No Portfolio is an Island

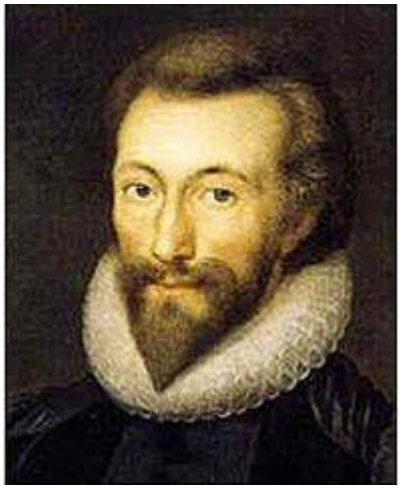
David Blanchett, PhD, CFA, CFP®
Head of Retirement Research
Morningstar Investment Management LLC

This Presentation Will Cover…

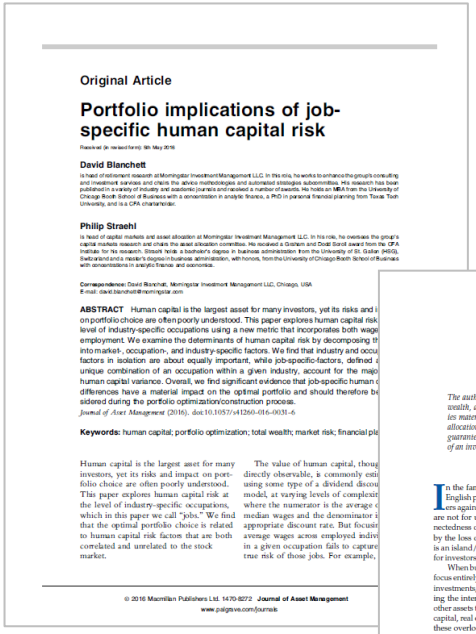
- Different types of risks to consider when building portfolios that are more efficient for clients when viewed from a total wealth perspective
- Understand why there is no one efficient portfolio for all investors
- Frameworks for incorporating different risks and preferences into the portfolio optimization process

No man is an island,
Entire of itself,
Every man is a piece of the continent,
A part of the main

John Donne, 1624



Total Wealth Research



Original Article

Portfolio implications of job-specific human capital risk

David Blanchett

Philip Straehl

ABSTRACT Human capital is the largest asset for many investors, yet its risks and i on portfolio choice are often poorly understood. This paper explores human capital risk level of industry-specific occupations using a new metric that incorporates both wage employment. We examine the determinants of human capital risk by decomposing th into market-, occupation-, and industry-specific factors. We find that industry and occu factors in isolation are about equally important, while job-specific-factors, defined unique combination of an occupation within a given industry, account for the majo human capital variance. Overall, we find significant evidence that job-specific human differences have a material impact on the optimal portfolio and should therefore be sidered during the portfolio optimization/construction process.

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Keywords: human capital; portfolio optimization; total wealth; market risk; financial pla

Human capital is the largest asset for many investors, yet its risks and impact on portfolio choice are often poorly understood. This paper explores human capital risk at the level of industry-specific occupations, which in this paper we call "jobs." We find that the optimal portfolio choice is related to human capital risk factors that are both correlated and unrelated to the stock market.

The value of human capital, thoug directly observable, is commonly esti using some type of a dividend discou model, at varying levels of complexit where the numerator is the average median wages and the denominator i appropriate discount rate. But focusi average wages across employed indivi in a given occupation fails to capture true risk of those jobs. For example,

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Strategies

No Endowment Is an Island, Either

Charitable donation risk should be incorporated into endowment portfolio optimization.

Portfolio Construction

50 Target-Date in Reverse

Quant U

54 Clearing Up the Great Confusion

Investment Research

56 Buy the Stock-Pickers, Not the Sector-Pickers

58 A Look at the RMBS Landscape

Best Ideas

Breaking With Convention

The Total Package

Betting Big on Africa's Oil

ASSET ALLOCATION

David Blanchett

Endowment-fund investors, like most others, tend to focus on the financial risks in their investment portfolios and ignore risks of other assets they own—or, in this case, owned by the charitable organization. These are assets such as real estate, donation revenue, and program service fees. For most charities, these assets are far more valu than endowment financial assets, so ignoring them cannot result in a truly efficient endowm portfolio. We take a total wealth perspective what we call a "no portfolio is an island" perspective—or portfolio optimization in wh the endowment becomes a "compilation port to minimize the charity's funding volatility. (W used the same approach to retirement portfo the June/July issue of the magazine.)

For this analysis, we considered charity rever be endowment income and charitable donati only. Including the volatility of donation rever known as donation risk, in the optimization r results in a more efficient endowment portfo because there are statistically significant rela between donation risk and investment asset classes and risk factors. For example, 54% of historical variation in charitable donations by individuals can be explained by seven equity factors. This relation is especially noteworthy because individuals have historically made approximately 80% of all charitable donation the United States.

We used a series of portfolio optimizations to demonstrate that an endowment's optimal allocation varies materially depending on diff types of donation risk, varying levels of risk aversion, and the extent to which the charity relies on its endowment for funding. Charities with riskier donation revenue should have less aggressive portfolios, and vice versa. Even after holding the equity allocation constant for the optimization routine, the average absolute difference in optimal asset-class weights varied by more than 25 percentage points, on average, when compared with either a portfolio that did not incorporate donation risk or the average portfolio

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In the famous poem "For Whom the Bell Tolls," English poet John Donne (1572–1631) warns readers against thinking that the funeral bells we hear are not for us, the living: because of the interconnectedness of humankind, each of us is diminished by the loss of another. The poem begins, "No man is an island/entire of itself." This poem has a lesson for investors, because no portfolio is an island either.

When building portfolios, most investors tend to focus entirely on the risk and return characteristics of investments, such as cash, bonds, and stocks, ignoring the interconnectedness of their portfolios with other assets that they effectively own, such as human capital, real estate, and pensions. In many instances, these overlooked assets' value exceeds the value of the financial (i.e., liquid) wealth. For example, Becker (1993) estimated that the value of human capital is at least four times larger than the value of stocks, bonds, housing, and all other assets combined. Heaton and Lucas (2000) estimated that human capital is 48% of household wealth whereas financial assets represent only 6.8%.

A growing body of research incorporates the unique risks associated with human capital into the asset allocation decision, but a relatively limited body of research accounts for multiple dimensions of wealth and explores how the characteristics of outside wealth affect optimal portfolios. Although the majority of research on the subject has relied on complex utility-based consumption models, we used a familiar single-period portfolio optimization routine in our study.

Editor's note: The authors may have a commercial interest in the topics discussed in this article.

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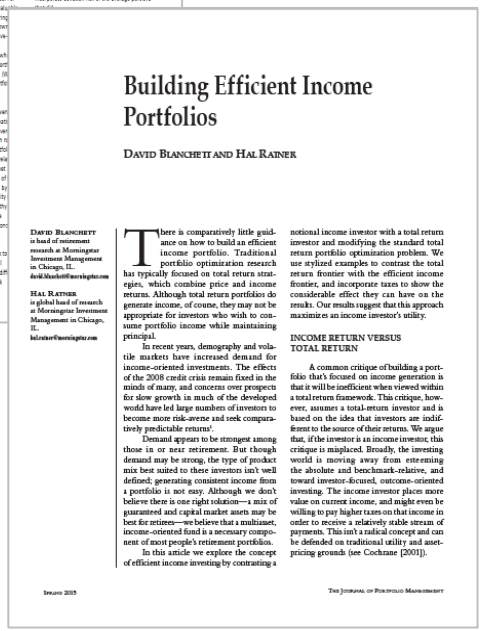
Discussion of findings. In our study, we explored the impact of incorporating human capital, housing wealth, and pensions into the optimal portfolio choice. We found significant evidence that the optimal allocation for an investor's financial assets varies materially for different compositions of total wealth. In particular, we found that the optimal equity allocation decreases from 61% at age 25 to 26% at age 65 as an individual's human capital erodes and housing wealth and financial wealth rise. We also found that the optimal portfolio varies significantly for different types of industry-specific human capital. For instance, the optimal equity allocation is higher for a worker in an industry with a lower equity market beta, and vice versa. Similarly, we found that human capital is correlated with the value factor and that region-specific housing wealth also affects the optimal equity weight. Overall, we found that across 1,000 total wealth compositions considered, incorporating outside wealth results in an average increase in risk-adjusted return of 30 bps.

The total wealth approach introduced in this article can help (1) private wealth managers build more-efficient portfolios for their clients and (2) defined contribution plan sponsors implement a more customized target-date solution for their participants.

Dimensions of Wealth

Financial assets and nonfinancial assets (e.g., human capital) share common systematic risks, which may vary significantly for different people. In our study, we developed a straightforward total wealth framework to help investors build portfolios in the context of the risks associated with different dimensions of wealth. The notion of a total wealth portfolio discussed in this article is related to the idea of the extended portfolio introduced by Jennings and Reichenstein (2008). Expanding the total wealth concept beyond assets, Black, Ciccotello, and Skipper (2002) included such

May/June 2015 1



Building Efficient Income Portfolios

DAVID BLANCHETT AND HAL RATNER

DAVID BLANCHETT is head of retirement research at Morningstar Investment Management in Chicago, IL.

HAL RATNER is global head of research at Morningstar Investment Management in Chicago, IL.

There is comparatively little guidance on how to build an efficient income portfolio. Traditional portfolio optimization research has typically focused on total return strategies, which combine price and income returns. Although total return portfolios do generate income, of course, they may not be appropriate for investors who wish to consume portfolio income while maintaining principal.

In recent years, demography and volatile markets have increased demand for income-oriented investments. The effects of the 2008 credit crisis remain fixed in the minds of many, and concerns over prospects for slow growth in much of the developed world have led large numbers of investors to become more risk-averse and seek comparatively predictable returns[1].

Demand appears to be strongest among those in or near retirement. But though demand may be strong, the type of product mix best suited to these investors isn't well defined; generating consistent income from a portfolio is not easy. Although we don't believe there is one right solution—a mix of guaranteed and capital market assets may be best for retirees—we believe that a multiasset, income-oriented fund is a necessary component of most people's retirement portfolios.

In this article we explore the concept of efficient income investing by contrasting a notional income investor with a total return investor and modifying the standard total return portfolio optimization problem. We use stylized examples to contrast the total return frontier with the efficient income frontier, and incorporate taxes to show the considerable effect they can have on the results. Our results suggest that this approach maximizes an income investor's utility.

INCOME RETURN VERSUS TOTAL RETURN

A common critique of building a portfolio that's focused on income generation is that it will be inefficient when viewed within a total return framework. This critique, however, assumes a total-return investor and is based on the idea that investors are indifferent to the source of their returns. We argue that, if the investor is an income investor, this critique is misplaced. Broadly, the investing world is moving away from esteeming the absolute and benchmark-relative, and toward investor-focused, outcome-oriented investing. The income investor places more value on current income, and might even be willing to pay higher taxes on that income in order to receive a relatively stable stream of payments. This isn't a radical concept and can be defended on traditional utility and asset-pricing grounds (see Cochrane [2001]).

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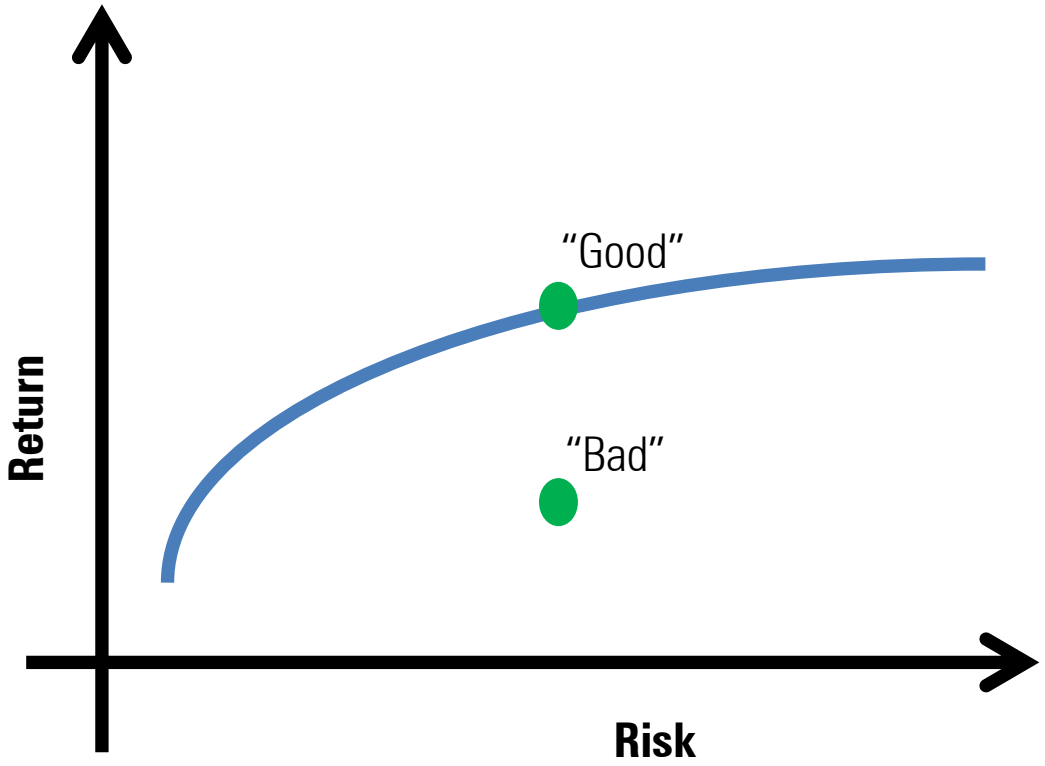
Agenda

The Impact of _____ on Efficient Portfolios

- Total Wealth
- The Goal
- an Income Focus
- Taxes
- Time

How Efficient is Your Portfolio?



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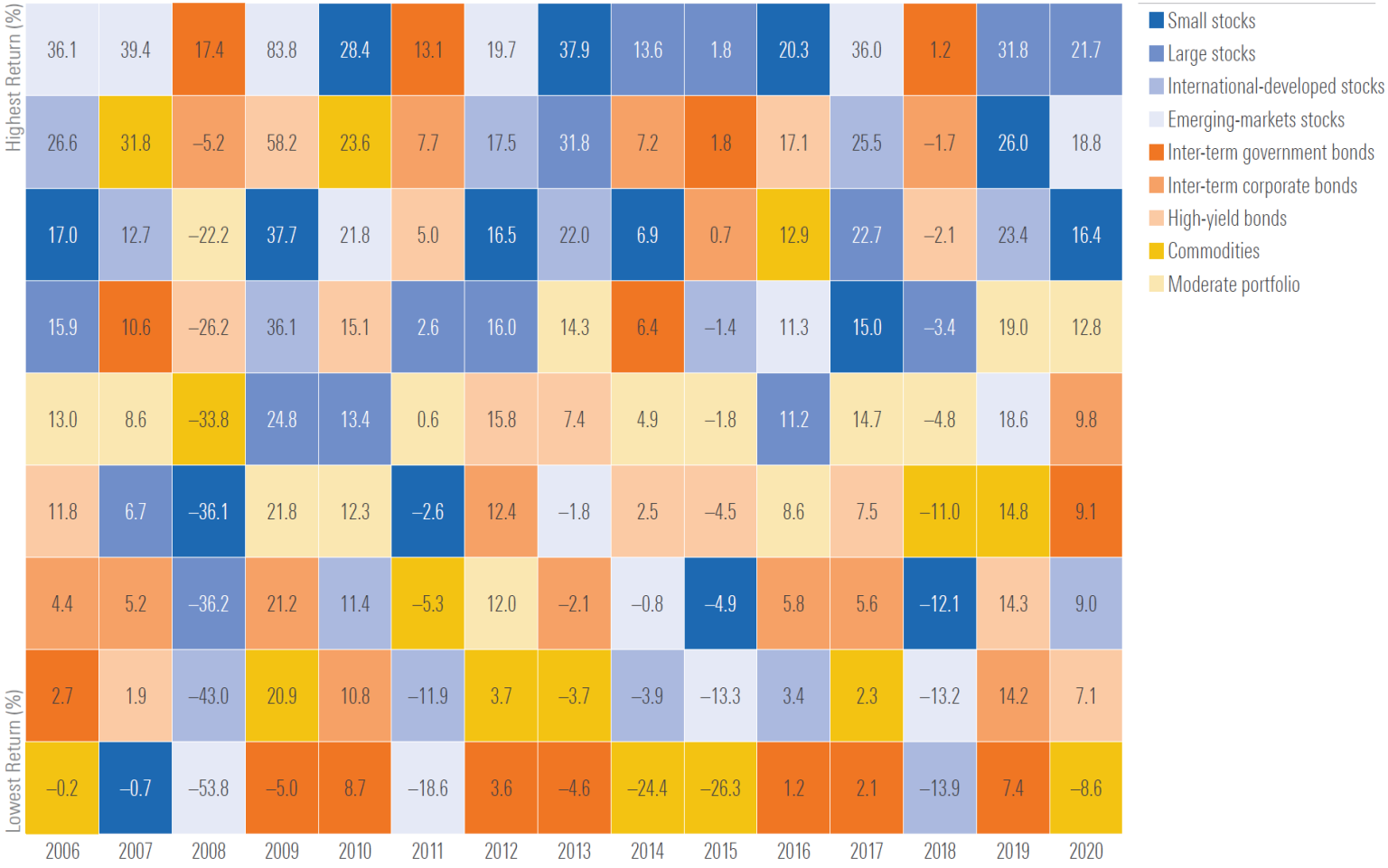
Diversification… The Only Free Lunch



Source: Morningstar

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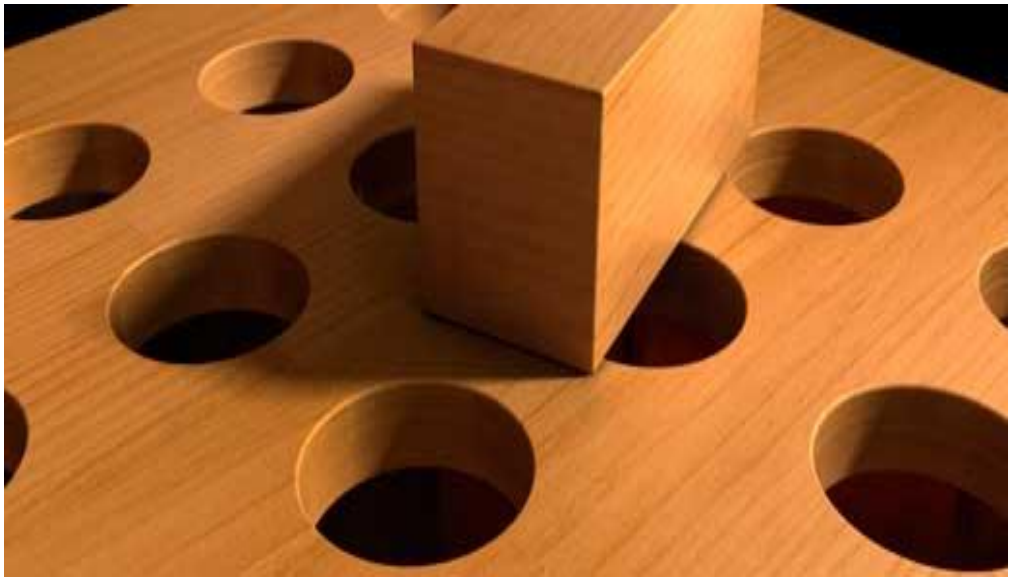
One Size Does Not Fit All



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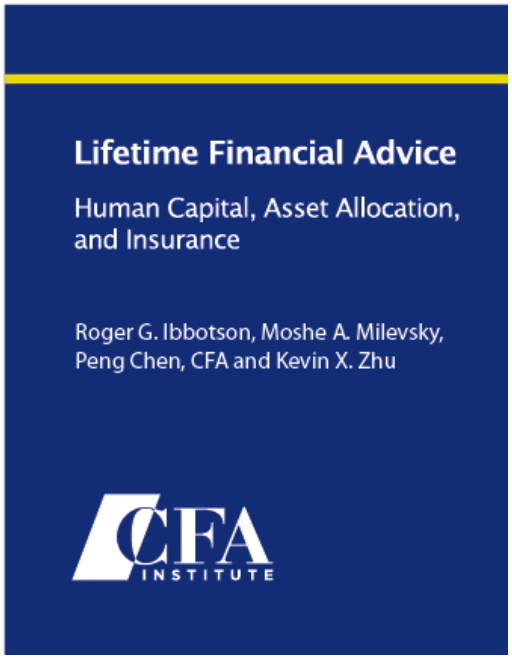
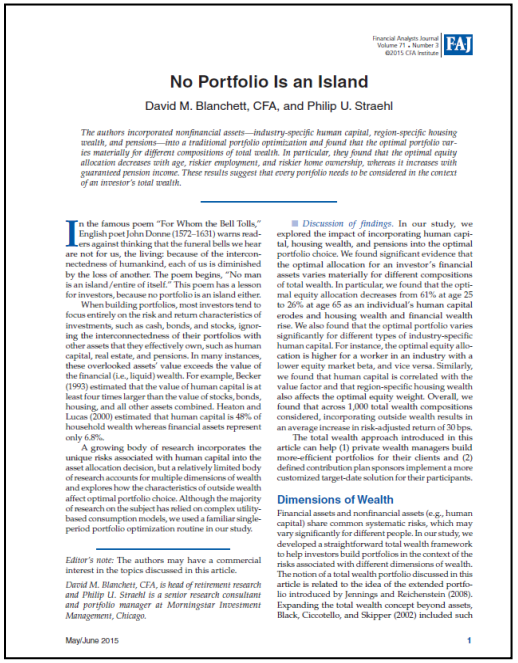
A Total Wealth Perspective (Households)

Total Wealth Research





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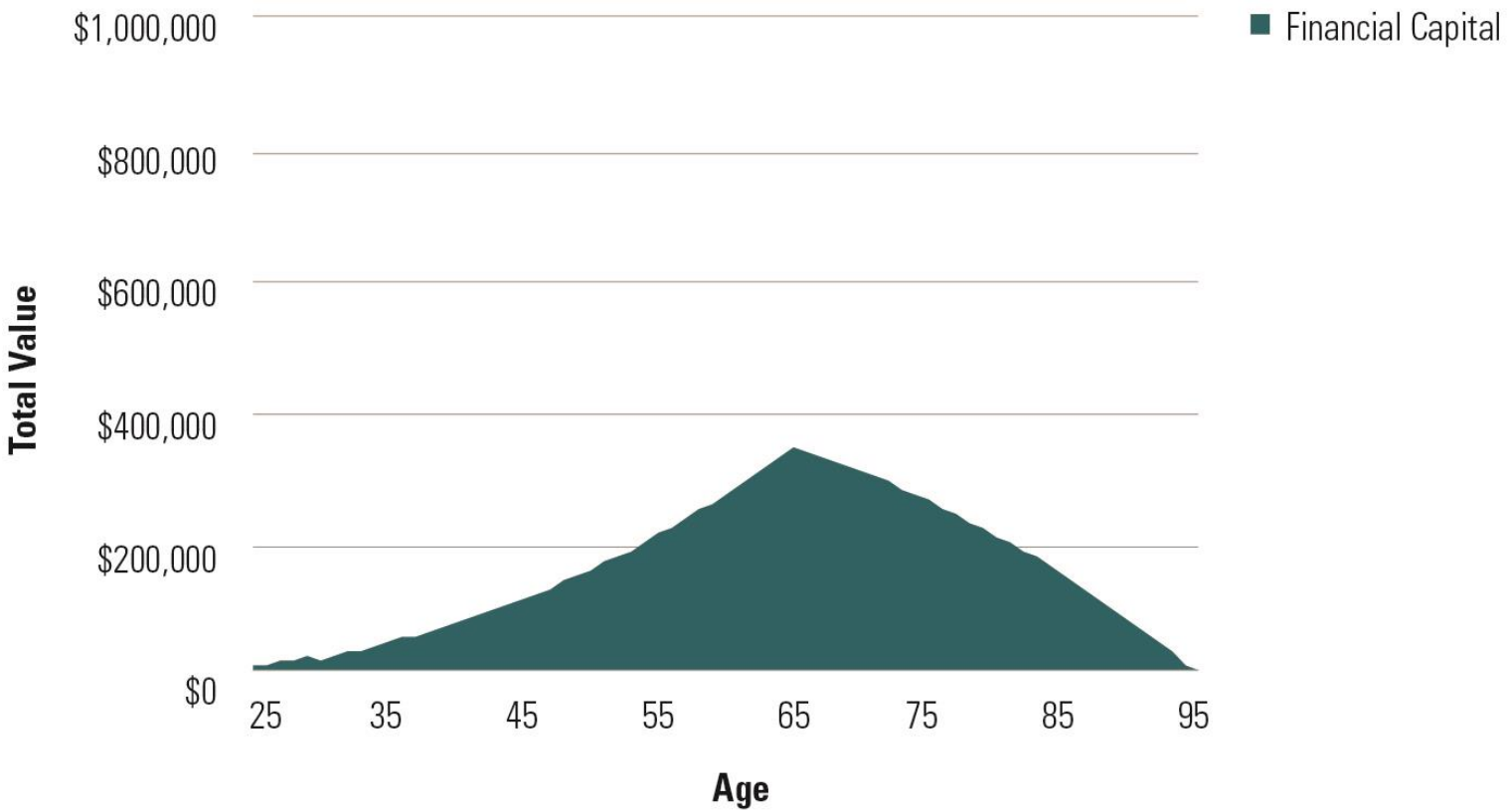
Typical "Wealth" Perspective



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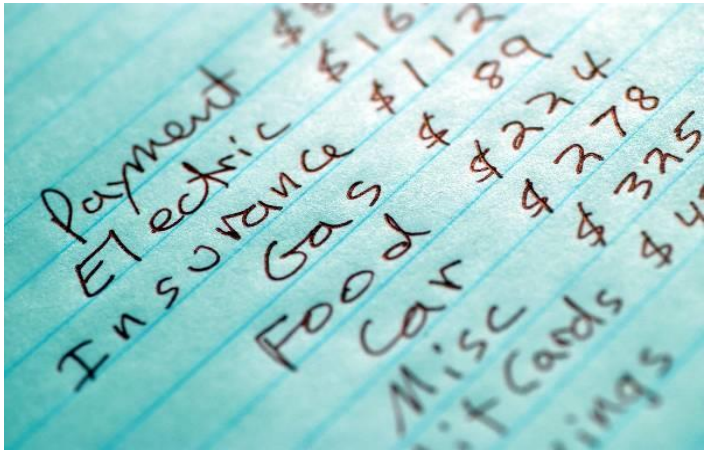
Two Sides to the Equation

Assets



Liabilities

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No Portfolio is an Island

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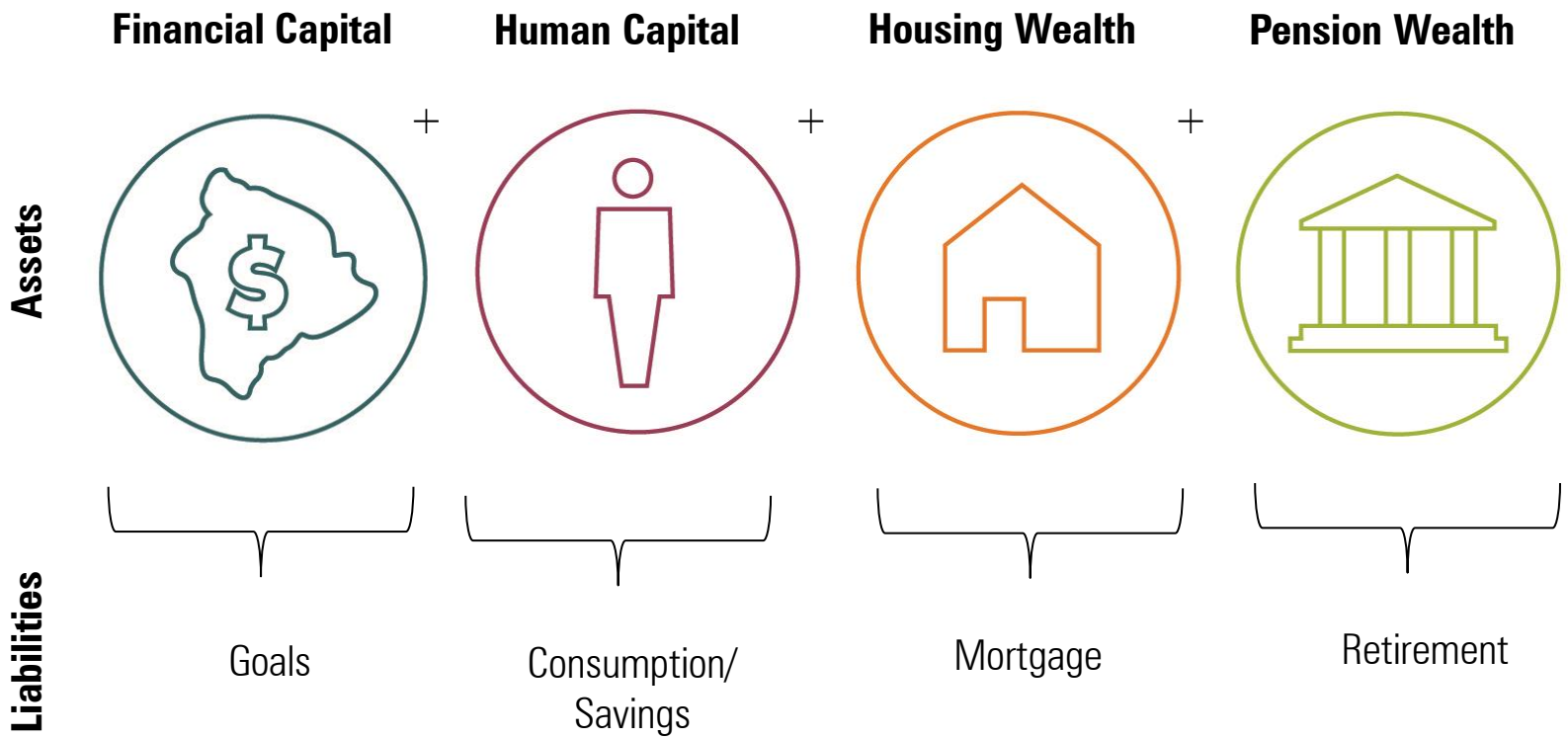
Total Wealth Components (for a Household)



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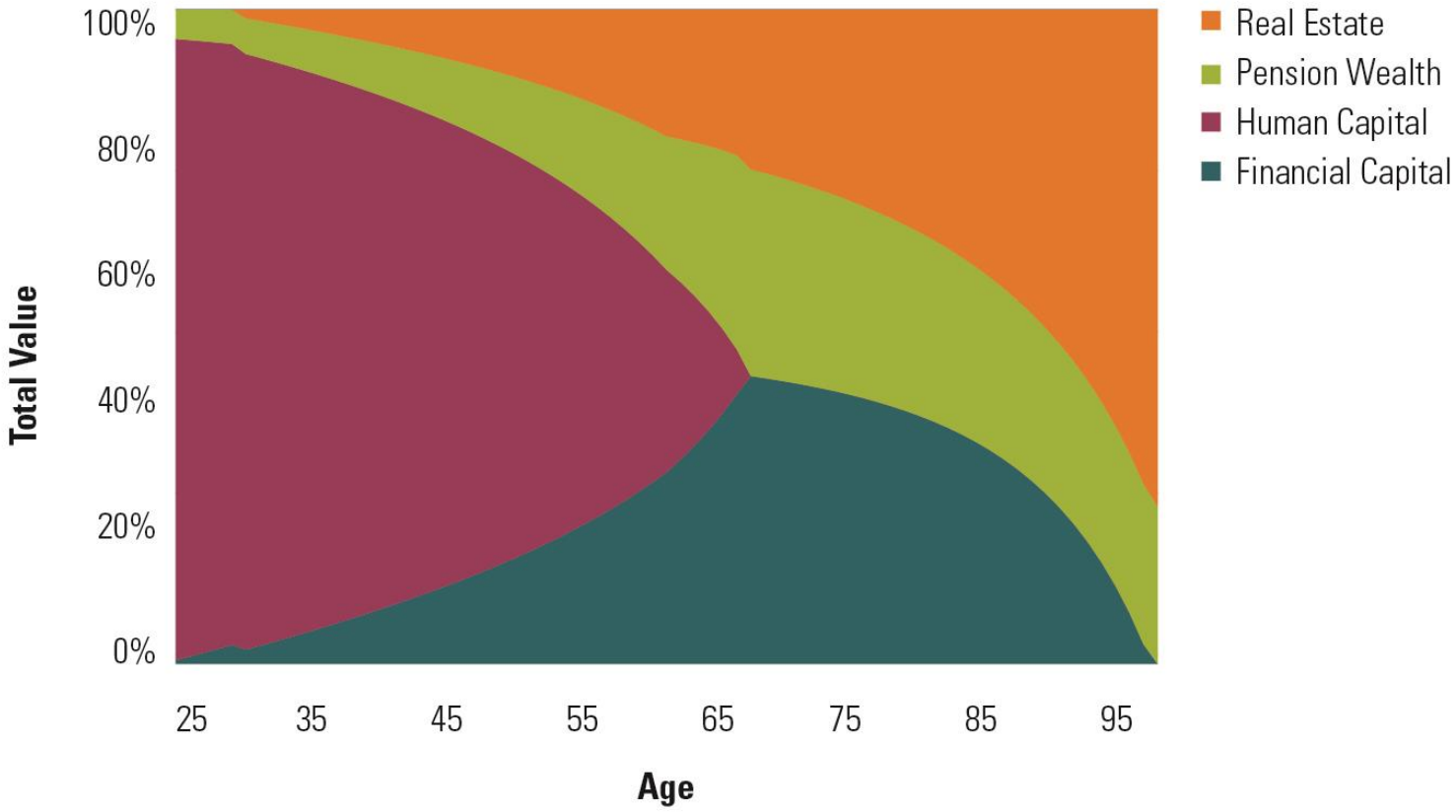
Total Economic Worth (Relative Weights)



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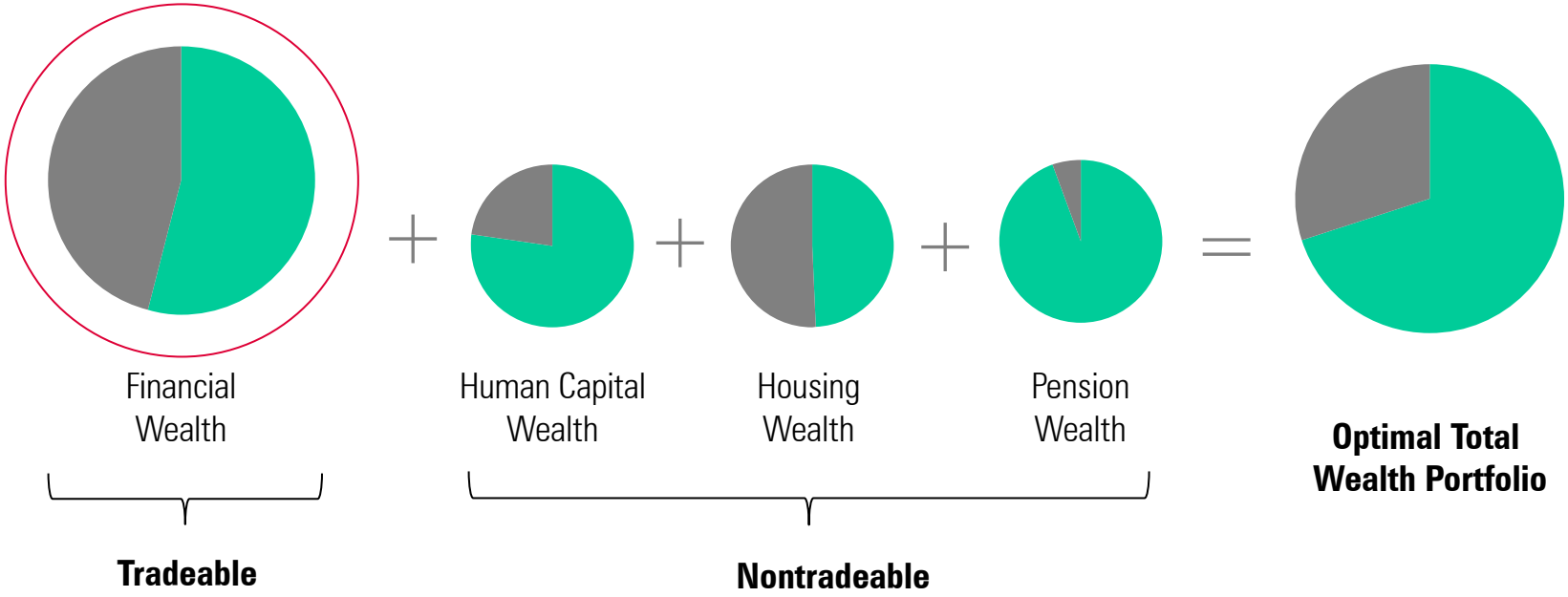
A Better Balance Sheet

Exhibit 2 Economic (Holistic) Balance Sheet as of 31 December 2014

Assets		Liabilities	
Financial capital	€4,020,000	Debts	€640,000
Liquid assets		Credit card debt	
Investment assets		Car loan	
Personal property		Home mortgage	
		Home equity loan	
Human capital	€1,400,000	Lifetime consumption needs (present value)	€4,200,000
Pension value	€500,000		
		Bequests	€400,000
Total Assets	€5,920,000	Total Liabilities	€5,240,000
		Net Wealth	€680,000

Source: Private Wealth Management: Risk Management for Individuals. CFA Curriculum by David Blanchett, David Cordell, Michael Finke and Tom Idzorek.

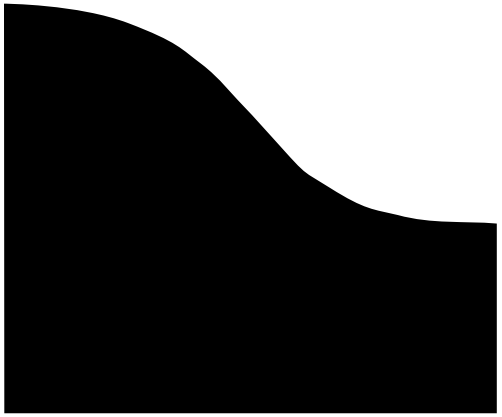
Using Financial Wealth as a Completion Portfolio



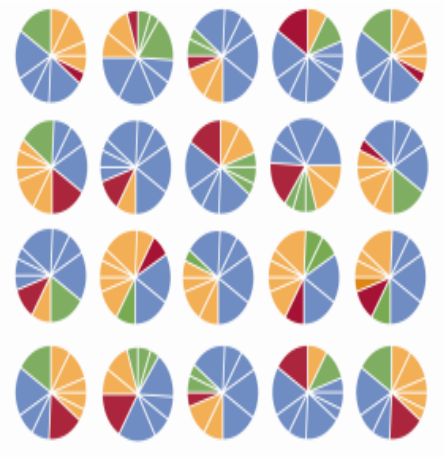
Source: "No Portfolio is an Island." by David Blanchett and Philip Straehl in the *Financial Analysts Journal*

Dual Impact

Equity Target



Asset Allocation



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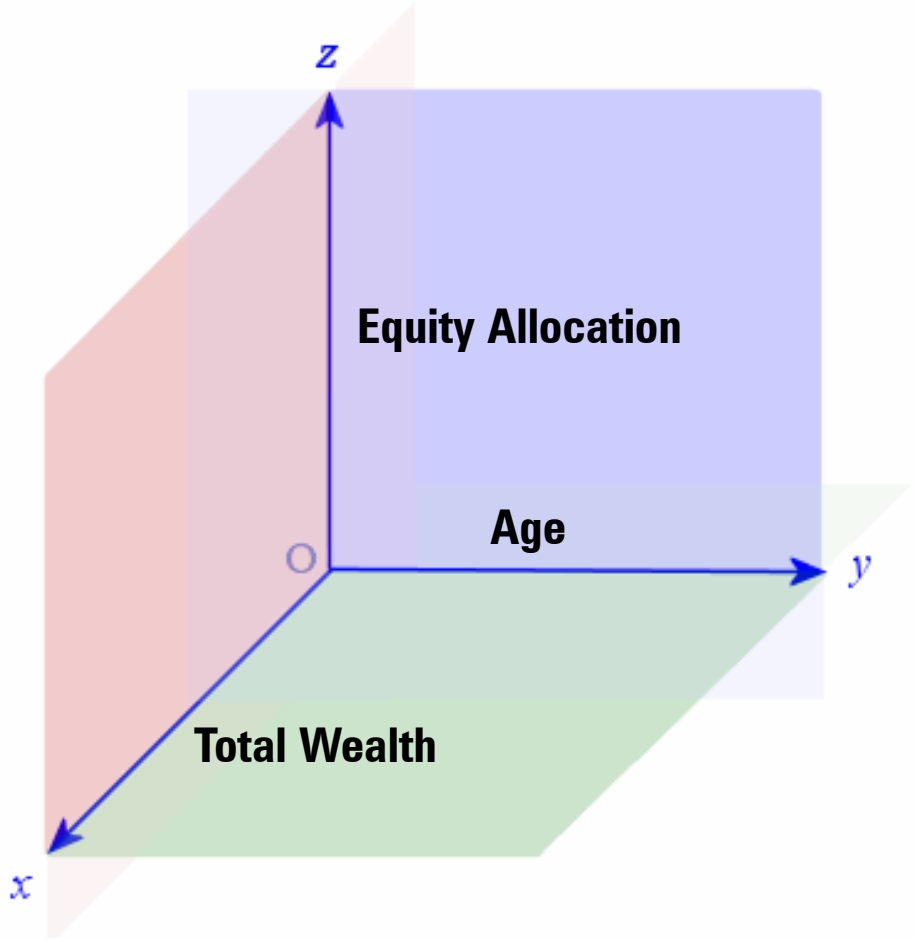
Efficient Total Wealth Portfolios



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Human Capital

Human Capital Matters

- *Human capital theory supports a significant commitment to equities for young individuals, declining to a more modest allocation as one approaches retirement and eventually leaves the workforce.*

  – Vanguard's Approach to Target-Date Funds

- *We consider participants' ability to earn income and save—their human capital—to be a critical component of their total portfolio.*

  – SSgA Custom Target Date Funds

- *For a vast majority of households, human capital and its role in an investor's wealth are critically important.*

  – Merrill Lynch Target Date Asset Allocation Methodology

Human Capital: What Can Possibly Go Wrong?

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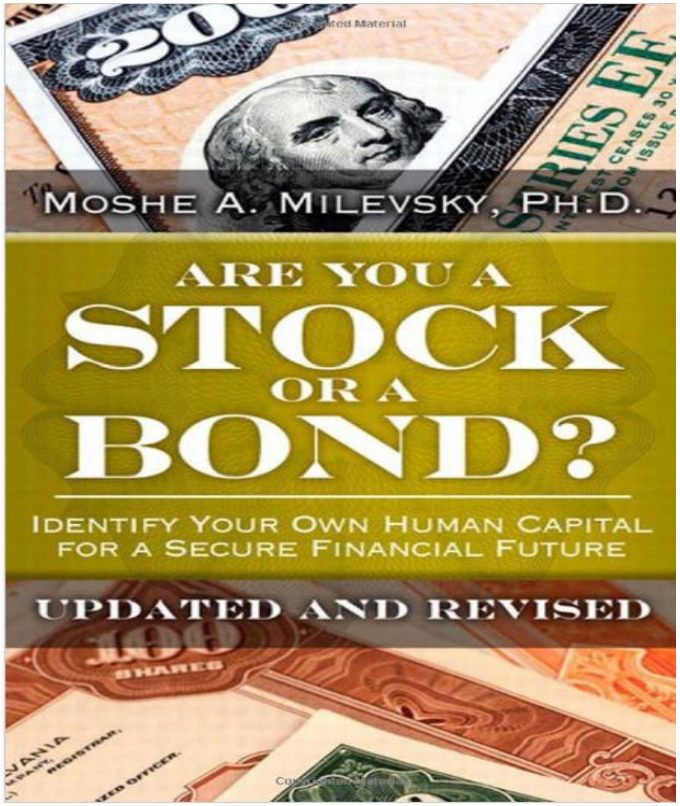
How Risky is Human Capital?



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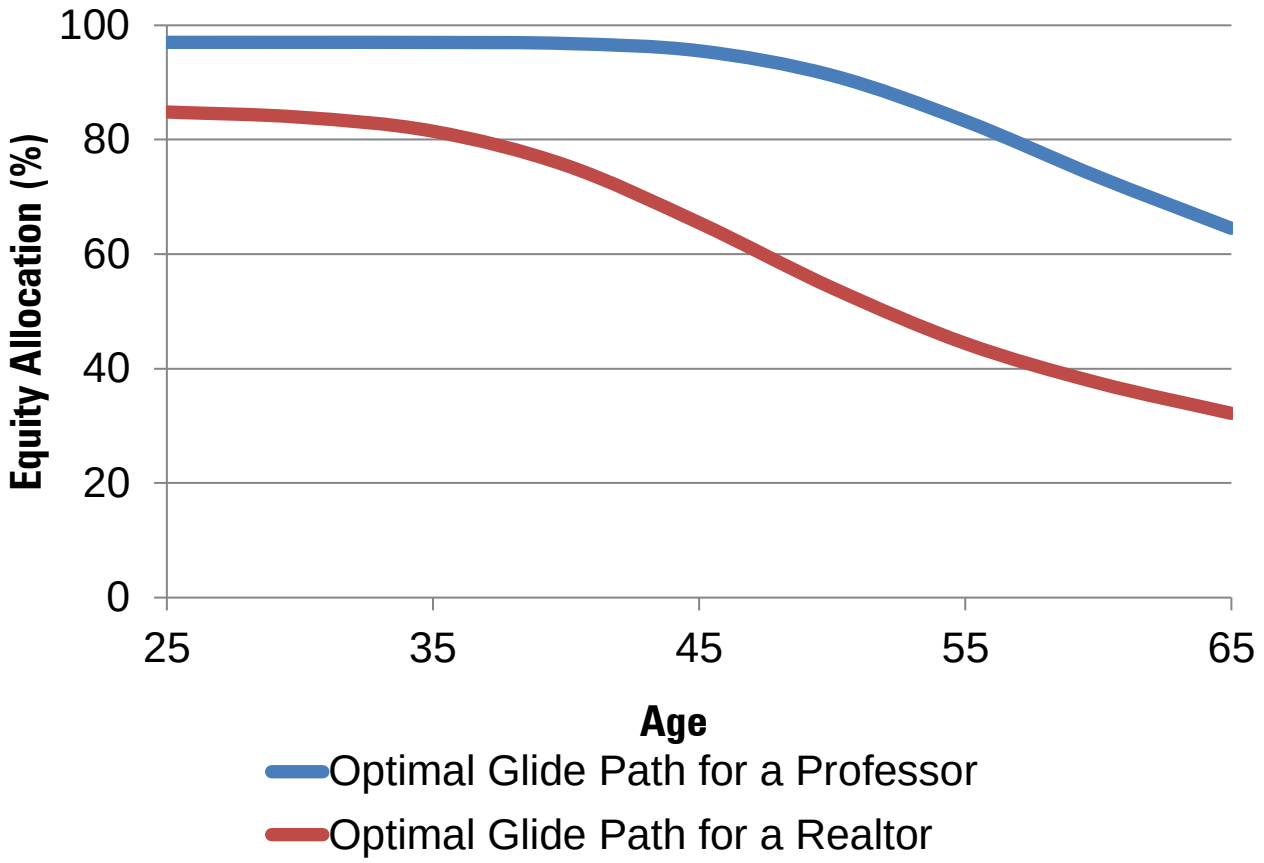
Examples of Optimal Glide Paths for Different Jobs



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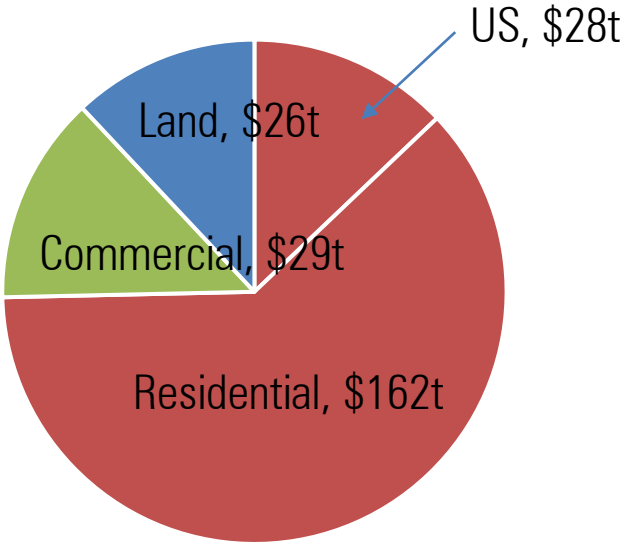
Residential Real Estate (Homes)

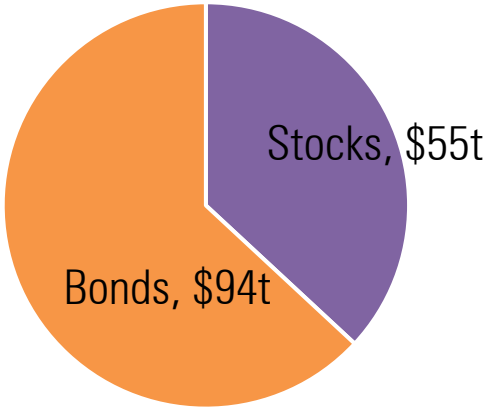
The Relative Value of Real Estate

Real Estate



Total Value = $217 trillion

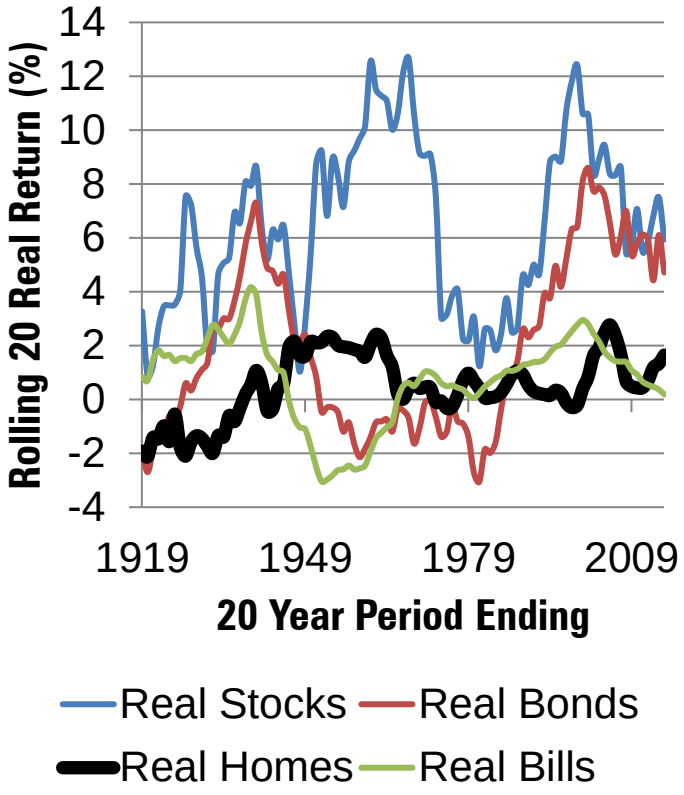
Other Financial Assets

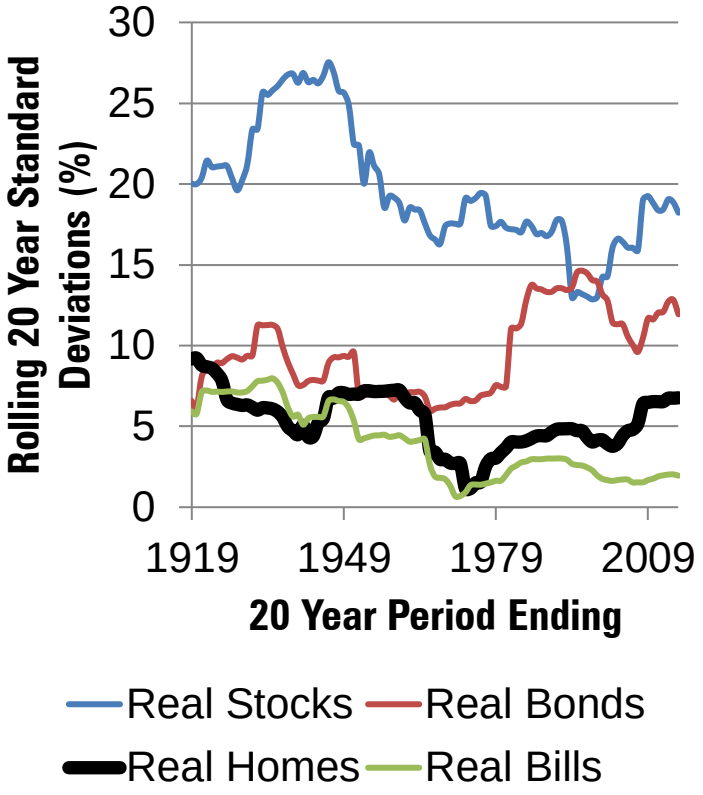


Total Value = $149 trillion

Source: "Your Home as an Investment." by David Blanchett. Morningstar White Paper.

Historical Real Returns and Risk





Source: "Your Home as an Investment." by David Blanchett. Morningstar White Paper.

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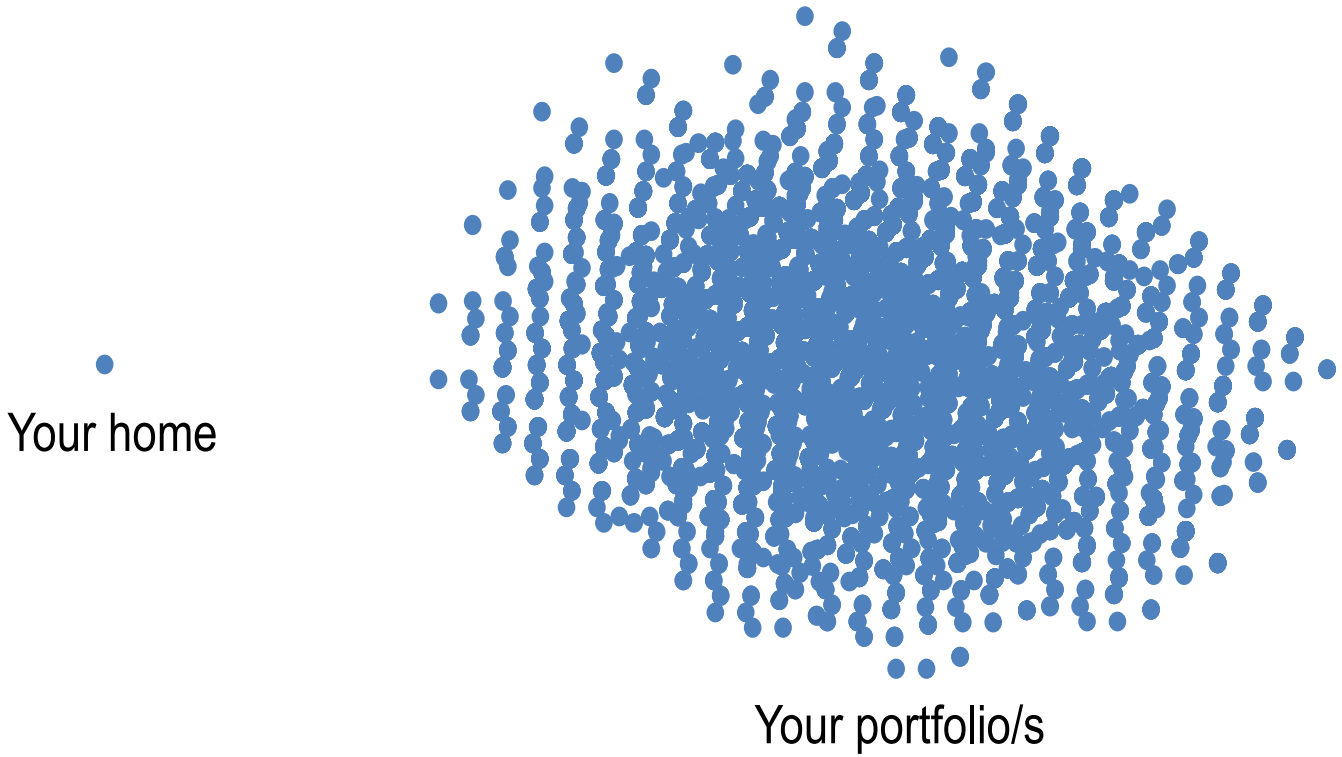
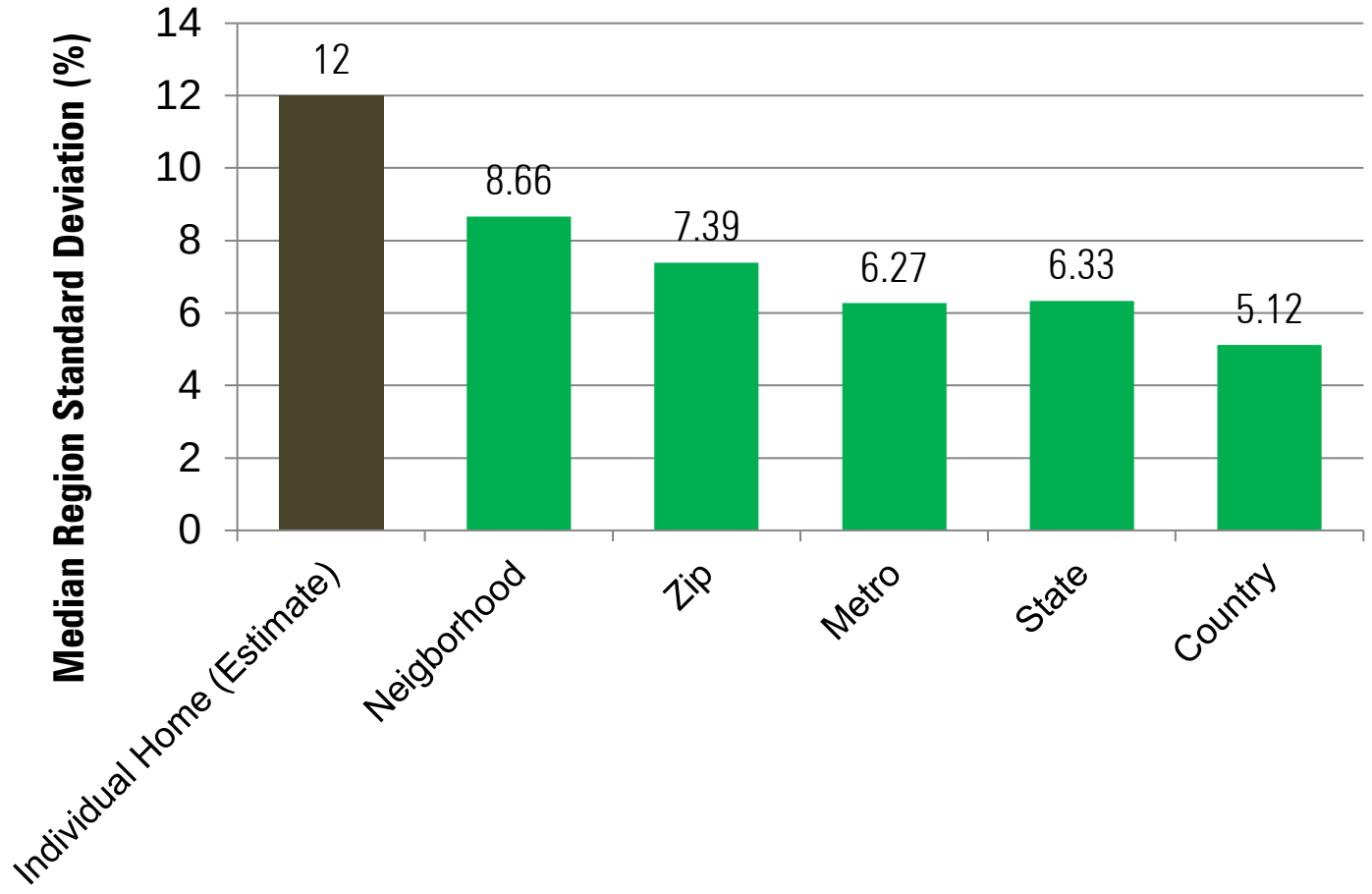
The Risk of Homeownership



Source: "The Home as a Risky Asset." by David Blanchett. *Journal of Personal Finance*

Differences in Annual Home Price Volatility by Region-Size



Source: "Your Home as an Investment." by David Blanchett. Morningstar White Paper.

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Polling Question: What is the largest financial asset in the world?

a. Publicly traded stocks
b. Publicly traded bonds
c. Real Estate
d. Bitcoin

Pensions

The Largest Asset of Most Retirees

- Where is it on your/their balance sheet?

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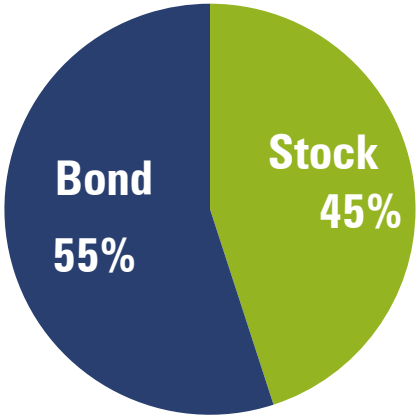
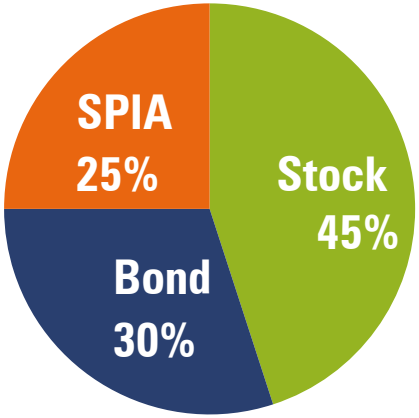
Thinking About Guaranteed Income

Target Allocation



Adding Guaranteed Income



- The remaining non-annuity portfolio now has a 60% equity allocation; however, the total wealth allocation from an income perspective, after considering the Single Premium Immediate Annuity (SPIA), is still 45% equities.

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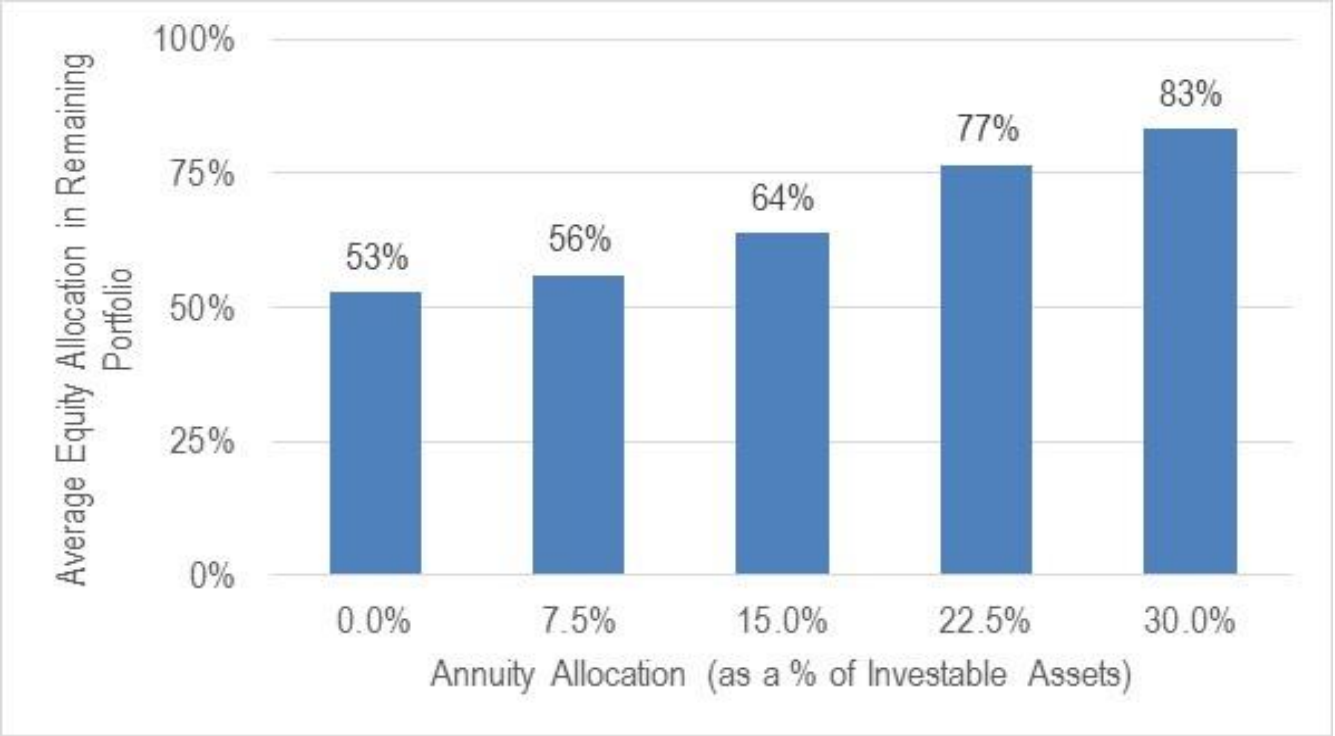
Portfolio Impact of Guaranteed Income



(more guaranteed income = more aggressive portfolios)

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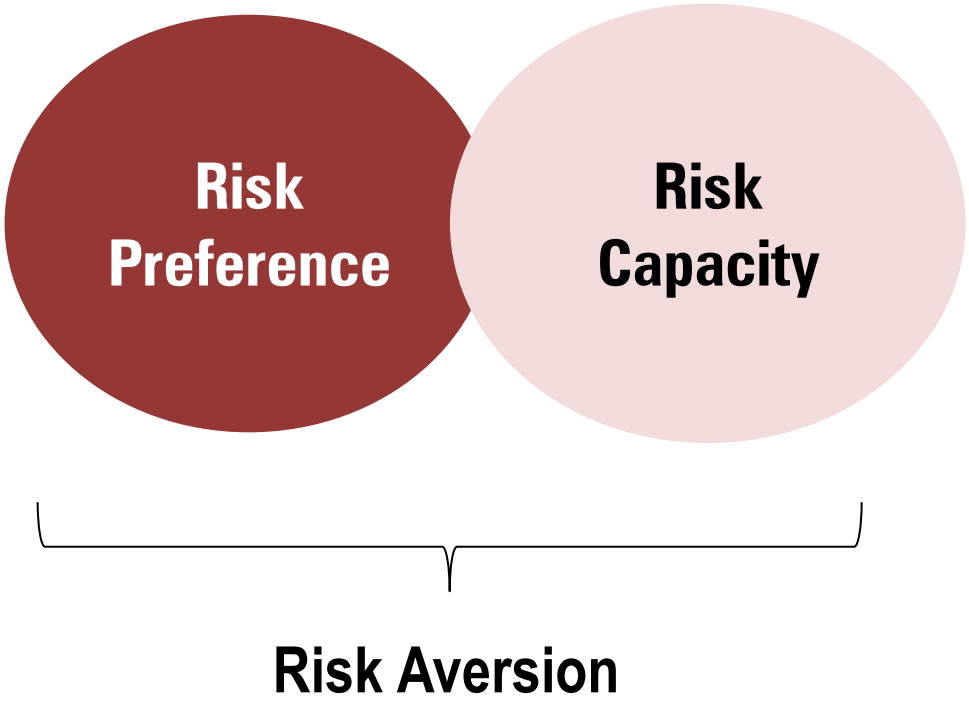
Risk Capacity vs Risk Preference



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The Importance of Holistic Planning

Collect Inputs

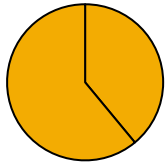
Human Capital

Financial Capital
and Current Savings

Life Insurance and Annuities

Determine Asset Allocations

Traditional Funds, ETFs



Life Insurance/Annuities

Liability-Relative Investing (for Individuals)

What is the Goal?

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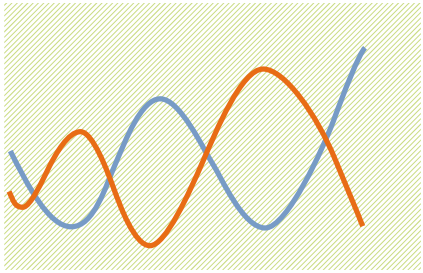
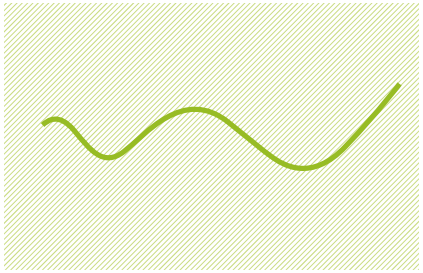
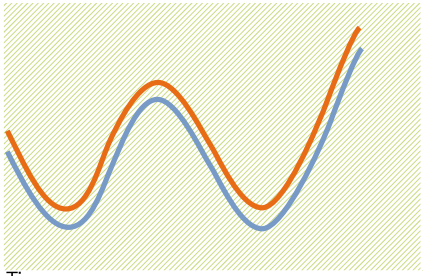
Improving Portfolio Health

	Value of Liabilities vs. Value of Assets	Portfolio Health/Funding Costs
Asset-only Approach	 Time	
Liability-relative Approach	 Time	

401k Balance
Cost of Retirement
Portfolio Health

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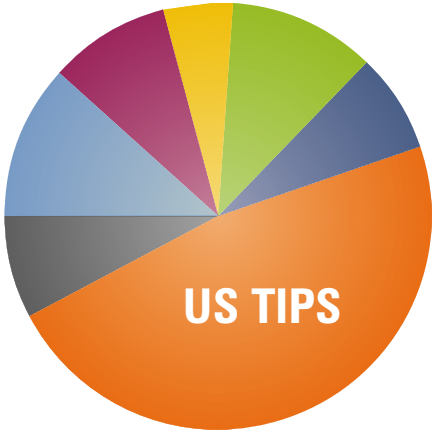
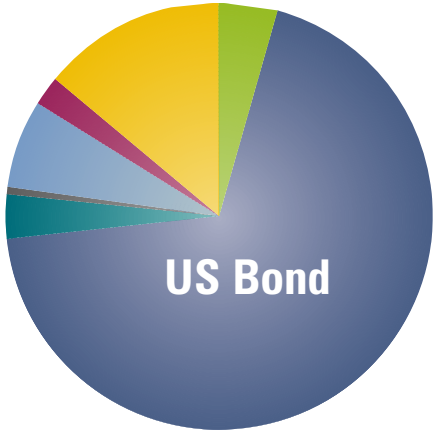
Different Efficient Portfolios

Retirement Focused



Accumulation Focused



- Cash
- US Bond
- Non US Bond
- US TIPS
- US Large Cap Stock
- US Small Cap Stock
- Non US Large Cap Stock
- Emerging Markets Stock

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Efficient Income Investing

An Income Perspective

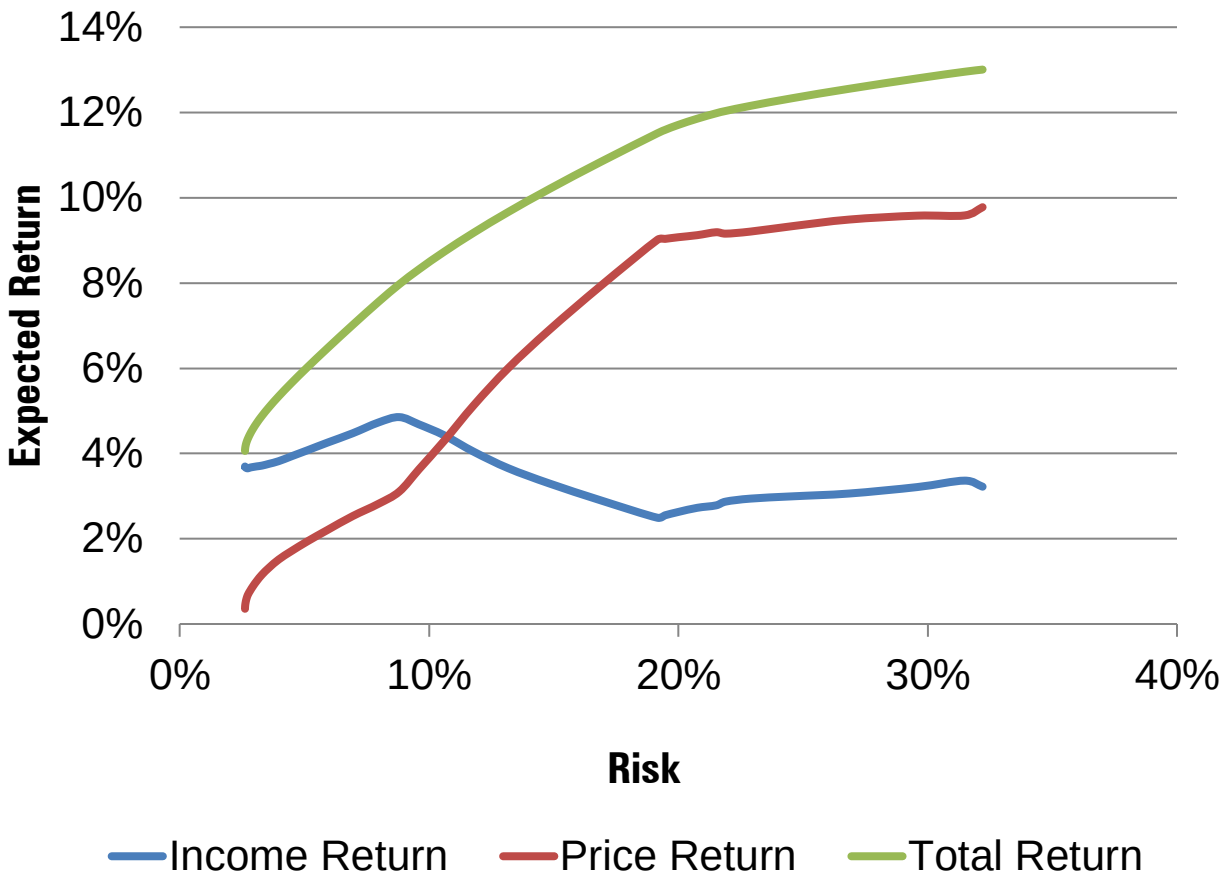
- Limited guidance on how to build an efficient income portfolio
- Traditional portfolio optimization research focuses on Total Return (which combines Price Return and Income Return), which is an incomplete perspective for a retiree who wants to generate income and not liquidate principal
    - Example: Long-Term bonds held to maturity

Income Return, Price Return, and Total Return

	Income Return		Price Return		Total Return	
Asset Class	Return	Std Dev	Return	Std Dev	Return	Std Dev
Short-term Bond	3.80%	1.36%	0.00%	2.13%	3.80%	2.73%
Intermediate Govt	3.83%	1.41%	0.00%	3.81%	3.83%	4.19%
Long Govt	4.05%	0.97%	0.00%	11.24%	4.05%	11.80%
High Yield	6.84%	0.69%	0.00%	14.73%	6.84%	16.12%
International Bond	6.01%	1.62%	0.65%	8.78%	6.66%	9.17%
Emerging Markets Bond	7.03%	2.90%	0.76%	13.52%	7.79%	14.65%
Large Growth	1.50%	0.44%	8.53%	22.40%	10.03%	22.73%
Large Value	2.65%	0.49%	6.92%	17.02%	9.56%	17.53%
Small Growth	0.62%	0.13%	11.07%	22.59%	11.69%	22.74%
Small Value	2.11%	0.28%	7.94%	17.88%	10.05%	18.22%
Preferred Stock	7.50%	0.78%	0.00%	12.74%	7.50%	13.99%
Non-US Large Growth	2.59%	0.56%	9.25%	21.83%	11.84%	22.34%
Non-US Large Value	4.07%	0.92%	7.87%	21.93%	11.93%	22.57%
Emerging Markets Equity	2.60%	0.50%	10.62%	35.65%	13.22%	36.53%
Non-US Real Estate	4.20%	0.47%	8.46%	28.60%	12.66%	29.83%
US Real Estate	3.00%	1.38%	7.67%	19.57%	10.67%	21.19%

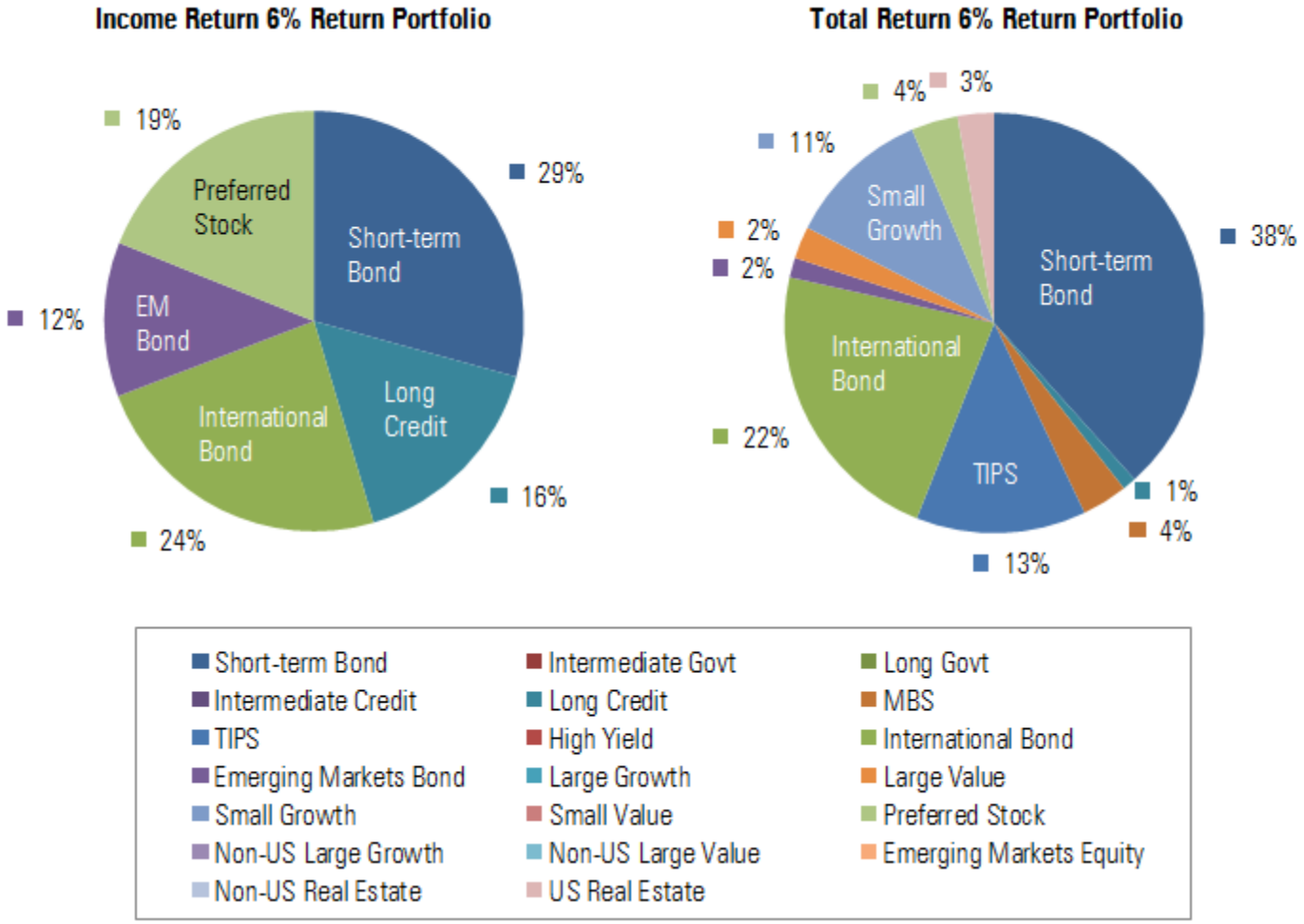
Source: "Efficient Income Investing" by David Blanchett and Hal Ratner in the *Journal of Portfolio Management*

Decomposing the Efficient Frontier



Source: "Efficient Income Investing" by David Blanchett and Hal Ratner in the *Journal of Portfolio Management*

Different Efficient Portfolios



Source: "Efficient Income Investing" by David Blanchett and Hal Ratner in the *Journal of Portfolio Management*

Taxes

Who Likes Paying Taxes?

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Taxes Aren't Always a Bad Thing…

15%

Today

35%

Tomorrow

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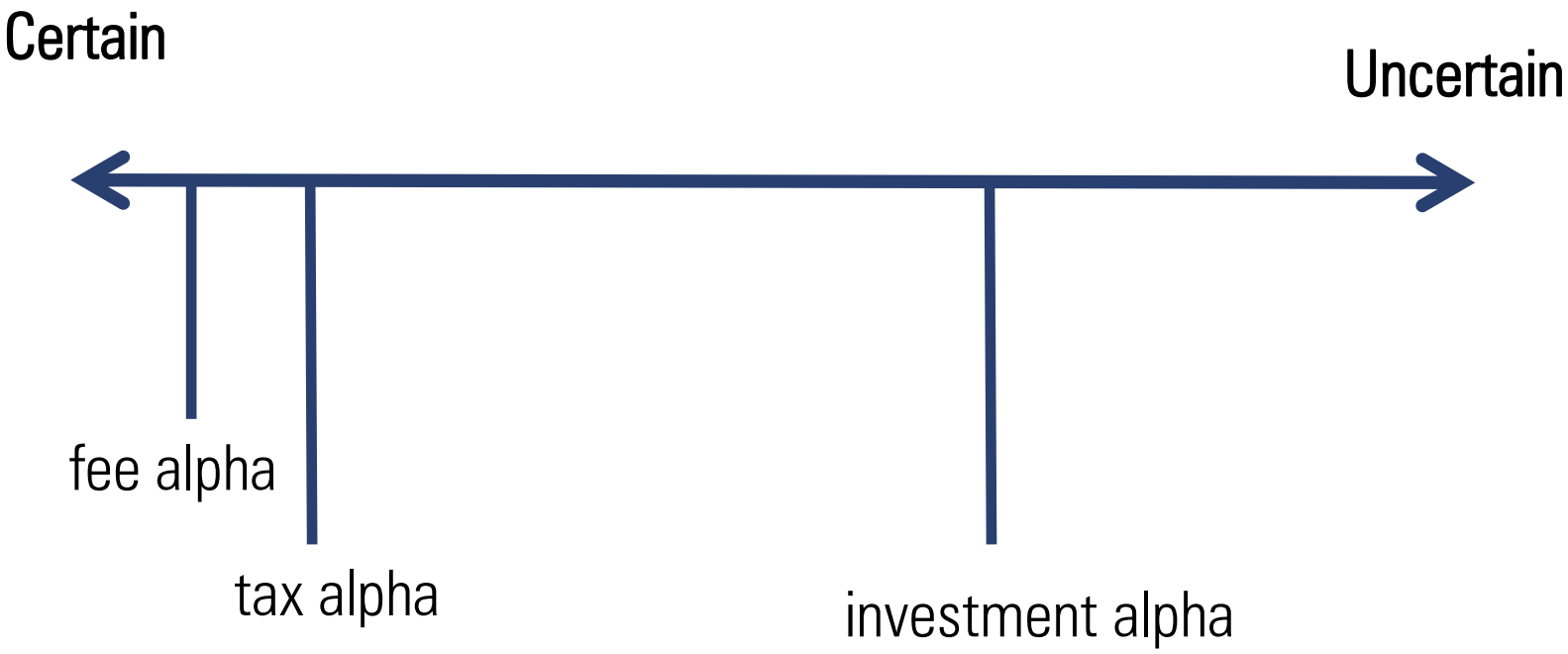
The “Cost” of Taxes (Finding Tax Alpha)

- Future earnings on taxes paid
- Paying a higher potential tax rate

Generating Alpha



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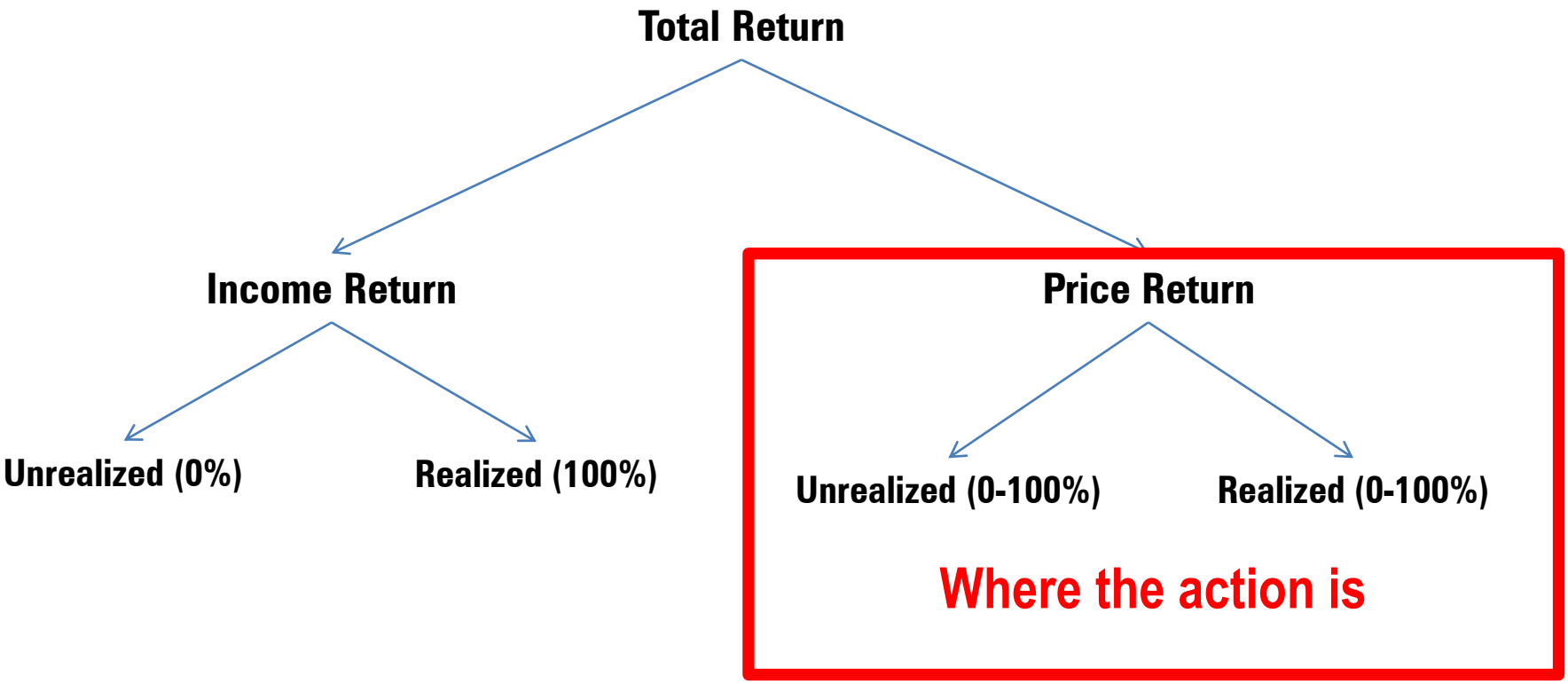
Decomposing Returns



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Impact of Taxes on Relative Fund Performance

- Index funds generate 25 bps of tax alpha, on average, versus all active funds
- Tax alpha for an index can easily exceed 100 bps for an "active" actively managed fund
    - This creates a relatively high hurdle for an active manager to overcome in the taxable space

Sample Optimization Inputs

	Before Tax		After Tax		Change	
Asset Class	**Return**	**Std Dev**	**Return**	**Std Dev**	**Return**	**Std Dev**
Large Cap Equity	7.8%	18.8%	6.2%	16.4%	80%	87%
Mid Cap Equity	8.7%	20.3%	7.1%	17.7%	81%	87%
Small Cap Equity	8.6%	24.2%	7.0%	21.0%	81%	87%
International Equity	9.1%	20.7%	7.4%	18.2%	81%	88%
Emerging Markets Equity	12.3%	29.2%	10.4%	26.3%	84%	90%
US REITs	8.1%	23.5%	5.9%	23.4%	73%	100%
HY Bonds	5.2%	11.2%	3.0%	14.5%	58%	129%
Aggregate Bonds	3.4%	7.0%	2.2%	6.3%	65%	90%
Cash	2.0%	1.9%	1.3%	1.9%	65%	99%
TIPS	3.6%	7.0%	2.4%	6.3%	66%	90%

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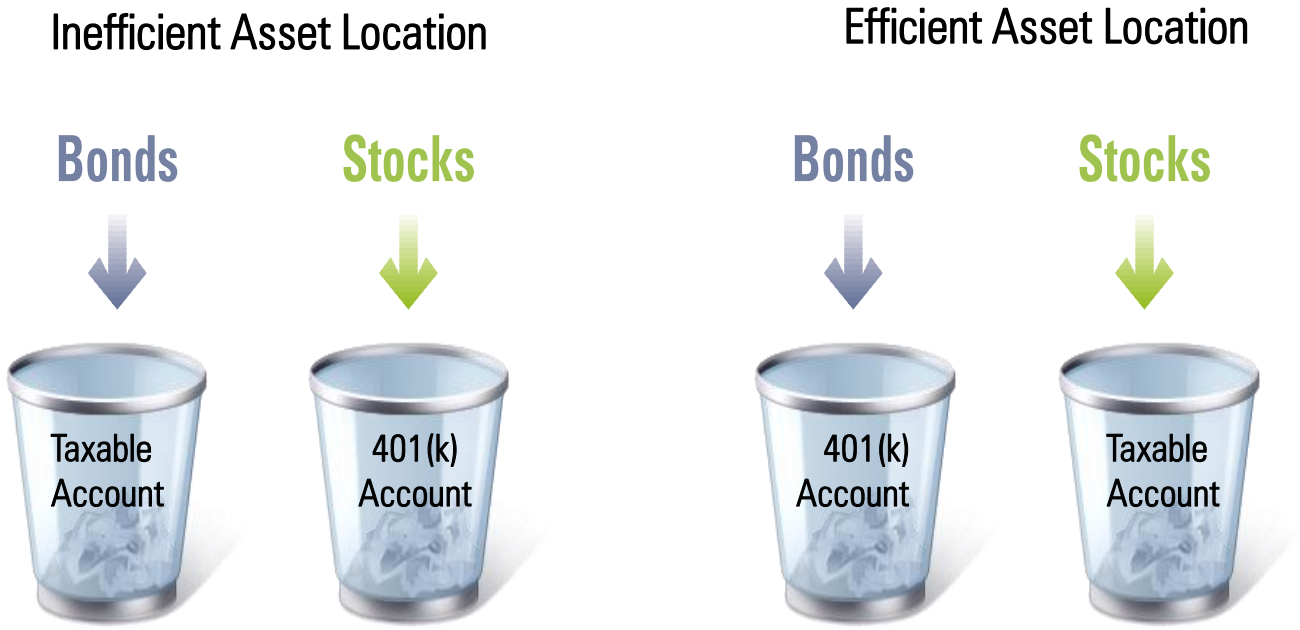
Impact of Taxes on Optimal Equity Allocations

		Pre-Tax	Post-Tax	Δ
Total Return	4.50%	8.1%	9.2%	1.1%
	5.00%	11.9%	13.7%	1.9%
	5.50%	16.1%	19.2%	3.1%
	6.00%	20.0%	27.1%	7.1%
	6.50%	23.5%	32.6%	9.1%
	7.00%	27.1%	38.1%	11.0%

Source: "Efficient Income Investing" by David Blanchett and Hal Ratner in the *Journal of Portfolio Management*

Asset Location



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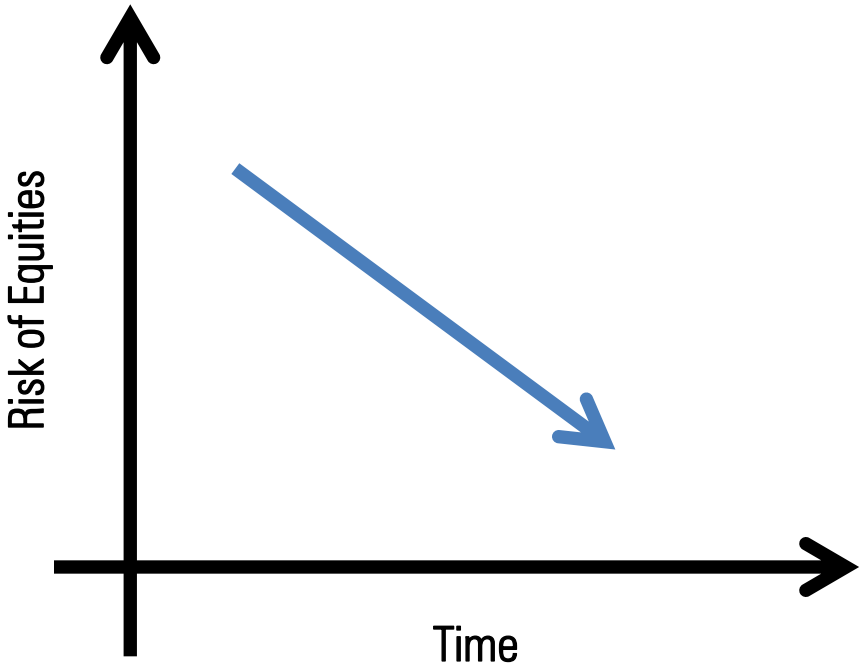
Polling Question: Which type of alpha is most certain?

a. Investment alpha
b. Fee alpha
c. Tax alpha

Optimal Portfolios for the Long Run

What is Time Diversification?



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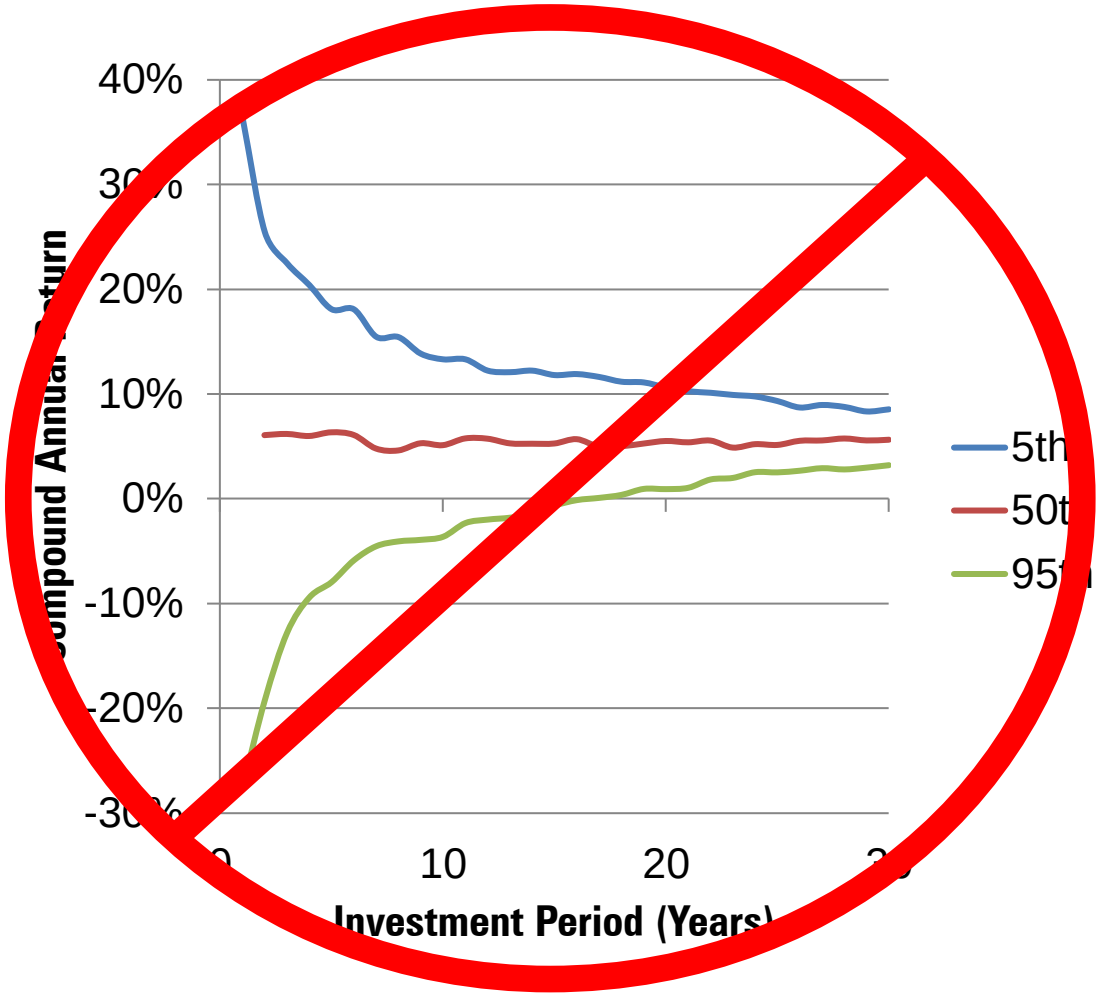
Compound Annual Return of Equities by Investment Period



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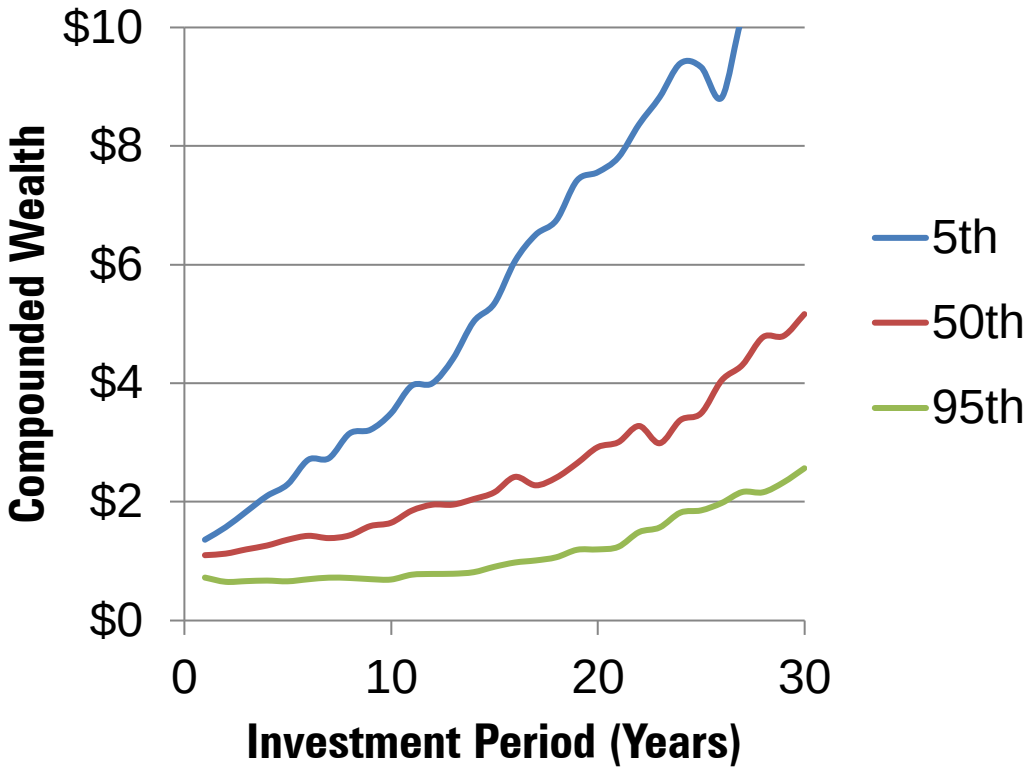
Cumulative Wealth by Investment Period



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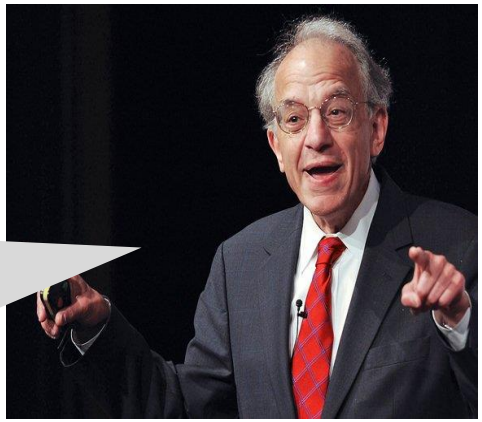
Time Diversification Debate

Zvi Bodie, Ph.D.
Boston University

"Having a long time horizon and being risk averse are two completely different things. The popular literature has basically said if you have a long time horizon you're tolerant towards risk. That's the fundamental fallacy."
Source: NAPFA 2004 Conference

"Stocks are relatively safer in the long run than random walk theory would predict. Doesn't mean they're safe. The whole point is that they are relatively safer... Does the fact that equity returns display long run mean reversion change your equity strategy? The answer is definitely yes. Change your allocation strategy? The answer is definitely yes."
Source: NAPFA 2004 Conference



Jeremy Siegel, Ph.D.
Wharton School

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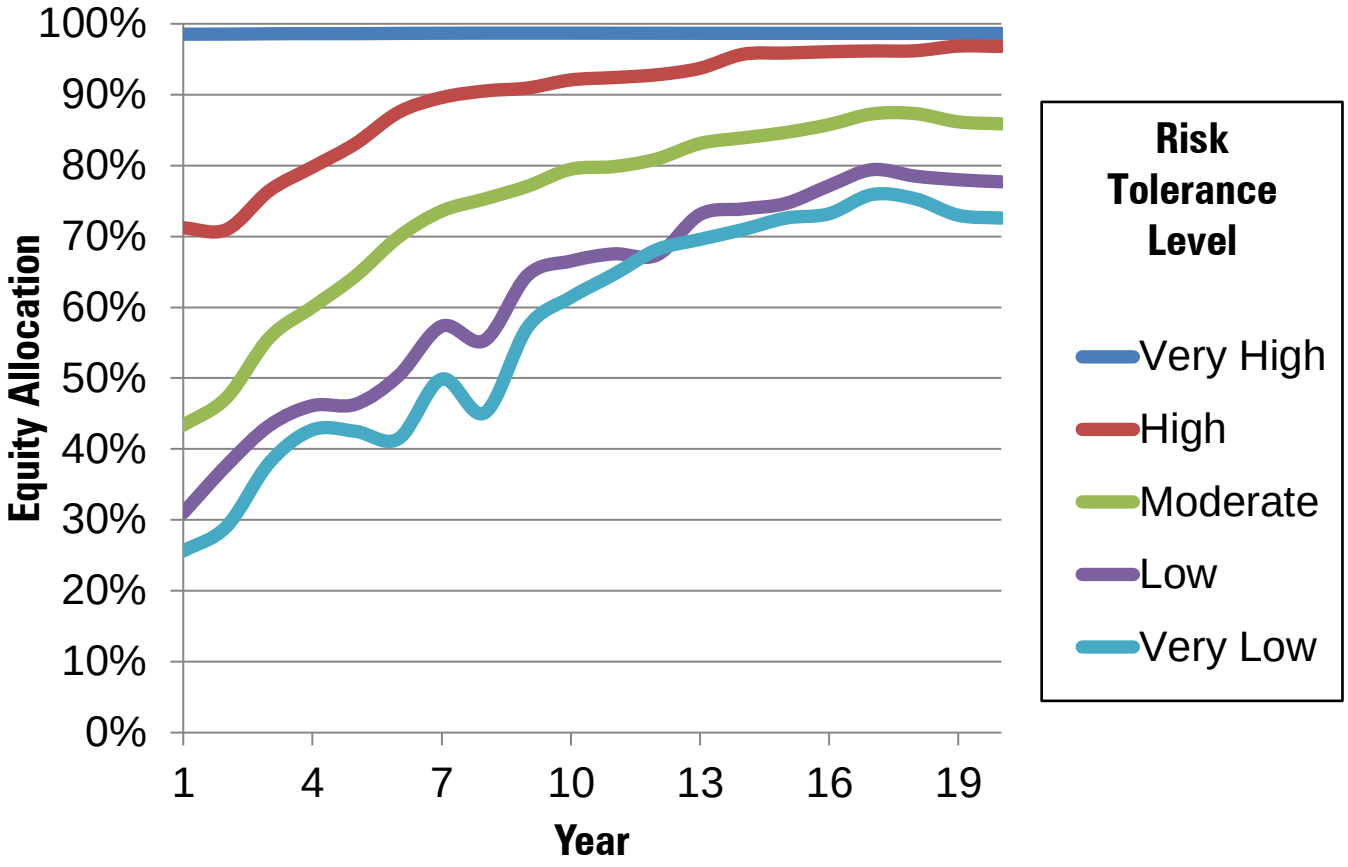
Optimal Equity Allocation by Holding Period and Risk Tolerance Level



Source: "Optimal Portfolios for the Long Run" by David Blanchett, Michael Finke, and Wade Pfau. Morningstar White Paper.

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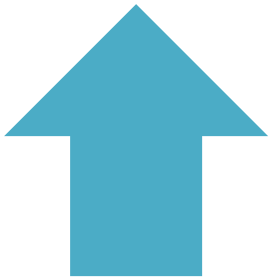
Is Time Diversification Going Away? (No)

Optimal Equity Allocation for Short-term Investors

The optimal equity allocation for a moderately risk averse investor with a single period time horizon has decreased from ~50% to ~20%

Benefit of Time Diversification



The optimal change (increase) in equity allocation by investment time horizon has increased from ~1% to ~2.5%

Source: "Optimal Portfolios for the Long Run" by David Blanchett, Michael Finke, and Wade Pfau. Morningstar White Paper.

Framing Retirement Using Buckets

- Segment assets into accounts based on how long until the money is going to be needed

Cash

Portfolio

Annuity

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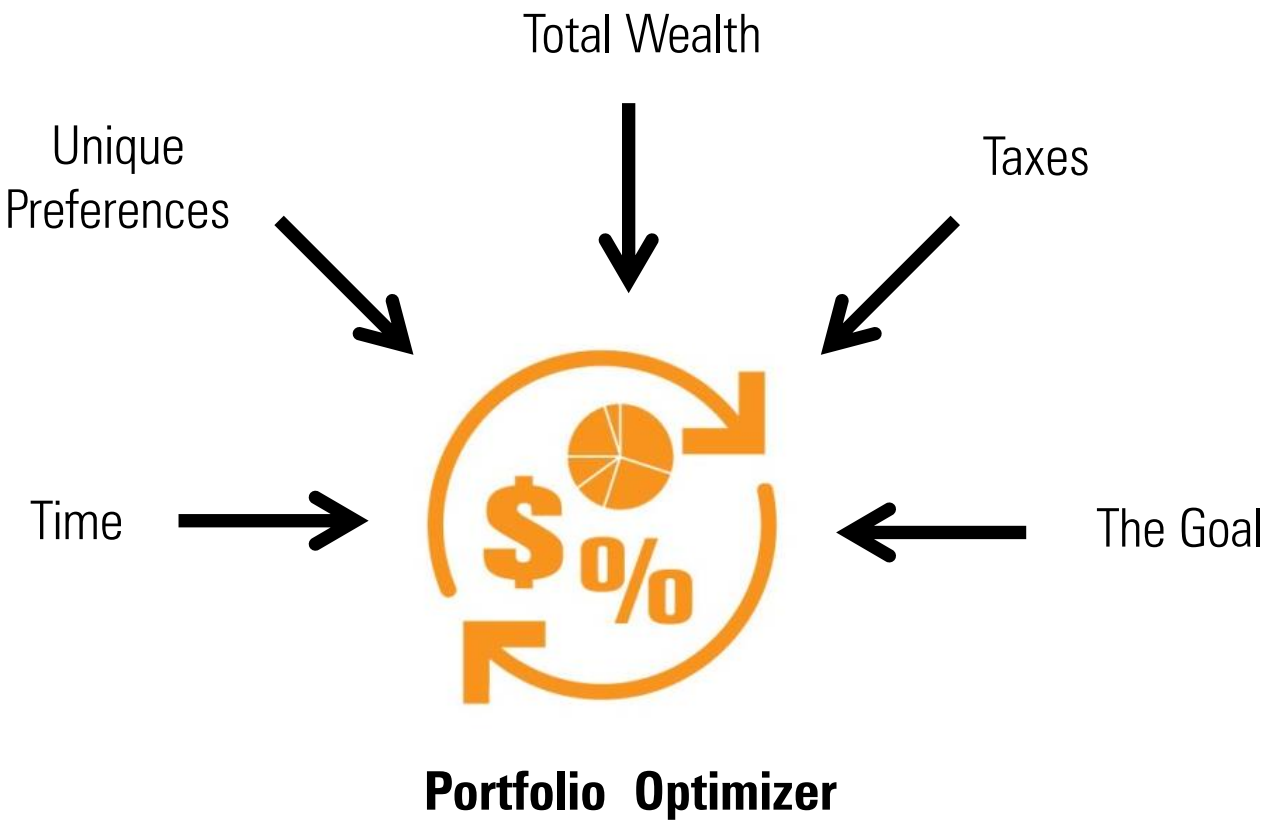
Conclusions

More Optimal "Optimized" Portfolios



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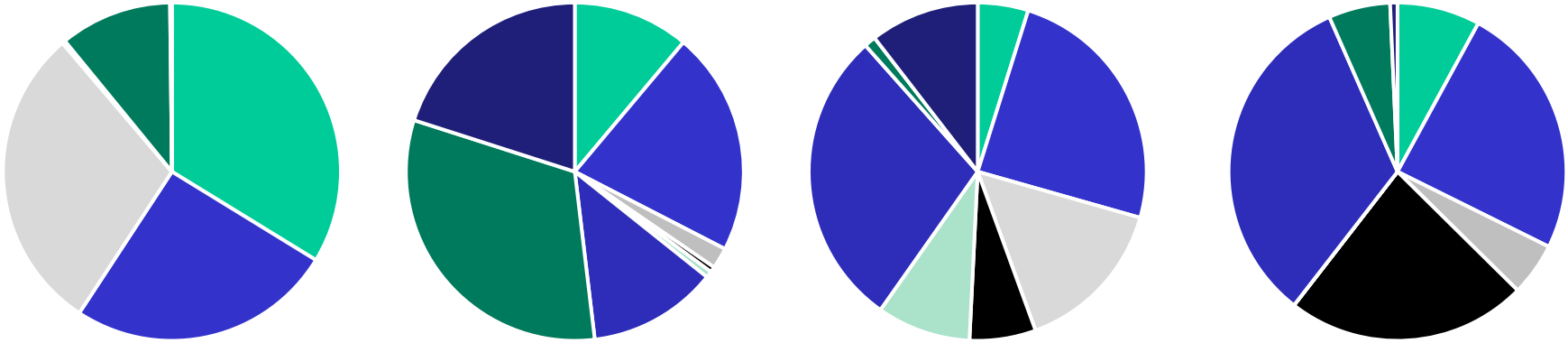
Different Households, Different Efficient Portfolios



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True Alpha

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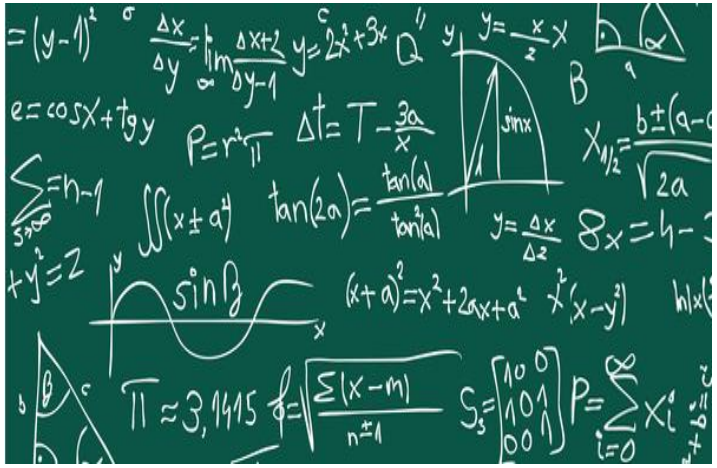
The Art and Science of Building Optimal Portfolios



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Polling Question: The risk of owning equities _____over longer holding periods, which is _____ with traditional finance theory.

a. Increases/consistent

b. Decreases/consistent

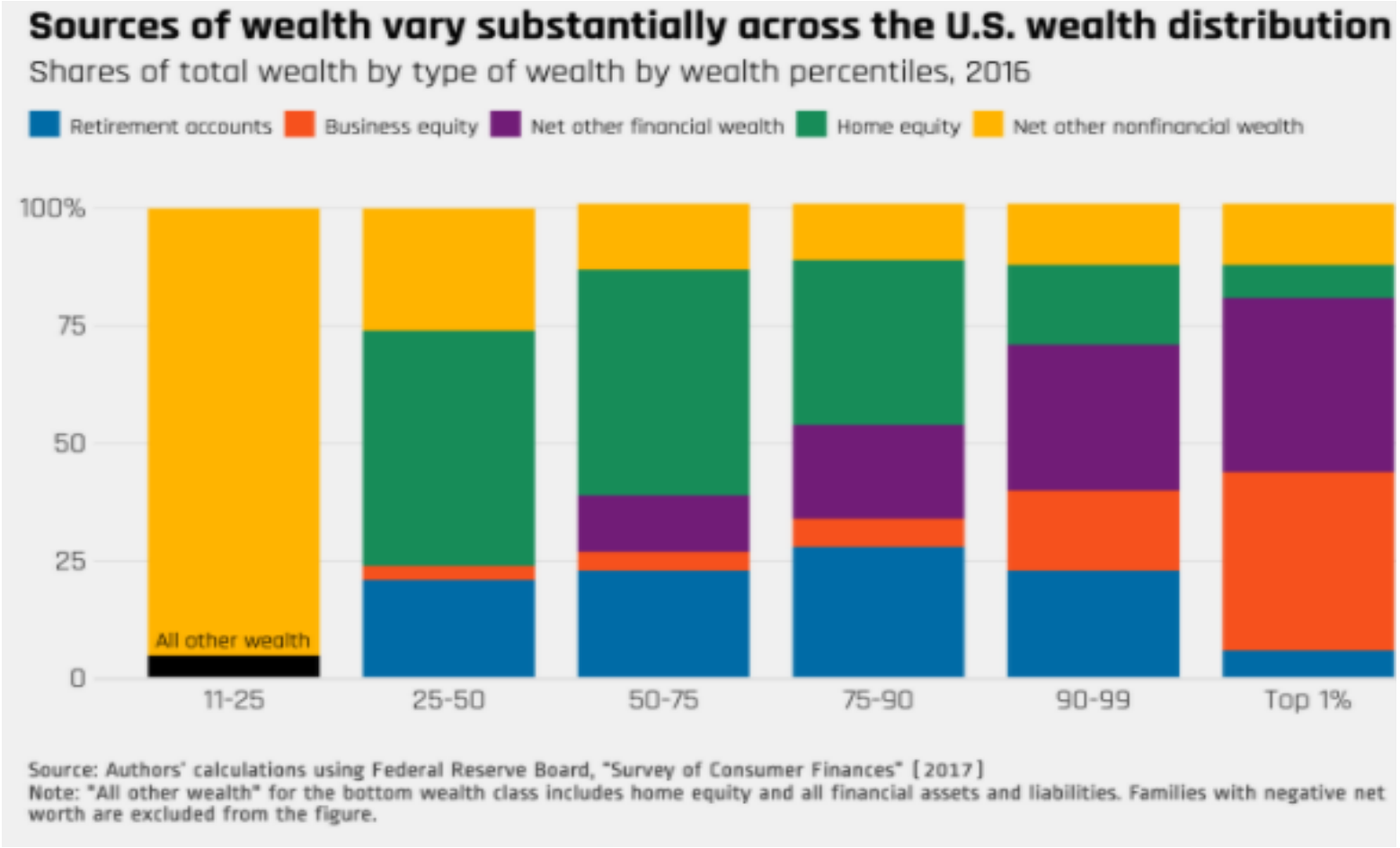
c. Increases/inconsistent

d. Decreases/inconsistent

Homeowners with Tappable Equity

$6.5 Trillion for Homeowners 62

Source: Black Night Analytics



SunWest Mortgage Company, Inc. NMLS 3277

There is no better time to consider a reverse mortgage!

- Rates are low!
- Values are high!

Let's look at an example:

- A 63-year-old with a free and clear 600k home.

- January 2019 principal limit: $**233,400**
- January 2021 principal limit - $**306,600**
- Turn this money into an income stream, utilize the line of credit option(remember it grows for future use), or take a lump sum distribution – TAX FREE AND NO PAYMENT IS REQUIRED!

Thank You

Terry Hancock
National Reverse Mortgage Director, NMLS ID 448233

D: (951) 406-4462 | M: (909) 573-4465
terry.hancock@swmc.com
6131 Orangethorpe Avenue, Suite 500 Buena Park, CA
90620 Branch NMLS 3277

About Terry

Terry joins us with over 44 years in the mortgage business and was the #1 Reverse Mortgage Specialist in So Cal at Fairway before he made the switch to Sun West. He resides in Temecula, CA with his wife of 37 years and two daughters and enjoys spending time with his family and all things “Boston” sports.

“I am looking forward to working with the branches to further develop the expertise needed to make Sun West a Top 10 lender in the Reverse Mortgage space,” said Terry. And Pavan Agarwal is excited to have him on the team!

Disclosures

The above commentary is for informational purposes only and should not be viewed as an offer to buy or sell a particular security. The data and/or information noted are from what we believe to be reliable sources, however we have no control over the means or methods used to collect the data/information and therefore cannot guarantee their accuracy or completeness. The opinions and estimates noted herein are accurate as of a certain date and are subject to change. The indexes referenced are unmanaged and cannot be invested in directly. Past performance is not a guarantee of future results. The charts and graphs within are for illustrative purposes only.

Monte Carlo is an analytical method used to simulate random returns of uncertain variables to obtain a range of possible outcomes. Such probabilistic simulation does not analyze specific security holdings, but instead analyzes the identified asset classes. The simulation generated is not a guarantee or projection of future results, but rather, a tool to identify a range of potential outcomes that could potentially be realized. The Monte Carlo simulation is hypothetical in nature and for illustrative purposes only. Results noted may vary with each use and over time. The results from the simulations described within are hypothetical in nature and not actual investment results or guarantees of future results. This should not be considered tax or financial planning advice. Please consult a tax and/or financial professional for advice specific to your individual circumstances.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