A NEW PERSPECTIVE ON RETIREMENT INCOME PLANNING

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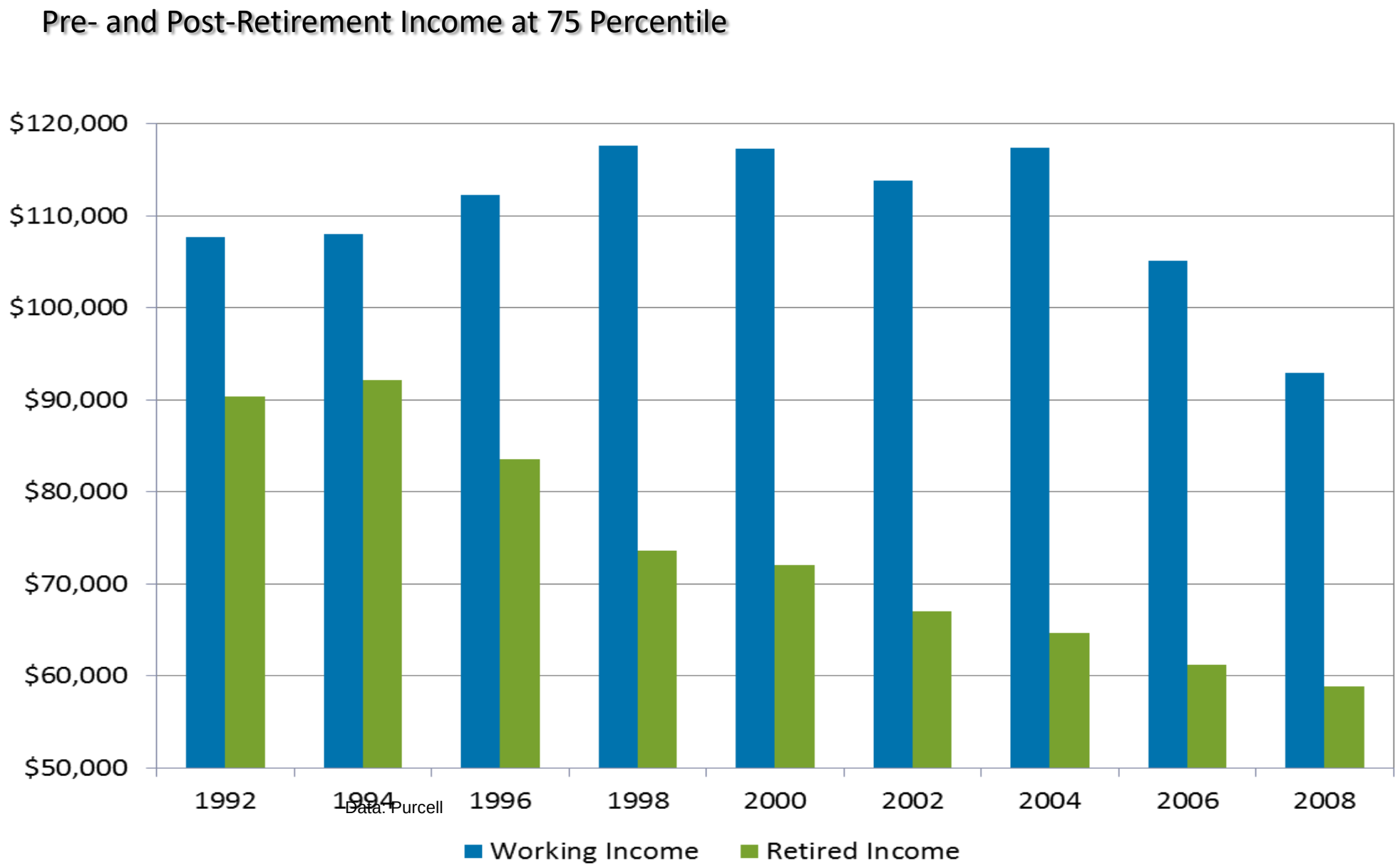
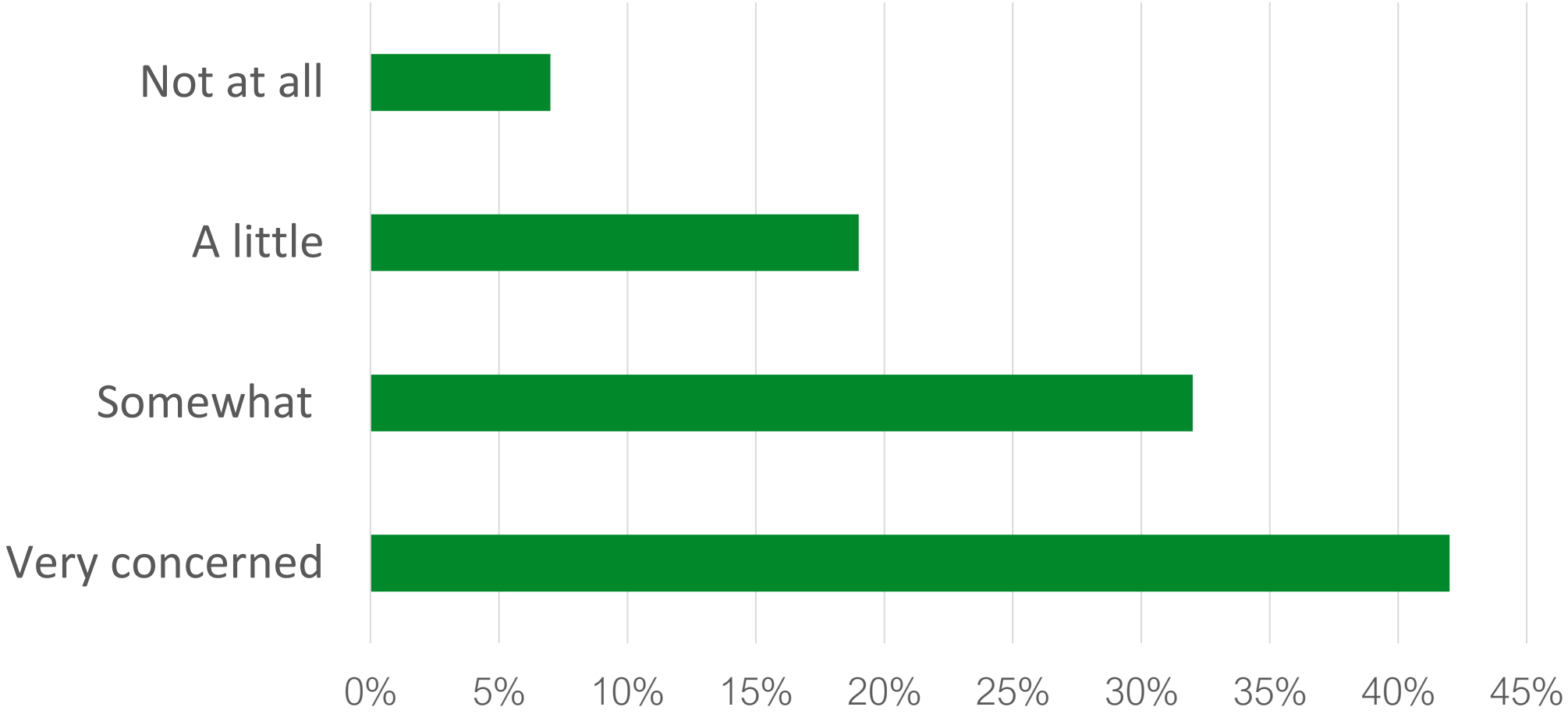
Trends in Income Before and After Retirement



Data: Purcell

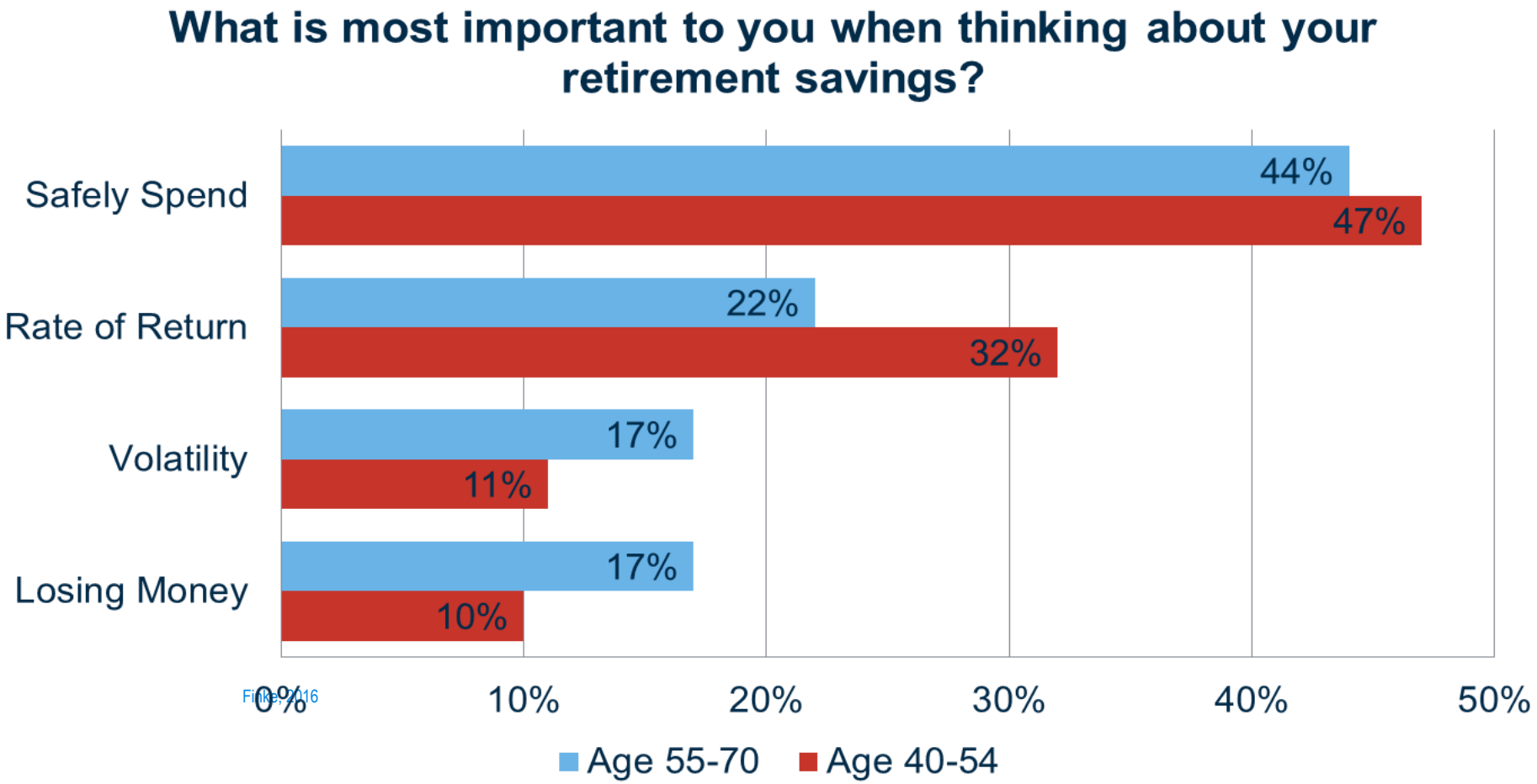
How concerned are you that you will run out of retirement savings in old age?



Finke, 2016

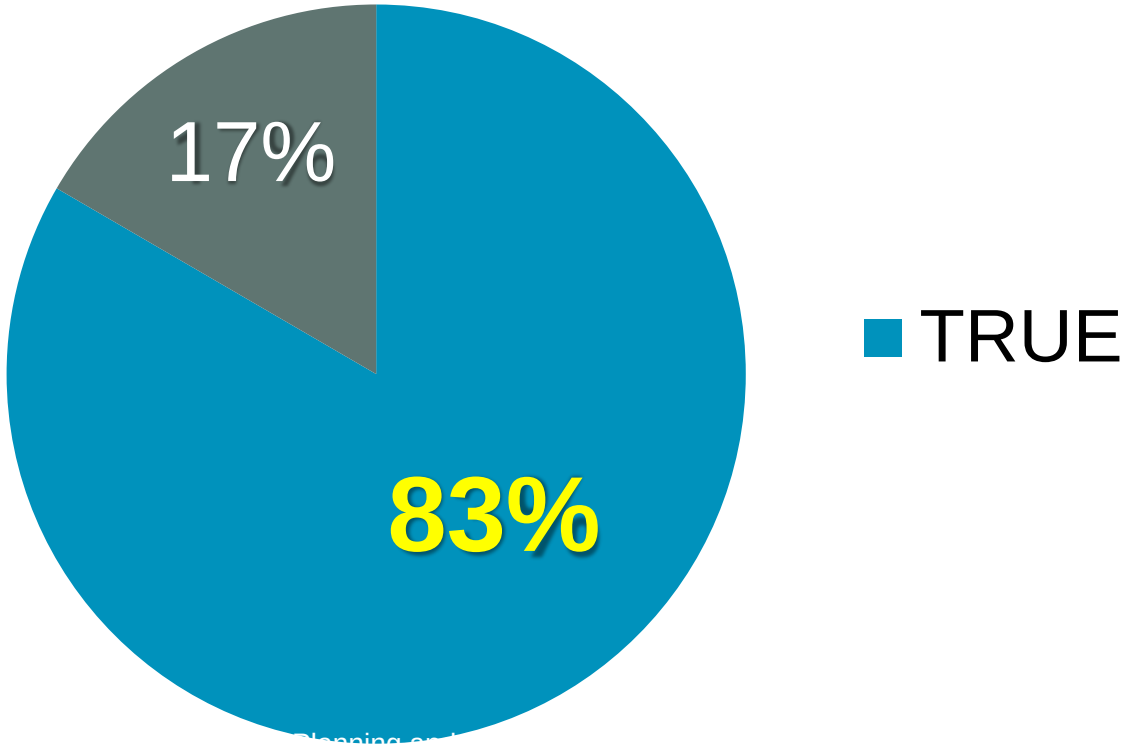
Balancing Desire for Return with Safety

Rate of return most important to only 22% of older respondents

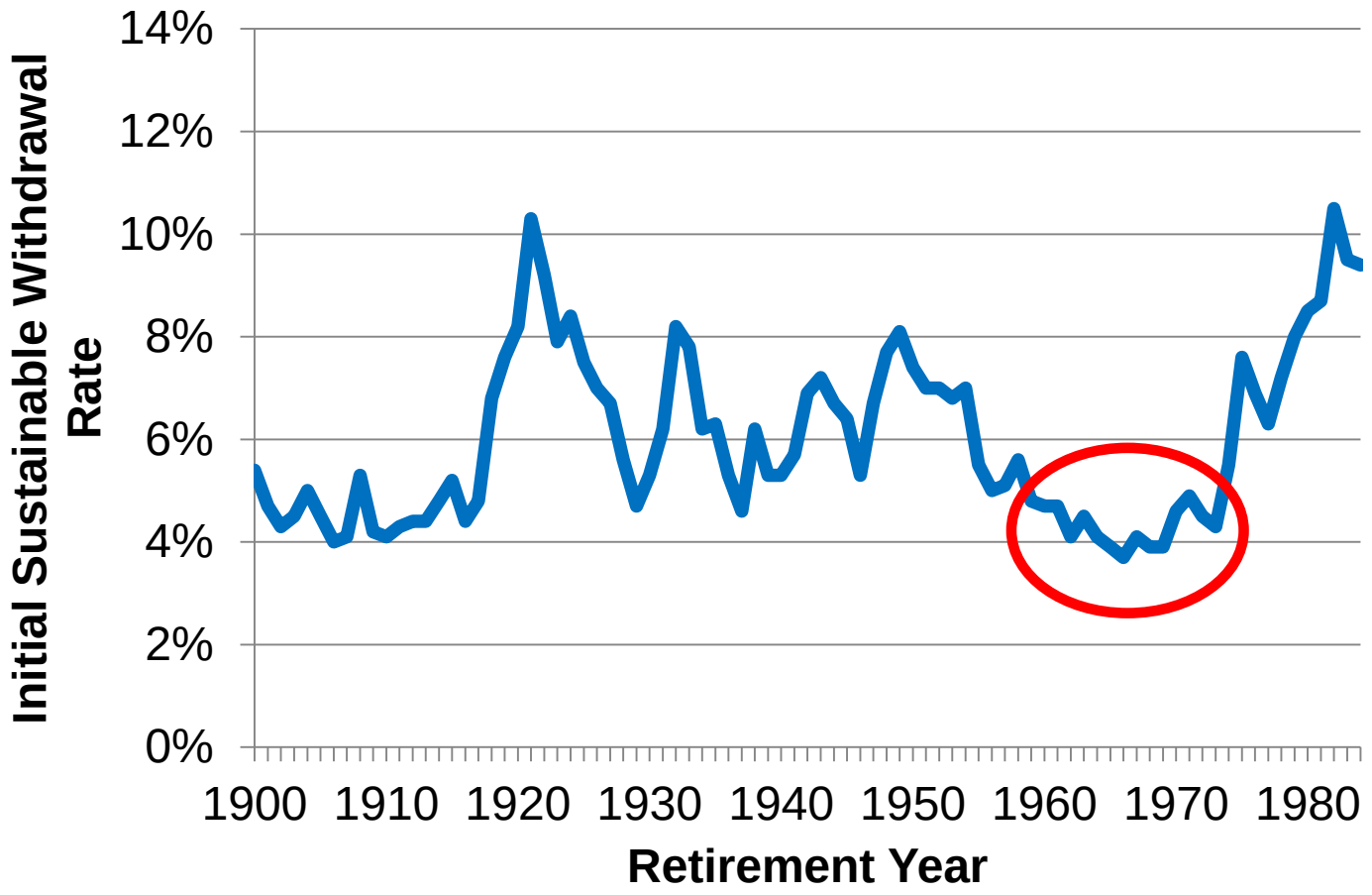


Finke, 2016

I would feel uncomfortable spending more than my income in retirement.



Where the 4% Rule Comes From

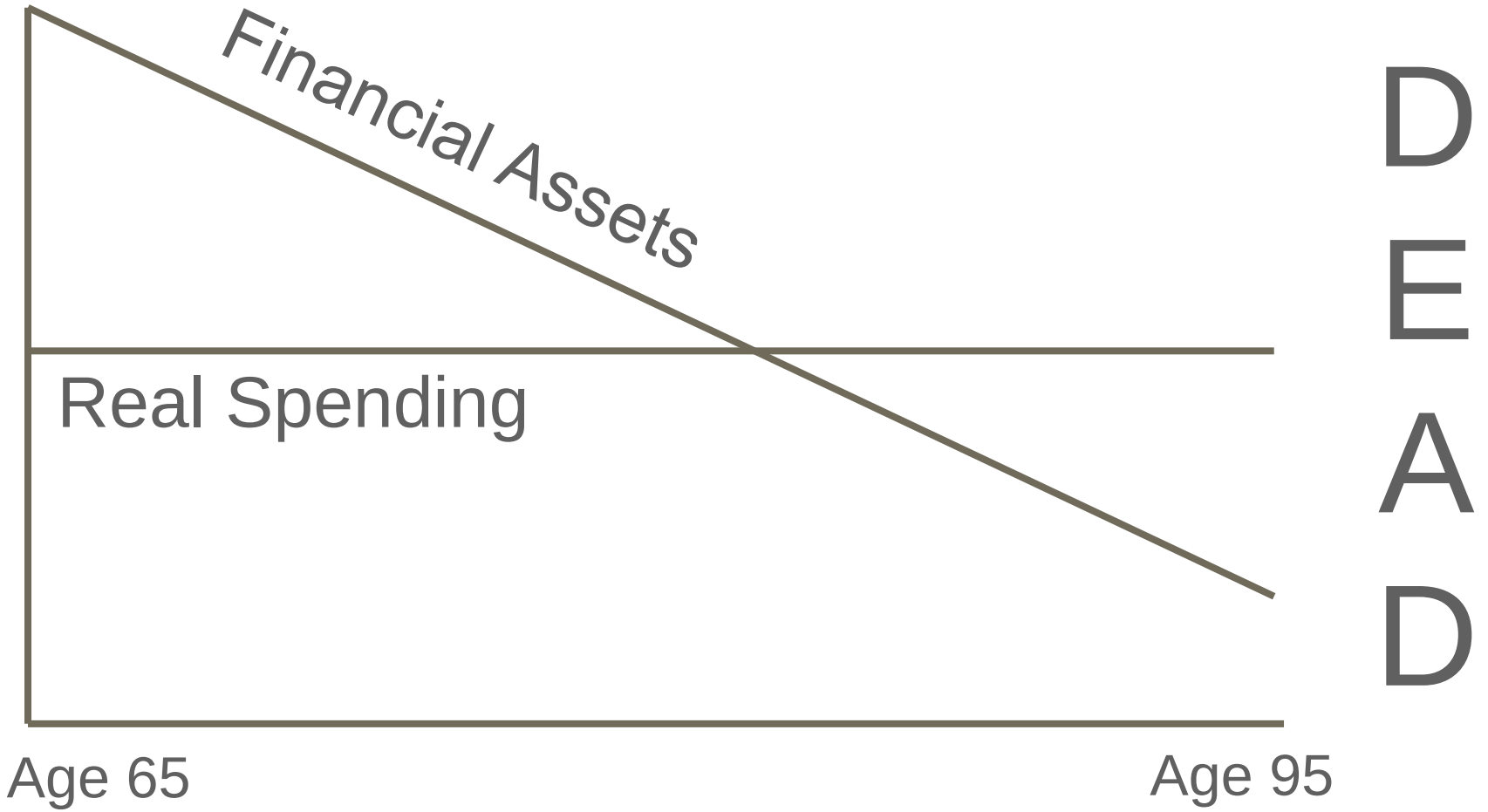


Source: Ibbotson

How the 4% Rule Deals with Unknowns

- Don’t know future asset returns
  - Base on historical U.S. returns
- Don’t know how long you’ll live
  - Use a 30 year time horizon
- Don’t know how much you’ll spend
  - Assume constant inflation-adjusted spending

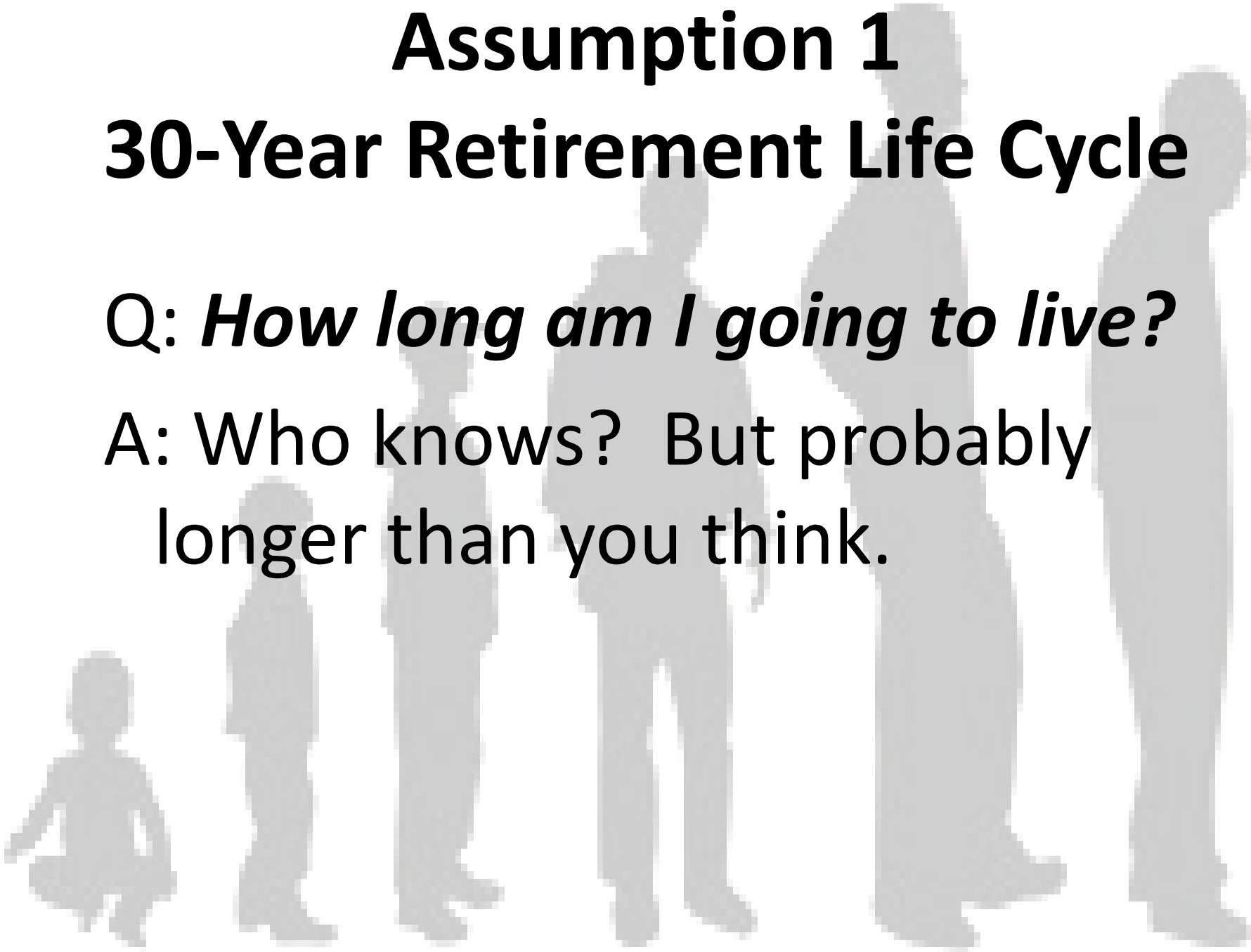
An Illustration of 4% Rule Assumptions



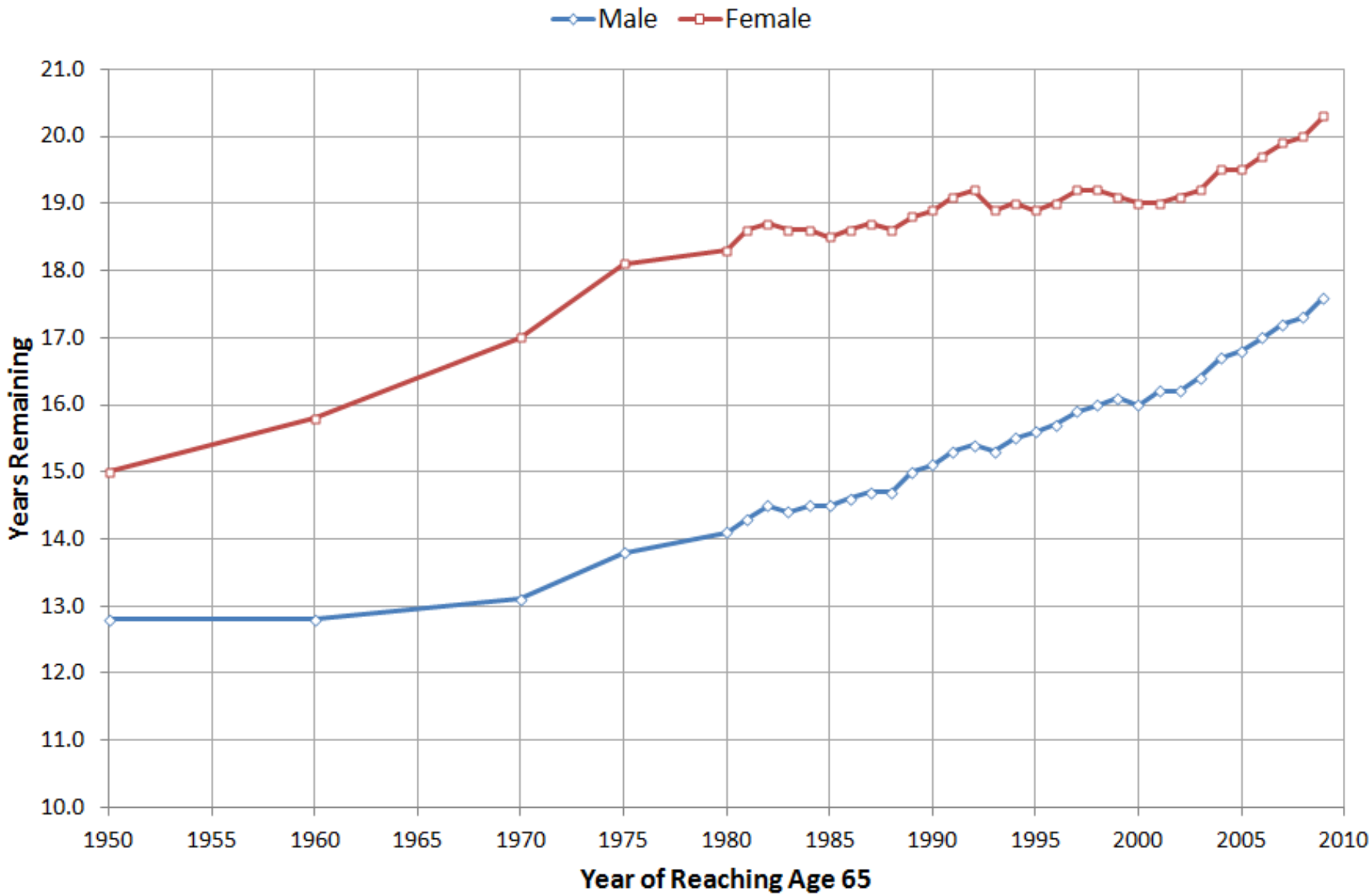
Assumption 1
30-Year Retirement Life Cycle

Q: ***How long am I going to live?***

A: Who knows? But probably longer than you think.



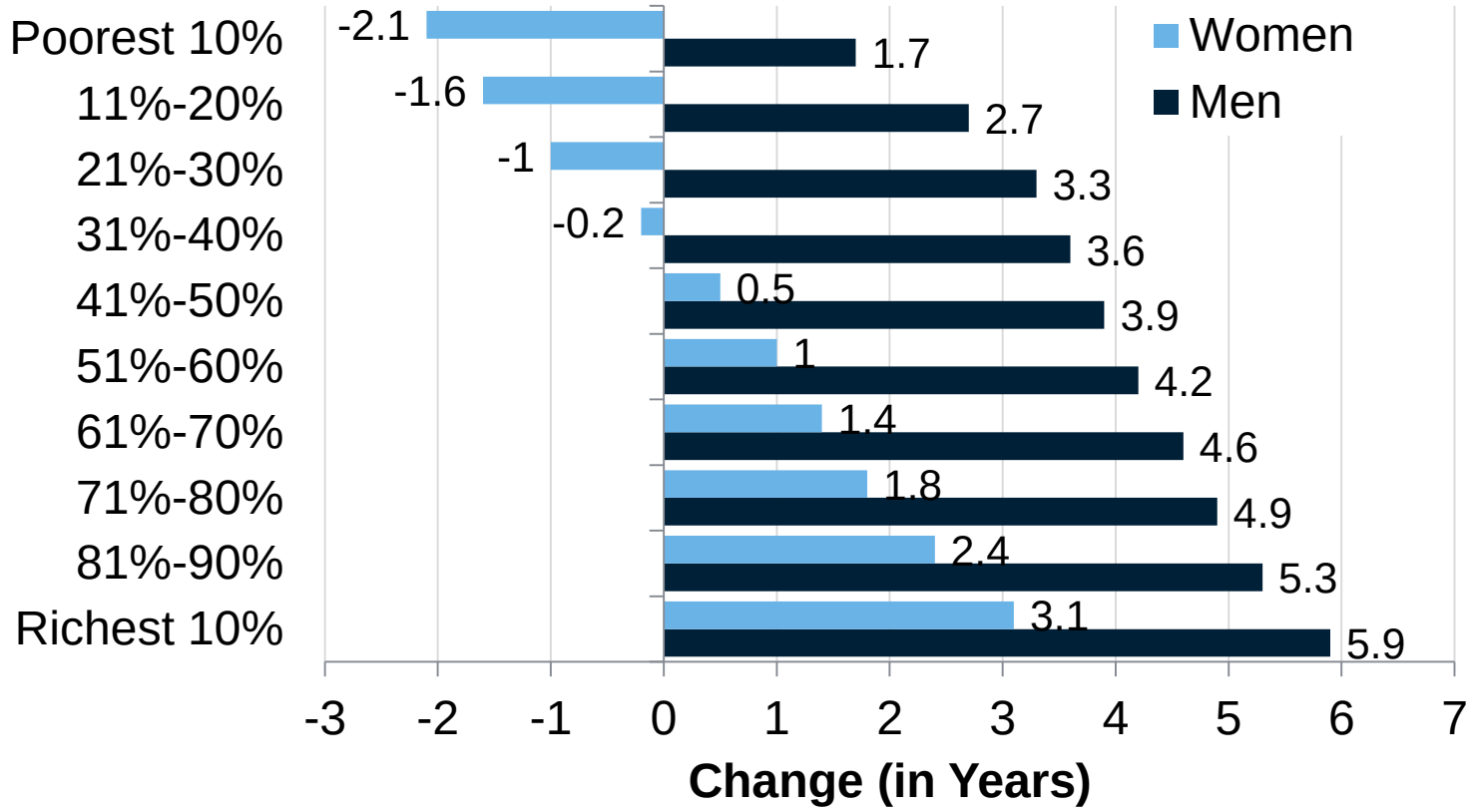
Remaining Life Expectancy at At 65, 1950 - 2009



Source: U.S. Centers for Disease Control, Health, United States, 2011, www.cdc.gov/nchs/data/hus/hus11.pdf#022

Wealthier People Tend to Live Longer

Change in average additional life expectancy (in years) at age 55, by wealth, between cohorts born in 1920 and 1940



Source: Barry Bosworth, Brookings Institution

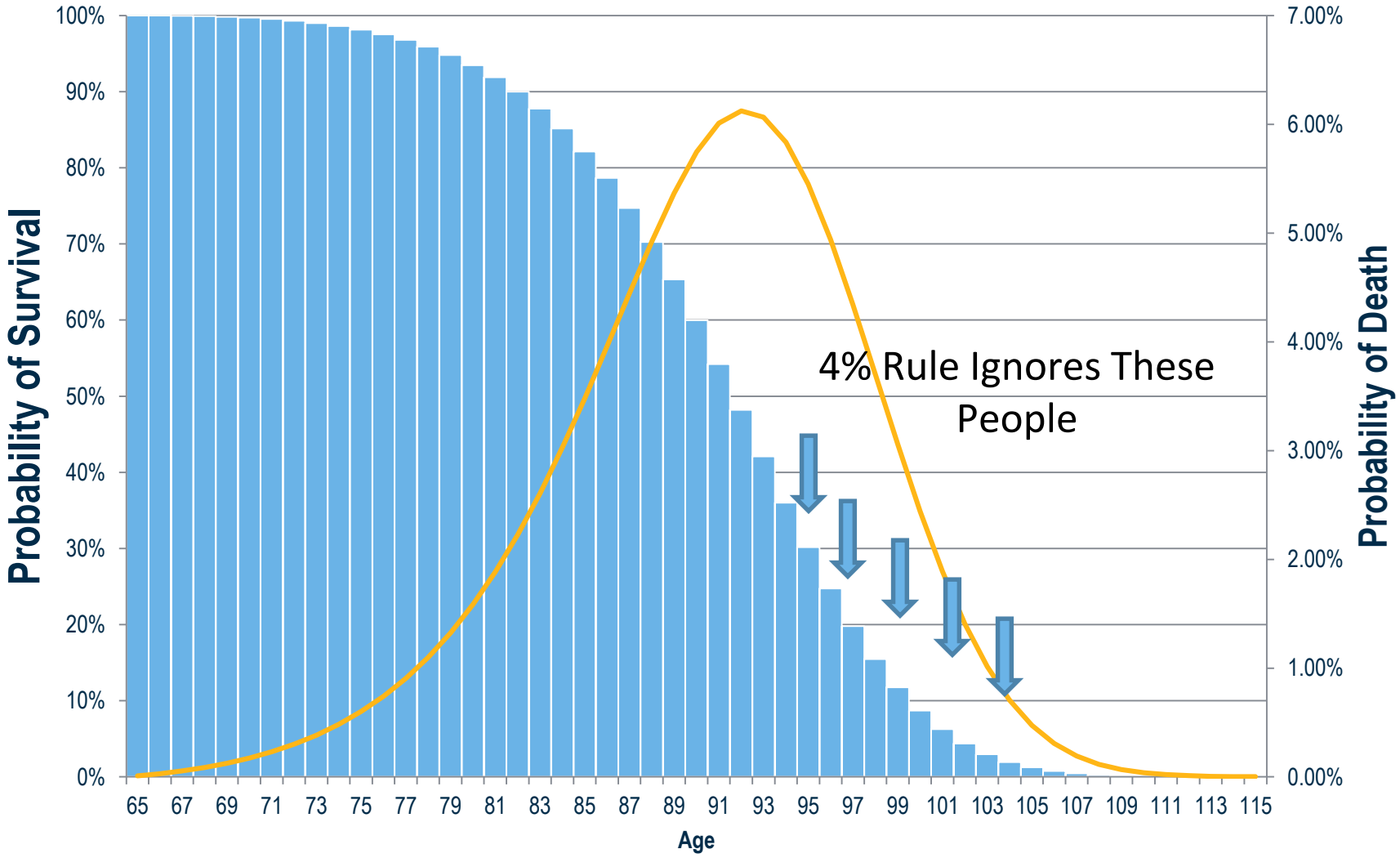
Some Perspective on Probabilities

Probability of a 65-year-old living to age 95, based on different mortality tables.

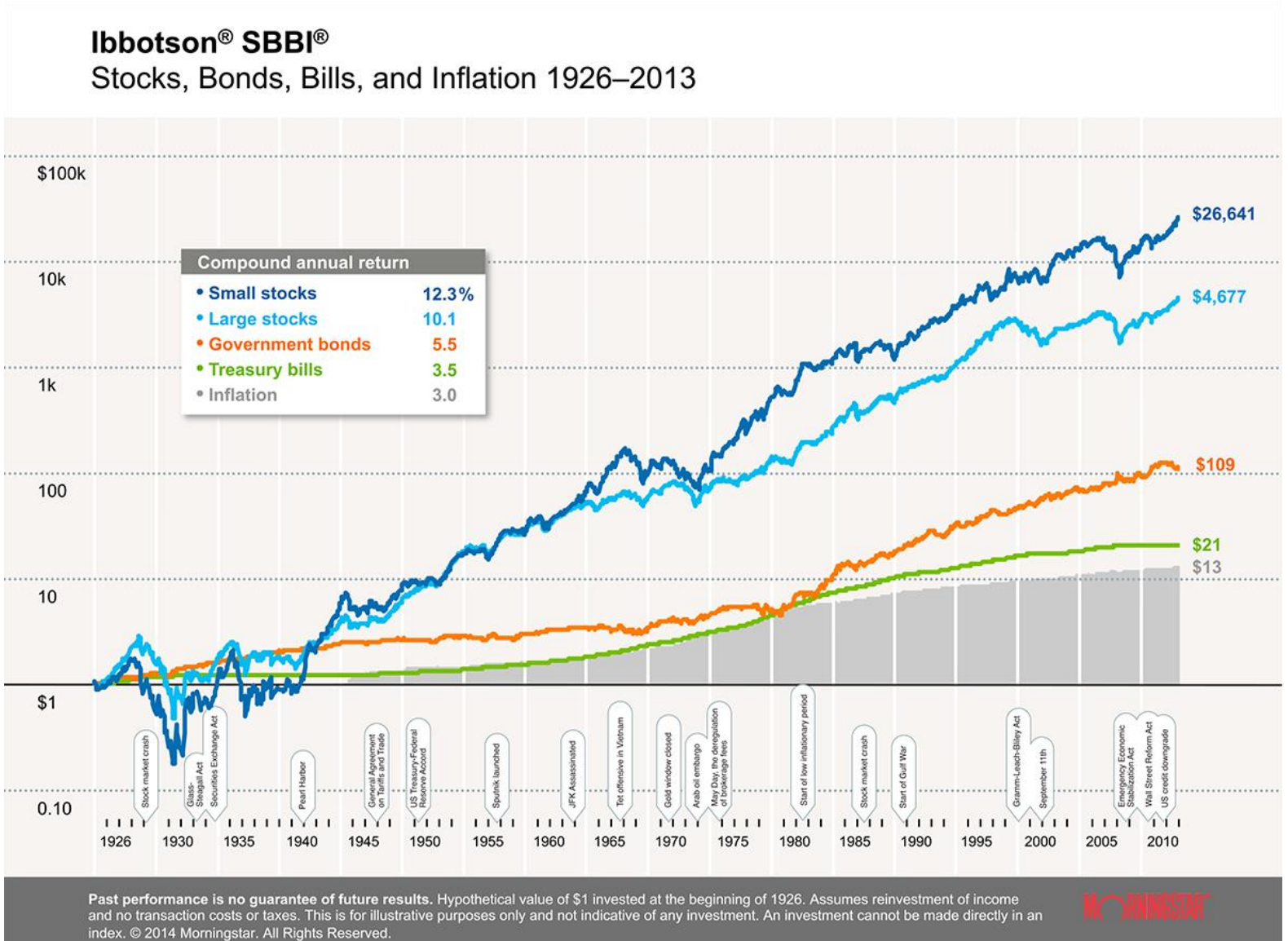
	Male	Female	Both	≥1
Average American	7%	13%	1%	19%
Healthy American	20%	29%	6%	43%
Healthy American in 15 Years	25%	33%	8%	50%

Source: Social Administration 2010 Periodic Life Table, Society of Actuaries 2012 Annuity Mortality Table

Idiosyncratic Longevity Risk
Joint Mortality 2012 SOA Table



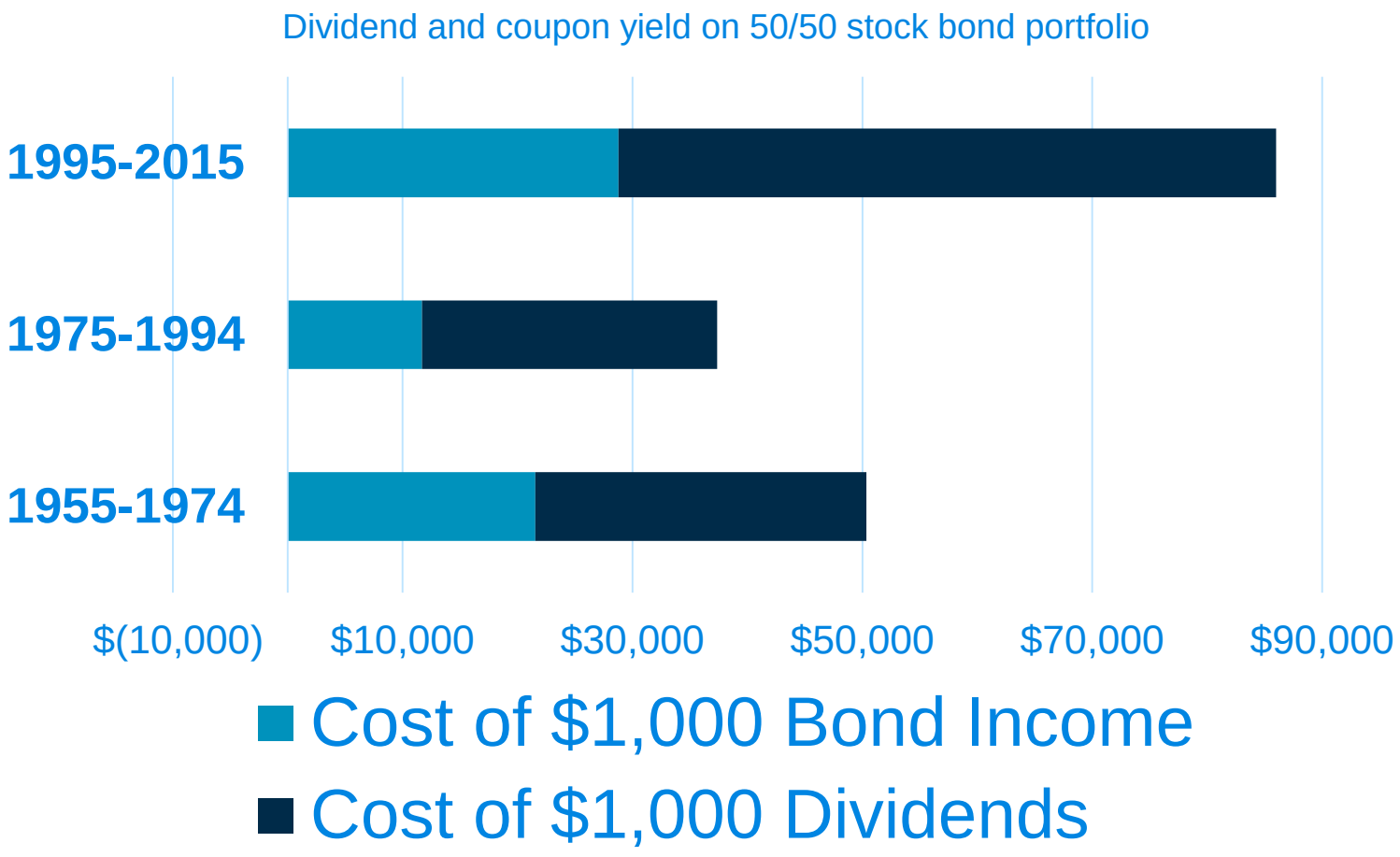
Assumption 2:
We Can Use Historical Asset Returns



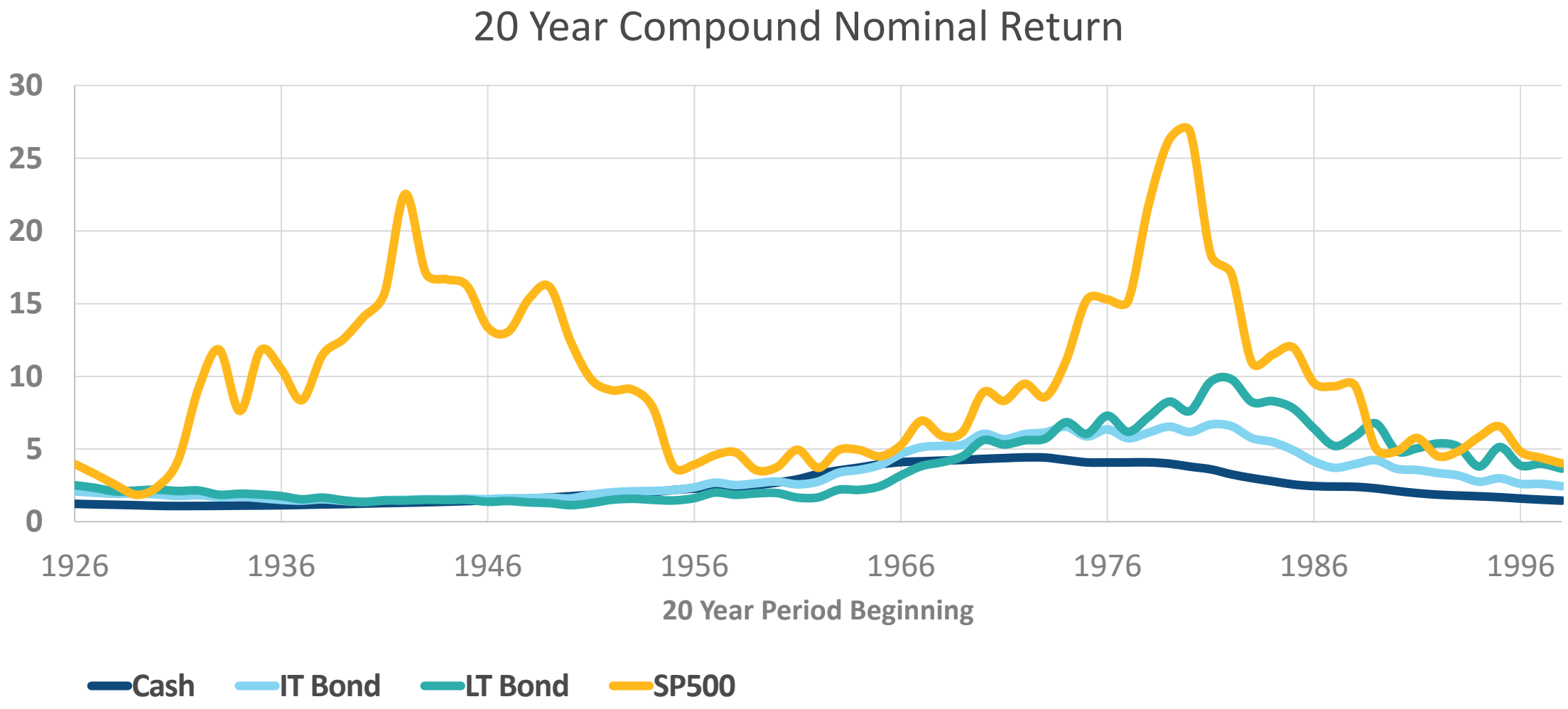
Return Generating Process Risk

- All we've got are past returns
- Is the past relevant?
- What are returns anyway?

Assets Needed to Support $1,000 of Income

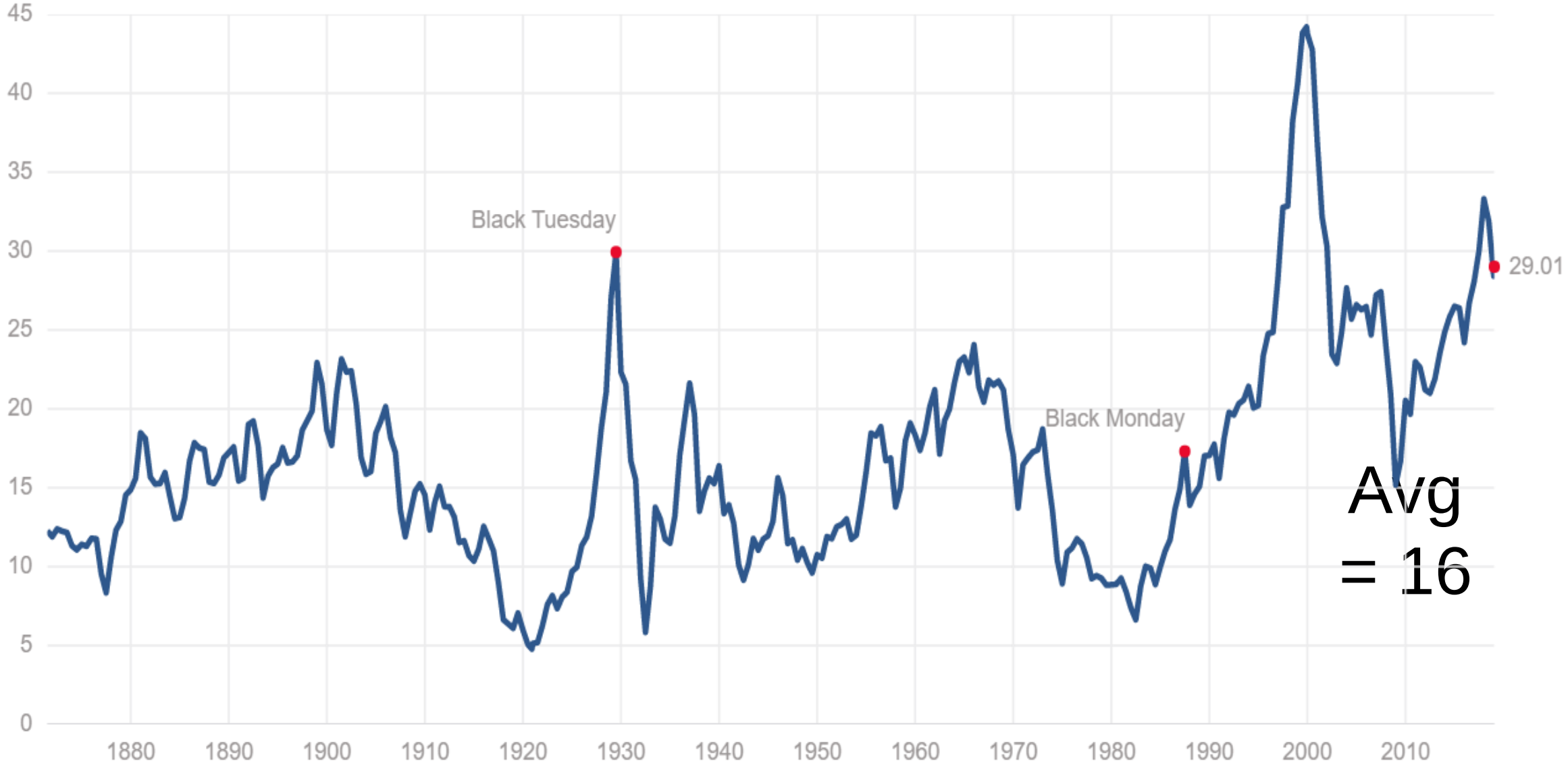


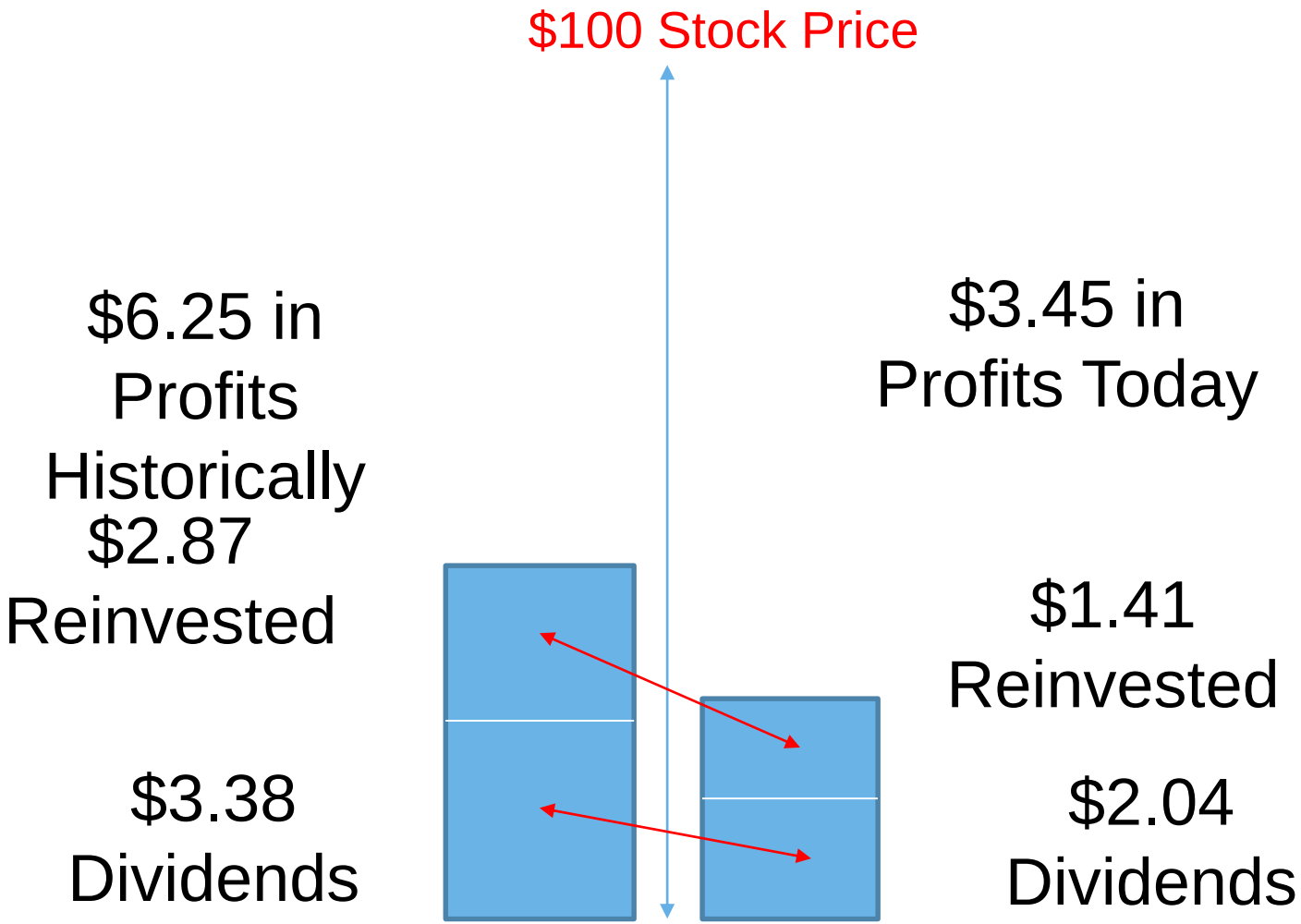
Future Value of $1 Invested for 20 Years



Source: Ibbotson Morningstar 1926-1997 historical US Asset Returns

Equities – Shiller Price/10-year trailing earnings




$100 Stock Price
$6.25 in Profits Historically
$2.87 Reinvested
$3.38 Dividends
$3.45 in Profits Today
$1.41 Reinvested
$2.04 Dividends

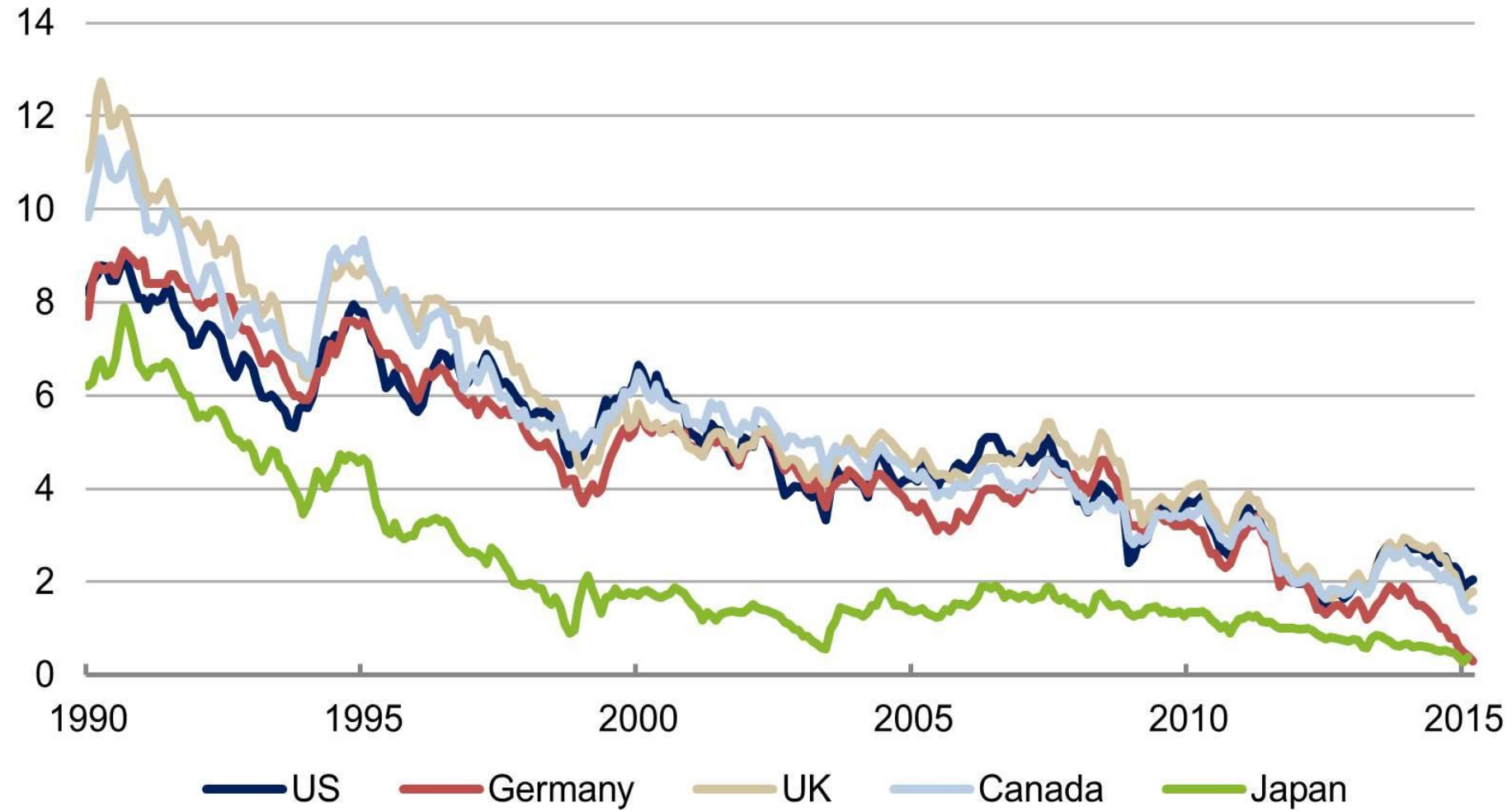
What Does Current P/E Imply?

Results For S&P 500 From Different Starting Shiller P/Es 1926-2012

Starting P/E		Avg. Real	Worst Real	Best Real	Standard
Low	High	10 Yr Return	10 Yr Return	10 Yr Return	Deviation
5.2	9.6	10.3%	4.8%	17.5%	2.5%
9.6	10.8	10.4%	3.8%	17.0%	3.5%
10.8	11.9	10.4%	2.8%	15.1%	3.3%
11.9	13.8	9.1%	1.2%	14.3%	3.8%
13.8	15.7	8.0%	-0.9%	15.1%	4.6%
15.7	17.3	5.6%	-2.3%	15.1%	5.0%
17.3	18.9	5.3%	-3.9%	13.8%	5.1%
18.9	21.1	3.9%	-3.2%	9.9%	3.9%
21.1	**25.1**	**0.9%**	**-4.4%**	**8.3%**	**3.8%**
25.1	46.1	0.5%	-6.1%	6.3%	3.6%

Source: *Asness, 2012*

Figure 1: 10-Year Government Bond Yields (%)



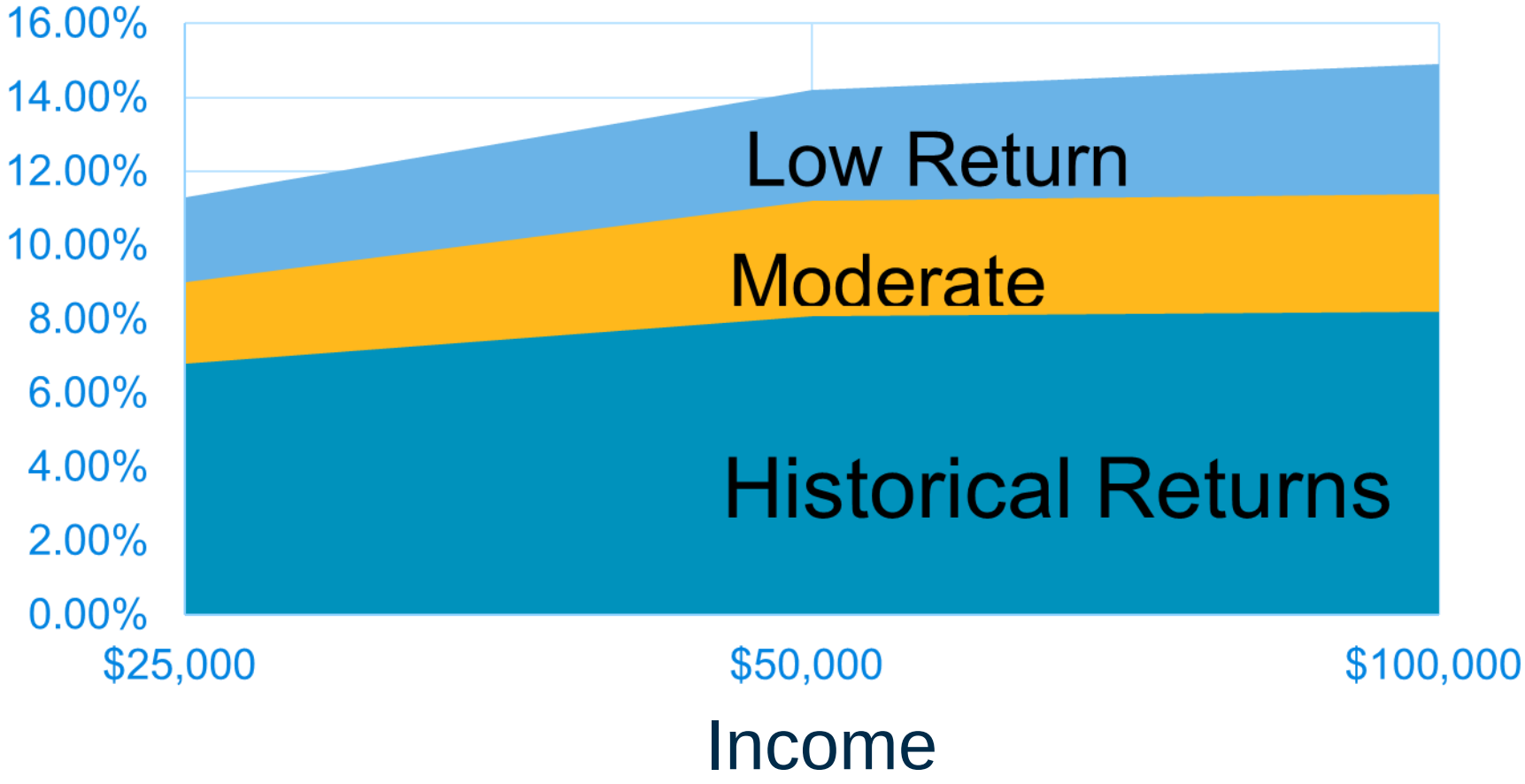
Sources: National Central Banks, Haver Analytics

BROOKINGS

Cost of Real $1 Annuity Income Has Doubled Since 1982

Source: Blanchett, 2016

Savings Rate Needed to Smooth Spending



Source: Blanchett, Finke and Pfau, 2017

Using Portfolios to Fund Retirement Income: Deterministic vs. Stochastic

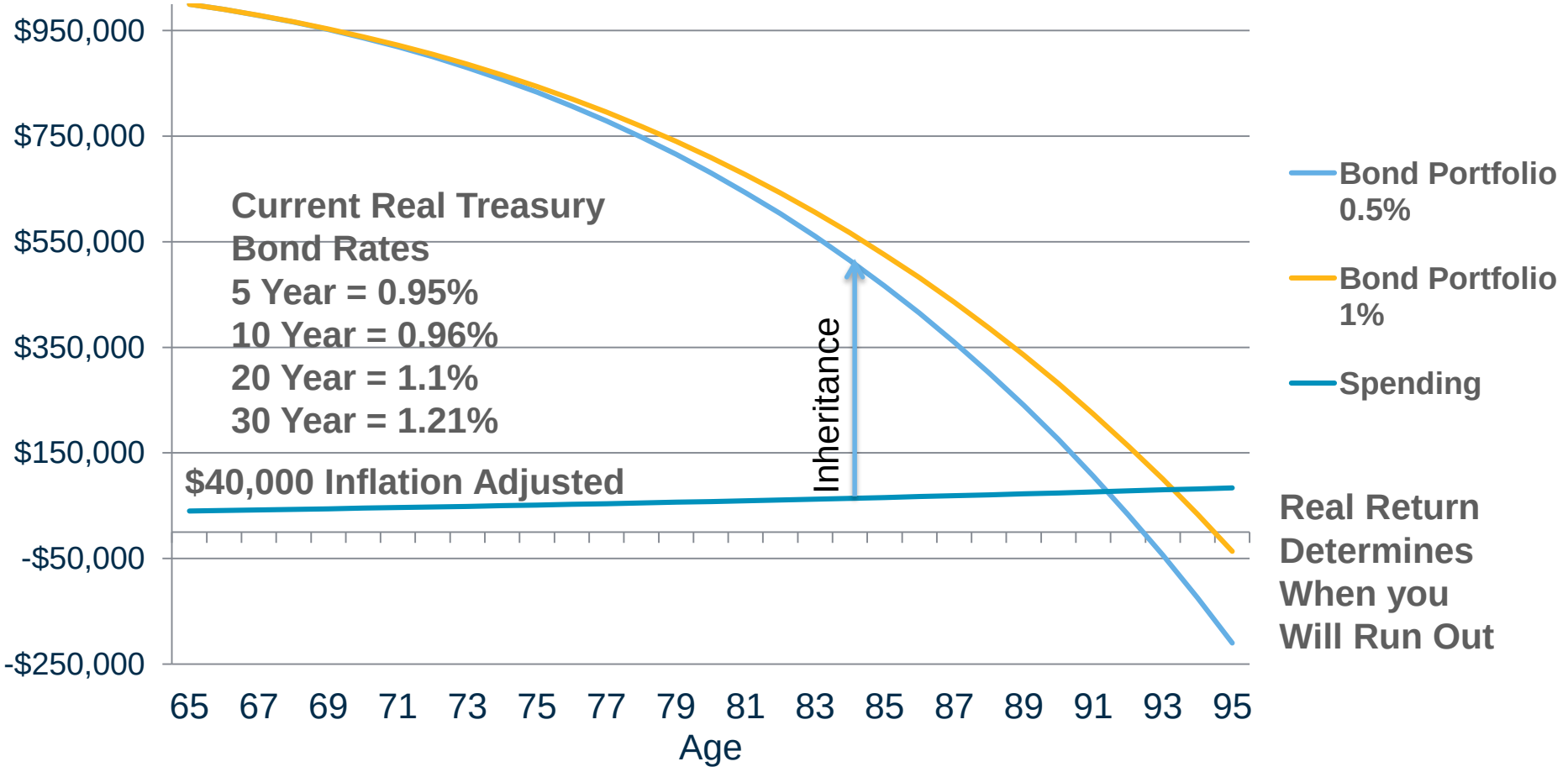
Deterministic – You know exactly how many years of inflation-adjusted income you can buy with TIPS.

- Real interest rate, annual spending determine when you run out of money

Stochastic – unknown variance in bond returns (inflation, risk premium) and real stock returns

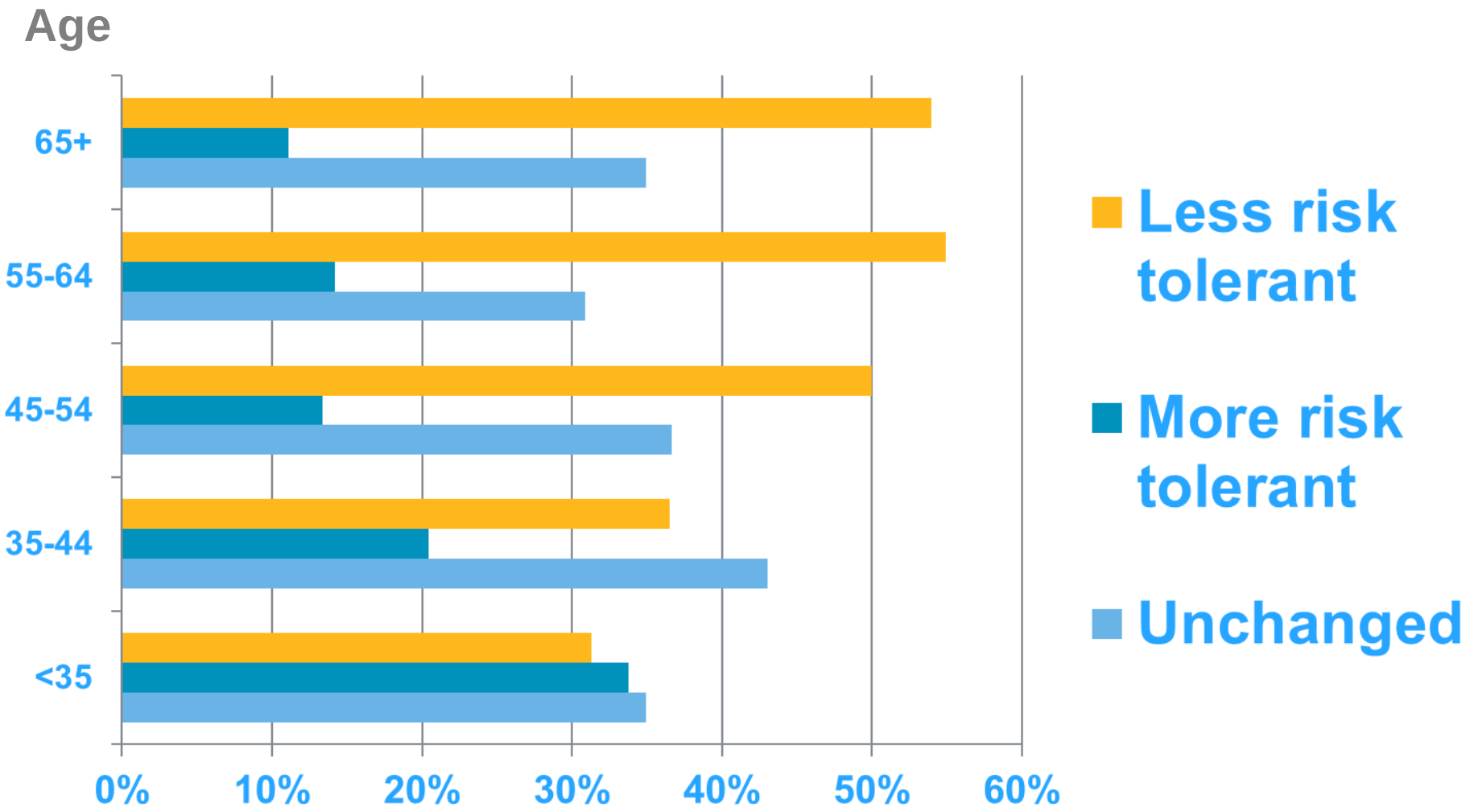
- Real risk premium on equities and bonds = higher or lower potential portfolio size than with TIPS
- Sequence of returns matters

Using Treasury Inflation-Protected Securities (TIPS) or Bonds to Buy Income (1% Real Return)



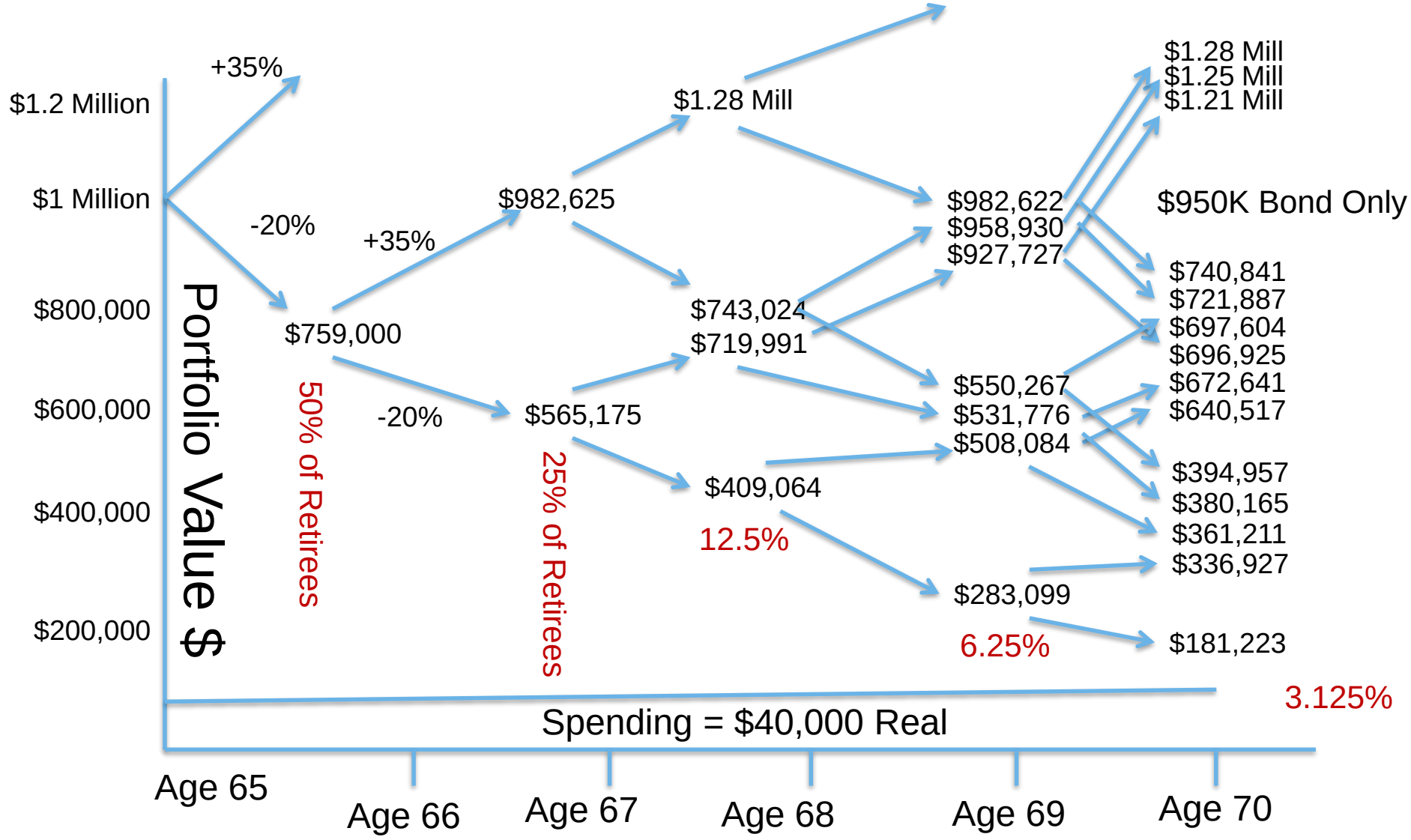
Source: Finke, 2015

How would you describe your change in attitude towards risk over the past year?



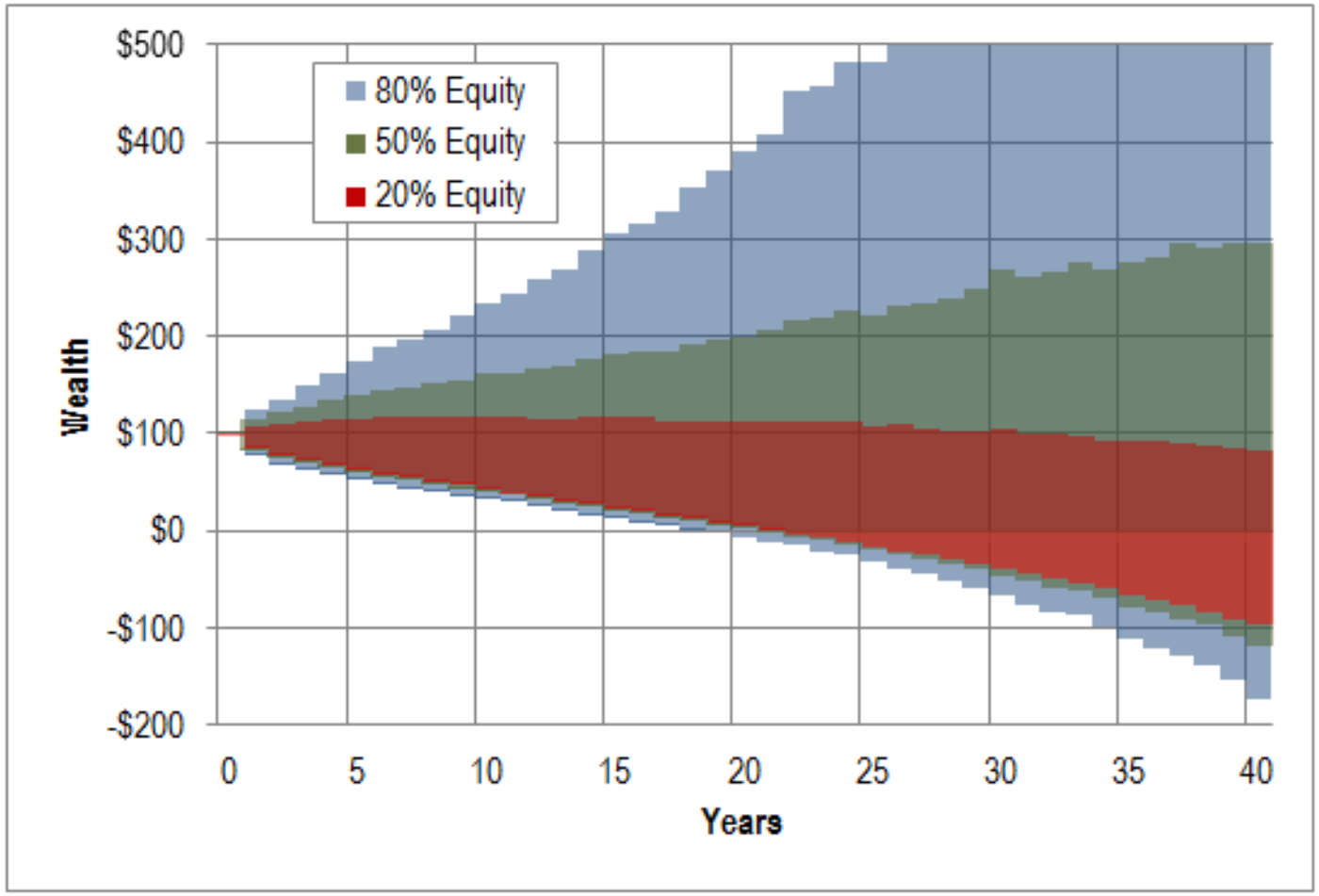
Using Risky Investments in Retirement

Hypothetical Example: 50/50 Chance of -20% or 35% (7.5% Average)



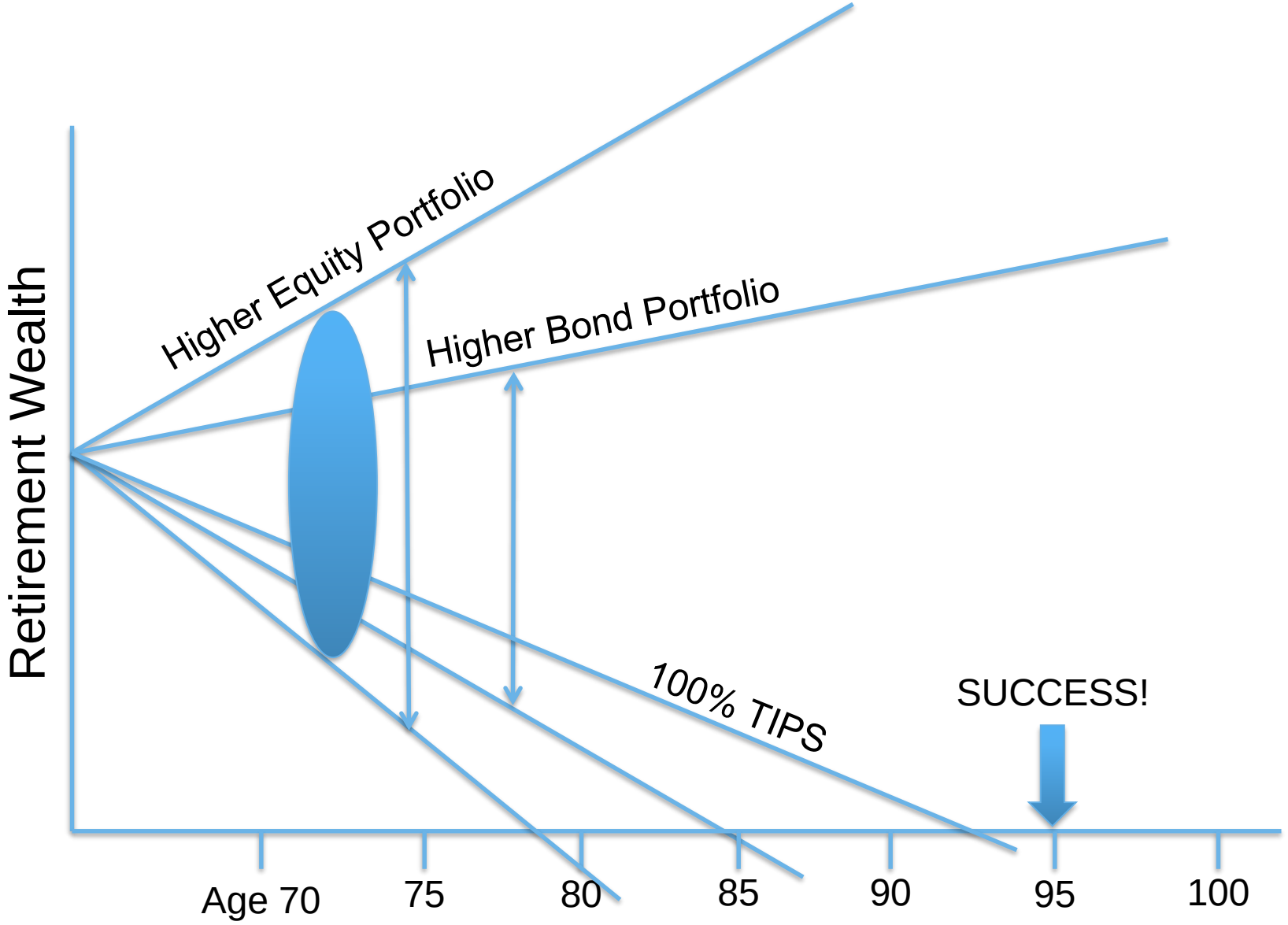
Source: Finke, 2015

Simulating Retirement Outcomes



Source: Finke, 2015

The Cone of Retirement Outcomes



Source: Finke, 2015

Achieving growth and income through dividend stocks

- Why not seek high dividend income with upside potential?
- Example:
- VYM (Vanguard high dividend yield ETF)
- Yield = 3.5%

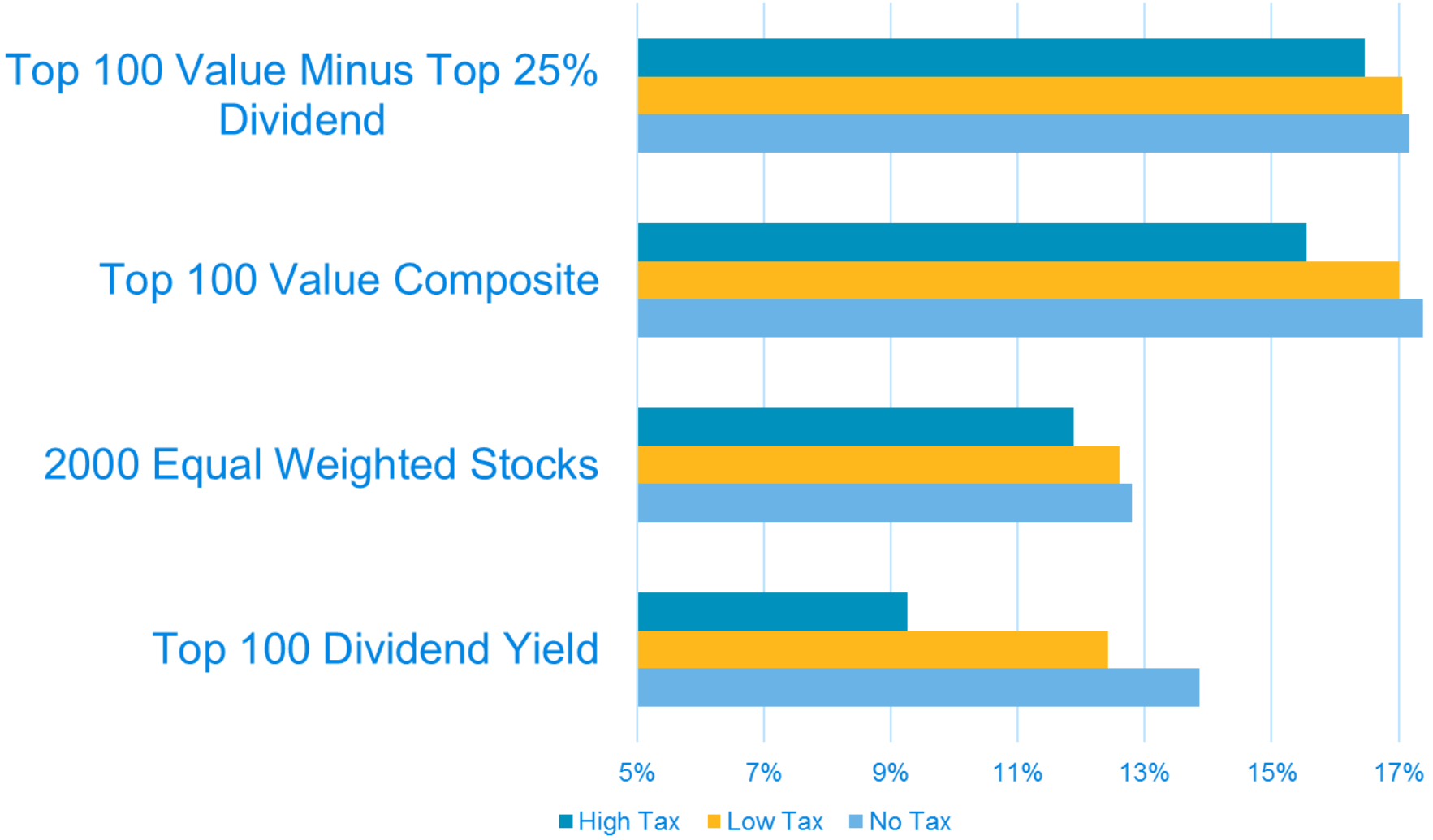
A reminder about dividend stocks

Dividend tax drag about 20 bps per year

- Dividend: $96.5 + $3.5 dividend taxed at 15% = $2.98 = $99.48
- Non-dividend: $100
- Both grow by 5% next year
- Dividend: $99.48 * 1.05 = $104.45
- Non-dividend: $100 * 1.05 = $105
- Or you can take dividend to fund spending..
- But you could have just sold $3.5 worth of non-dividend fund (synthetic dividends)

Volatility is real

Income from dividend stocks?

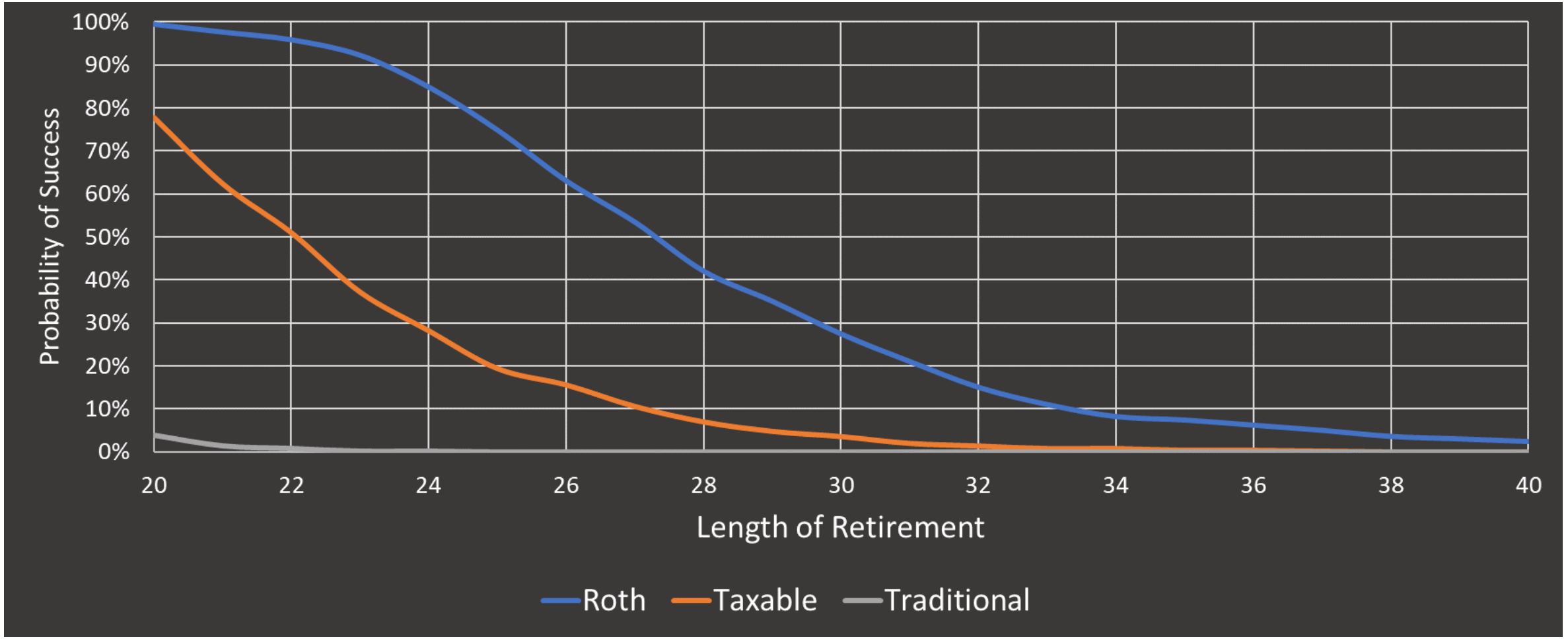


Source: Meb Faber, 2017

Getting more income from savings

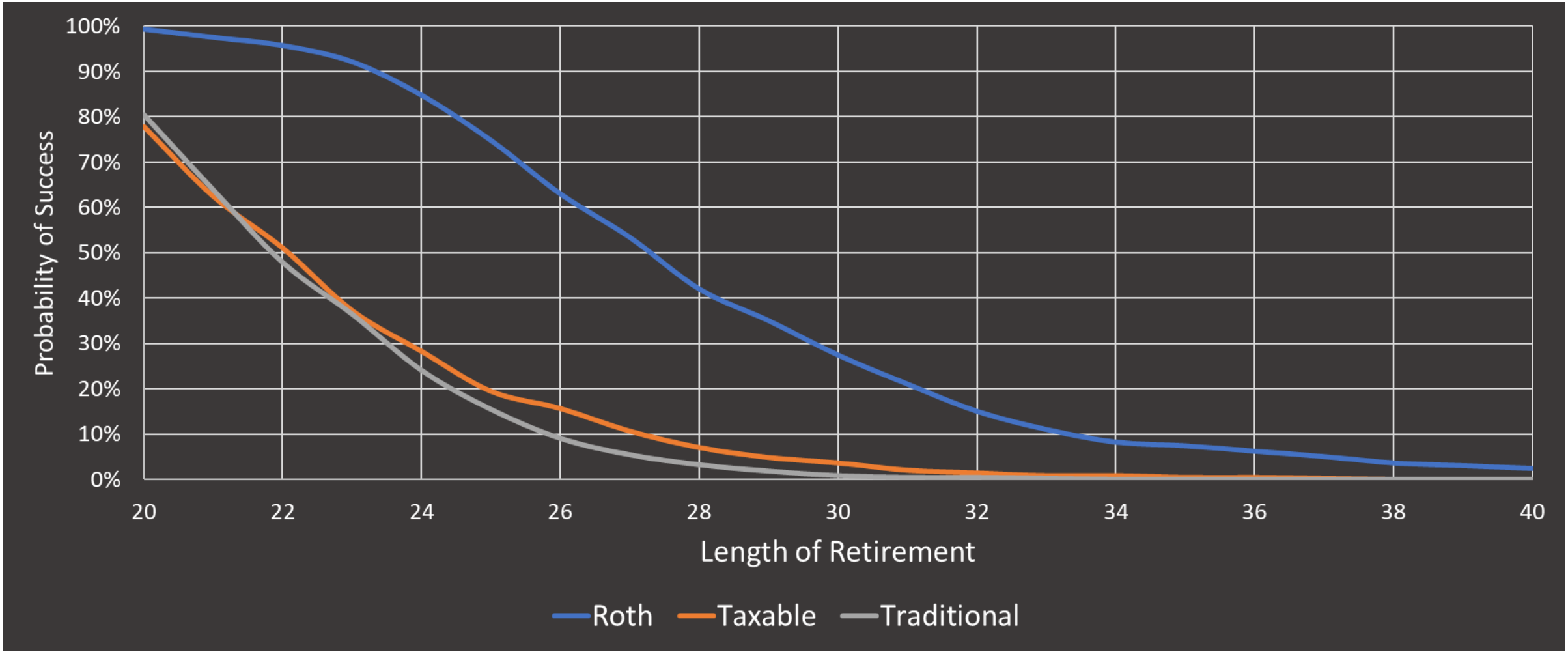
- 1) Tax efficient withdrawals
- 2) Longevity risk pooling

Failure rates of withdrawing $40,000 plus inflation from $1 million intermediate bond investment at 32% tax rate



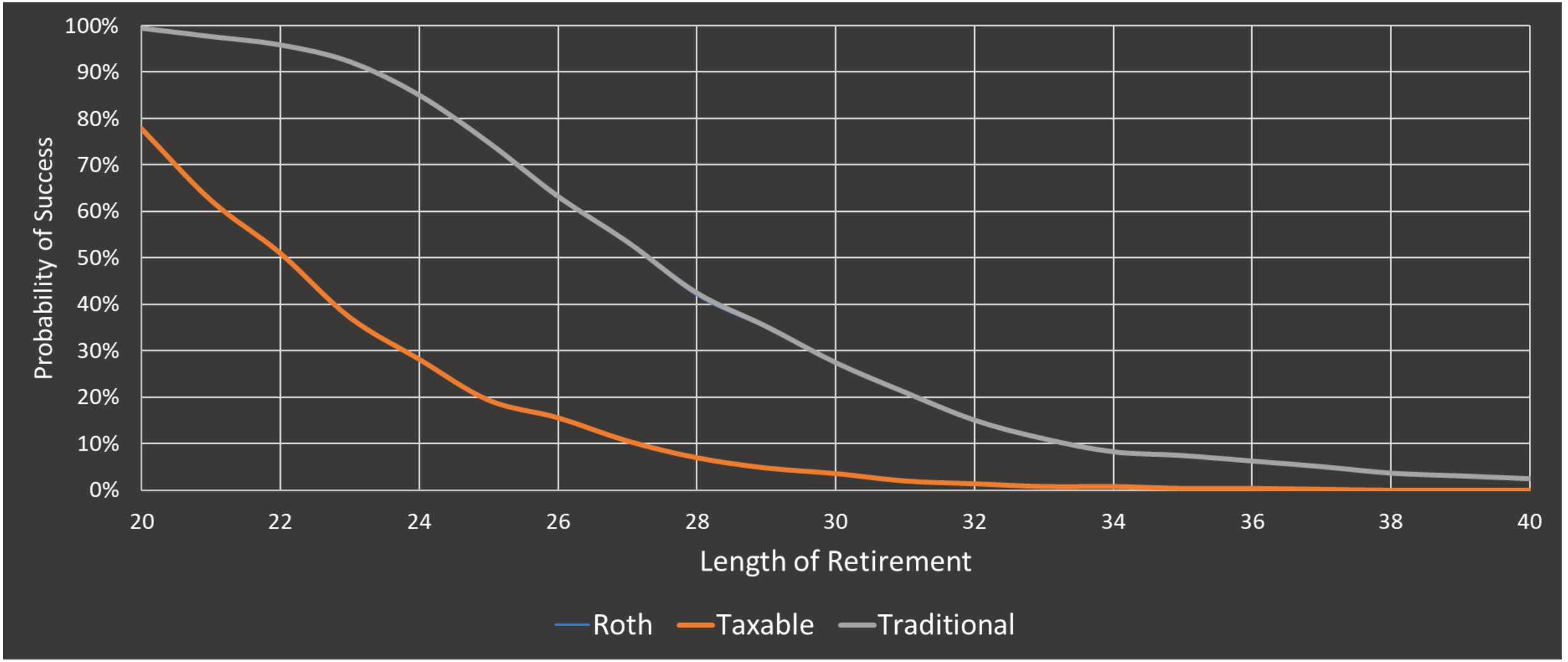
Monte Carlo analysis from 100% bond portfolio using Morningstar projected returns

Holy crap – what if I had $1.25 million in 401(k)?



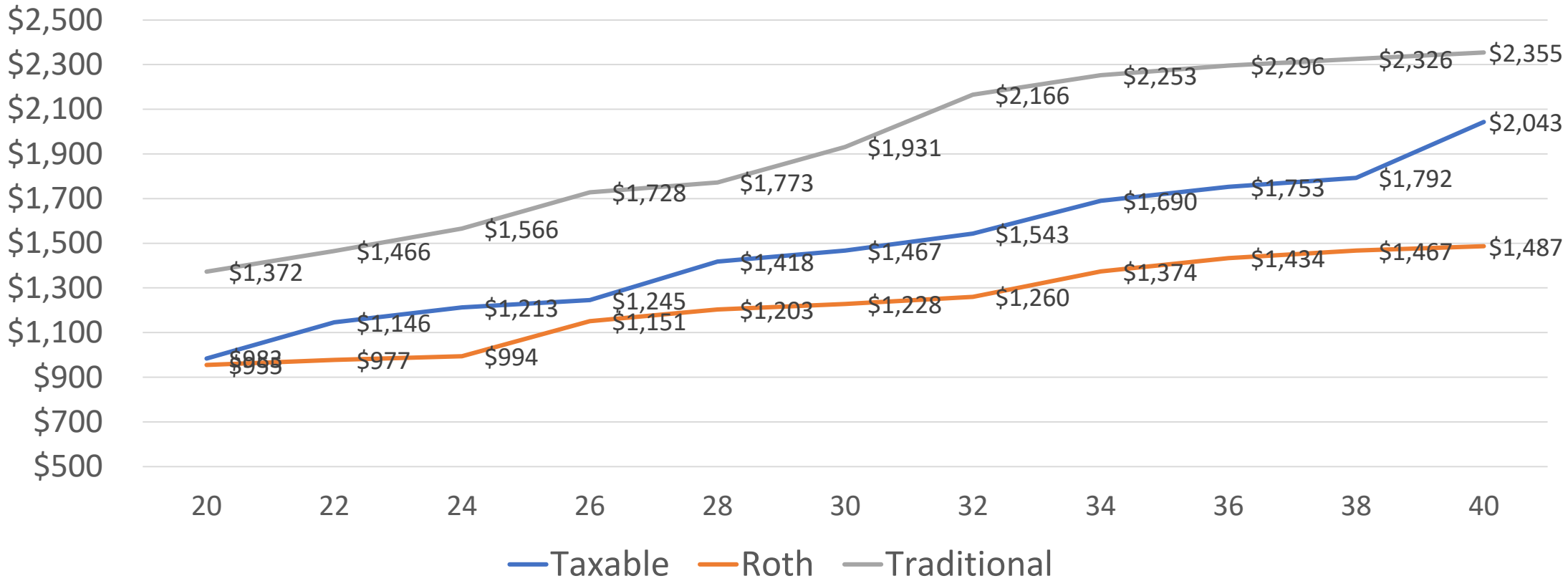
Monte Carlo analysis from 100% bond portfolio using Morningstar projected returns

What about $1,471 in a 401(k)?



Monte Carlo analysis from 100% bond portfolio using Morningstar projected returns

$ Needed to fund 4% rule at 90% success rate at 35% MTR



Assumes random intermediate-term future bond returns mean 4%, random inflation with mean 2.25%

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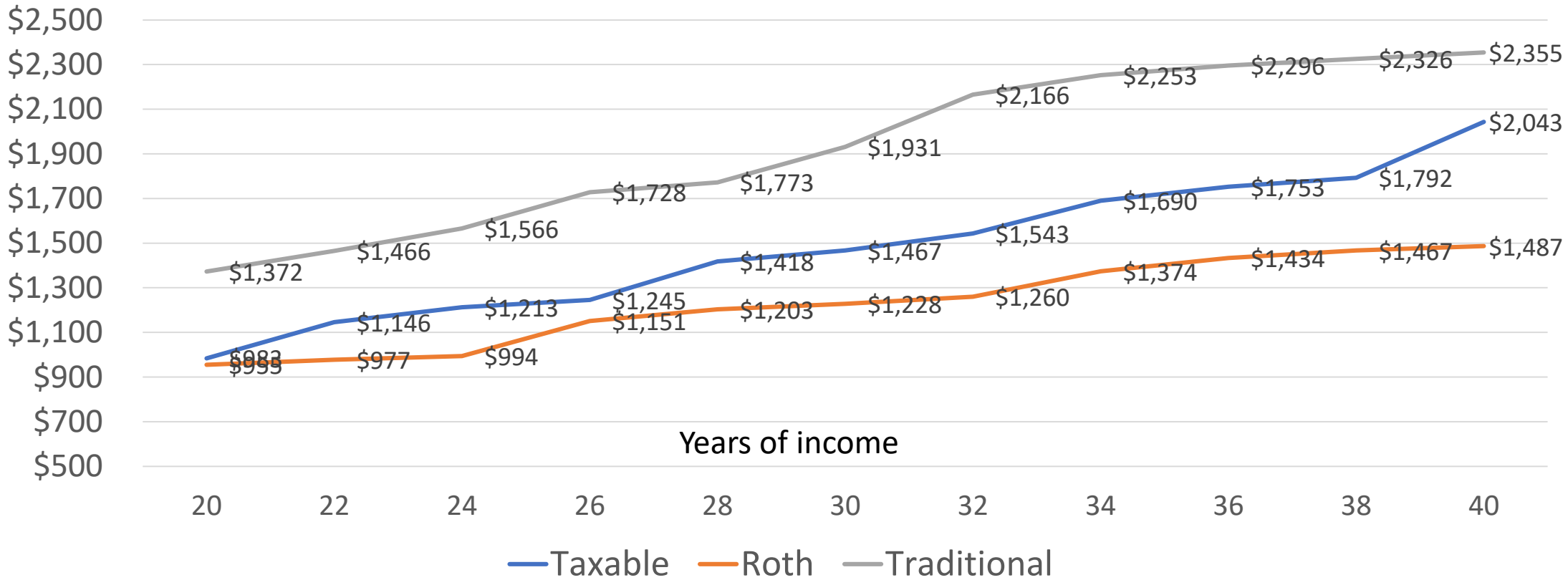


Assumes random intermediate-term future bond returns mean 4%, random inflation with mean 2.25%

Best Practices in Distribution Planning

- Principle #1
- If tax rate is constant, it doesn't matter if you withdraw from Roth or Traditional IRA first
  - Caveat – tax rates are progressive and could go up (suggests Traditional first)
- Goal is to minimize average marginal taxes paid on Traditional IRA
  - Pay close attention to tax brackets and fill them with Traditional

Principle #2

- Always prioritize spending from taxable money
  - Taxes erode expected return from deferred compounding
  - Never spend Roth before exhausting taxable

Principle #3

- When spending money from stocks, always start with lots that have the smallest basis (last in, first out)


Study: Tracking 10,000 brokerage accounts from 1987-1993 including 162,948 trades.
In any one year...
What share of losing stocks were sold?
What share of winning stocks were sold?


Study: Tracking 10,000 brokerage accounts from 1987-1993 including 162,948 trades.
In any one year...
Note the strong opposing tax incentives
What share of losing stocks were sold? 9.8%
What share of winning stocks were sold? 14.8%
Odean, T. (UC-Davis), 1998, Are investors reluctant to realize their losses? *Journal of Finance, 53,* 1775-1798.

Principle #4

- Don’t forget about RMDs
  - Need to estimate whether RMDs will put you into a higher future tax bracket when estimating whether to take money out of Traditional accounts before 70.5
  - When in doubt, fill up those lower tax brackets with Traditional withdrawals before RMDs kick in
  - Consider spending from taxable investments to convert Traditional to Roth

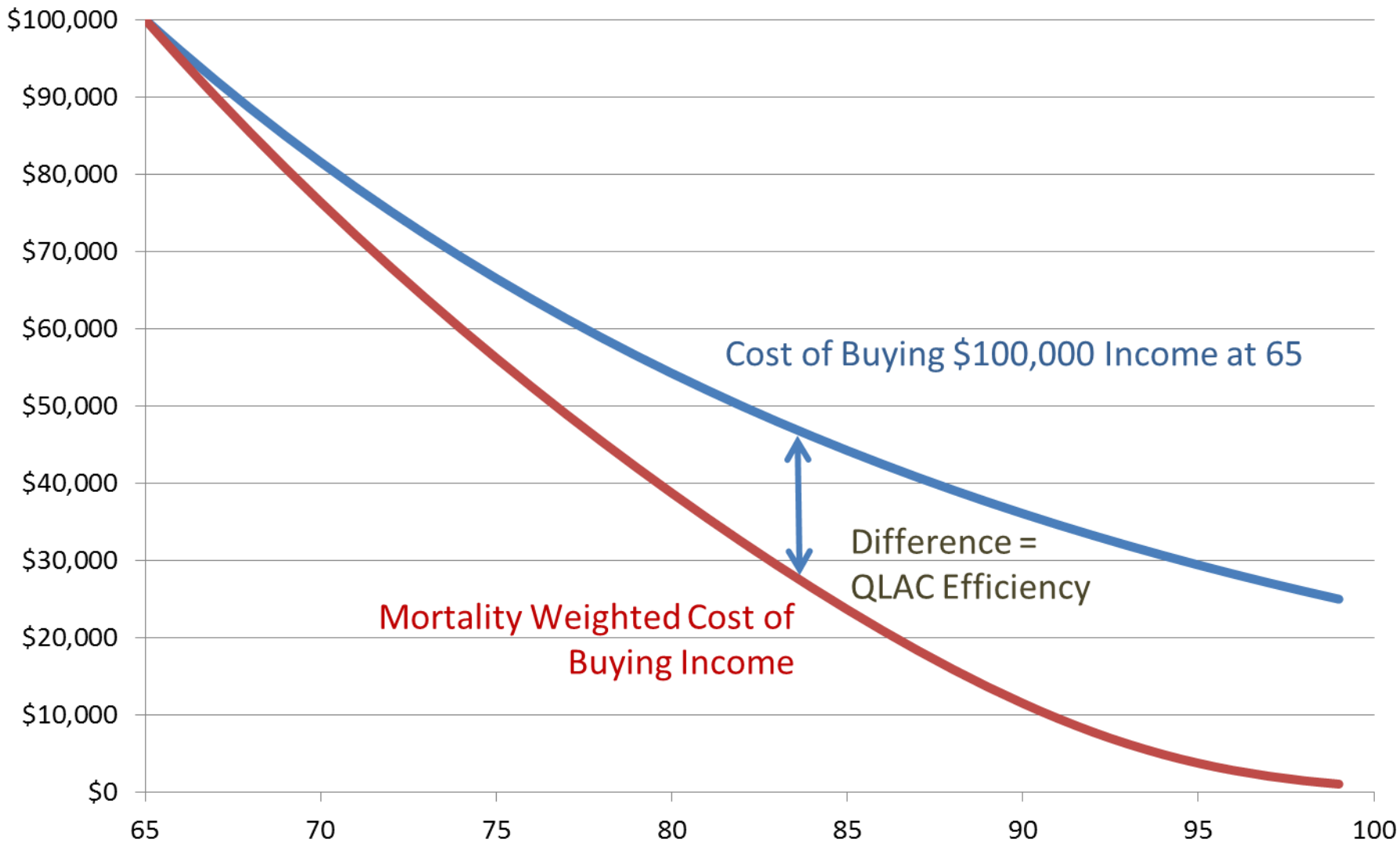
Benefit from better withdrawals

DRAWDOWN SEQUENCE: TAXABLE ACCOUNTS, TDA, AND TEA

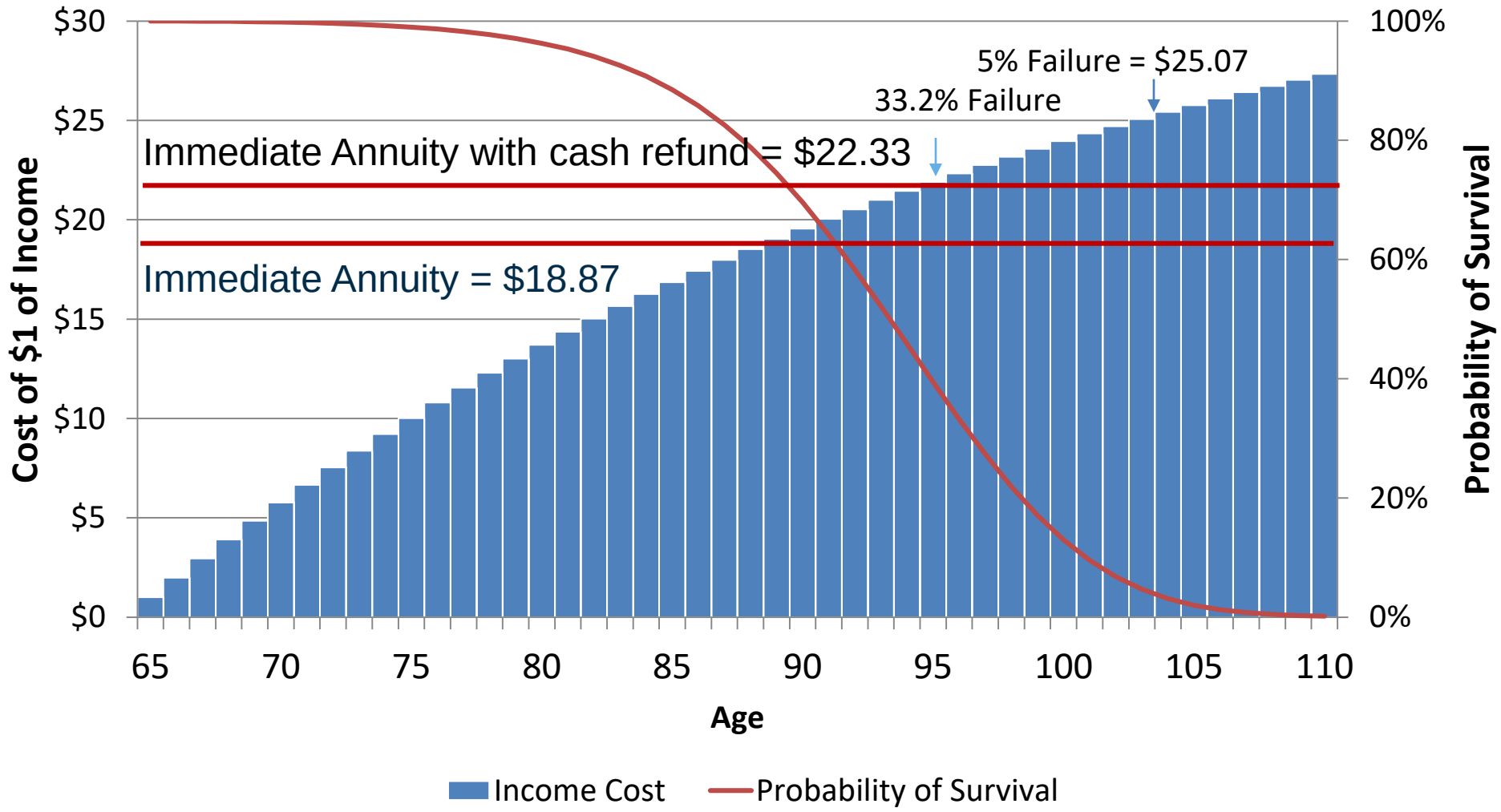
Strategy		Phase 1	Phase 2	Phase 3	Longevity (years)
Naïve	#1	TEA	TDA	Taxable	30
	#2	Taxable	TDA	TEA	33.2
Informed	#1	TDA – Fill "low" tax bracket			34.4
		Taxable – Supplement	TEA – Supplement		
	#2	Taxable	TDA – Fill "low" tax bracket		35.5
		TDA conversion – Fill "low" tax bracket	TEA – Supplement		
	#3	Taxable	TEA	TDA – Fill "low" tax bracket	36.2
		1st TDA conversion – Fill "low" bracket 2nd TDA conversion – Fill "low" bracket Re-characterize the lower-valued conversion		TEA	

Horan, 2016

Benefit of Annuitization by Age



Cost of Bond Ladder Income vs. Annuity



Cannex Annual Income Quotes for 65 Year Old Couple (Joint) Cash Refund Option at $100,000

Financial Institution	Annual Income	Annual Taxable Portion
The Lincoln National Life Insurance Company	$5,254.59	$1,529.09
Integrity Life Insurance Company (W&S)	$5,230.59	$1,506.41
Forethought Life Insurance Company - A Global Atlantic Company	$5,178.74	$1,450.05
New York Life Insurance and Annuity Corporation	$5,110.97	$1,425.96
Nationwide Life Insurance Company	$5,086.97	$1,361.48
Principal Financial Group	$5,080.75	$1,392.13

Using a bond ladder to create $44,623 of income from age 85 to 99

99: $16,334
98: $16,824
97: $17,329
96: $17,849
95: $18,384
94: $18,936
93: $19,504
92: $20,089
91: $20,691
90: $21,312
89: $21,952
88: $22,610
87: $23,288
86: $23,987
85: $24,707

Total bond ladder payments = $303,795

Or Buy a Deferred Income Annuity

- Cost of $44,623 starting at age 85 for a male?
- $130,000 at age 65, return of premium option
- Or pay $303,785 at age 65 to build a bond ladder to age 100
- 4% of men will still outlive their bond ladder!
- DIA protects against tail longevity risk
- And is much more efficient at funding later-life income

Making DIAs More Efficient: The QLAC

- Qualified Longevity Annuity Contract
- Use up to $130,000 (or 25%) of IRA assets to purchase a DIA
- Avoid RMDs on $130k, taxed on income when DIA begins
- Assets within DIA wrapper grow tax free between 70.5 and when the income begins

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Thank You.

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