

Investment Strategies for Retirement Savings

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UCF COLLEGE OF
BUSINESS ADMINISTRATION

Agenda

- Investing Principles
- Asset Class Allocation
- Stocks, Bonds, Real Estate, Mutual Funds
- Retirement Investment Strategies
- Targeted Savings Levels for Retirement
- Making Your Money Last

What Do I Need to Know to Be an Intelligent Investor?

- How asset classes perform and the risks
- How interest rates and inflation impact investment returns (and watching the economy)
- The right balance of stocks and bonds for your age (long term investing)
- How to make unemotional investment decisions (e.g. buy low and sell high)
- Avoiding
 - Short term/speculative trading
 - Trying to time the market
 - High fee mutual funds and advisors



Money Principle: Investing

The key to successful investing is:

- 1) asset class allocation
- 2) diversification, and
- 3) appropriate use of taxable, tax deferred and tax free accounts.

What Is Asset Class Allocation?



What is Diversification?

- Limiting one investment within a class (e.g. stocks) to no more than **5 - 10%**
 - Investor A has \$3,000 invested in 2 stocks worth \$1,500 each or **50%** each...**NOT diversified**
 - Investor B has \$3,000 in the S&P Index 500 (500 stocks)...**WELL diversified**



401-K/403(b)/457 Diversification

- Participants are **NOT** allowed to buy individual stocks in order to ensure some diversification
 - Employer stock investments declining
- Self directed rollover IRAs allow the purchase of individual stocks, but it's best to invest in **mutual funds and index ETFs**



Stocks or Equity Securities

What is a Stock or Equity Security?

- Ownership in a company where you have an interest in the residual profits of the firm
 - Disney
 - IBM
 - Apple
 - Boeing
- Shareholders vote for the Directors, who hire the CEO



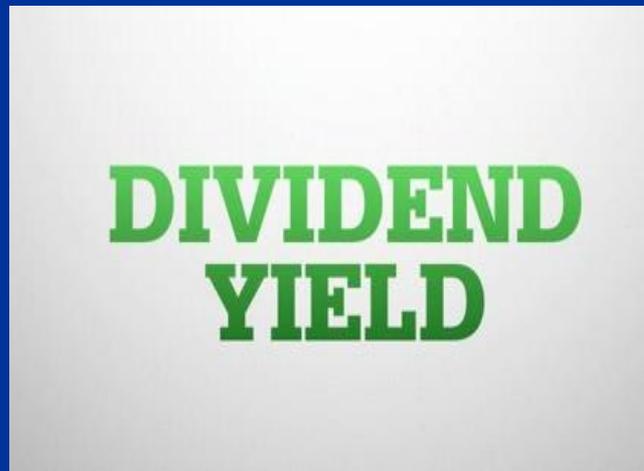
How Do I Make Money on Stocks?

- Through dividends (if one is paid) and through capital appreciation
 - Dividend yield
 - Capital gain yield



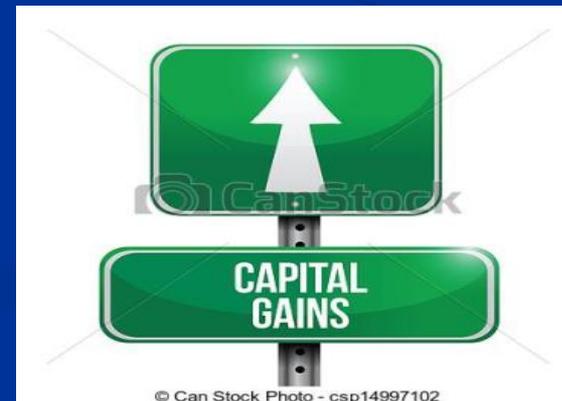
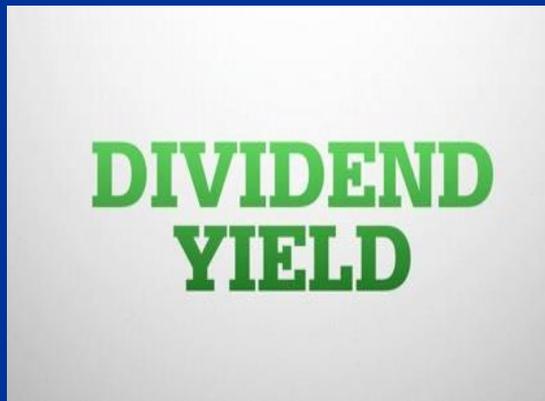
How Do I Make Money on Stocks?

- Buy a \$100 stock that pays a \$3/dividend per year = a **3% dividend yield**
- Sell that stock a year later for \$110 (\$10 capital gain) and receive a **10% capital gain yield**: total return = **13%**



How Do I Make Money on Stock Mutual Funds?

- The same way, mutual funds will distribute your **dividends**, and **capital gains** from the selling of their stocks; plus
- Your **capital gain** on the mutual fund
- Long term, stocks go up due to an increase in earnings and cash flow



Classification of Common Stocks (and Stock Mutual Funds)

- Blue chip stock



- Income stock



Classification of Common Stocks (and Stock Mutual Funds)

- **Growth stock**
 - High earnings growth
 - Smaller companies
 - Often no dividends



Classification of Common Stocks (and Stock Mutual Funds)

- Value Stocks

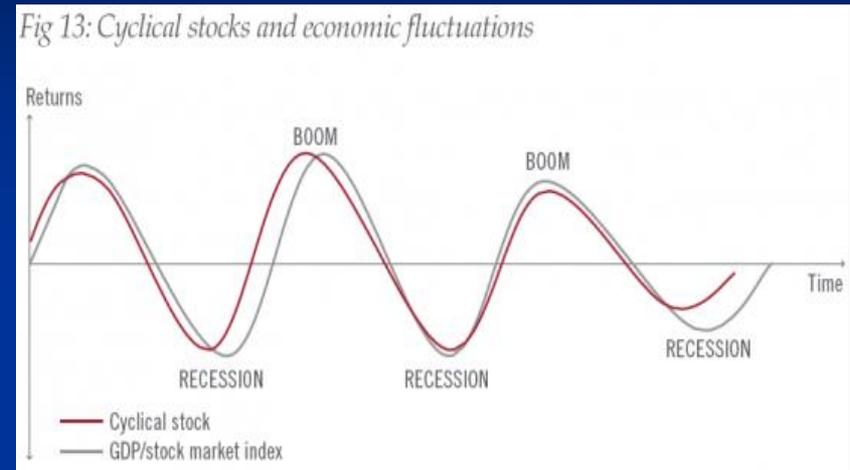


- Initial Public Offerings (IPOs)



Classification of Common Stocks (and Stock Mutual Funds)

- Cyclical stock



- Defensive stock



Classification of Common Stocks (and Stock Mutual Funds)

- Foreign Stocks



Aren't Stocks Risky?

- **Yes**, if you are investing in individual stocks, trading stocks or following speculative trends
- **No**, if you are well diversified and a long term investor



Diversification reduces risk!!!!!!

Stock Investment Risks

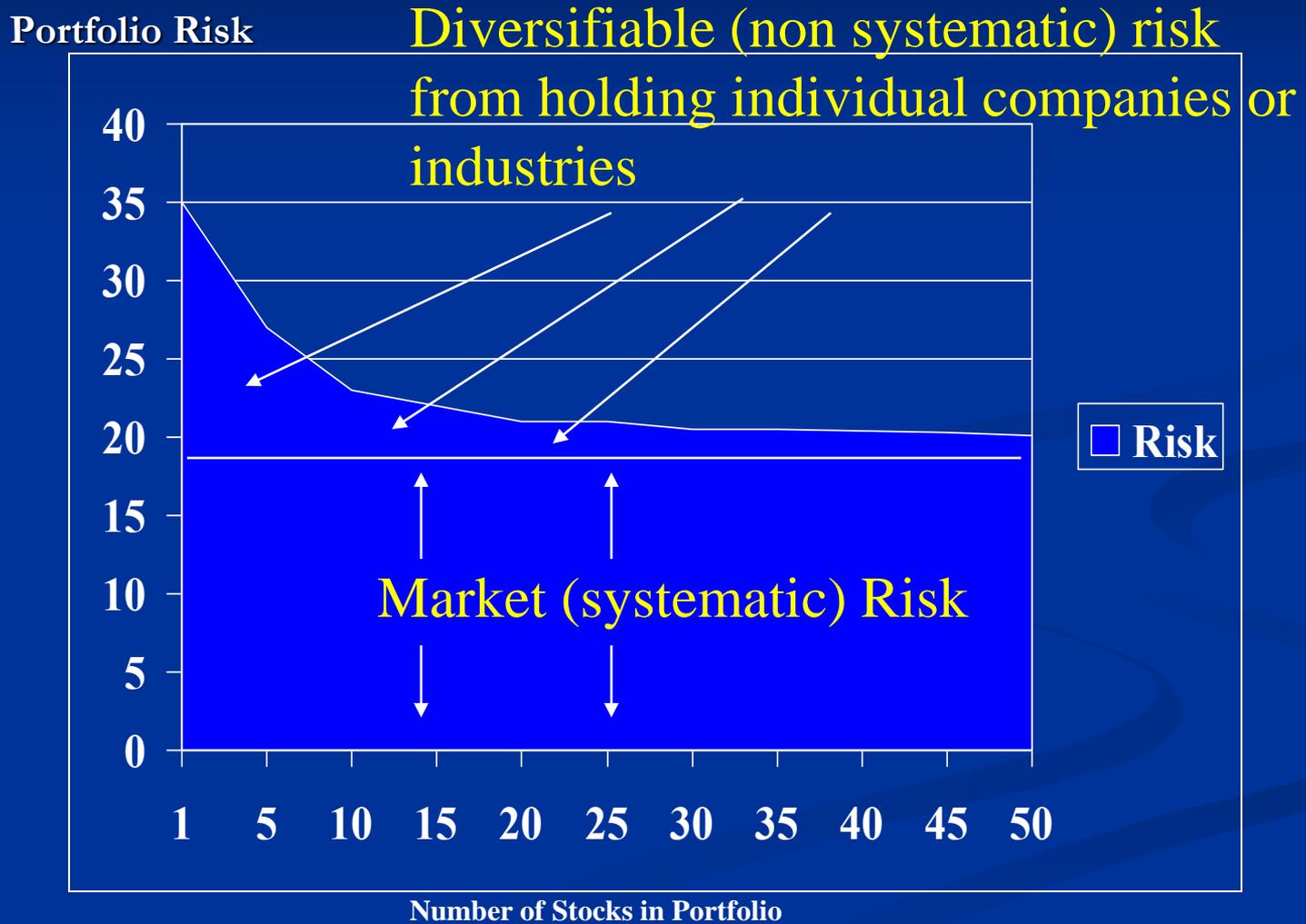
- Types of broad risk
 - **Systematic**(market) risk
 - Economy
 - Geopolitical events, etc.
 - **Non-systematic** risk
 - Investment style risk
- **Company/industry** risk
 - Bankruptcy



Diversification reduces risk!!!!!!

Portfolio Size and Risk

The relevant risk of an individual stock is its contribution to the risk of a well diversified portfolio



How Have Asset Classes Performed Over Time?

The Callan Periodic Table of Investment Returns

Annual Returns for Key Indices Ranked in Order of Performance (2001–2020)

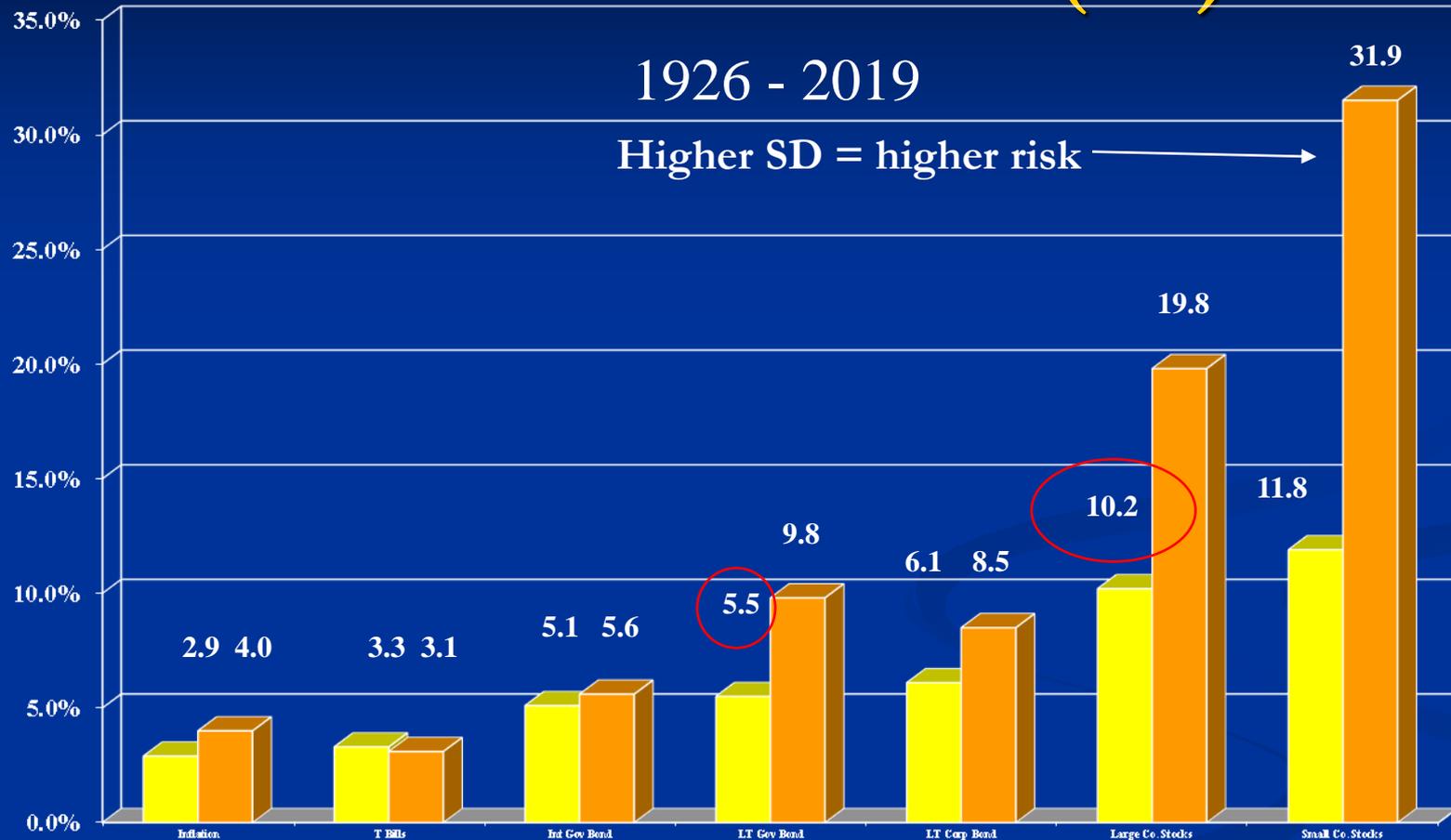
2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
U.S. Fixed Income 8.43%	Gbl ex-U.S. Fixed 22.37%	Emerging Market Equity 55.82%	Real Estate 37.96%	Emerging Market Equity 34.00%	Real Estate 42.12%	Emerging Market Equity 39.38%	U.S. Fixed Income 5.24%	Emerging Market Equity 78.51%	Small Cap Equity 26.85%	U.S. Fixed Income 7.84%	Real Estate 27.73%	Small Cap Equity 38.82%	Real Estate 15.02%	Large Cap Equity 1.38%	Small Cap Equity 21.31%	Emerging Market Equity 37.28%	Cash Equivalent 1.87%	Large Cap Equity 31.49%	Small Cap Equity 19.96%
High Yield 5.28%	U.S. Fixed Income 10.26%	Small Cap Equity 47.25%	Emerging Market Equity 25.55%	Real Estate 15.35%	Emerging Market Equity 32.17%	Dev ex-U.S. Equity 12.44%	Gbl ex-U.S. Fixed 4.39%	High Yield 58.21%	Real Estate 19.63%	High Yield 4.98%	Emerging Market Equity 18.23%	Large Cap Equity 32.39%	Large Cap Equity 13.69%	U.S. Fixed Income 0.55%	High Yield 17.13%	Dev ex-U.S. Equity 24.21%	U.S. Fixed Income 0.01%	Small Cap Equity 25.52%	Large Cap Equity 18.40%
Cash Equivalent 4.42%	Real Estate 2.82%	Real Estate 40.69%	Dev ex-U.S. Equity 20.38%	Dev ex-U.S. Equity 14.47%	Dev ex-U.S. Equity 25.71%	Gbl ex-U.S. Fixed 11.03%	Cash Equivalent 2.06%	Real Estate 37.13%	Emerging Market Equity 18.88%	Gbl ex-U.S. Fixed 4.36%	Dev ex-U.S. Equity 16.41%	Dev ex-U.S. Equity 21.02%	U.S. Fixed Income 5.97%	Cash Equivalent 0.05%	Large Cap Equity 11.96%	Large Cap Equity 21.83%	High Yield -2.08%	Dev ex-U.S. Equity 22.49%	Emerging Market Equity 18.31%
Small Cap Equity 2.49%	Cash Equivalent 1.78%	Dev ex-U.S. Equity 39.42%	Small Cap Equity 18.33%	Large Cap Equity 4.91%	Small Cap Equity 18.37%	U.S. Fixed Income 6.97%	High Yield -26.16%	Dev ex-U.S. Equity 33.67%	High Yield 15.12%	Large Cap Equity 2.11%	Small Cap Equity 16.35%	High Yield 7.44%	Small Cap Equity 4.89%	Real Estate -0.79%	Emerging Market Equity 11.19%	Small Cap Equity 14.65%	Gbl ex-U.S. Fixed -2.15%	Real Estate 21.91%	Gbl ex-U.S. Fixed 10.11%
Emerging Market Equity -2.61%	High Yield -1.37%	High Yield 28.97%	Gbl ex-U.S. Fixed 12.54%	Small Cap Equity 4.55%	Large Cap Equity 15.79%	Large Cap Equity 5.49%	Small Cap Equity -33.79%	Small Cap Equity 27.17%	Large Cap Equity 15.06%	Cash Equivalent 0.10%	Large Cap Equity 16.00%	Real Estate 3.67%	High Yield 2.45%	Dev ex-U.S. Equity -3.04%	Real Estate 4.06%	Gbl ex-U.S. Fixed 10.51%	Large Cap Equity -4.38%	Emerging Market Equity 18.44%	Dev ex-U.S. Equity 7.59%
Gbl ex-U.S. Fixed -3.75%	Emerging Market Equity -6.16%	Large Cap Equity 28.68%	High Yield 11.13%	Cash Equivalent 3.07%	High Yield 11.85%	Cash Equivalent 5.00%	Large Cap Equity -37.00%	Large Cap Equity 26.47%	Dev ex-U.S. Equity 8.95%	Small Cap Equity -4.18%	High Yield 15.81%	Cash Equivalent 0.07%	Cash Equivalent 0.03%	Small Cap Equity -4.41%	Dev ex-U.S. Equity 2.75%	Real Estate 10.36%	Real Estate -5.63%	High Yield 14.32%	U.S. Fixed Income 7.51%
Real Estate -3.81%	Dev ex-U.S. Equity -15.80%	Gbl ex-U.S. Fixed 19.36%	Large Cap Equity 10.88%	High Yield 2.74%	Gbl ex-U.S. Fixed 8.16%	High Yield 1.87%	Dev ex-U.S. Equity -43.56%	Gbl ex-U.S. Fixed 7.53%	U.S. Fixed Income 6.54%	Real Estate -6.46%	U.S. Fixed Income 4.21%	U.S. Fixed Income -2.02%	Emerging Market Equity -2.19%	High Yield -4.47%	U.S. Fixed Income 2.65%	High Yield 7.50%	Small Cap Equity -11.01%	U.S. Fixed Income 8.72%	High Yield 7.11%
Large Cap Equity -11.89%	Small Cap Equity -20.48%	U.S. Fixed Income 4.10%	U.S. Fixed Income 4.34%	U.S. Fixed Income 2.43%	Cash Equivalent 4.85%	Small Cap Equity -1.57%	Real Estate -48.21%	U.S. Fixed Income 5.93%	Gbl ex-U.S. Fixed 4.95%	Dev ex-U.S. Equity -12.21%	Gbl ex-U.S. Fixed 4.09%	Emerging Market Equity -2.60%	Gbl ex-U.S. Fixed -3.09%	Gbl ex-U.S. Fixed -6.02%	Gbl ex-U.S. Fixed 1.49%	U.S. Fixed Income 3.54%	Dev ex-U.S. Equity -14.09%	Gbl ex-U.S. Fixed 5.09%	Cash Equivalent 0.67%
Dev ex-U.S. Equity -21.40%	Large Cap Equity -22.10%	Cash Equivalent 1.15%	Cash Equivalent 1.33%	Gbl ex-U.S. Fixed -8.65%	U.S. Fixed Income 4.33%	Real Estate -7.39%	Emerging Market Equity -53.33%	Cash Equivalent 0.21%	Cash Equivalent 0.13%	Emerging Market Equity -18.42%	Cash Equivalent 0.11%	Gbl ex-U.S. Fixed -3.08%	Dev ex-U.S. Equity -4.32%	Emerging Market Equity -14.92%	Cash Equivalent 0.33%	Cash Equivalent 0.86%	Emerging Market Equity -14.57%	Cash Equivalent 2.28%	Real Estate -9.04%

The Callan Periodic Table of Investment Returns conveys the strong **case for diversification** across asset classes (stocks vs. bonds), capitalizations (large vs. small), and equity markets (U.S. vs. global ex-U.S.). The Table highlights the uncertainty inherent in all capital markets. Rankings change every year. Also noteworthy is the difference between absolute and relative performance, as returns for the top-performing asset class span a wide range over the past 20 years.

A printable copy of The Callan Periodic Table of Investment Returns is available on our website at callan.com.

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Geometric Mean Returns and Standard Deviation (SD)



The real return = after tax investment return minus inflation

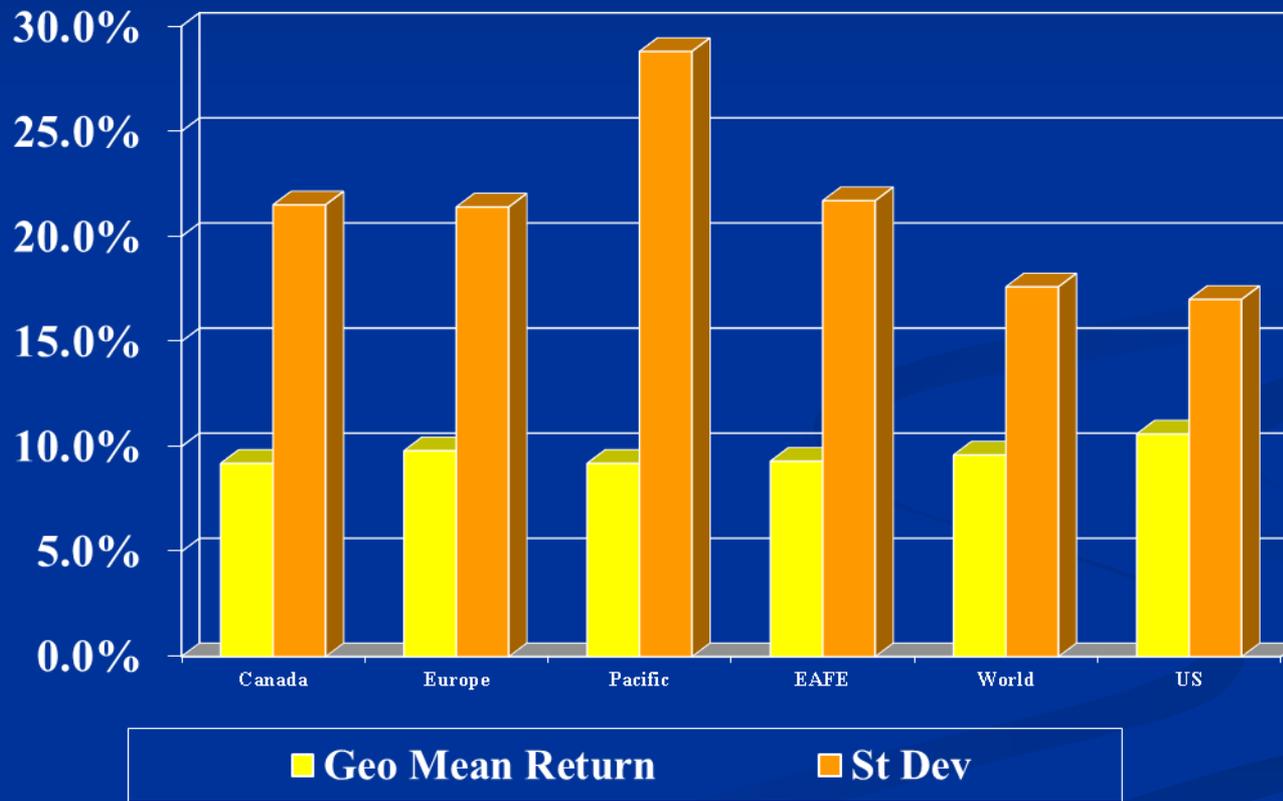
Source: Ibbotson SBBI Valuation Edition 2020 Exhibit 6.9

■ Geo Mean Return ■ St Dev

International Returns Approximate US Returns, But With Higher Risk

1970 - 2019

Higher SD = higher risk



Source: Ibbotson SBBI Valuation Edition 2020 Exhibit 12.10

Historical Real Returns 1926-2019

	Treasury Bills	Corp. Bonds	Large Co. Stocks
Pre-tax return	3.30%	6.10%	10.20%
Less: tax @ 25% rate	<u>(0.82%)</u>	<u>(1.52%)</u>	<u>(2.55%)</u>
After tax return *	2.48%	4.58%	7.65%
Less: inflation	<u>(2.90%)</u>	<u>(2.90%)</u>	<u>(2.90%)</u>
Real return	(0.42%)	1.68%	4.75%

**After tax return = Pre-tax return x (1 minus tax rate)*

Why Buy Stocks or Equity Securities?

- Over the long run, **stocks or equity securities** provide the highest return and hedge against inflation (but riskier than bonds)



Equity Return Components

- Returns on stocks include returns from the **dividend or income yield** plus the **capital gain yield**. For large company stocks:

Income (dividend) yield	3.9%
Capital gain	5.9%
Reinvestment	<u>0.4%</u>
Geometric mean return large co.	<u>10.2%</u>

About 60% of the return on stocks comes from the capital gain yield and about 40% comes from the dividend yield (SBBI Exhibit 6.9)

Equity Risk Premium

- **Equity risk premium** or **excess market return** is the additional return investors receive by investing in higher risk stocks vs. risk free investments such as Treasury Bonds. For example, in the previous chart:

Return on large company stocks = 10.2%

Return on LT Govt. Bonds = 5.5%

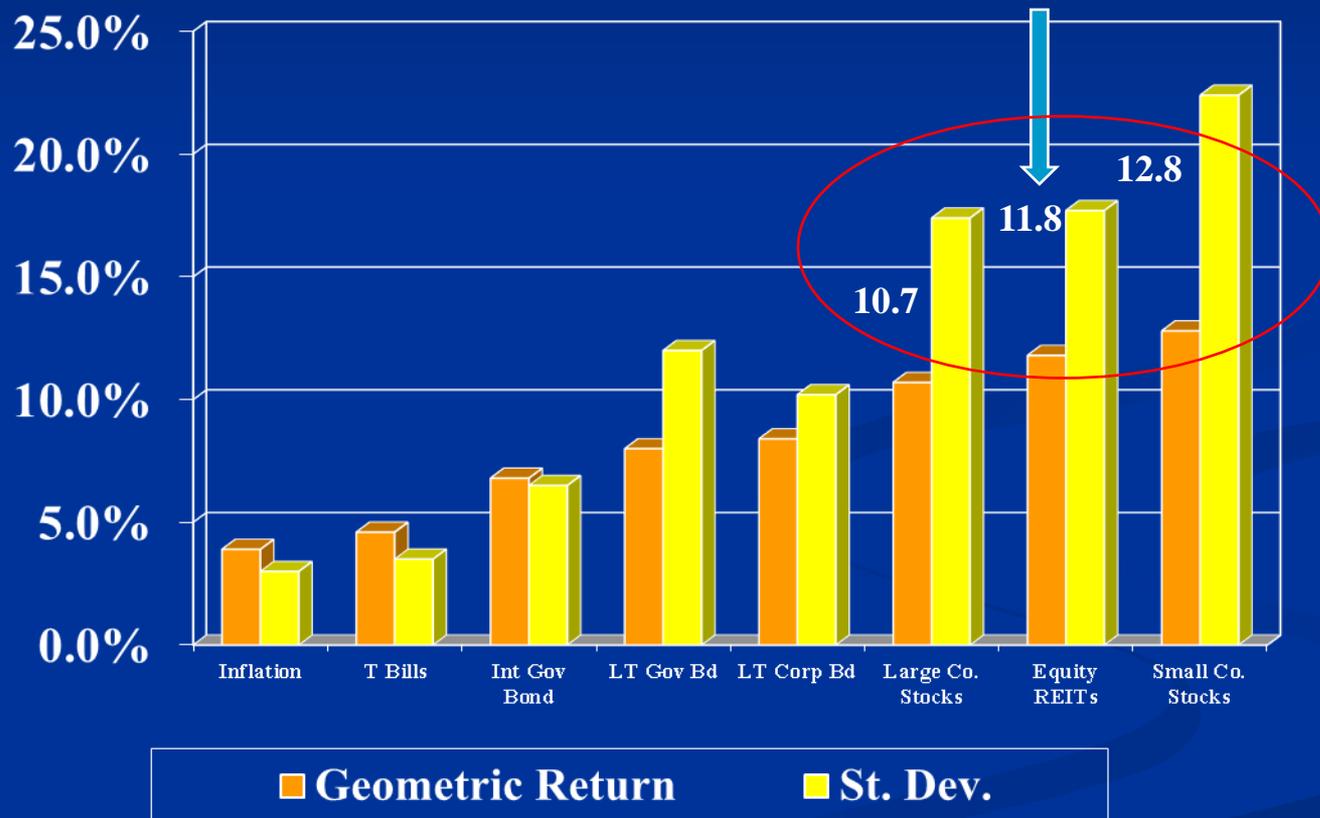
Equity risk premium = 4.7%

Using average returns instead of geometric, the premium runs around 6%

How About Real Estate Returns?

REITs Provide Equity Type Returns

1972 - 2019



Source: Ibbotson SBBI Valuation Edition 2019 Exhibit 2.19

What is a Bond?

- A loan to a government or corporation in exchange for interest payments, at maturity you get your principal back.
- Typically denominated in round #s (we assume **\$1,000 face or par value**)
 - The **coupon** determines the payment e.g. 6% coupon = **\$60** per year of interest until maturity (usually paid semiannually or **\$30**)

Fixed Income Securities (Bonds)



This bond would pay $\$1,000 \times .0825 = \82.50 per year times 20 = **\$1,650**

How Interest Rates Impact Bonds (Fixed Income)

- There is an inverse relationship between interest rates (yield) and the price of a bond
- If interest rates go **DOWN**, then the value of a bond will go **UP**
 - The FED drops rates in a recession to stimulate the economy
- If interest rates go **UP**, then the value of a bond will go **DOWN**
 - The FED raises rates when the economy heats up and or inflation becomes an issue
- As yields go **up**, prices go **down** (& vice versa)

Interest Rates Start with the Federal Reserve

- The Federal Reserve sets **monetary policy**, its objectives include a dual mandate, which can be in conflict
 - The Board of Governors of the Federal Reserve System and the Federal Open Market Committee shall maintain **“maximum employment, stable prices and moderate long-term interest rates.”**

Federal Reserve Act of 1977

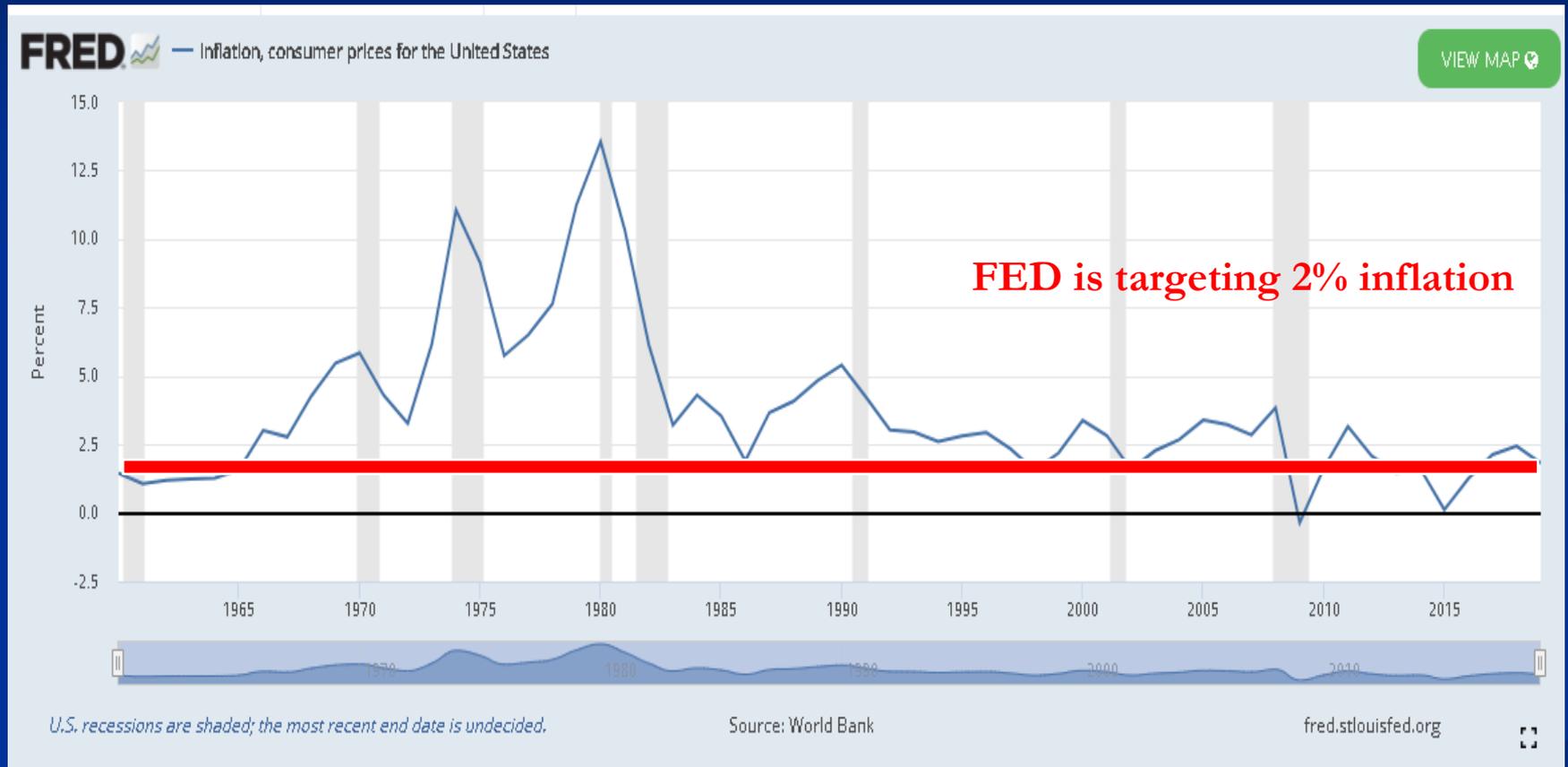


U.S. Unemployment Rate



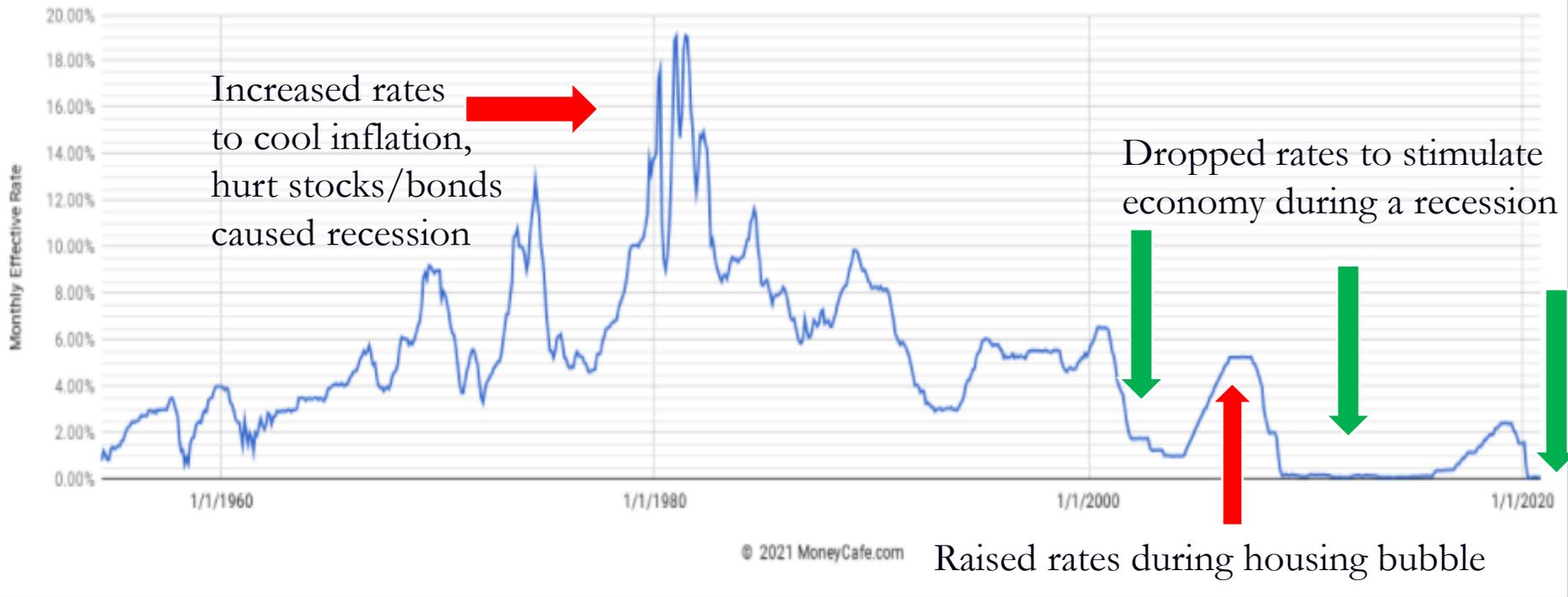
The higher your education level, the lower the unemployment rate

Inflation Remains Low



So Where Are Interest Rates Now?

Fed Funds Rate History (Effective Rate) - 1954 to Present

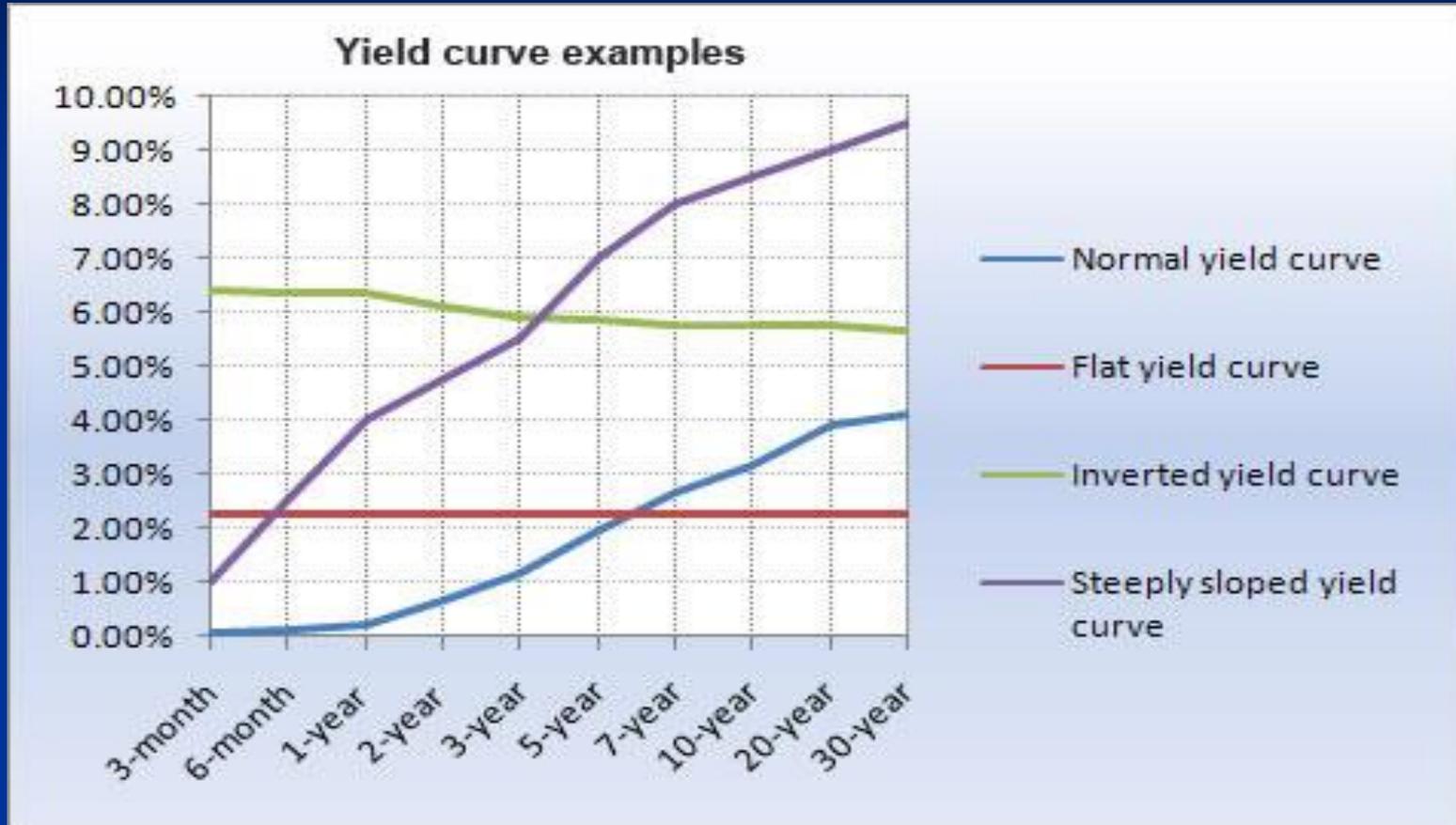


Where Are Rates Headed?

- Rates **will remain low** until economy and employment rates improve
 - As long as **inflation** remains low
- Investors are moving more money to stocks with low interest rates
- Will large federal deficits create inflationary pressures longer term??



The Treasury Yield Curve



Flat curve signals potential recession

Inverted curve signals overheated economy/tight money policy to cool inflation and normally leads to a recession

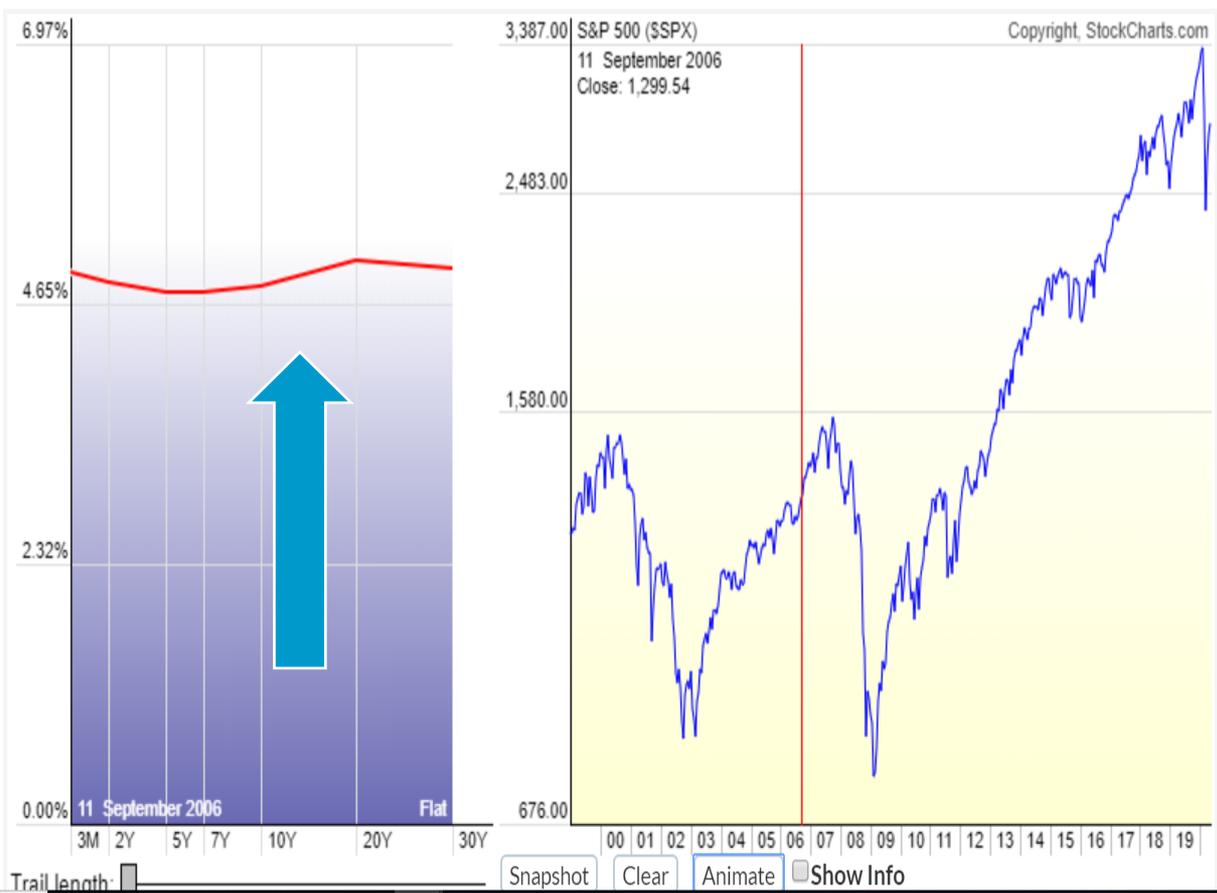
Steep slope curve to stimulate economy during recession, with market expecting much higher rates later

The Treasury Yield Curve



Corporations and individuals borrow at rates above the yield curve

Yield Curve Before Financial Crisis



Recent Yield Curve

Dynamic Yield Curve



Risks of Owning a Bond (or Bond Mutual Fund)

- **Diversifiable risk**
 - Change in credit rating
 - Duration
 - Bankruptcy
- **Market risk**
 - Interest rate changes, inflation
 - The economy, wars, etc.

Bond Investments

- Best to hold in mutual funds
 - Diversification
 - Illiquidity in bond markets = higher broker fees for individuals



Bond Return Components

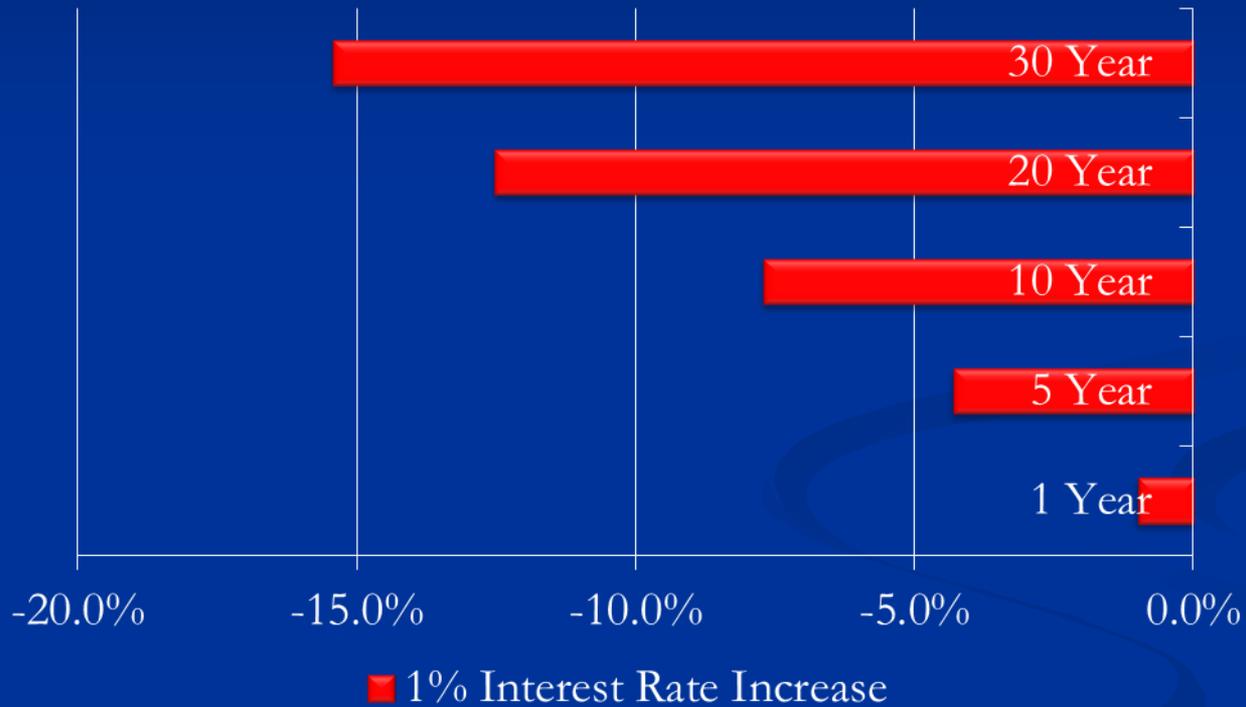
- Returns on bonds include returns from the **income yield** plus the **capital gain yield**.
For long term government bonds:

Income yield	4.9%
Capital gain	0.3%
Reinvestment	<u>0.3%</u>
Geometric mean return LT govt. bd.	<u>5.5%</u>

Most of the return on bonds comes from the income yield (SBBI Exh. 6-9)

4% Bond Rate Sensitivities

1% Interest Rate Increase



Fixed Income Strategies to Lower Risk of Rising Interest Rates

- Shorten duration
- Foreign bonds
- Move to quality income stocks with high dividend yields
- Treasury Inflation Protected Securities (TIPS)

The Mutual Fund Characteristics

- Open vs. Closed End Funds
- Load vs. No-Load Funds
 - A, B, or C Shares
 - These shares have loads & fees
 - D or other letter shares
 - Generally no load, no 12b-1 fees or deferred sales loads
 - 401-k/403(b)/457 plans should **not** offer load funds!

Employer Fiduciary Responsibilities: The New “F” Word

- Recent trend to hold employers accountable for poor investment offerings in 401-K plans, specifically
 - High cost load funds
 - High plan fees
 - Funds with poor performance
 - Lack of a sufficient number of low cost (no load) or index fund offerings

This new rule DOL is currently being litigated

If All Advisors Acted As Fiduciaries: How Much More Could We Save?

- Answer: About **\$17 billion/year** or **1%** of assets being saved
- **Wall Street DNA**: Sell products that generate commissions with the promise of greater returns (which normally lowers investor returns)

Source: White Council of Economic Advisors 2015

Fiduciaries and UCF

- **CAPTRUST** acts as a fiduciary and advises both UCF and employees on providers selected by UCF such as TIAA and Fidelity

UCF HR has consolidated and simplified offerings in 403(b)

Making the Case for Index Funds

- Low costs = huge head start (1%)
- More tax efficient/low trading
- Beat about **90%** of managed funds historical five year averages
 - 42% of funds did not survive after 10 years
- Available with **open end** index mutual funds or **closed end** exchange traded funds (ETFs) to index

Seven Essential Facts on Indexing

- Wall Street doesn't want you to index
- Generally guaranteed to win
- Owning only the S&P 500 index isn't enough diversification
- Wins even in inefficient markets
- Shines on an after tax basis
- Bond index funds provide similar results
- Once you decide on your index funds, **cost or fees** are key considerations

Source: Wall Street Journal

The Pros Can't Beat the Indexes

Percentage of Actively Managed US Equity Funds Exceeding Benchmark Index @ Dec. 31, 2016

Category	5 Year	10 Year	15 Year
Large Cap S&P 500	12%	15%	8%
Mid Cap S&P Midcap 400	10%	4%	5%
Small Cap S&P Small Cap 600	3%	4%	7%

Source: Wall Street Journal

At 12/31/2020, 82% of index funds out performed actively managed funds over the last 10 years

So More Money is Going to Index Type Investments

Estimated Net Flows (\$ billion)

Firm	2018 Active	2018 Passive
Open Ended	(\$100)	\$390
ETFs		400
Totals	(\$100)	\$790

Active Funds - Net Flows (\$B)				Passive Funds - Net Flows (\$B)				YCHARTS
	Dec 2020	Q4 2020	FY 2020		Dec 2020	Q4 2020	FY 2020	
Active ETF	\$12.8	\$22.9	\$59.3	Passive ETF	\$32.1	\$105.0	\$342.2	
Active Mutual Funds	33.3	42.5	-212.9	Passive Mutual Funds	22.7	34.8	94.9	
All Active Funds	46.2	65.4	-153.7	All Passive Funds	54.8	139.7	437.1	

Source: Morningstar Direct Asset Flows

Warren Buffet Says

- Avoid personal debt
- Stay disciplined
- Buy index funds
- Stock buyers: do your homework
- Limit downside risk



Warren Buffet Says



- **Biggest mistake: Not learning the habit of saving early in life, and trying to get rich quick**
- **Be fearful when others are greedy and be greedy when others are fearful**

Please don't sell your stocks when the market falls!!

How Do I Allocate My Investments Between Stocks and Bonds?

Stocks vs. Bonds? One Method

$110 - \text{Age} = \text{Stock Allocation}$

Portfolio 25 Year Old



$110 - 25 \sim 85\%$ stocks
and real estate,
more risk

Portfolio 60 Year Old



$110 - 60 \sim 50\%$ stocks
more bonds, less risk

The average 2060+ Target Retirement date mutual fund has 90% allocated to stocks.

Target Retirement Date Funds

■ Mutual Funds Invested for Your Retirement Date

- 2025

- 2035

- 2065

- As you age, the funds will rebalance your mix of stocks and bonds

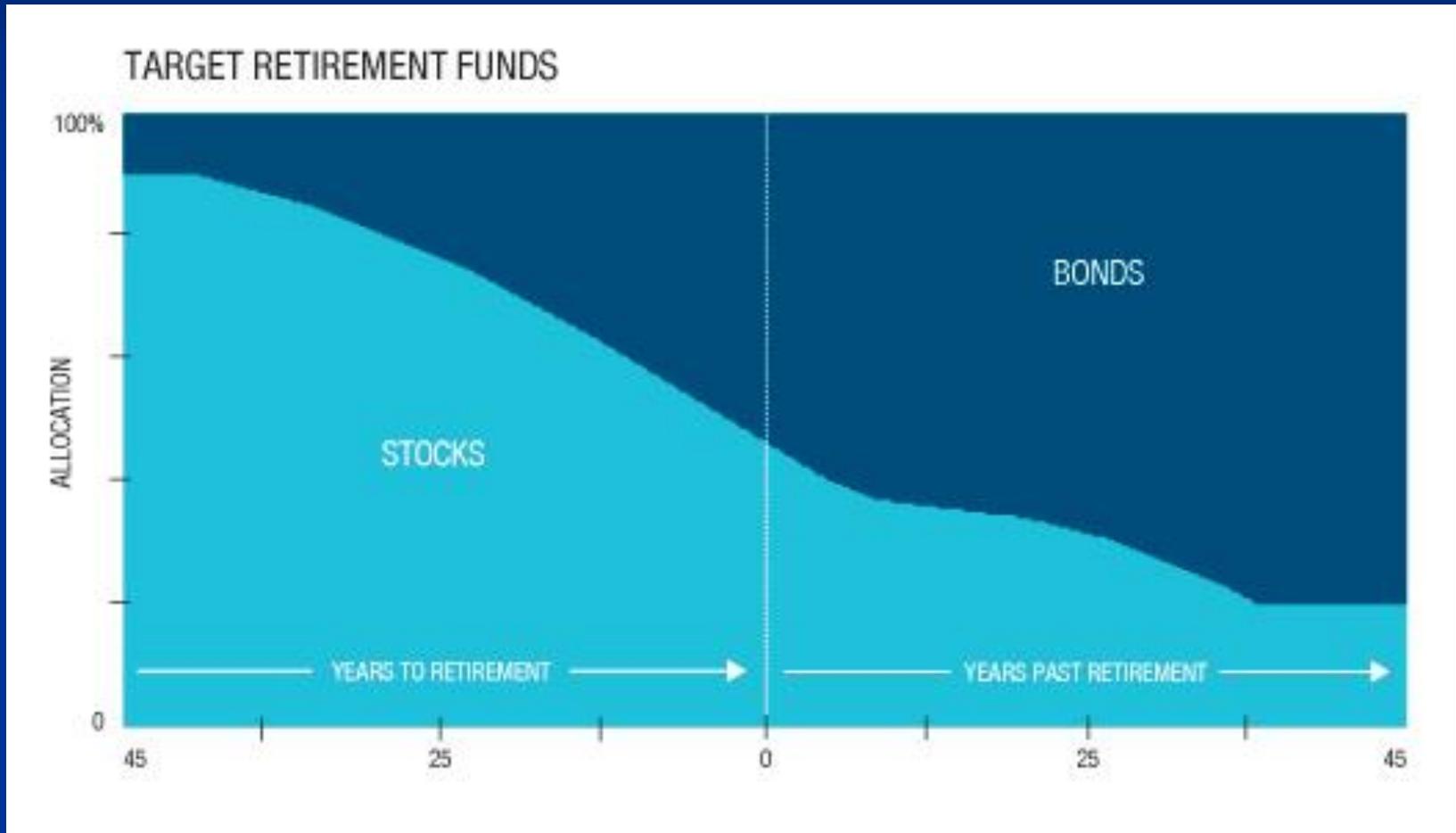


A new popular offering from 401-K plans

Actual Allocations vs. Rule of Thumb

Vanguard Fund	Age Today	Rule of Thumb Stocks/Bonds	Actual Stocks/Bonds
Target 2020	60	50/50	54/46
Target 2040	40	70/30	84/16
Target 2060	20	90/10	90/10

Consider Targeted Retirement Date Mutual Funds

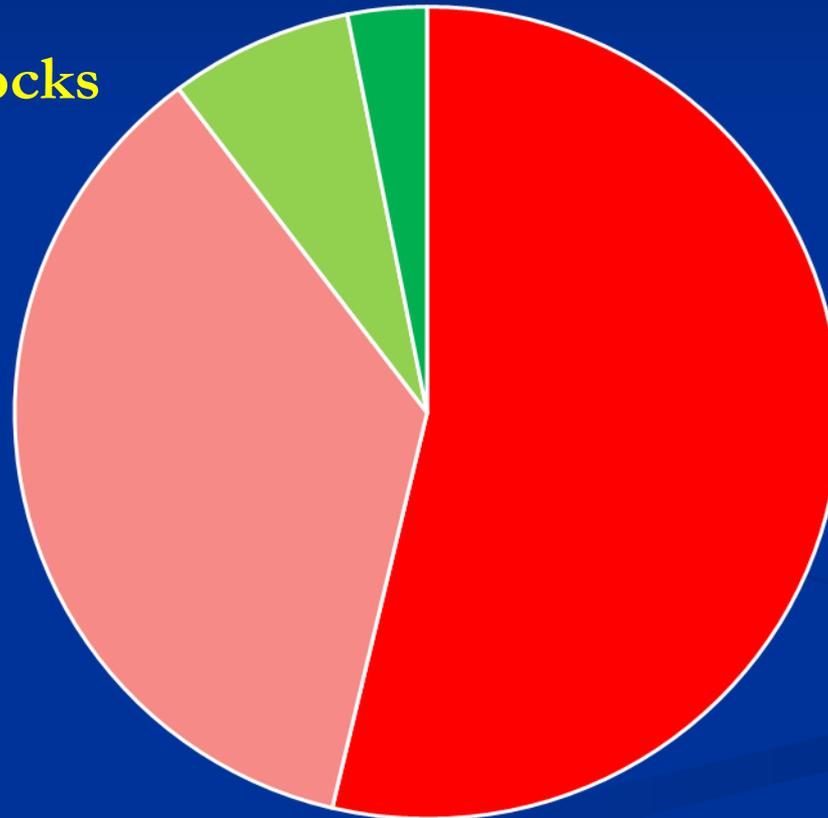


Vanguard Target Retirement 2065

Ticker VLXVX

Assume age 20

110-20 = 90% stocks



90% Stocks

54% U.S.

36% Int.

10% Bonds

7% U.S.

3% Int.

■ Total US Stock Index ■ Total International Stock Index ■ Total US Bond Index ■ Total International Bond Index

How Do I Allocate My Investments By Account Type?

First Understand How Investments Are Taxed

Investment	Marginal Rate	Lower Rate	No Tax
Interest on US Debt/Corp. Bonds	✓		
Interest on Muni Debt			✓
Dividends REITs, Others	✓		
Dividends US Stocks		✓	
Long Term Capital Gains Stocks or Bonds		✓	

Keep higher taxed investments in tax deferred or tax free accounts

Mutual Funds In Taxable Accounts

Distribution Type	Taxed at Lower Rates	Taxed at Marginal Rate	Allocate to Tax Deferred or Tax Free
Stock Funds			
Qualified dividends	✓		
Non-qualified dividends, REITs		✓	→
Bond Funds			
Corporate bond fund dividends		✓	→
Muni bond fund dividends (not CG)	NO TAX	NO TAX	
All Funds			
Long term capital gain	✓		
Short term capital gain		✓	

Avoid Late Year Mutual Fund Investments In a Taxable Account!

Rollover Your Retirement Savings

- Take control of your tax deferred plan assets and rollover to your own account after retiring

Don't Forget to
ROLLOVER



Financial Literacy Quiz

- **The best predictor of future mutual fund performance is:**
 1. **Whether it's a load or no-load fund**
 2. **The fund's current manager**
 3. **The expense ratio**
 4. **Prior year results vs. benchmark averages**

Which Fund(s) Do I Select?

Latest returns	Morgan Stanley S&P 500 Index	Vanguard S&P 500 Index	Charles Schwab S&P 500 Index	Fidelity S&P 500 Index
1 year	11.5%	11.5%	11.5%	11.5%
3 year	7.2%	7.2%	7.2%	7.2%
5 year	5.0%	5.0%	5.0%	5.0%
Life of fund	12.2%	11.9%	13.2%	14.9%
Annual Fees	16 basis points	5 basis points	10 basis point	8 basis points

100 basis points = 1%

Financial Literacy Quiz

- The best predictor of future mutual fund performance is:
 1. Whether it's a load or no-load fund
 2. The fund's current manager
 3. **The expense ratio** ✓
 4. Prior year results vs. benchmark averages

How Much Do I Need to Save?

Fidelity Investments Study, No Pension

Age	Savings Target	With FRS Pension
30	1X	Less
35	2X	Less
40	3X	Less
45	4X	Less
50	6X	Less
55	7X	Less
60	8X	Less
67	10X	Less

See assumptions in the appendix at the end of presentation

Savings Factors

When you want to retire changes your savings factor.

	Max	Amy	John
Wants to retire at:	70	67	65
Savings factor:	8x	10x	12x

See footnote number 2 for more information.

How you want to live in retirement changes your savings factor.

	Joe	Elizabeth	Sean
Lifestyle:	Below average	Average	Above average
Savings factor at 67:	8x	10x	12x

See footnote number 3 for more information.

Source: Fidelity Investments

Savings Rates



Bob, 25, earns \$40K



Suzie, 35, earns \$60K



Andrew, 45, earns \$70K



Additional monthly savings in their 401(k)



Estimated additional yearly income in retirement

\$3,870



\$3,210



\$1,880



Starting to Save/How to Save

The earlier you start the lower your yearly savings rate needs to be.



Bob Elaine Michael

Starting age	25	30	35
Suggested savings rate	15%	18%	23%

Assumes no retirement savings balance before starting age. See footnote number two below for more information.

How you invest makes a difference in your suggested yearly savings rate.



John Ann Bryan

Investment	All cash	Conservative: 20% stocks 50% bonds 30% cash	Balanced: 50% stocks 40% bonds 10% cash
Suggested savings rate	30%	19%	15%

Assumes starting to save at age 25 with no retirement savings balance before starting age. See footnote number three below for more information.

Source: Fidelity Investments

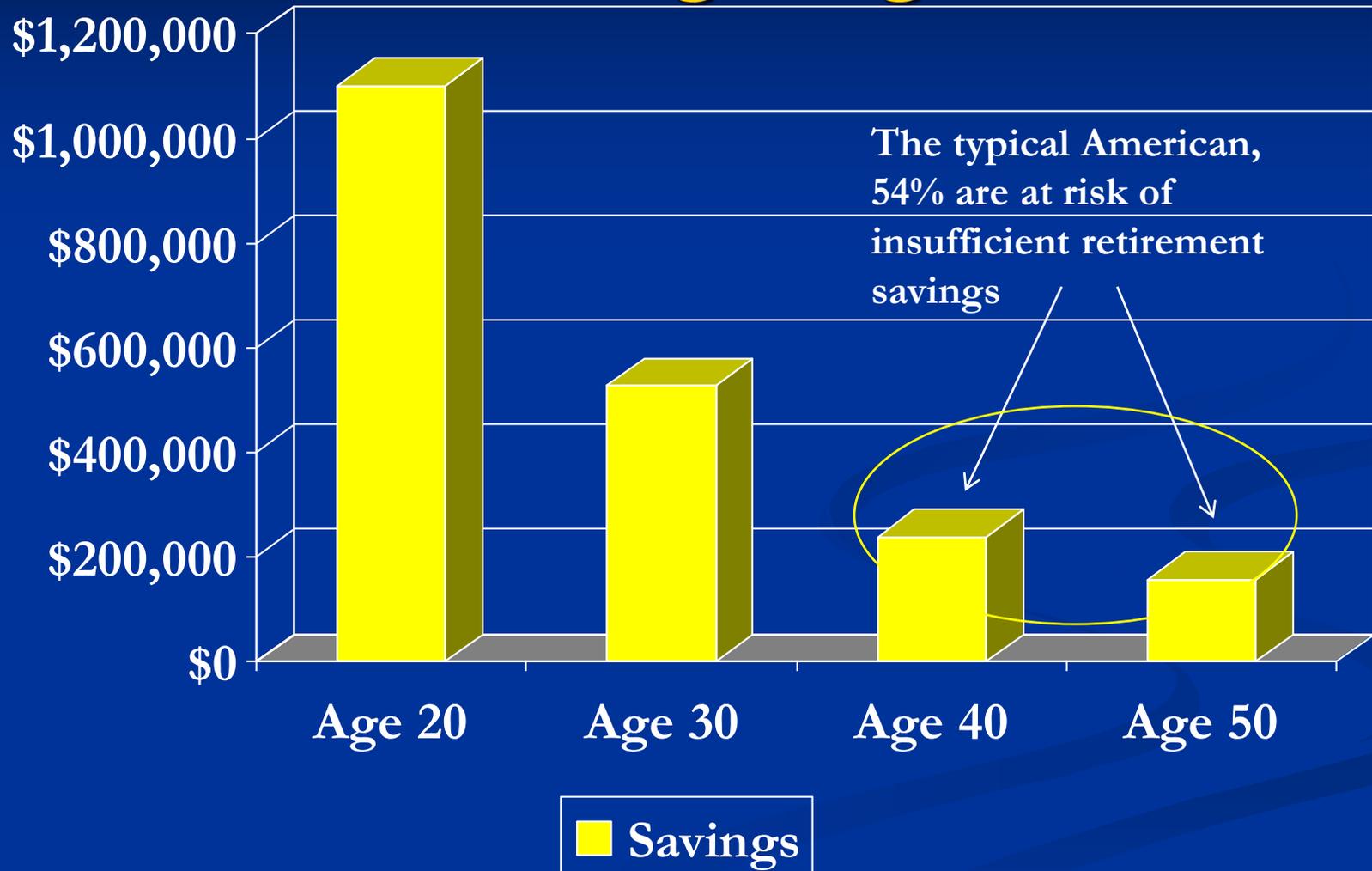
The Tale of 4 Future Retirees

Investing \$300/Month For 45 Yrs.

With a 9% Market Return

- **Retiree A** invests in actively managed mutual funds (1.1% fee) AND pays a 1% fee to his/her advisor (net return 6.9%)
- **Retiree B** invests in actively managed mutual funds (1.1% fee), but no advisor (net return 7.9%)
- **Retiree C** invests in index funds (0.1% fee), no advisor (net return 8.9%)
- **Retiree D** invests in index funds, AND saves another \$200/month by driving lower cost vehicles (\$0.30/mile vs. \$0.50/mile)

Saving \$300/mo. @ 6.9% for 45 Years Starting at Age



Half of 55 year olds + think they need \$250K for retirement, only 25% actually have \$250K₇₈

Two Big Retirement Risks

■ Dying



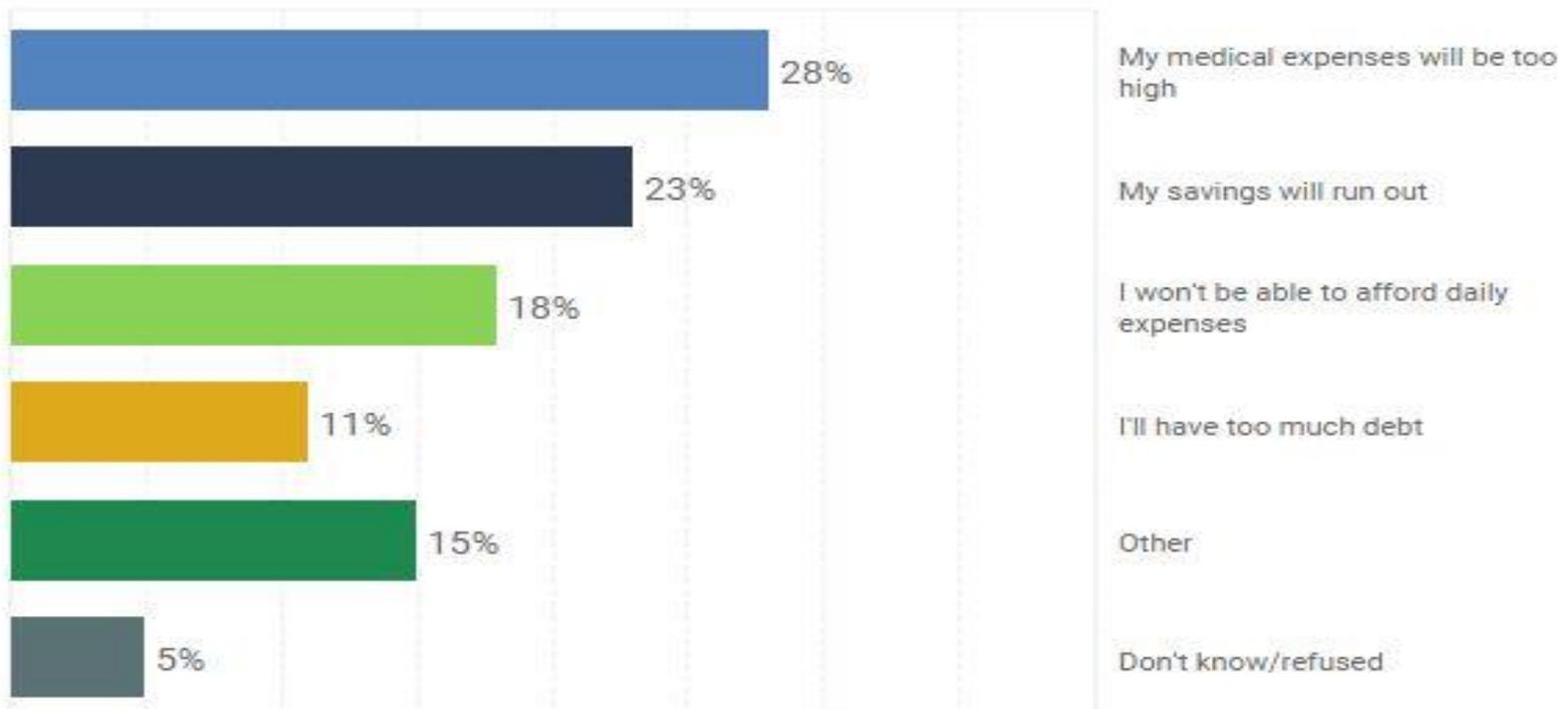
Two Big Retirement Risks

- Dying, and
- Out living your money



However, There Are Strategies That Will Reduce the Risk of Out Living Your Money

What is your biggest financial worry about retirement?



Source: Bankrate.com Money Pulse survey, Feb. 18, 2015

Have Enough to Retire?

Item	Amount
Jack and Jill make \$50,000 each	\$100,000
Annual spending (85% - 100% of final year working)	\$85,000
Less: Social Security and pension	<u>(\$55,000)</u>
Amount needed from savings	<u>\$30,000</u>

Have Enough to Retire?

Assume	Amount
Current savings	\$300,000
Annual withdrawals (10%)	\$30,000
Annual withdrawal increases	3%
After tax return on investments	7%
Money will last	12 years 7 months

How long will my retirement savings last?

Use this calculator to see how long your retirement savings will last. This is based on your retirement savings and your inflation adjusted withdrawals.



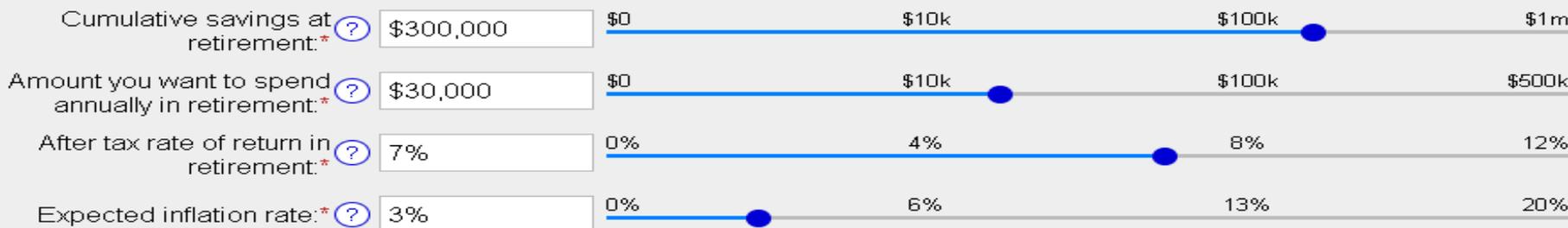
Calculate

View Report

You will be able to fund 12 years and 7 months in retirement.

*indicates required.

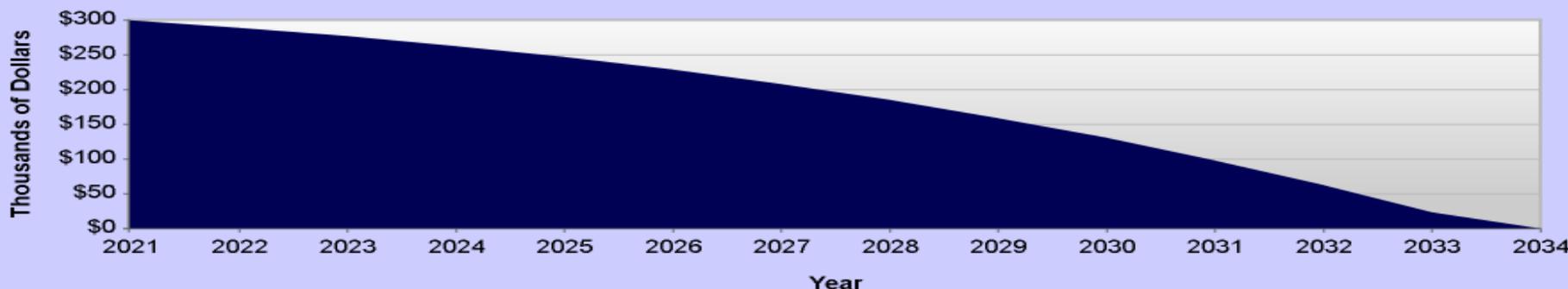
Retirement savings inputs:



Withdrawals and deposits:

Additional withdrawals and deposits:

Balance by Year



Smaller Withdrawals Are Key To Making Your Money Last

Earnings on \$300,000	Withdrawal % Starting with \$300,000	Annual Amount With Monthly Payments	Money Will Last
7%	10%	\$30,000	12 years 7 mo.
7%	14%	\$42,000	8 years 4 mo.
5%	10%	\$30,000	11 years 1 mo.
5%	14%	\$42,000	7 years 8 mo.

Smaller Withdrawals Are Key To Making Your Money Last*

Earnings on \$300,000	Withdrawal % Starting with \$300,000	Annual Amount With Monthly Payments	Money Will Last
7%	10%	\$30,000	12 years 7 mo.
7%	8%	\$24,000	16 years 11 mo.

**Assuming 3% inflation*

Target withdrawals at 4-5% of the principal if possible

Withdrawal Rates

% of Pre-retirees Who Said They Can Safely Withdraw	This Percentage of Their Savings
23%	4% or less
28%	5% - 9%
15%	10% - 14%
9%	15% - 24%
4%	25% - 49%
3%	50% or more
18%	Don't know

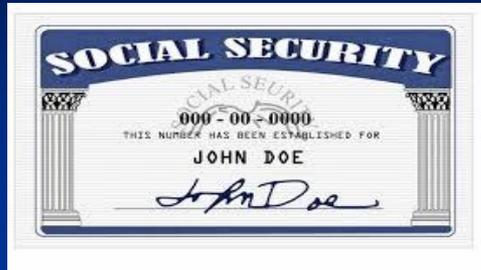
Source: New York Life
Ages 40 or older with income > \$100,000

Enhancing Retirement Income While Cutting Expenses

- Work longer at full time job
- Consider part time work
- Take social security at full retirement age
- Pay off mortgage by retirement
- Downsize your house
- Review IRA and minimize taxes



Planning Social Security Income



- Check your benefit statement carefully!
- Up to **85%** of your benefit may be subject to federal income tax
- Cost of living adjustment (COLA) each year
- Spouse's benefit $>$ of one half other spouse's benefit or their benefit from their earnings

Younger workers likely to receive lower benefits

Should I Take Early Social Security?

- **Yes, if**
 - You can earn high returns on money
 - You are in poor health
 - You are retired and need money
- **No, if**
 - Your life expectancy is good
 - You continue to work
 - You want a bigger survivor benefit
 - You want to trim taxes in your 70s

If you continue to work and take early retirement, benefits are reduced

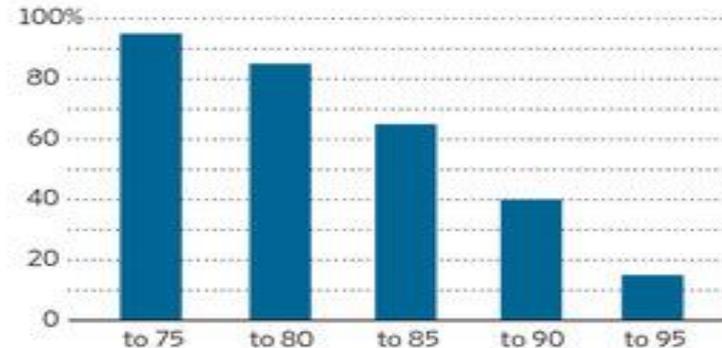
Delaying Social Security



Getty Images

How Long You Might Live...

Chances that one person in a married couple, both age 62, will live...



Source: Center for Retirement Research at Boston College, based on Social Security actuarial data

...And What Your Benefit Could Be

A hypothetical example of someone whose full retirement age is 66. Amounts are rounded.

\$1,350
AGE 62

\$1,800
AGE 66

Waiting four years earns an extra \$450 a month.

\$2,376
AGE 70

Waiting eight years earns an extra \$1,026 a month.

Source: Fidelity Investments

The Wall Street Journal

Delay Social Security Until 70?

Arguments For	Arguments Against
Substantially higher benefit (8% per year increase)	Must draw on savings until 70, what if market falls?
Forces thrift after retirement	Most people can't afford to wait, 75% take it early, only 4% wait until 70
A greater benefit for retirees who live longer lives	A smaller benefit if you die earlier than expected
Substantial discount if you take Soc. Sec. at 62, penalties if you keep working	Rules could change before you turn 70

Do I Need Life Insurance After I Retire?

- **Probably not** unless you are taking a single life annuity pension and wish to protect your spouse
- If so buy decreasing term, it's **10X** cheaper than whole life



Questions?

Investment Strategies for Retirement Savings

Paul P. Gregg, M.S.A. C.P.A.

Executive in Residence

Senior Instructor

Department of Finance and

Dr. P. Phillips School of Real Estate



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Appendix

Fidelity Investment Assumptions for Retirement Savings Targets

1. Fidelity has developed a series of income multiplier targets corresponding to different ages, assuming a retirement age of 67, a 15% savings rate, a 1.5% constant real wage growth, a planning age through 93, and an income replacement target of 45% of preretirement income (assumes no pension income). The final income multiplier is calculated to be 10x your preretirement income and assumes a retirement age of 67. The income replacement target is based on Consumer Expenditure Survey 2011 (BLS), Statistics of Income 2011 Tax Stat, IRS 2014 tax brackets and Social Security Benefit Calculators. The 45% income replacement target (excluding Social Security and assuming no pension income) from retirement savings was found to be fairly consistent across a salary range of \$50,000-\$300,000, therefore this factor may have limited applicability if your income is outside that range.