Bolton

Benefits, Actuarial, Investment & Compensation Consulting

Changing Investment Expectations & the Impact on Pension & OPEB Plans

Presented by Tom Vicente, FSA, EA and Alton Fryer, AIF®

Maryland Government Finance Officers Association Summer Conference

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THE WORLD IS ALWAYS CHANGING…

TIMELINE

Blockbuster is founded

1985

1989

Back to the Future II

Mike Montgomery born two months before the release

Blockbuster turns down deal with Netflix

2000

2010

Blockbuster files for bankruptcy

Netflix offers standalone streaming

Cubs World Series victory

2016

WHY DOES THIS MATTER?

- In 1989, the Cubs winning a World Series was not even a thought.
- Mail-order video rentals would never put Blockbuster out of business.
- Watching movies on a cell phone was inconceivable.
- Predicting the future is not always accurate, but it is not entirely inaccurate either...

YOUR PRESENTERS

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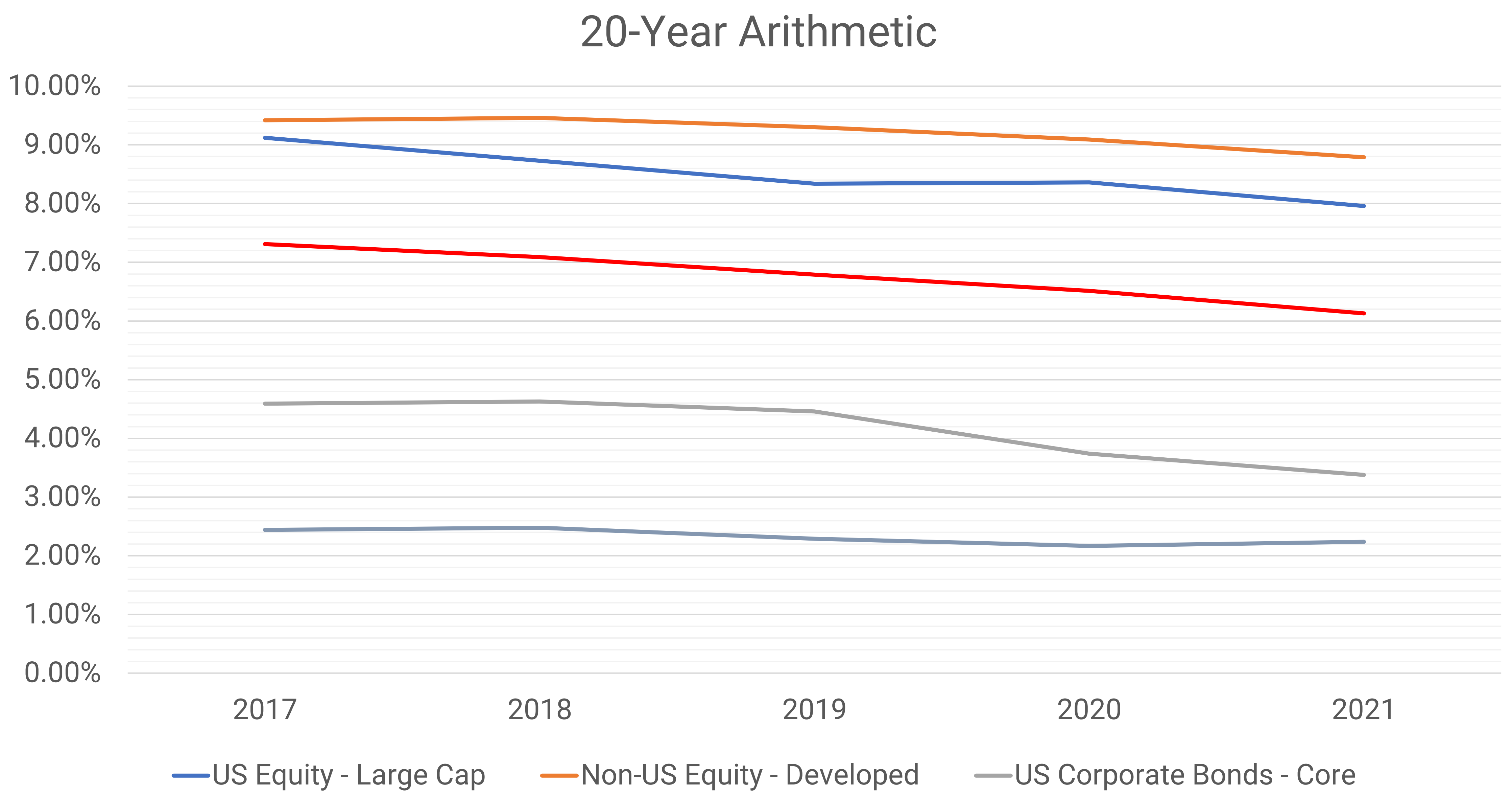
HOW ARE THINGS CHANGING NOW?

Expectations for Investment Returns Are Declining



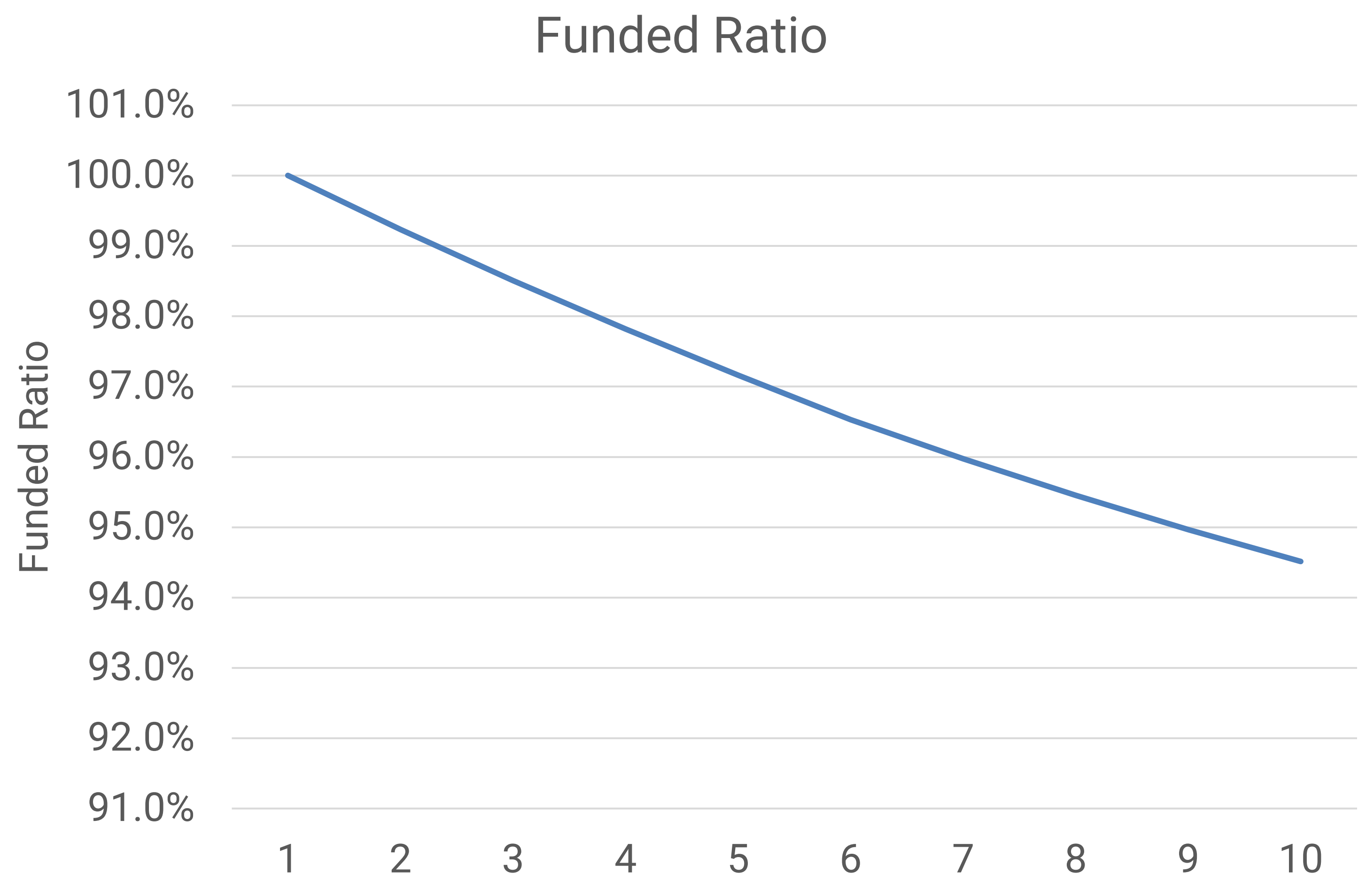
WHAT DOES THIS DECLINE MEAN?

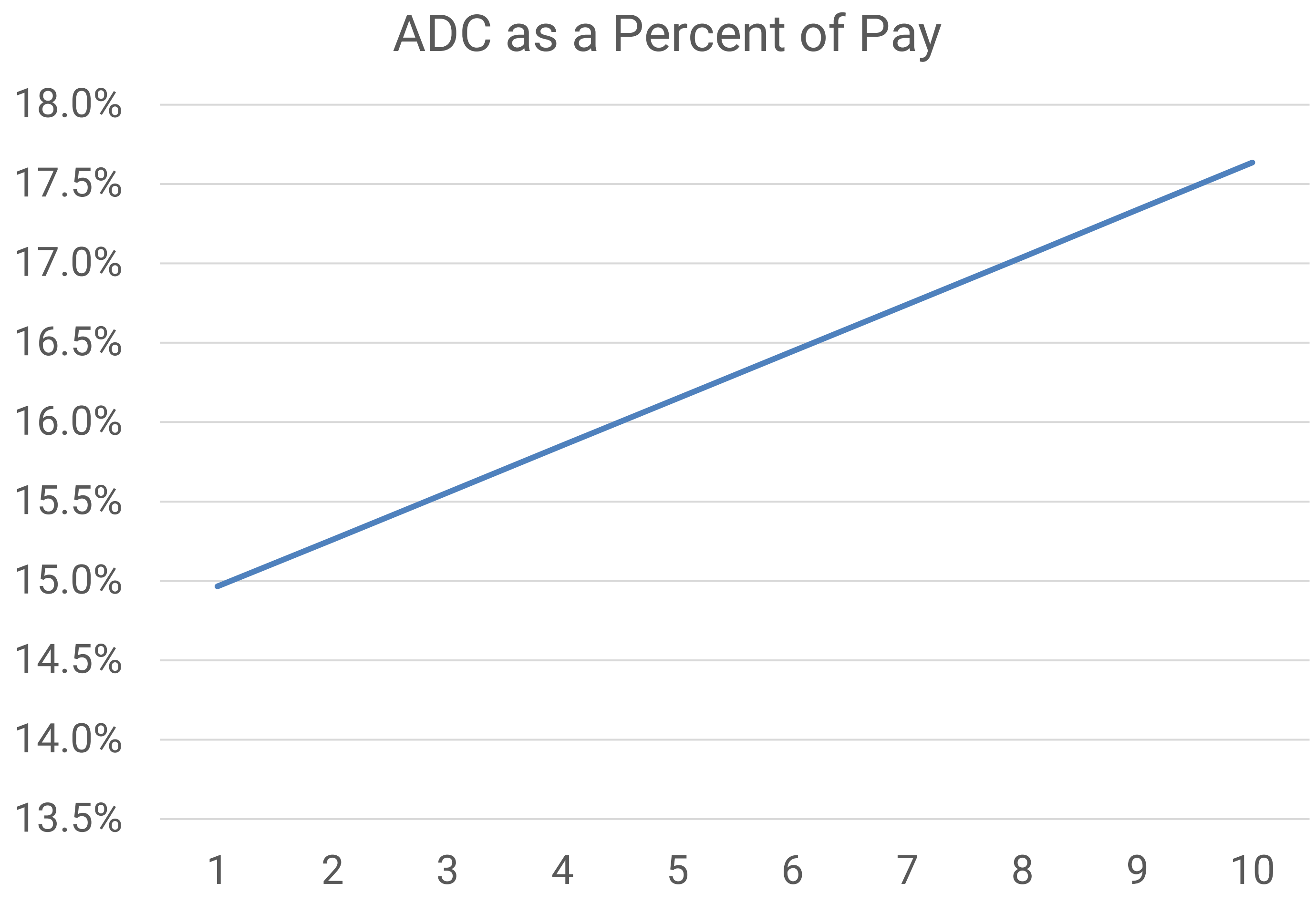
- In **2017**, the expected **20-year annual average return** for large-cap domestic equities was **9.12%.**
- In the **2021** survey, the expected **20-year annual average return** for large-cap domestic equities was **7.96%**.
- The same is true for **Fixed Income (Bond) investments**, which **declined** from a 20-year expected annual average of **4.59%** down to **3.38%** in **2021**.
- The **expected return for a 60/40 portfolio has declined** from 7.31% in 2017 to 6.13% in 2021.

WHAT ARE THE OPTIONS?

DO NOTHING	CHANGE THE DISCOUNT RATE	CHANGE THE ASSET ALLOCATION	MIXED APPROACH

DO NOTHING


Funded Ratio
101.0%
100.0%
99.0%
98.0%
97.0%
96.0%
95.0%
94.0%
93.0%
92.0%
91.0%
Funded Ratio
1
2
3
4
5
6
7
8
9
10


ADC as a Percent of Pay
18.0%
17.5%
17.0%
16.5%
16.0%
15.5%
15.0%
14.5%
14.0%
13.5%
1
2
3
4
5
6
7
8
9
10

WHAT ARE THE OPTIONS?

DO NOTHING

CHANGE THE DISCOUNT RATE

CHANGE THE ASSET ALLOCATION

MIXED APPROACH

CHANGE THE DISCOUNT RATE

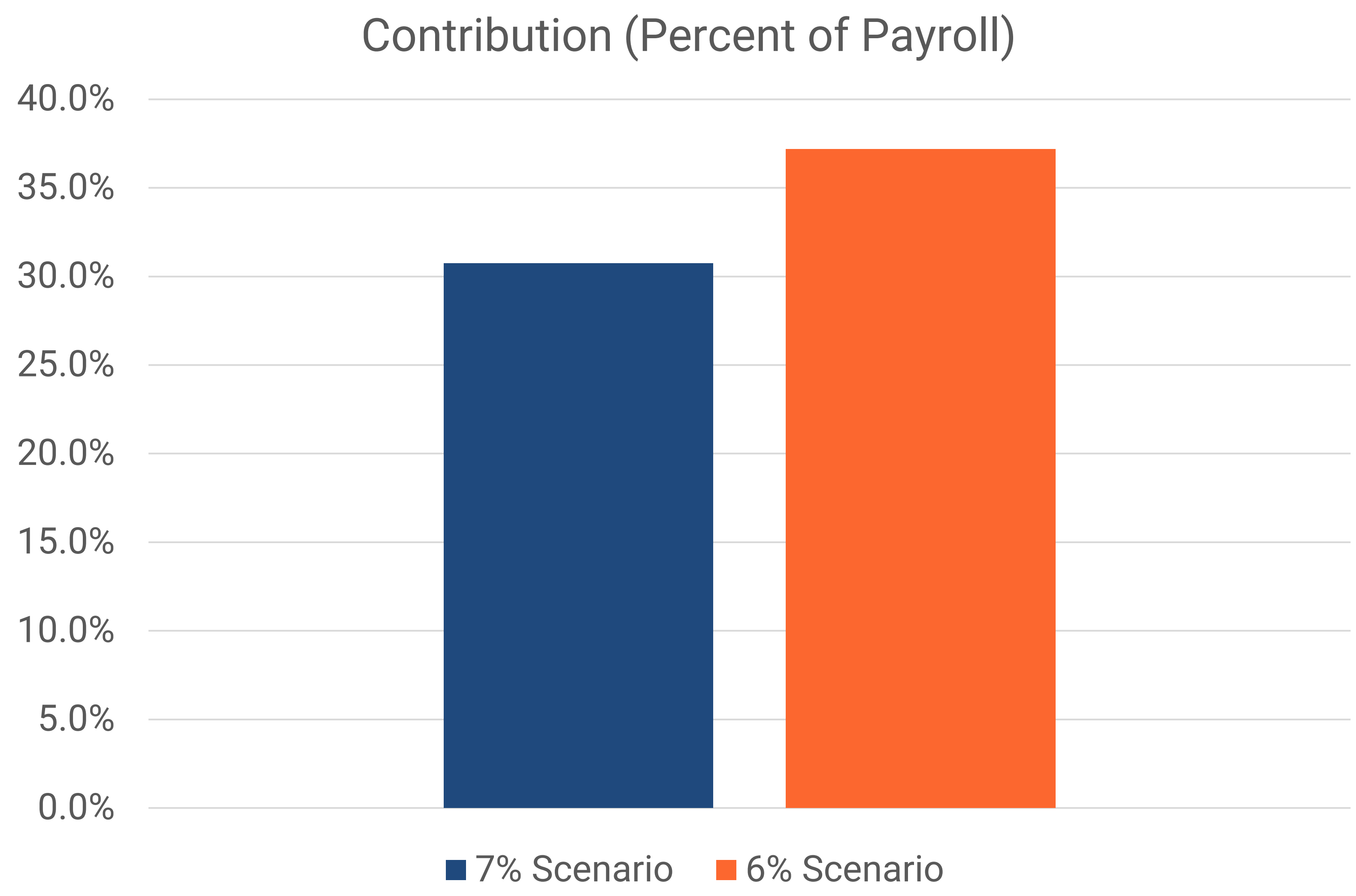
- Actuarial discount rate assumption:
  - Doesn’t change the actual return
  - Impacts budget and balance sheet reporting

- More conservative positioning:
  - Less severe downside events (spiking ADC or dropping funding ratio)
  - Higher current ADC and lower current funding ratio

CHANGE THE DISCOUNT RATE
THE WRONG QUESTION

How much will changing the discount rate cost?

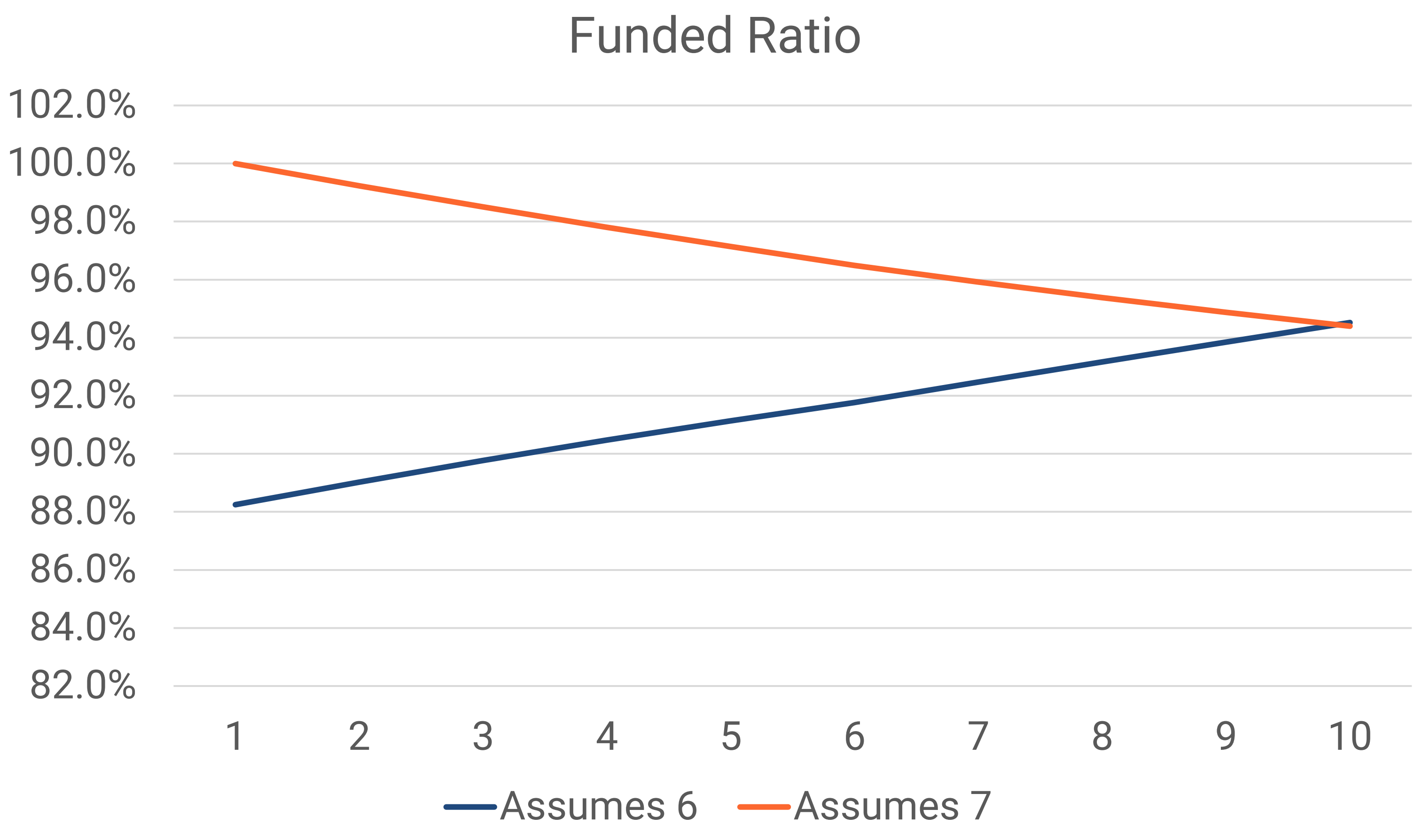
- Assumption doesn't change cost – only timing
- Focus on exposure to variability and long-term trends

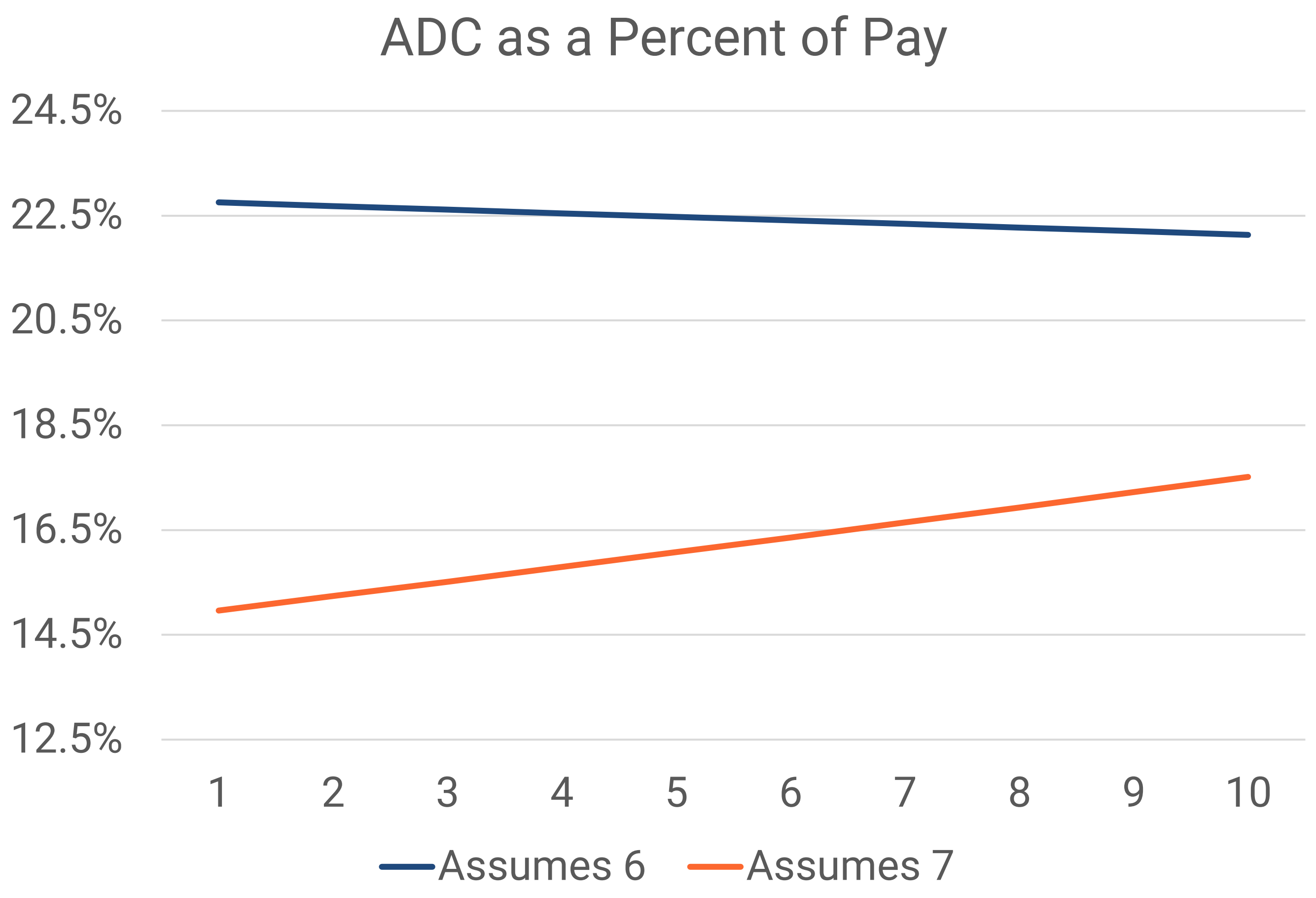


CHANGE THE DISCOUNT RATE
THE RIGHT QUESTION

What is the path to lower volatility and more certain outcomes?

More aggressive assumptions lead to more risk





CHANGE THE DISCOUNT RATE

POSITIONING TO LOWER DOWNSIDE RISK

- How “sure” should you be?
- What is the “price” of security?
- Understand the tradeoff:
  - 50% chance the long-term return will be over 7.00%
  - 75% chance the long-term return will be over 6.00%

WHAT ARE THE OPTIONS?

DO NOTHING

CHANGE THE DISCOUNT RATE

CHANGE THE ASSET ALLOCATION

MIXED APPROACH

CHANGE THE ASSET ALLOCATION

Why not invest in a portfolio that will deliver the long-term expected investment returns?

It's not quite that simple—remember, we're trying to predict the future here!

Volatility and risk matter, especially for funds that are already paying benefits.

CHANGE THE ASSET ALLOCATION

WHY DOES VOLATILITY MATTER?

In 2021, a simple portfolio that invested 60% in domestic equities and 40% in fixed income would have and expected 20-year annual average return of 6.13%, down from an expectation of 7.31% in 2017.

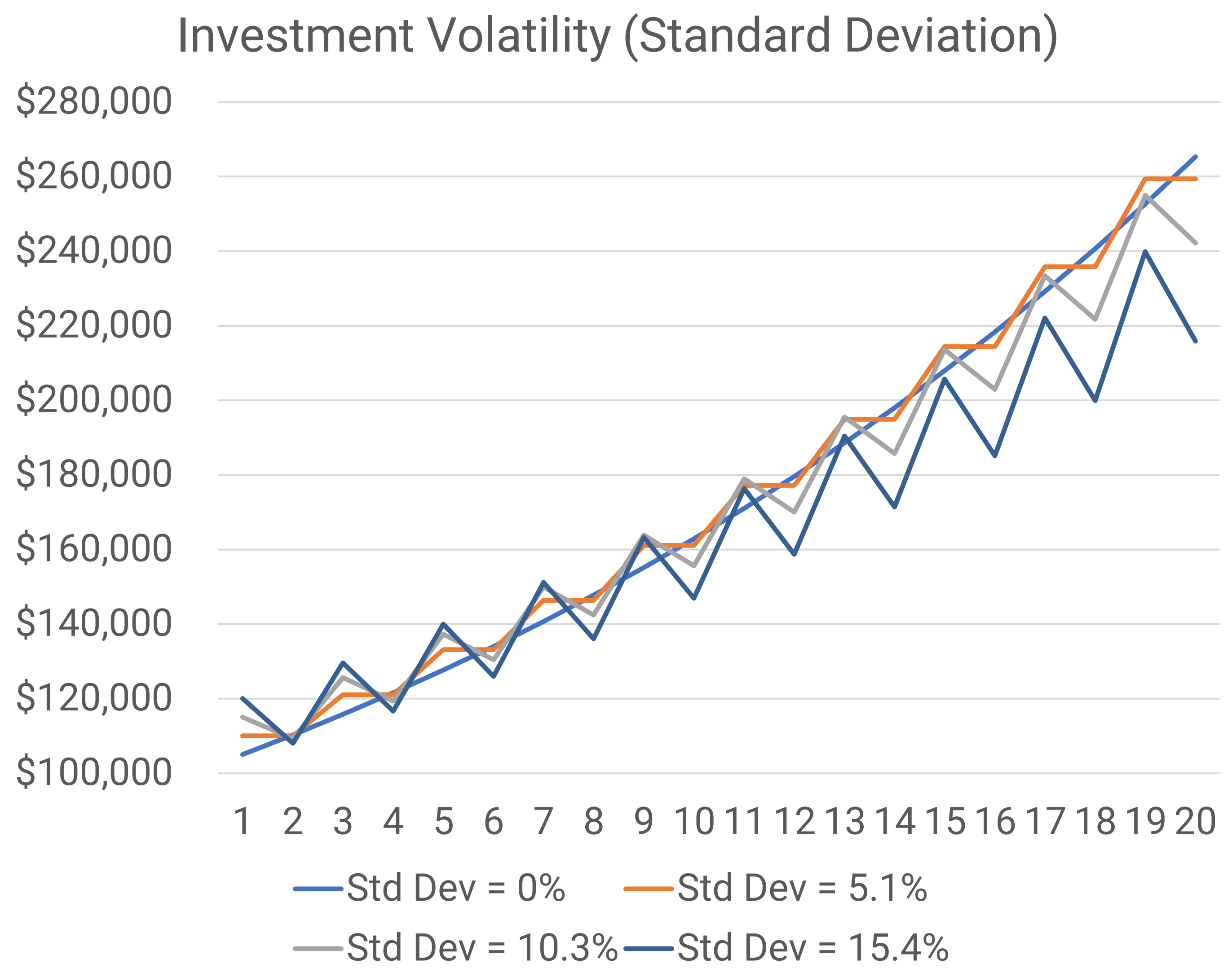
Year	Allocation	Return
2017	60% Domestic Equity, 40% Fixed Income	7.31%
2021	60% Domestic Equity, 40% Fixed Income	6.13%
2021	84% Domestic Equity, 16% Fixed Income	7.32%

CHANGE THE ASSET ALLOCATION

WHY DOES VOLATILITY MATTER?

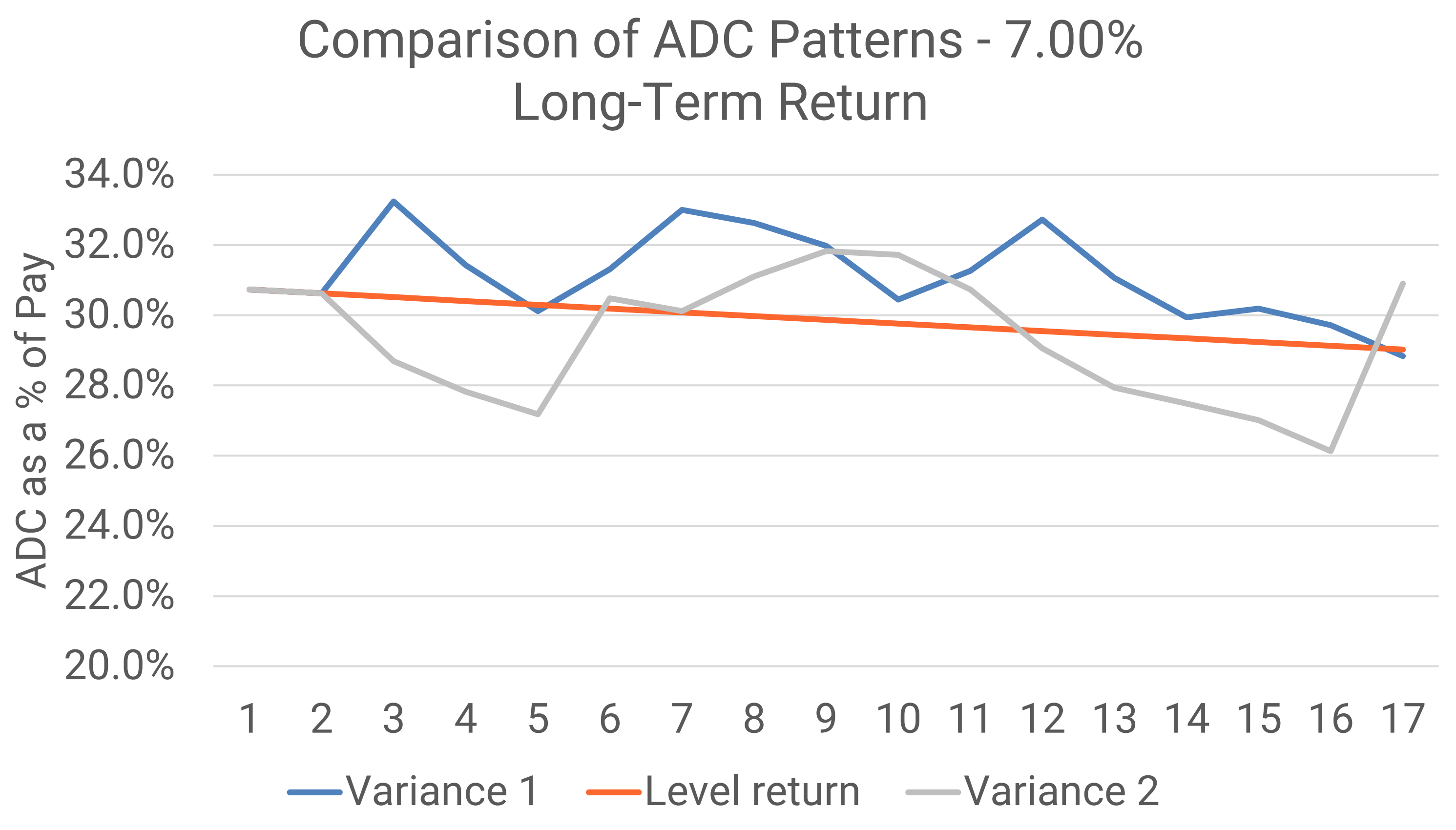
Over time, volatility can substantially impact investment balances.

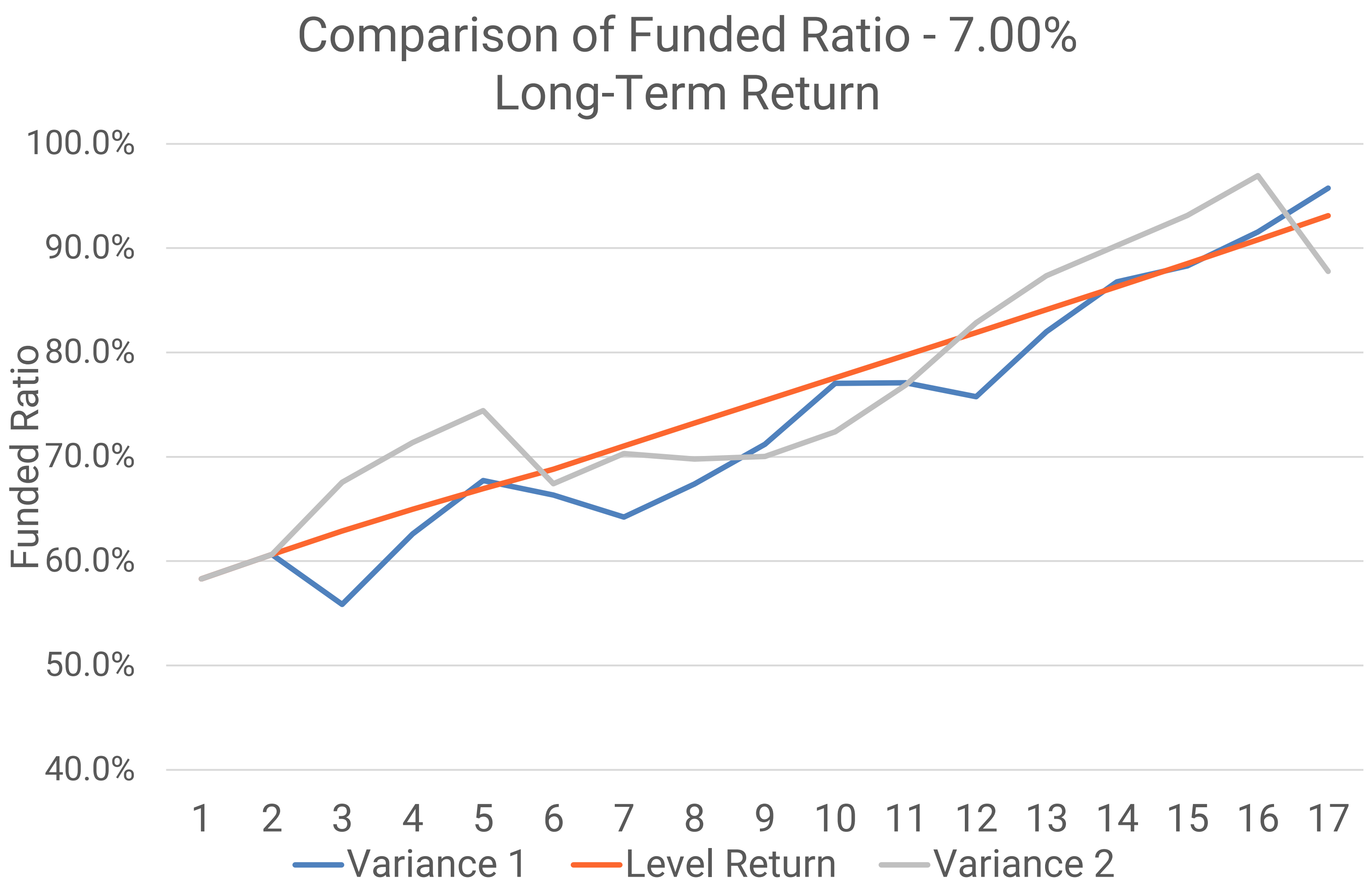
Years	Asset A	Asset B	Asset C	Asset D
1	5%	10%	15%	20%
2	5%	0%	-5%	-10%
3	5%	10%	15%	20%
4	5%	0%	-5%	-10%
5	5%	10%	15%	20%
6	5%	0%	-5%	-10%
7	5%	10%	15%	20%
8	5%	0%	-5%	-10%
9	5%	10%	15%	20%
10	5%	0%	-5%	-10%
11	5%	10%	15%	20%
12	5%	0%	-5%	-10%
13	5%	10%	15%	20%
14	5%	0%	-5%	-10%
15	5%	10%	15%	20%
16	5%	0%	-5%	-10%
17	5%	10%	15%	20%
18	5%	0%	-5%	-10%
19	5%	10%	15%	20%
20	5%	0%	-5%	-10%
Mean Return:	**5.0%**	**5.0%**	**5.0%**	**5.0%**
Standard Deviation:	**0.0%**	**5.1%**	**10.3%**	**15.4%**



CHANGE THE ASSET ALLOCATION
UNDERSTAND THE VARIABILITY AND IMPACT ON ADC

All three scenarios have the same long-term return… but very different budget impacts.





CHANGE THE ASSET ALLOCATION

ASSET ALLOCATION ANALYSIS

Asset Allocation Analysis is built upon Capital Market Assumptions and Risk/Correlations between asset classes:

- **Capital Market Assumptions** are the "best guesses" of researchers regarding expected future performance of various asset classes.
- **Risk/Correlations** are backward looking analyses of the volatility of asset classes individually and how they interact with one another.

THE BASICS OF ASSET ALLOCATION

What is Asset Allocation?

An investment strategy that aims to balance risk and reward by investing a portfolio's assets in a variety of different types of assets.

Why does it matter?

Approximately 90% of a portfolio's return can be attributed to asset allocation, the remaining 10% is attributed to investment selection, transaction timing, and other factors.

CHANGE THE ASSET ALLOCATION

THE BASICS OF ASSET ALLOCATION

RISK

How wide is the potential range of outcomes for a particular asset class?

RETURN

The potential reward for taking risk

CORRELATION

The degree to which asset classes behave similarly to one another

ASSUMPTIONS

The foundation of an asset allocation model. It is important to note that models are very sensitive to changes in assumptions and inputs.

UNDERSTANDING MODELS

- Asset Allocation models give us **guidance**, **not prescription**.
- Models aren't skeptical.
- Consultants can take additional factors into consideration that aren't built into the models.

NOT AN EXACT SCIENCE

Targeting a 5% long-term return with 9.87 standard deviation:

	95th Percentile	50th Percentile	5th Percentile
5 Year	12.29%	5.13%	-1.91%
10 Year	10.13%	5.03%	-0.06%
20 Year	8.67%	5.00%	1.53%

VOLATILITY

Volatility gets worse as the plan funding gets better:

Change in ADC Rate Under Different Return Scenarios			
	Actual Return		
	0%	6%	12%
80% funded	1.80%	0.00%	-1.70%
100% Funded	2.20%	0.00%	-2.20%

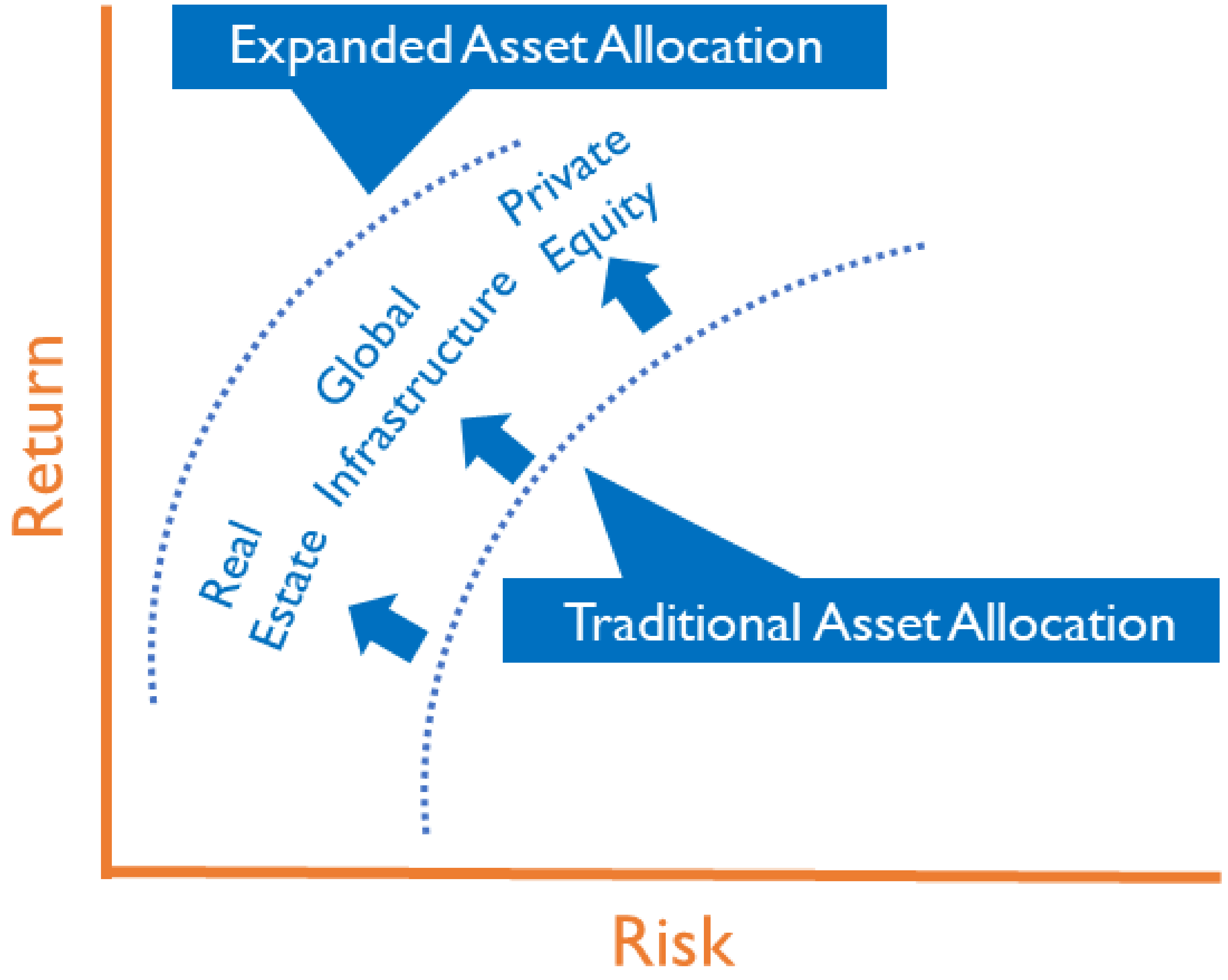
THE GOAL OF ASSET ALLOCATION

- **Balance Risk and Return** for the most efficient trade-off given the asset classes available.
- Available asset classes may be driven by:
  - Size of the Fund
  - Restrictions
    - International Investment
    - Environmental, Social or Governance Considerations
    - Fee Sensitivity

THE EFFICIENT FRONTIER

Improves the risk and return trade-offs for the portfolio:

- Can **decrease risk** while maintaining expected return
- Can **increase expected return** while maintaining the same level of risk



ASSET ALLOCATION CONSIDERATIONS

Asset Allocation is focused on the long term, 10 or 20 years.

Tactical (short term) changes in Asset Allocation are difficult to execute—you have to be correct twice: selling and buying.

Revising Capital Market Assumptions more than once every twelve months is probably too often.

Reviewing Asset Allocation annually ensures that adjustments are made incrementally.

CONCLUSION

Long-term changes in the markets can be addressed through incremental changes:

- Adjustments to the discount rate
- Adjustments to asset allocation strategy

Consideration of new asset classes may create more efficient portfolios.

Ongoing due diligence is important, neither the discount rate nor the asset allocation strategy are “set it and forget it.”

"

Don’t be a Blockbuster.

Be a **Netflix**.

THANK YOU

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Bolton

Benefits, Actuarial, Investment & Compensation Consulting

ABOUT US

BOLTON IS A FULL-SERVICE ACTUARIAL, EMPLOYEE BENEFITS, COMPENSATION, AND INVESTMENT CONSULTING FIRM WITH 40 YEARS OF EXPERIENCE PROVIDING CONSULTING SERVICES TO CLIENTS IN THE PUBLIC AND CORPORATE SECTORS, NONPROFIT ORGANIZATIONS, AS WELL AS FOR THE FEDERAL GOVERNMENT.

OUR VALUE PROPOSITION

WE HAVE BIG-FIRM EXPERTISE WITH EXCEPTIONAL VALUE

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OUR CLIENTS TAKE PRIORITY

We are experts and provide definitive advice when needed, but we always remember our clients come first. We take steps to deliver results and client happiness.

WE'LL BE WITH YOU OVER THE LONG HAUL

We are long-term strategic advisors to our clients and stay current on their organization, market sector, and critical issues. We focus on relationships not just projects.

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We design and/or manage pension and retirement programs that keep your plans on point with your goals.

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We provide investment and retirement plan advice geared towards saving participants and their beneficiaries their hard-earned money.

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