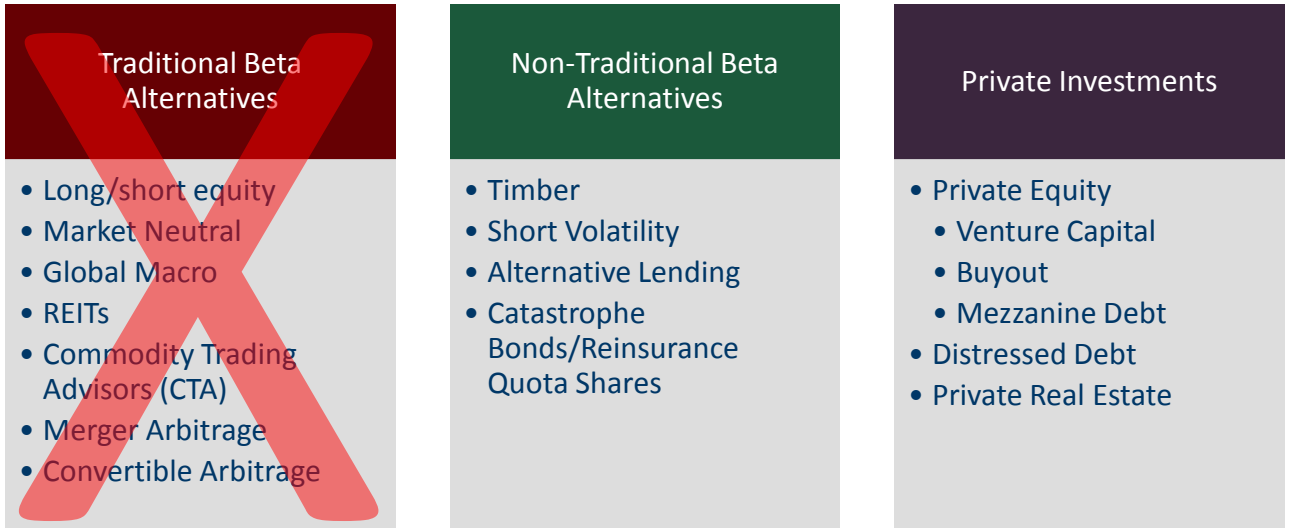
# Alternatives

# What are Alternative Investments?

Pretty much anything that's not stocks, bonds or cash

# Alternative Investments





# Why Alternatives?

# **We have a problem -** A 35 year economic tailwind is now a headwind

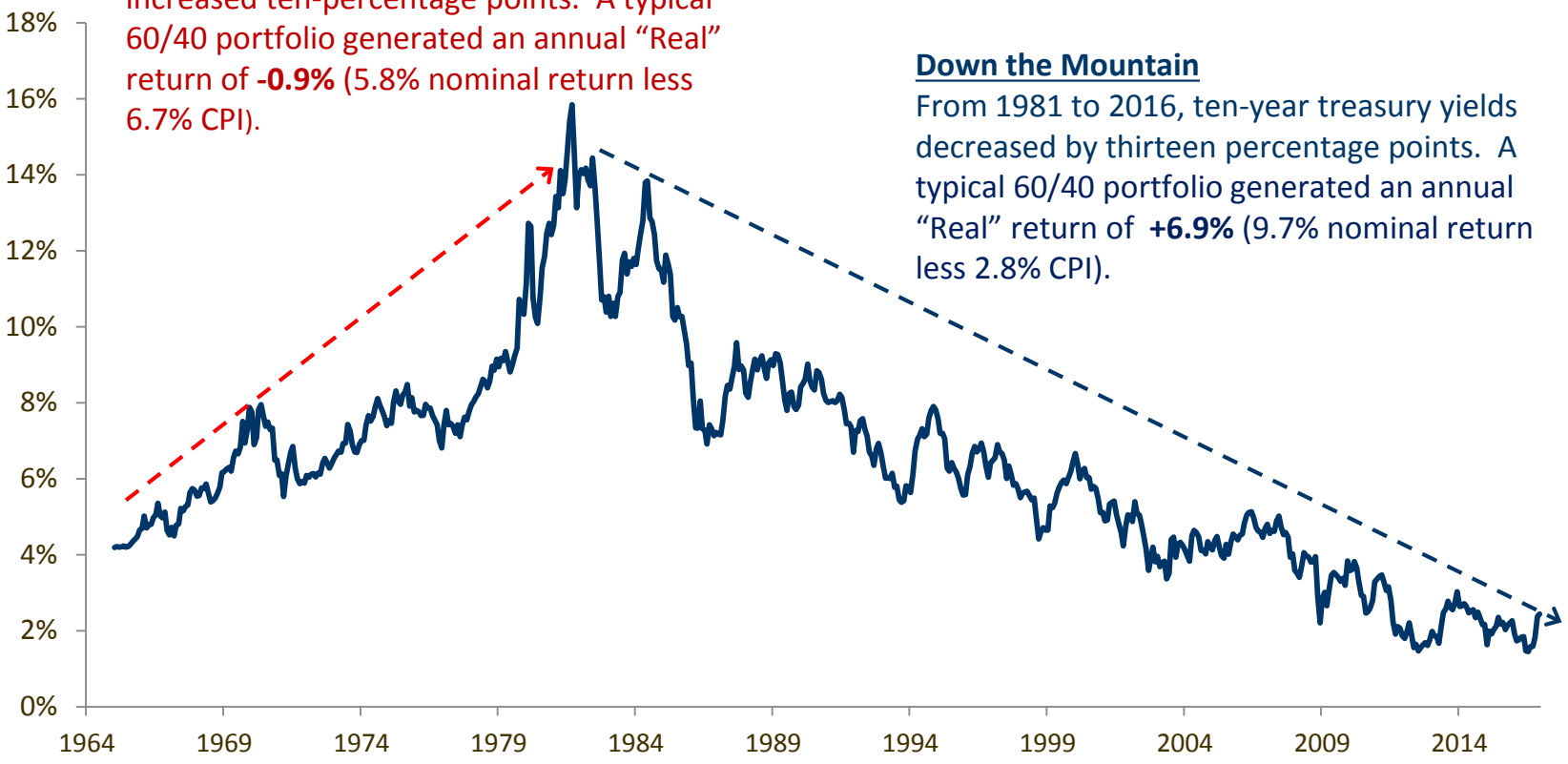


**Up the Mountain**

From 1964 to 1981, ten-year treasury yields increased ten-percentage points. A typical 60/40 portfolio generated an annual "Real" return of **-0.9%** (5.8% nominal return less 6.7% CPI).

**Down the Mountain**

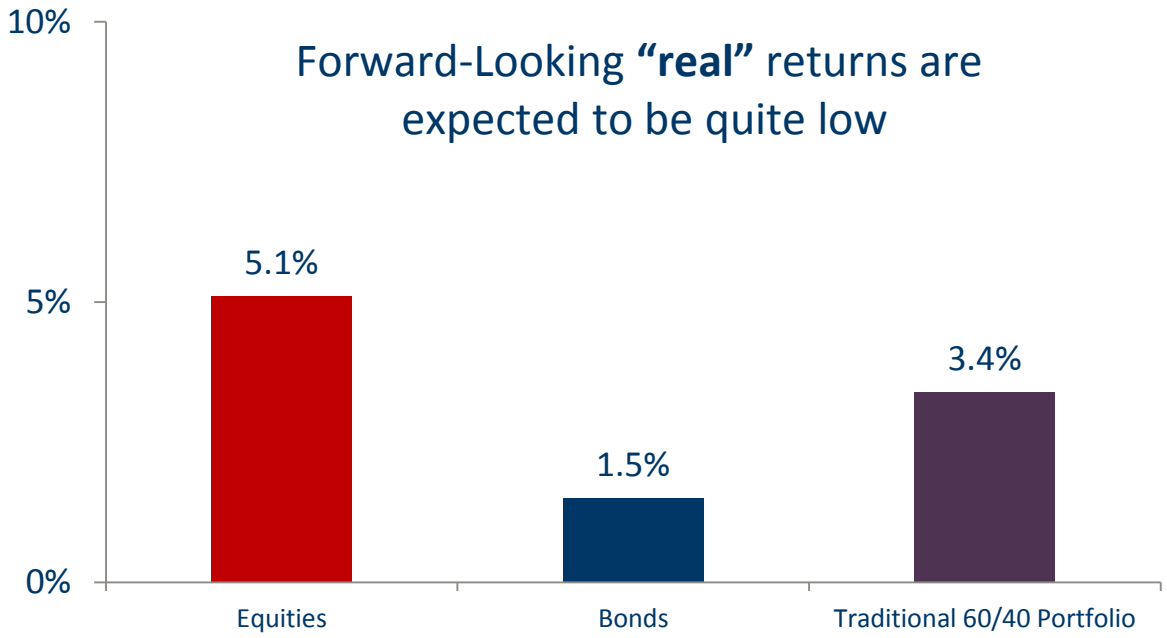
From 1981 to 2016, ten-year treasury yields decreased by thirteen percentage points. A typical 60/40 portfolio generated an annual "Real" return of **+6.9%** (9.7% nominal return less 2.8% CPI).




*Note*: Performance of the S&P 500 and the Barclay's Aggregate are used to estimate the nominal returns of a 60/40 portfolio.
*Sources:* Bloomberg, FRED.

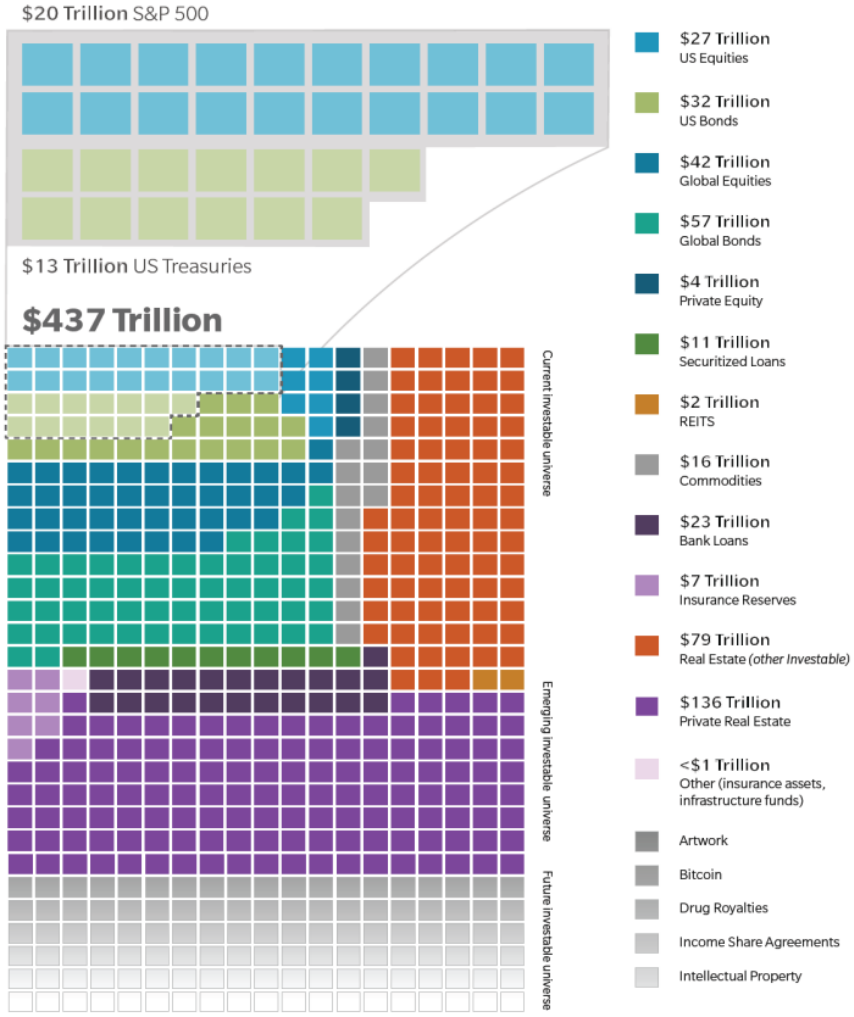
# Achieving target returns are likely to require more than just stocks and bonds






Source: CLA Wealth Advisors, LLC. Assumes 2.3% inflation. Expected returns represented the weighted average of inflation adjusted expected returns over the next 7-10 years we derive from a survey we receive from more than 20 capital market research firms. For equities, we are assuming a globally diversified pool as represented by the MSCI ACWI index. For bonds, we are assuming a domestically diversified pool of bonds as represented by the Barclays Aggregate Bond Index.

# But, the opportunity set is much larger than just stocks and bonds



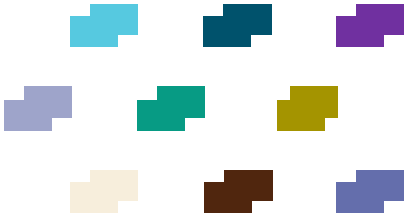

- Though massive, U.S. stocks and bonds markets represent only a small fraction ($33T) of the investable universe ($437T).
- Foreign stocks and bonds face to same low return expectations and are highly correlated to U.S. markets, which diminishes their diversification benefit.
- Hedge funds tend to operate in the same publicly-traded stock & bond markets, which limits their diversification benefit. Also, their high costs impair returns.

# 3 Rules for adding return streams to a portfolio



## Rule #1

**Do not maintain more liquidity than needed**



## Rule #2

**Find non-traditional sources of return (i.e., other than stocks and bonds)**

## Rule #3

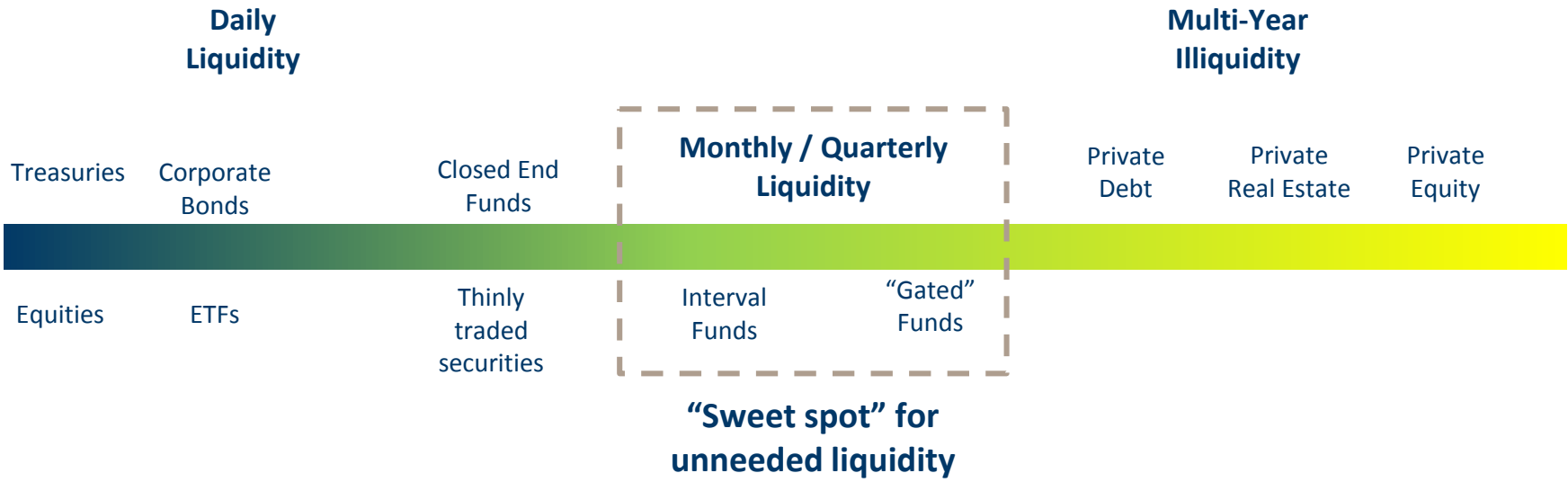
**Add enough disparate risk premia to diversify portfolio**

# Rule #1 –

## Do not maintain more liquidity than is needed



Investors can trade unneeded liquidity for potentially higher returns and increased diversification.



## Rule #2 –

Find non-traditional sources of return that are:

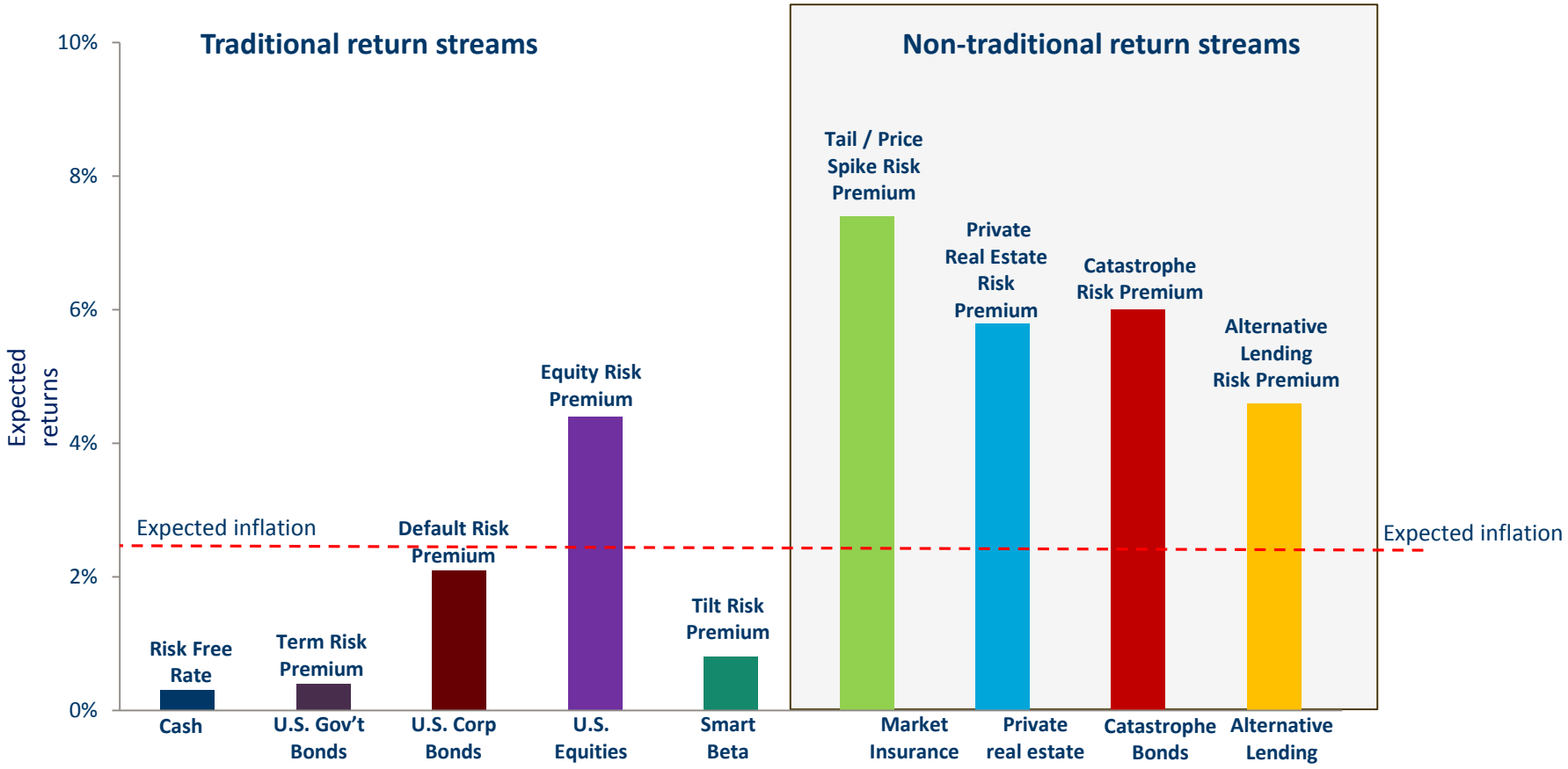
**Persistent**

**Pervasive**

**Intuitive**

# Many non-traditional sources offer compelling expected returns

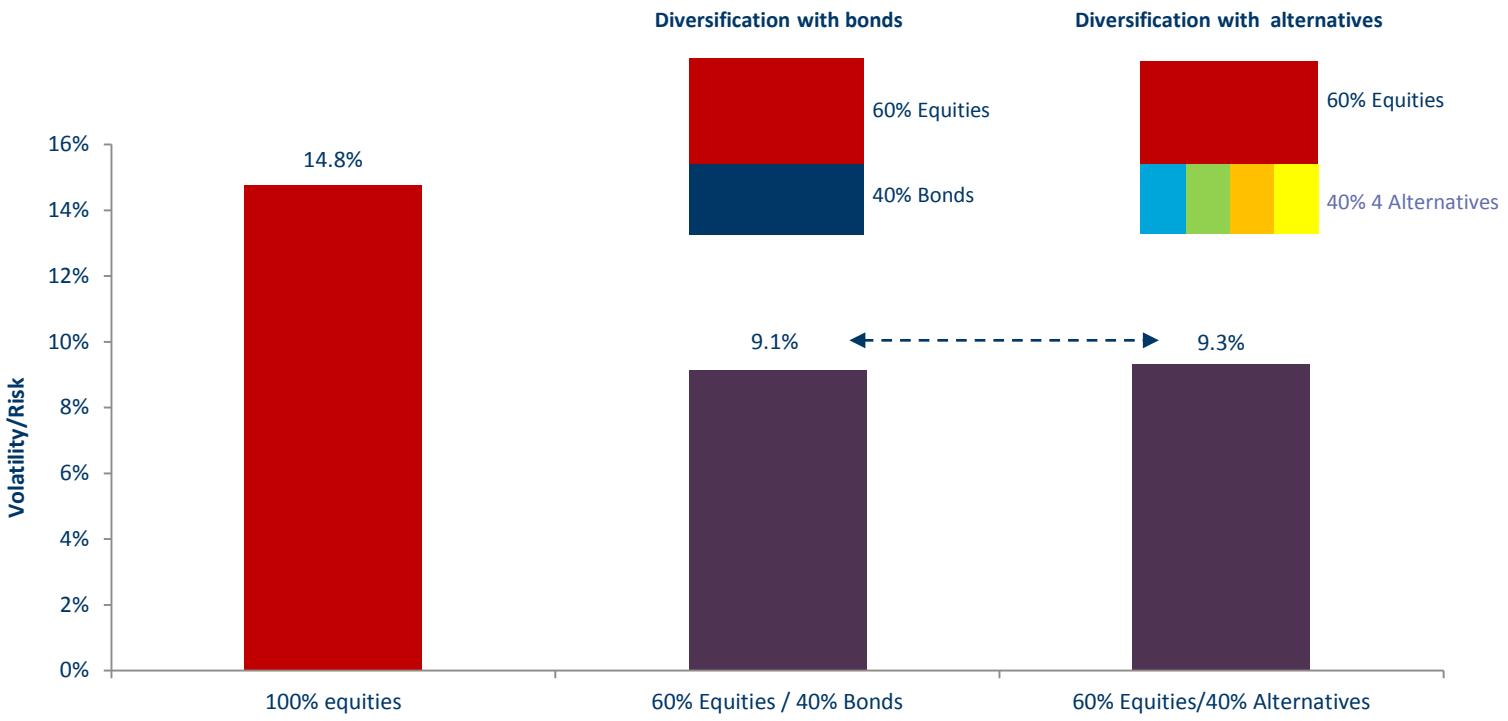





*Note: Risk premia are defined as the returns that can be expected to be earned over cash.*
*Sources: Bloomberg, JPMorgan Long Term Capital Markets Assumptions (2017), Oliver Wyman industry sources, Oliver Wyman analysis.*

# Rule #3 –
## Adding multiple non-traditional sources improves diversification and reduces risk

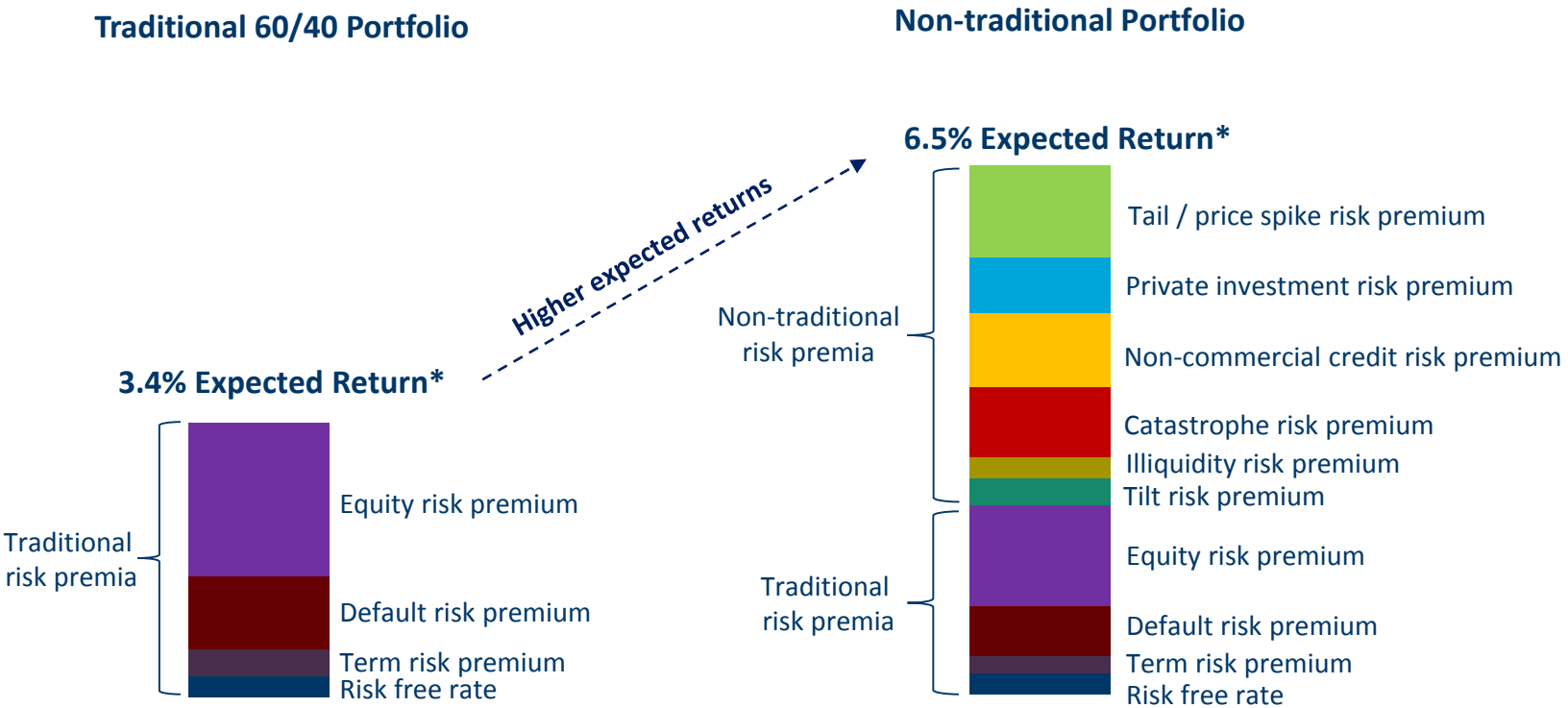
Even with higher expected returns, the expected volatility (risk) of a non-traditional portfolio is comparable to that of a traditional 60/40 portfolio.




Notes: Based on the JPM LTCMAs, we assume that bonds have a – 0.3 correlation with equities. Equities and hypothetical alternatives are assumed to have volatility of 14.75% and to have no correlation with each other. Sources: JPMorgan Long Term Capital Markets Assumptions (2017), Oliver Wyman analysis.

# In addition to managing risk, we improve the portfolio's expected return






* Sources: Oliver Wyman analysis - Bloomberg, FRED, JPMorgan Long Term Capital Markets Assumptions (2017)

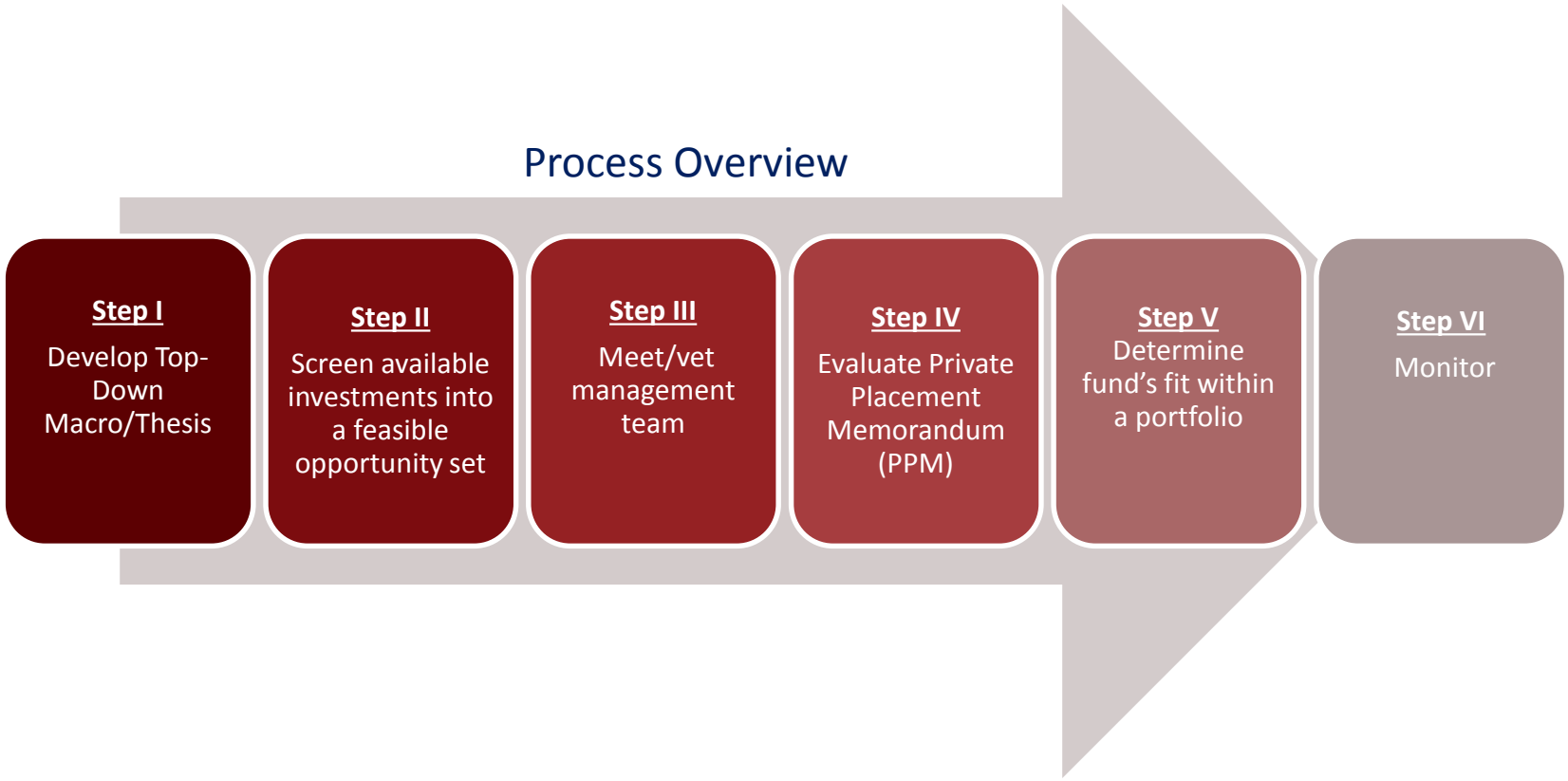
# Alternatives: Unique Risks



- Illiquidity
- Lack of appropriate benchmarks
- Lack of transparency
- Leverage (not all strategies)
- Alignment of interests
- Generally higher fees & expenses
- Need for legal review
- Need for vintage year diversification (private placements)

# Due Diligence

Critically important (and, time intensive and costly)



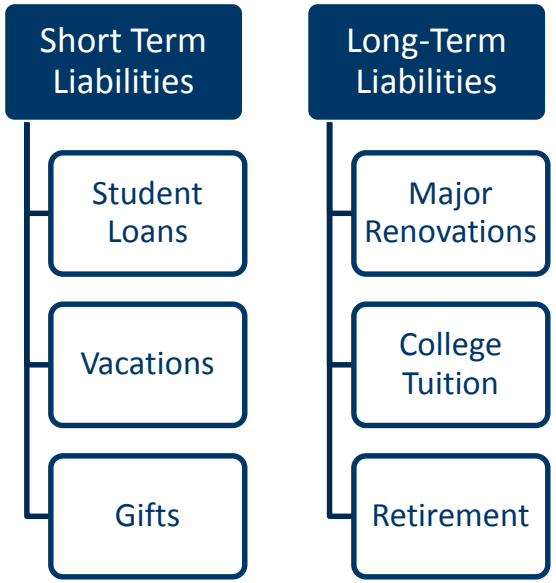
# Building a Better Portfolio

Starts with knowing your targets

**A financial plan tells us where we are, and what we need to do going forward**

# Personal Financial Planning


We can save more or invest better to improve the likelihood we can meet these liabilities



# Can we apply a similar planning process to institutions?

# Financial ratios– what do they tell us?

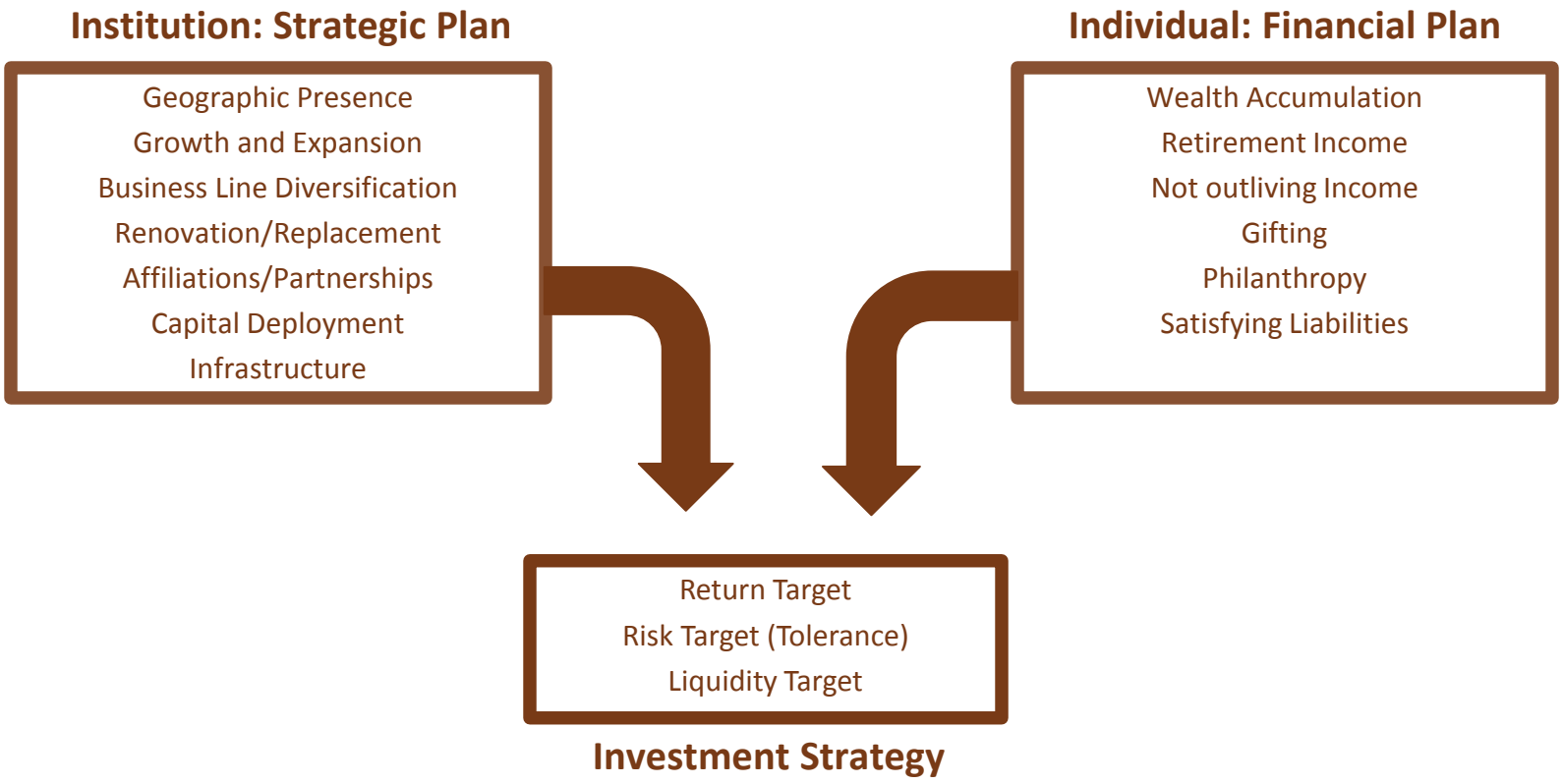
**PAST** **TODAY** **FUTURE**

Liquidity and capital ratios | Operating Ratios

How have we done?

Where are we going?

# The Plan informs the investment strategy



# Institutional financial modeling using CLA Intuition™



**BASELINE PERFORMANCE**
2015 Performance = Actual
2016 Performance = 2015 Actual

**GROWTH ASSUMPTIONS**
Volume Growth per Year — Hospice: 0.00%
**0.0% Growth by 2021**

**ADDITIONAL MEDICARE REVENUE**
☑ $1,000 Additional Medicare Revenue in 2016

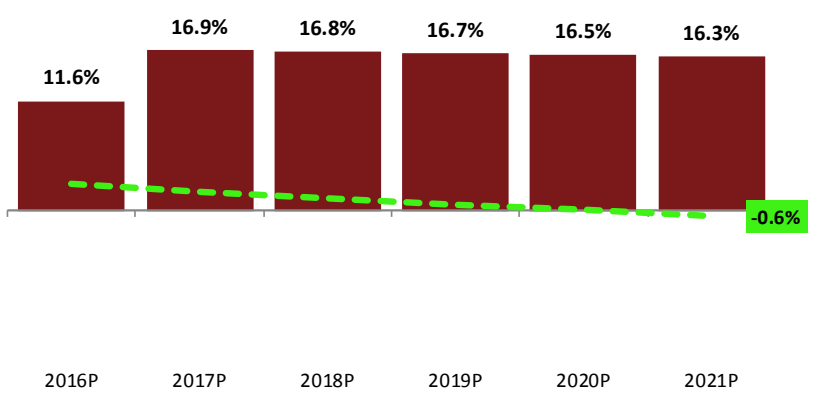
**PERFORMANCE IMPROVEMENTS** — Timing
☐ No Labor Cost Savings
☐ Non Non-Labor Cost Savings

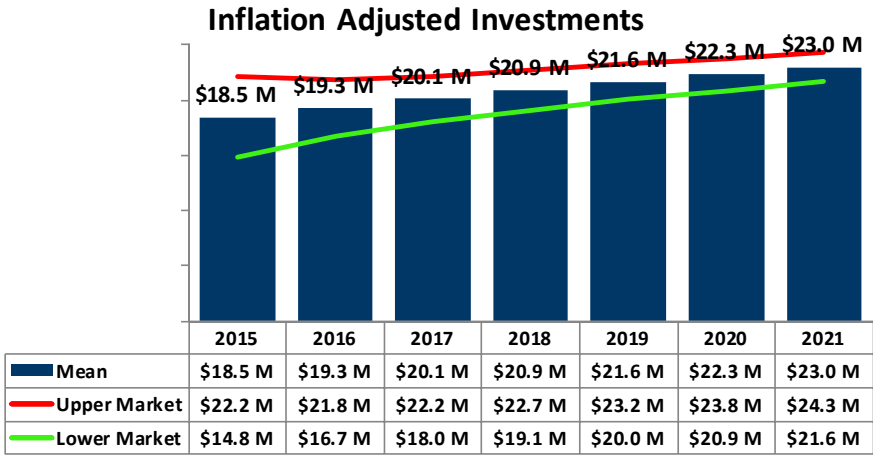
**INFLATION ASSUMPTIONS**
Revenue: 3.00% — Expenses: 3.00%

**NON-OPERATING ACTIVITY**
5.50% Investment Return Rate — Market Volatility = Medium
$00 Addt'l Contributions (2016+) $2.5M Total

**MAJOR PROJECT CAPITAL NEEDS**
☐ No New Equipment

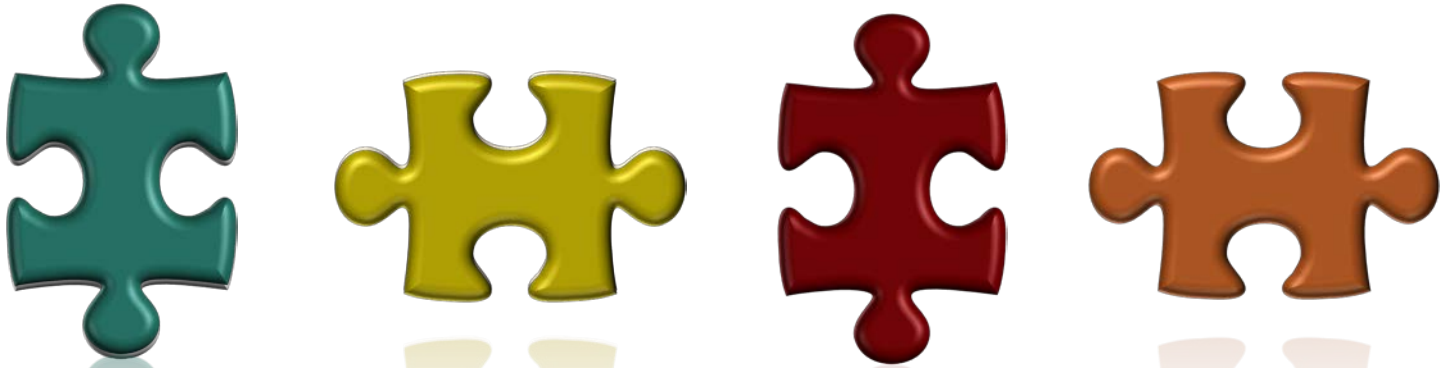
**MAJOR PROJECT CAPITAL SOURCES**
☐ No Philanthropy
☐ No Equity
1.5% Routine Capital as % of Net Revenue 2016+




| | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|---|---|---|---|---|---|---|---|
| Mean | $18.5 M | $19.3 M | $20.1 M | $20.9 M | $21.6 M | $22.3 M | $23.0 M |
| Upper Market | $22.2 M | $21.8 M | $22.2 M | $22.7 M | $23.2 M | $23.8 M | $24.3 M |
| Lower Market | $14.8 M | $16.7 M | $18.0 M | $19.1 M | $20.0 M | $20.9 M | $21.6 M |

# We establish a baseline projection
## - and then Measure Impact of the Variables



**Revenue**

Fees
Services
Etc

**Expenses**

Operations
Interest

**Funding**

Contributions
Debt
Equity

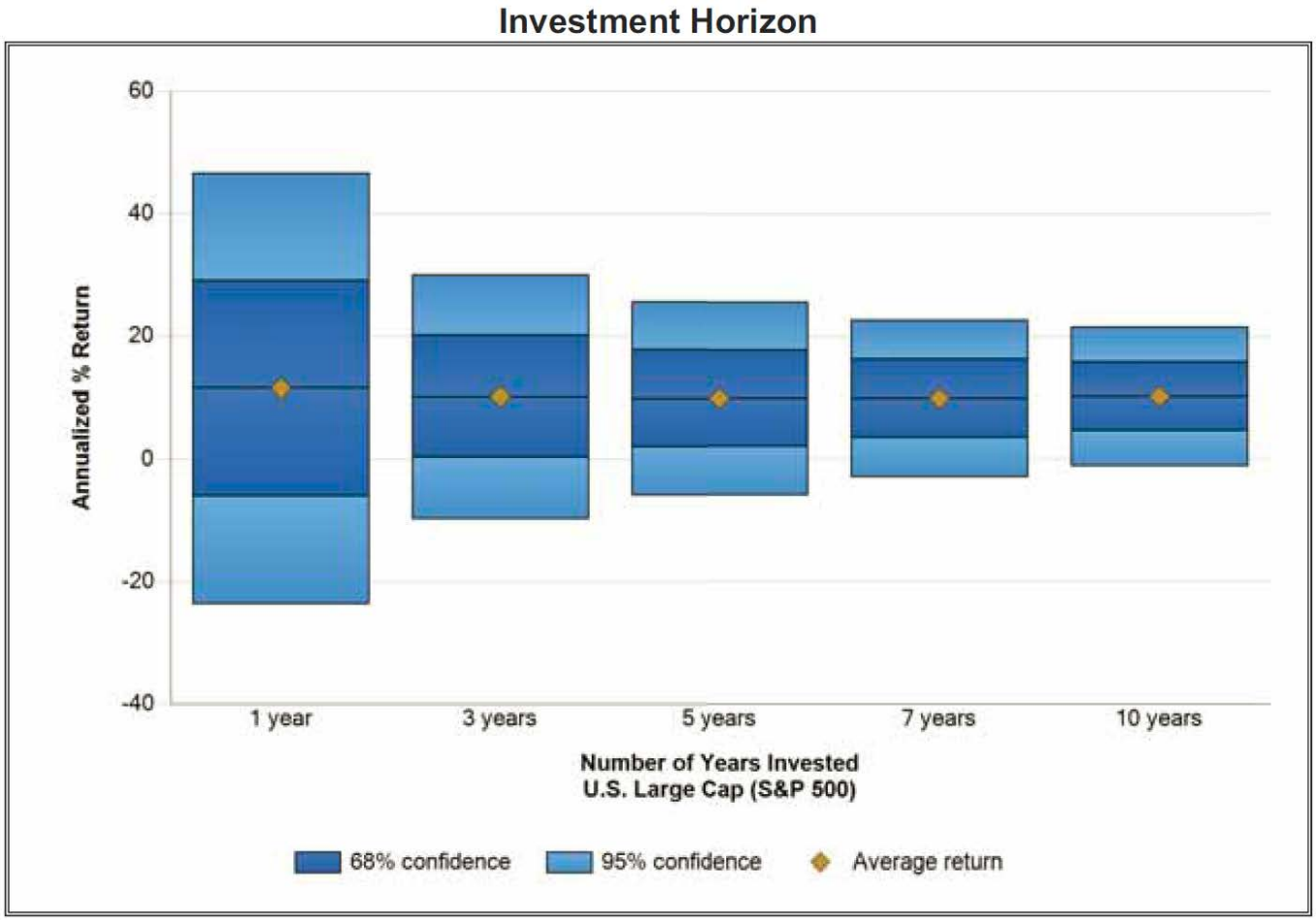
**Capital**

New Programs
Etc.

# Pulling it all together

# It’s counterintuitive:

## Long Term Forecasts are More Reliable than Short Term Forecasts



# Which means:



| Metric | Definition | Current Portfolio | 60/40 and Alts | Alternative Only |
|---|---|---|---|---|
| Return Estimate | *7-10 Year, Annualized* | 6.5% | 6.2% | 5.5% |
| Risk Estimate | *Standard Deviation* | 13.0% | 9.5% | 6.6% |
| Sharpe Ratio | *Risk/Return Efficiency* | 0.33 | 0.41 | 0.50 |
| Value at Risk (Moderate Volatility) | *1-Year* | -19.5% | -12.8% | -7.7% |
| Value at Risk (High Volatility) | *1-Year* | -32.5% | -22.3% | -14.3% |

1. Volatility can be reasonably estimated
2. Forward looking returns can be reasonably estimated
3. Portfolio can be structured to meet the targets set forth in your financial model

# Summary

- Assign risk and return targets based on your plan.
  - Not subjectively based on risk “tolerance”.
- Set a risk budget (know where your exposure is and why).
- Structure portfolio diversification to risk budget.
- Get your Beta as inexpensively as possible.
- Use private placements and alternatives selectively and carefully – but use them.

# Disclosures

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