



Building Financial Foundations

Life-Long Financial Planning and Investing

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Slides are posted at

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Money Smart Week (Month)

- Founded in 2002 by the Chicago Federal Reserve Bank (CFRB) as a Financial Literacy Initiative.
- Partners Include the FDIC, the Consumer Financial Protection Bureau, The American Library Association and others including BetterInvesting



Money Smart Week (Month)

- Financial Literacy Programs
 - Inclusive of people aged 3 and older
 - Across the U.S.
 - For the first time, all month in 2019
 - BetterInvesting is an active MSW participant
 - In 2018, 29 BI Chapters hosted 67 events



About BetterInvesting (BI)

- 501(c)(3) Non-Profit Organization
- Investing education
- Stocks and stock funds
- Individuals, investment clubs, chapter and regions
- Volunteers



BI Principles

- Invest a set amount regularly
- Reinvest earnings, dividends and profits
- Invest in quality growth stocks and growth equity funds.
- Diversify your investments.

About BI

- Go to www.betterinvesting.org for more information.

Take-Aways

- Learn how to make your own LFP
- Alter your financial road map to meet your LFP
 - Proactively achieve YOUR future goals
 - Evolve your LFP

Agenda

- First Hour
 - Life-Long Financial Planning
- Second Hour
 - Comparing investment types
 - Emerging technologies

Life-Long Financial Planning (LFP)

- LFP --- GPS for your financial life
- Simple spreadsheets - simple arithmetic
- Plan for inflation
- Identify your financial goals now
- Prepare a *VISION* of your financial future
- Evolve the vision

A Typical Financial Dream

- Have enough money to
 - Pay-off your bills and debt (mortgage)
 - Put your kids through college
 - Take care of your physical and mental health (illness is expensive and you won't enjoy it)
 - Retire

Wants at a Glance

- Have enough money to
 - Help others willing to help themselves
 - Community service
 - Enjoy recreational activities, travel
 - Live as well as you are living now

How Can You

Do all those things?

Life-Long Financial Plan

- Exposes the financial challenges faced as you navigate through life
- Enables you to better predict and prepare for life's major expenses, etc
 - Career preparation, schooling, housing. everyday needs...ultimately retirement.

What is in Your Life Plan

- Finish schooling (student debt?)
- Buy a car, find a job
- Move into apartment
- Perhaps marry
- Raise children, mortgage,
- New jobs or promotions
- Put children through school
- Downsize, travel
- All roads lead to retirement.

Life-Long Financial Planning

- Review Finances Annually
 - Learn to budget your income, spending, savings and investments
 - Project forward, include *inflation*
- Your skin is in the game. Do it yourself!
- Planning leads to the need to grow your money.

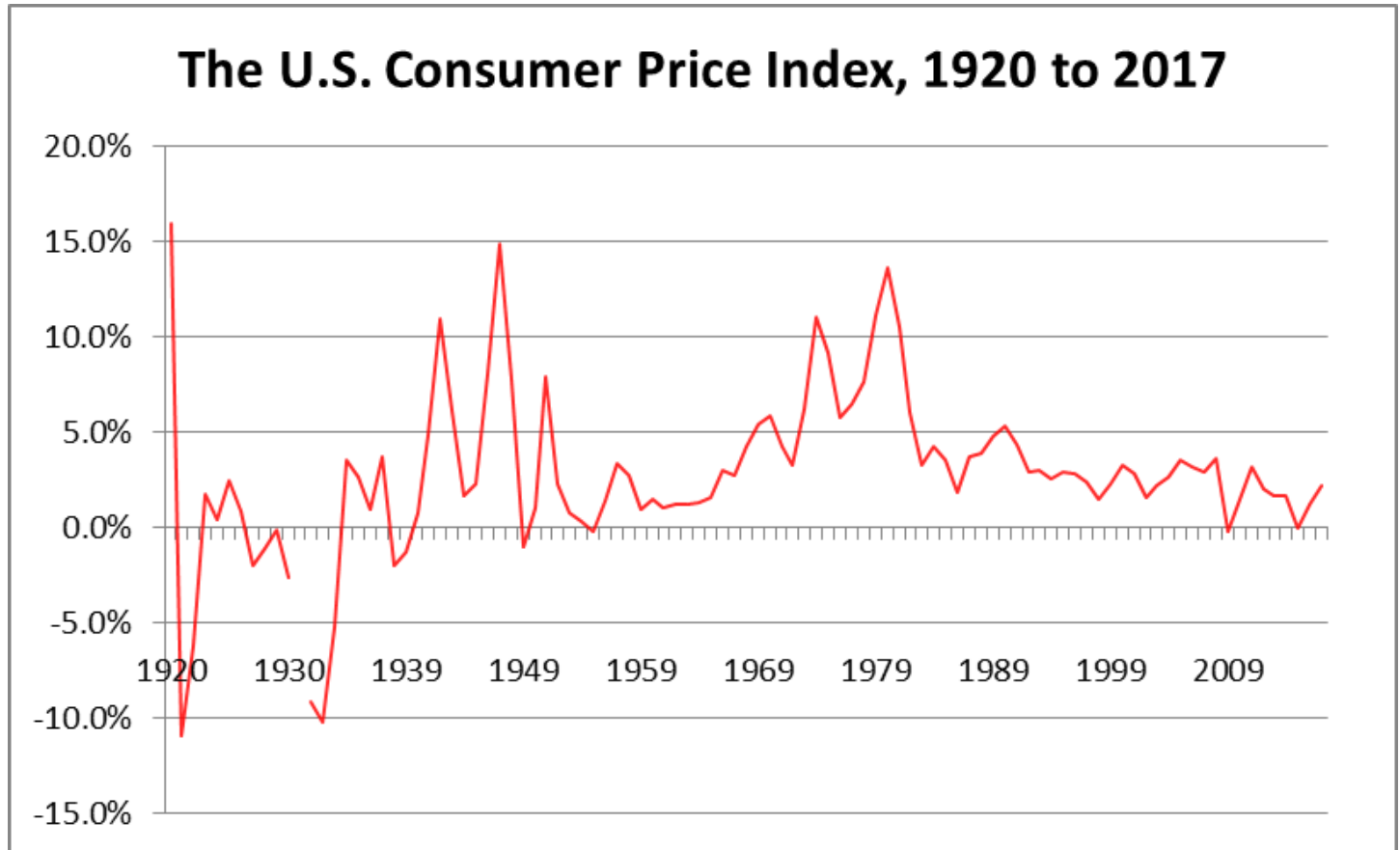
Inflation

- Prices tend to go up over time.
- It will take more money to buy the same products tomorrow than it did yesterday
- The Consumer Price Index (CPI) is a measure of inflation. (U.S. Bureau of Labor Statistics)

3% Consumer Price Index (CPI)

- Without 3% CPI, money lasts much longer.
- The Fed controls the economy by raising and lowering interest rates.
- Prior to about 1980 inflation rates were much more erratic.
- The past 30 years they have averaged 2.9% per year.

Inflation Control Has Improved Since 1980



Epiphany

- Someday you will need to live from Social Security plus your savings
- It is never too early to begin saving
- It may be too late
- So let's look at what's involved!

Age 55

- My family is grown
- Retirement is only 10-15 years away
- Have I accumulated enough to retire?

Jim Sykora's Spreadsheet

- His timely “Are You Ready to Retire?” spreadsheet
- Evolved into several ways to plan and track our finances

Math and Spreadsheets

- LFP math is limited to +, -, x, ÷
- Spreadsheets do the math

LFP: Income Minus Spending = Savings

Invested savings grow 7% / year

Income & spending grows 3% / year Inflation

Event	Year	Annual Income	Total Spending	Annual Savings	Savings Balance wo/ 401(k)s
Begin LFP	2017	\$67,440	(\$62,914)	\$4,526	\$5,882
	2018	\$69,463	(\$64,491)	\$4,973	\$11,266

$$\text{\$11,266} = \text{\$4,973} + \text{\$5,882} + \text{\$412 interest}$$

The Fund Method

- Simple
- Approximate your needs
- In the next slides, 10% interest will be used for simplicity in figuring
- Some investments can average 10% for several years

Retirement Fund

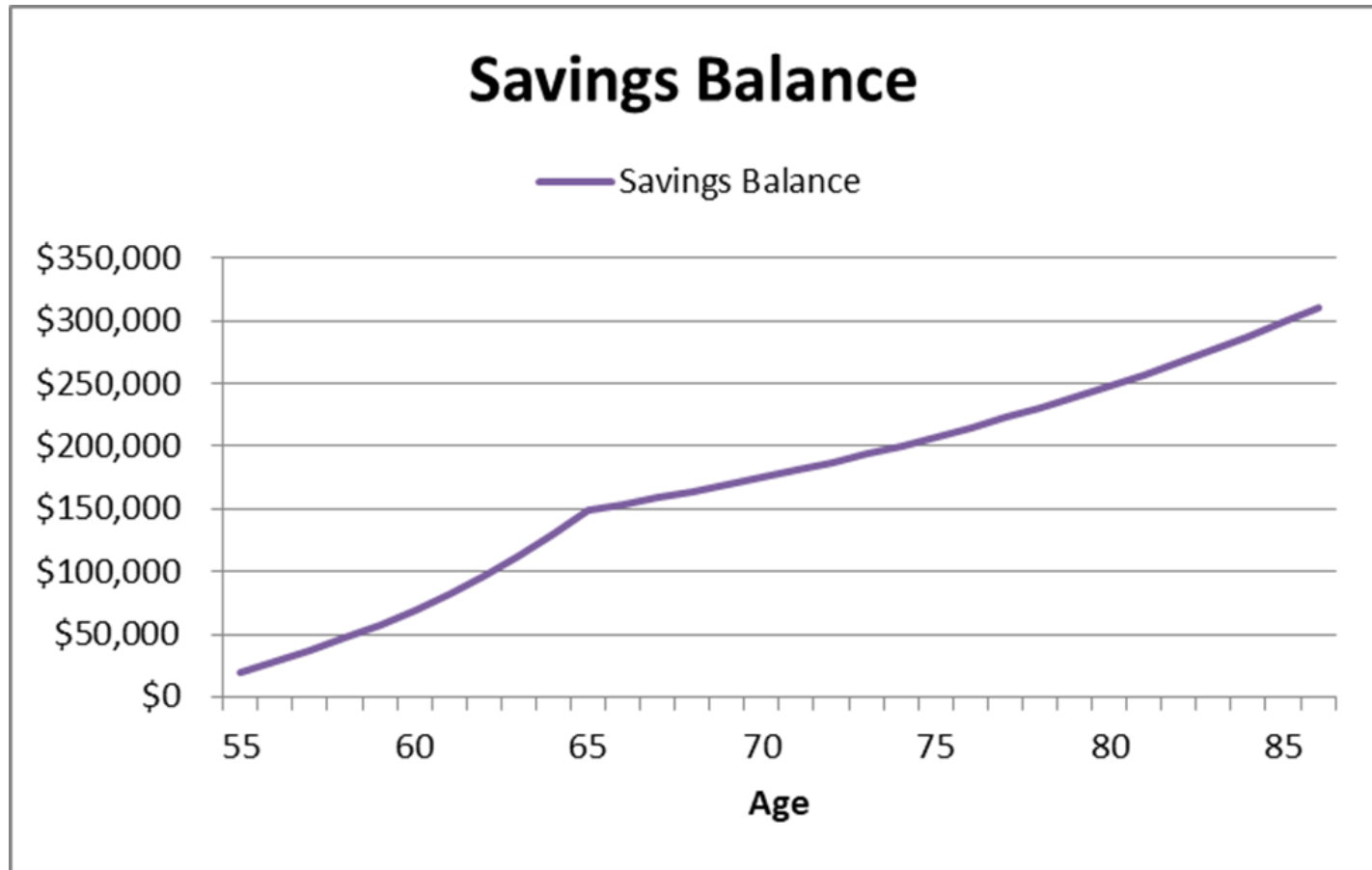
LFP @ 10% interest

Age	Spending	Annual Savings	Annual Interest	Savings Balance
54	\$0	\$0	\$0	\$20,000
55	\$0	\$6,000	\$2,000	\$28,000
56	\$0	\$6,180	\$2,800	\$36,980
57	\$0	\$6,365	\$3,698	\$47,043
58	\$0	\$6,556	\$4,704	\$58,304

$\$36,980 = \$6,180 + \$2,800 + \$28,000$
Correct!

Age	Spending	Annual Savings	Annual Interest	Savings Balance
54	\$0	\$0	\$0	\$20,000
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57	\$0	\$6,365	\$3,698	\$47,043
58	\$0	\$6,556	\$4,704	\$58,304
59	\$0	\$6,753	\$5,830	\$70,888
60	\$0	\$6,956	\$7,089	\$84,932
61	\$0	\$7,164	\$8,493	\$100,589
62	\$0	\$7,379	\$10,059	\$118,028
63	\$0	\$7,601	\$11,803	\$137,431
64	\$0	\$7,829	\$13,743	\$159,003
65	\$10,000	\$0	\$15,900	\$164,903
66	\$10,300	\$0	\$16,490	\$171,093
67	\$10,609	\$0	\$17,109	\$177,594
68	\$10,927	\$0	\$17,759	\$184,426
69	\$11,255	\$0	\$18,443	\$191,613
70	\$11,593	\$0	\$19,161	\$199,182
71	\$11,941	\$0	\$19,918	\$207,160
72	\$12,299	\$0	\$20,716	\$215,577
73	\$12,668	\$0	\$21,558	\$224,467
74	\$13,048	\$0	\$22,447	\$233,866
75	\$13,439	\$0	\$23,387	\$243,813

\$500/mo savings, 3% inflation adjusted, 10% interest on Savings



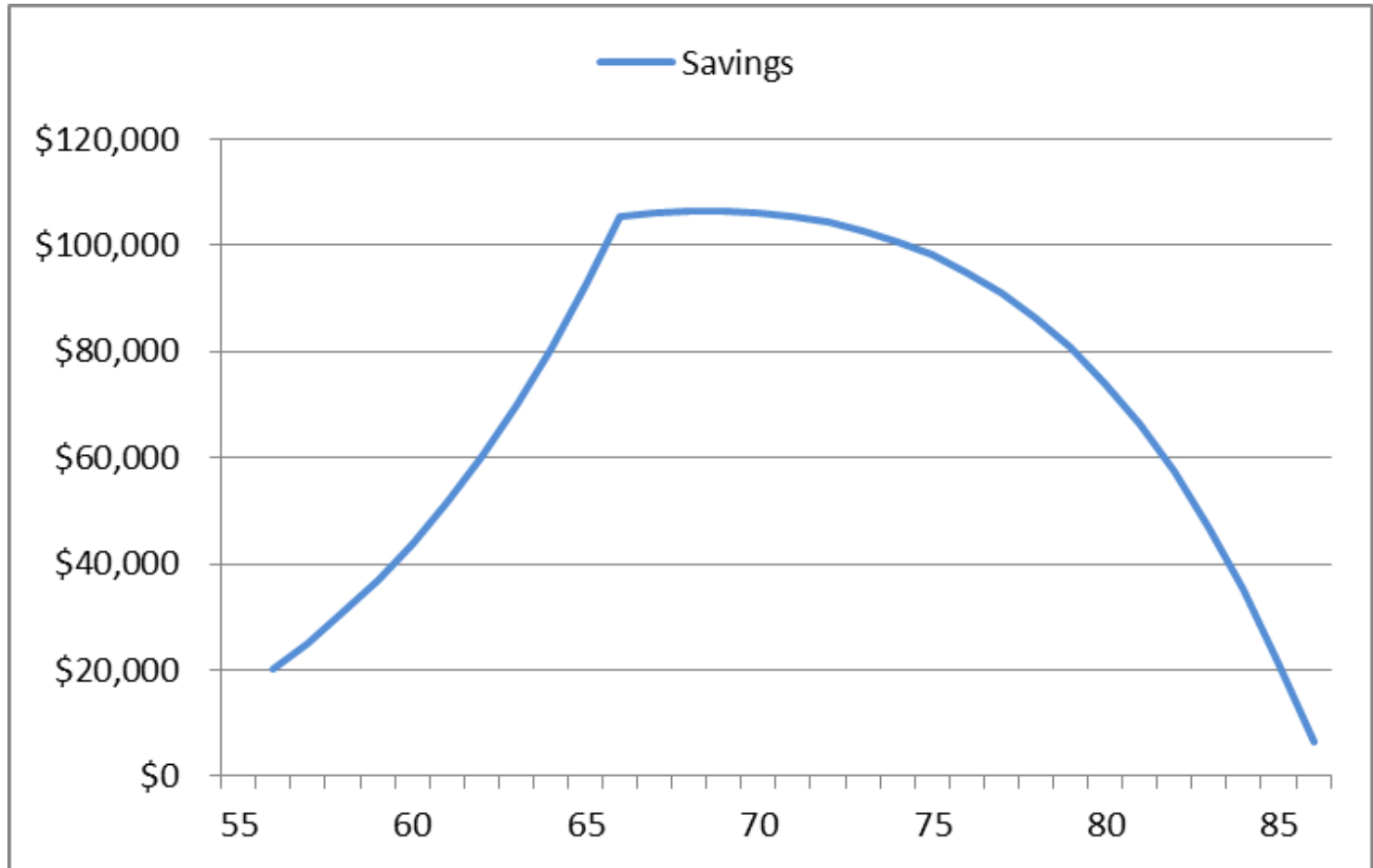
Save What You Can

1. Can you afford to save \$500 per month?
2. Is \$10,000 per year spending (\$833 per month) above SS enough?
3. Where can you get 10% interest on your money?

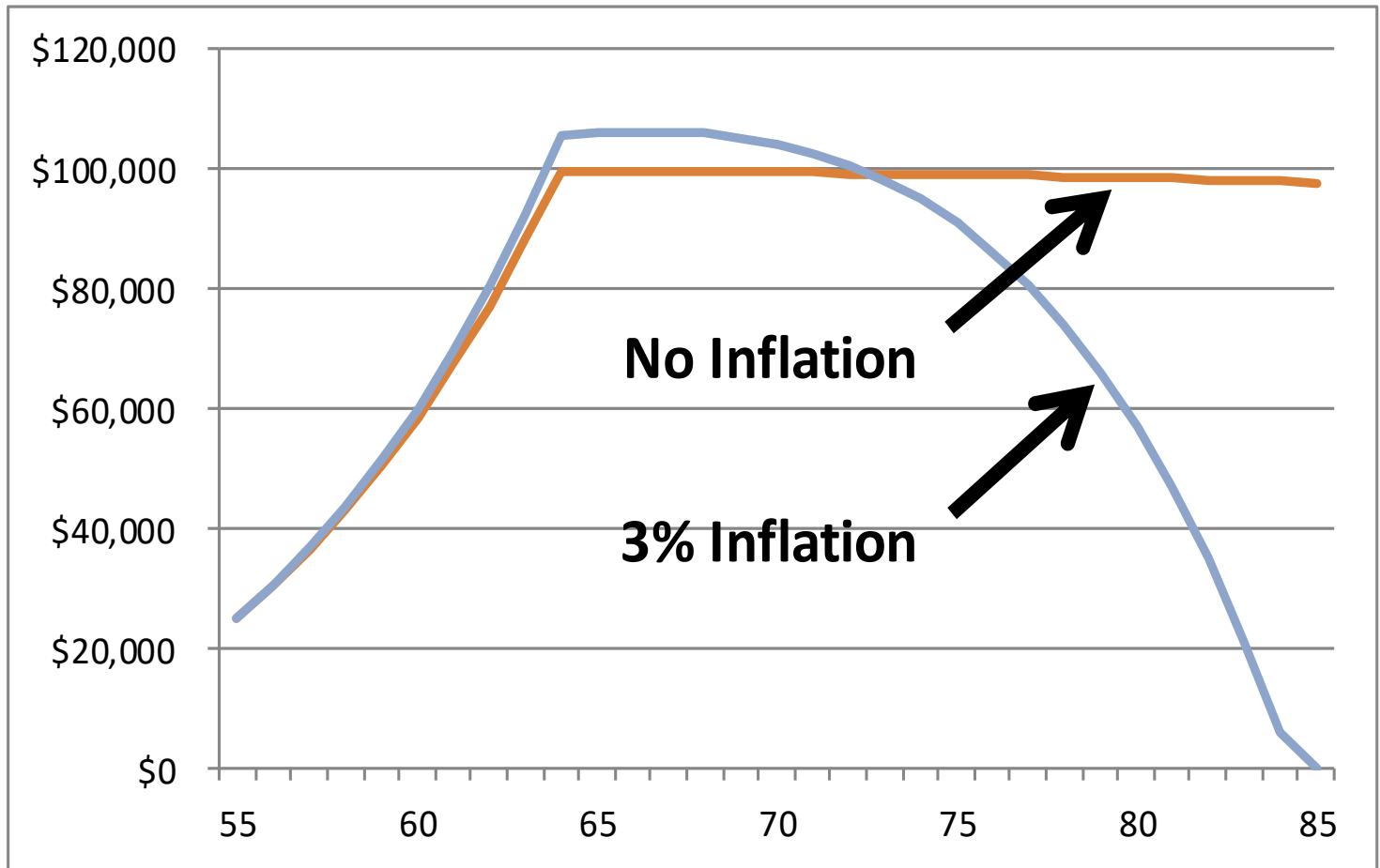
Save \$250/Month at 10% Interest, Inflation Adjusted at 3%

- Now, suppose you only save \$250 per month starting at age 55

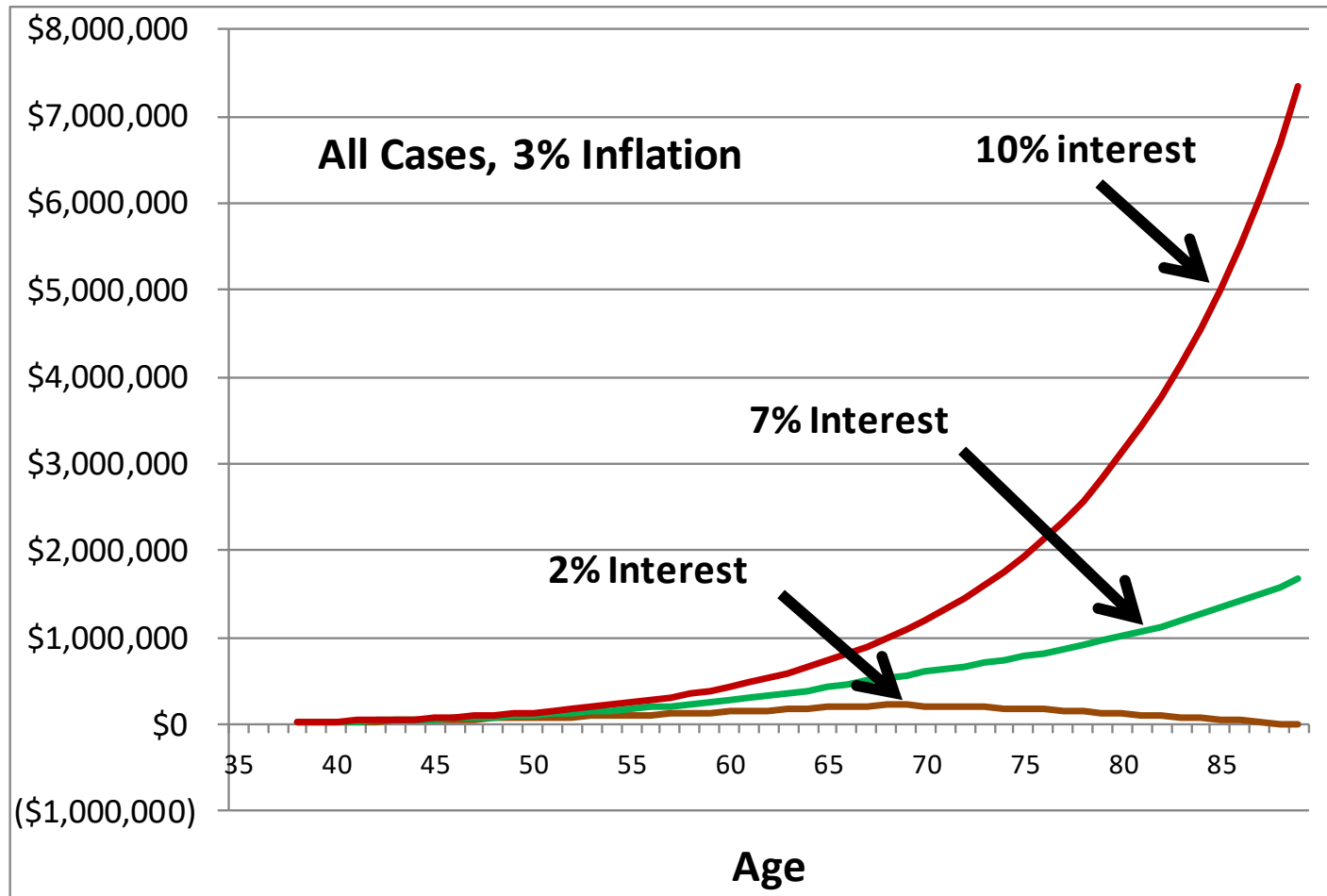
Assumptions: Save \$250 per month from 55 to retirement with savings earning 10% per year then spend your Social Security plus \$833 per month after retirement



The Same Conditions As the Previous Slide with and without Inflation



Begin Saving at age 35, 3% inflation with various returns on investments



To Reach Your Financial Goals

- Investments must grow faster than inflation!
- Wages and salaries often won't generate sufficient savings
- Investing is one way to increase wealth
- Of course, there are others

Don't Give Up!

- It is achievable for many
- It takes commitment
- It is BI's mission to help you realize those goals
 - With a solid understanding of investing
 - With good tools and processes for selecting sound investments
 - With investment clubs to keep you involved

Spending Guidelines

- Buy those items that increase in value over time...home, education
- Be involved in low cost living...pot lucks with friends, hiking, sports with friends...
- Take care of your bodies...eat healthy foods, exercise daily...*Remember, illness is expensive and not fun!*

Avoid Expenditures That Do Not Last

- Expensive travel, expensive vehicles, expensive social clubs, golf memberships, fad spending, resort vacations
- Find inexpensive ways to enjoy your lives

Money is good

- There is nothing wrong with having lots of money. You need it
 - So you won't need charity
 - It's needed to raise your family
 - It's needed to help others
 - Ultimately, you'll need it in retirement

Is Money Evil?

- “The love of money is the root of all evil”
 - May apply to evil people
 - It is what people do with their money that counts
 - It is not evil for you to grow your money to take care of yourself, your family and others

Next:

- Ways to grow your money through investing

Need a Break?

Agenda

- Estimating the growth (return) of your investments
- The S&P 500 Index
- Comparing stocks, bonds and funds
- Evolving technologies
- Future learning opportunities

Take aways

- Bonds provide safe, low returns
 - May not keep up with inflation
- Stocks and funds are volatile
- Build a plan for recessions
- Consider
 - Quality growth stocks
 - Quality stock funds

Standard and Poor's 500 Index (S&P 500 Index)

- An index that contains the stocks of 500 - 510 large and successful U.S. companies
- It began over 90 years ago
- 6-7% per year growth over recent decades plus a dividend averaging 2% per year

Stock Index vs. Stock Index Funds

- A stock ***index*** tracks stocks as an indicator of how well the market is doing
- A stock index ***fund*** invests in all the stocks in an index.

S&P 500 Index

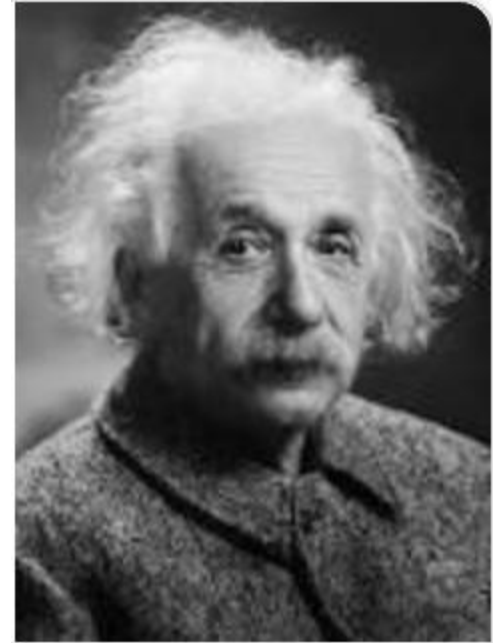
- Poor performing companies replaced with better performing companies
- Price is sensitive to recessions
- Next: The Rule of 72

To Avoid Running out of Money...

most people discover they will need to double their savings a few times to meet even modest life-long financial goals

The Rule of 72

- To estimate how long it takes for an investment to double, divide 72 by the interest earned
- A \$1,000 investment earning 3% per year, divide 72 by 3 to get 24 years to reach \$2,000
- A \$1,000 investment earning 10%, divide 72 by 10 to get 7.2 years for to reach \$2,000



“Compound Interest is the Eighth Wonder of the World!”

Albert Einstein

- Compound Interest earns interest on the original investment plus the previous interest earned
- Compounding is generally calculated annually

Rule of 72 Accuracy

Table A1.1 Rule of 72 Estimated vs Exact Years to Double an Investment

Rate of Return	Rule of 72 "Years"	Actual # of Years	% Difference
2%	36.00	35.00	2.86%
3%	24.00	23.45	2.35%
5%	14.40	14.21	1.34%
7%	10.30	10.24	0.59%
9%	8.00	8.04	-0.50%
12%	6.00	6.12	-1.96%
25%	2.90	3.11	-6.75%
50%	1.40	1.71	-18.13%
72%	1.00	1.28	-21.88%
100%	0.70	1.00	-30.00%

90 Year Chart of S&P 500

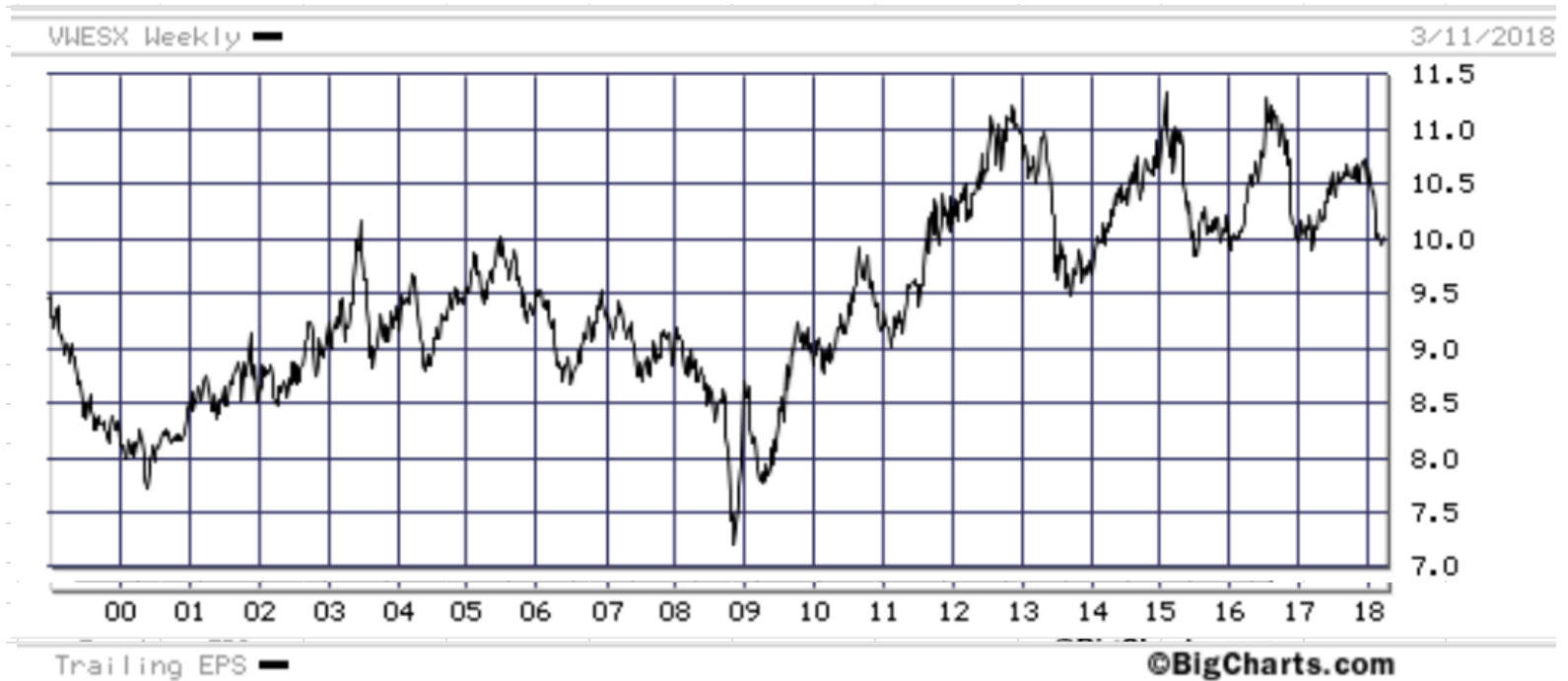


S&P Years to Double

- 30 years to double = 2.4% per year
- 19 years to double = 3.8% per year
- 10 years to double = 7.2% per year

Switching Gears Comparing Stocks, Bonds and Funds

Vanguard High Yield Corporate Bond Fund



Introduction to Comparing Securities

- All charts are normalized to at a fixed date at 100%
- The scaling of the vertical axis changes as needed to display the data in the slide
- Grey bars indicate times of recession
- Horizontal axis represents the years covered by the chart.

- Feel free to ask questions

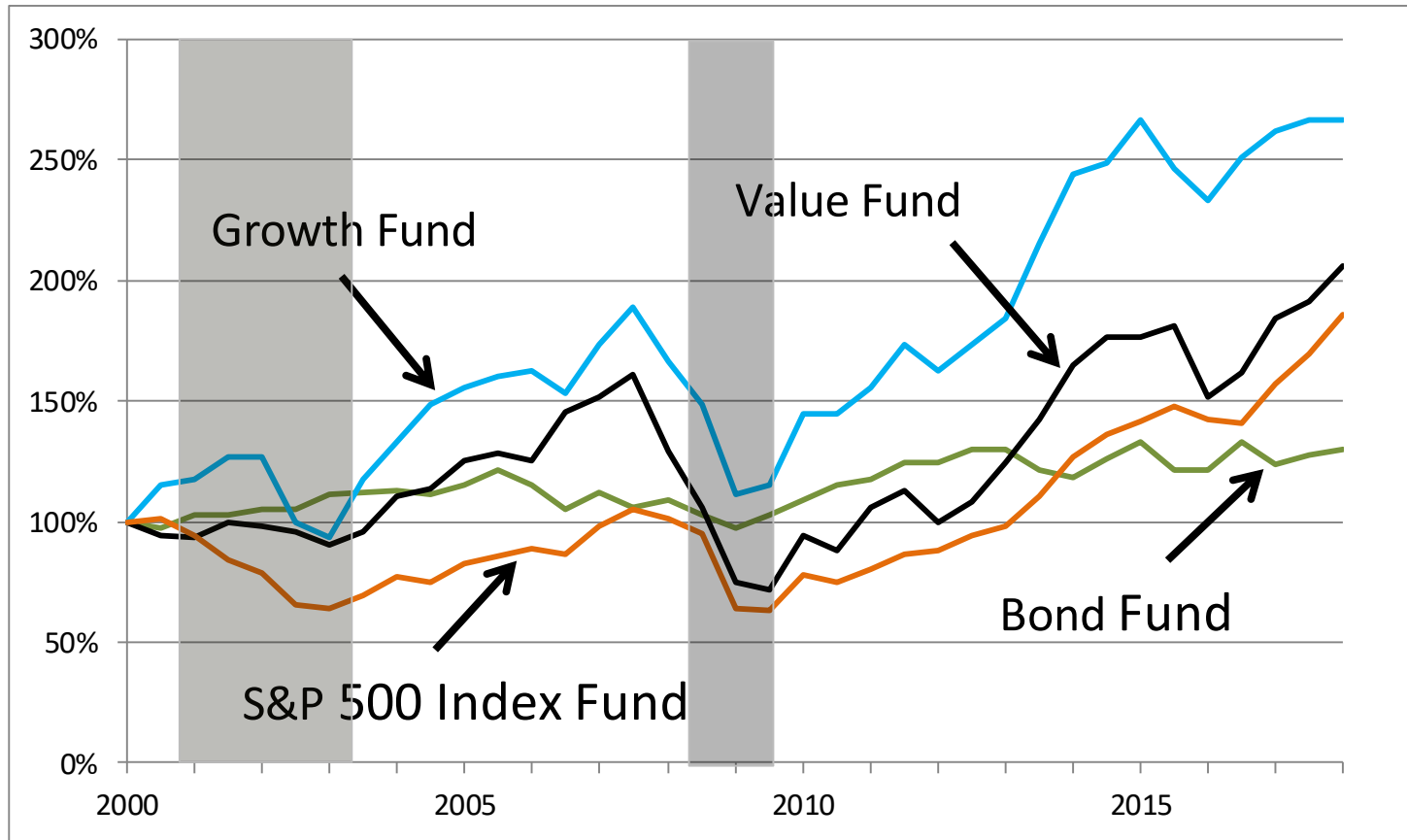
Growth and Value Stocks/Funds

- Growth Funds are invested in stocks that increase in value
 - Leaders of some growing technology
 - A new approach to an established business
- Value Funds are invested in stocks that are out of favor and undervalued
 - Bad publicity, e.g. Boeing
 - Short term decline in earnings

Mutual and Exchange Traded Funds

- Mutual Funds
 - Stock funds, bond funds, index funds, international funds, specialty funds
 - Trade at the end of a trading day
- Exchange Traded Funds
 - Trade intraday
 - Have a few tax advantages
 - Cover a wide range of securities

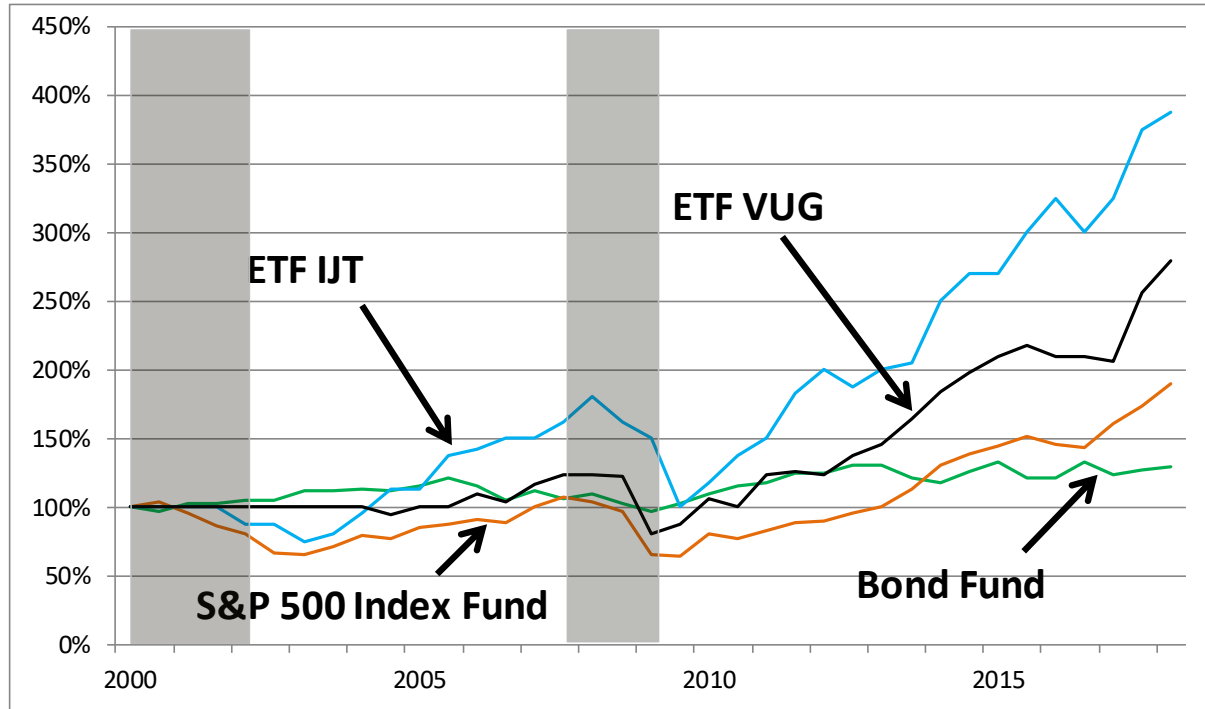
Compare Funds: Bond, S&P Index, Value and Growth



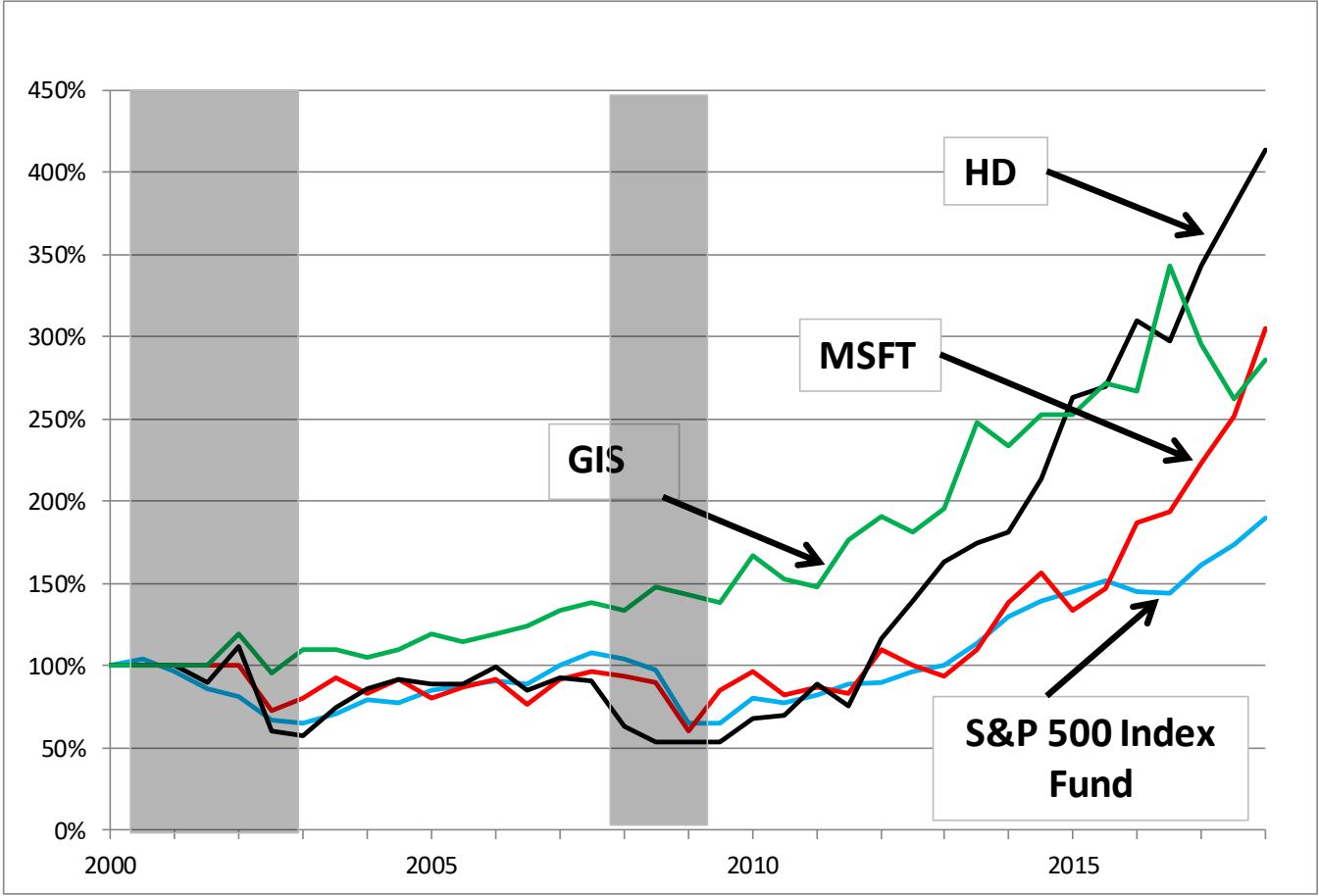
Feel the ups and downs

- Large drops in an investment causes fears of losing the entire investment
- When an investment gains 50%, you are elated!
- When an investment loses 50%, your very existence is threatened.
- The reward of winning is less than the fear of losing.
- Understanding tempers the emotion.

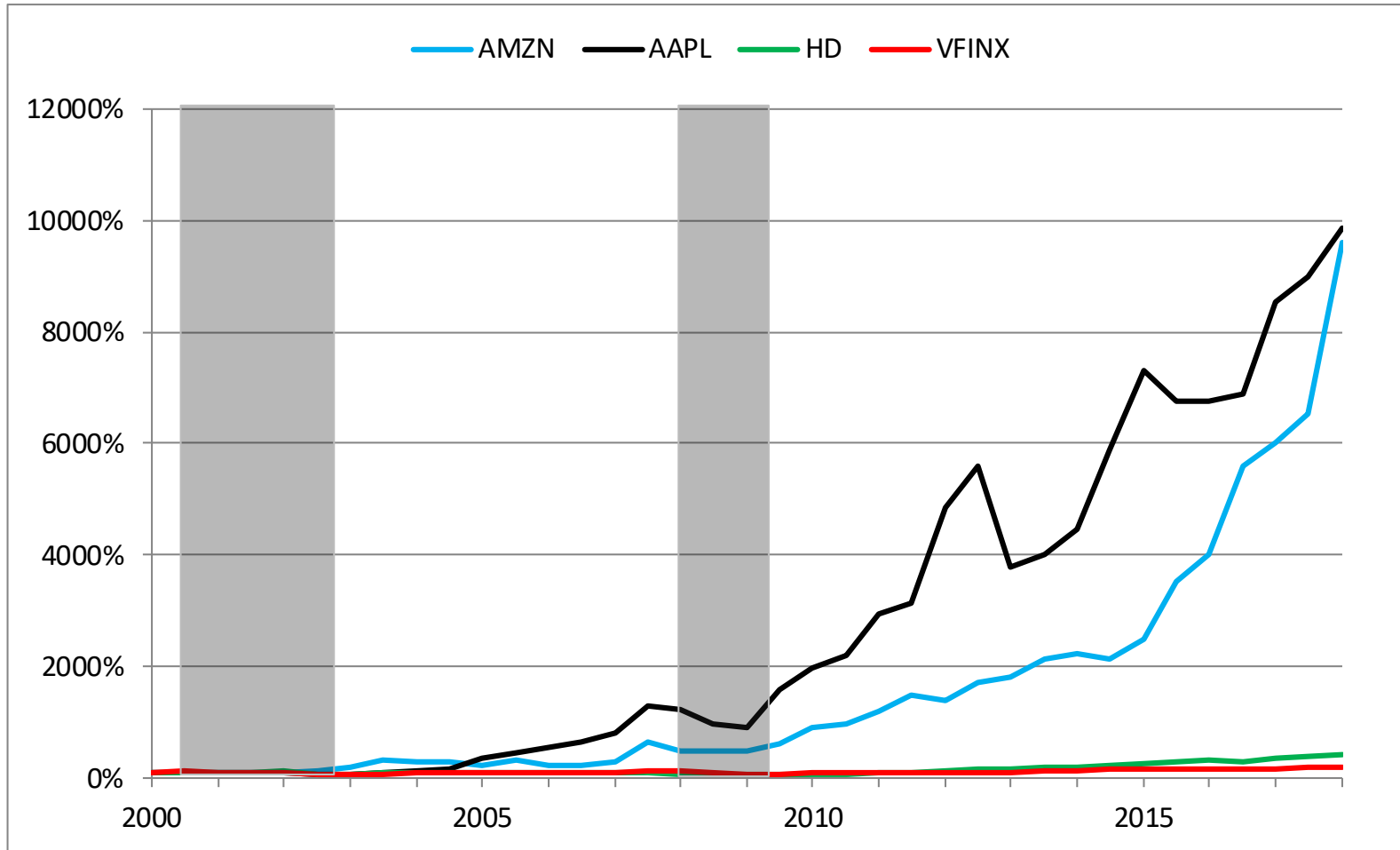
Compare S&P Index Fund and a Bond Fund to ETFs IJT and VUG



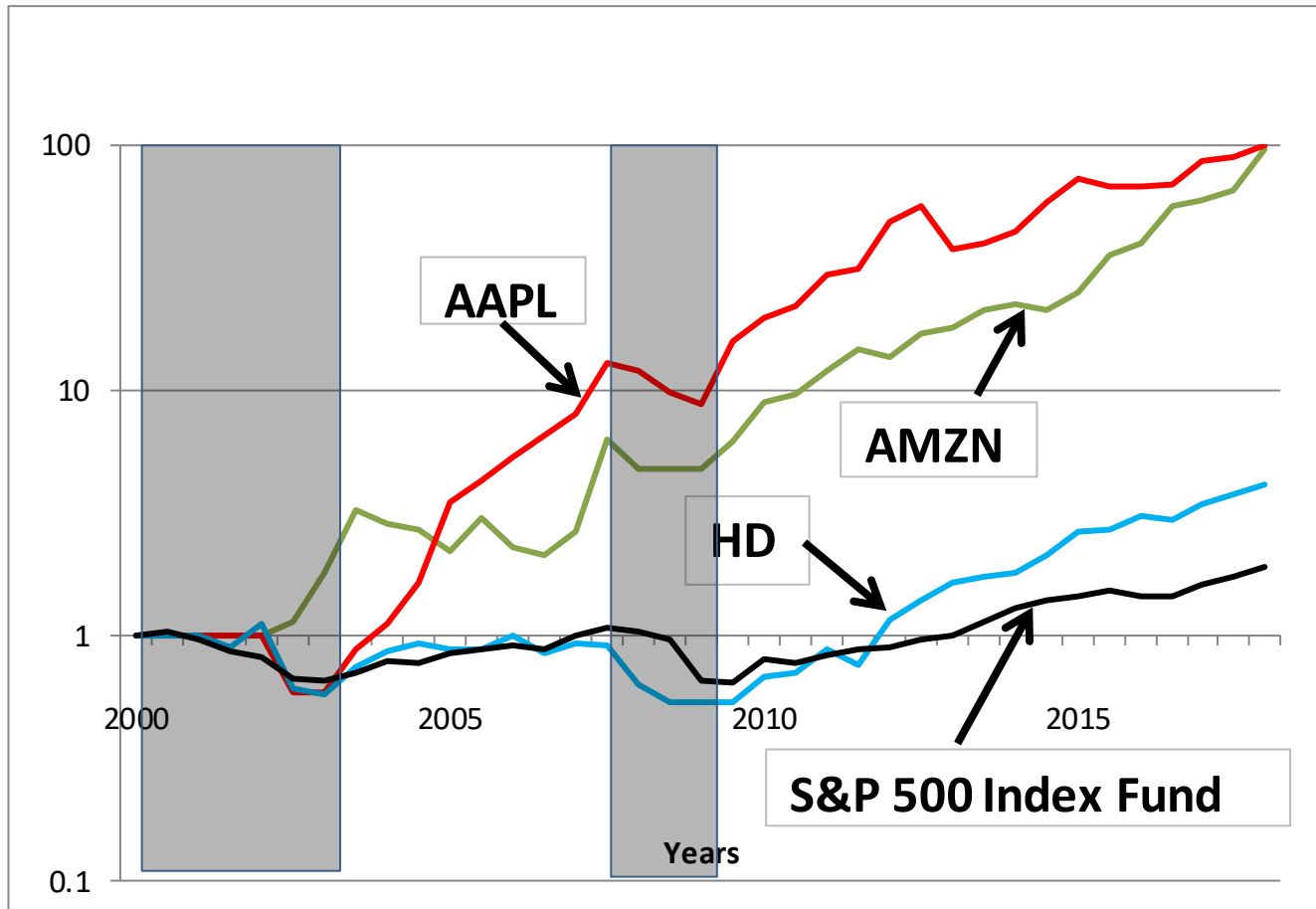
Compare S&P Index Fund to Microsoft, Home Depot and General Mills



Compare S&P Index Fund to Amazon, Home Depot and Apple



Semi-Log Chart of Previous Slide



Will there be Future Growth Opportunities?

Future Healthcare Growth Opportunities

- CRISPR to cure diseases
- Turning-on the immune system to fight disease (Immuno-therapy)

Future Healthcare Growth Opportunities

- Robotic surgery
 - Heart disease, atrial fibrillation,
 - Prostate cancer
- Genetically engineered food
 - DNA synthesized meat and vegetables (eliminates genes that cause our bodies to generate cholesterol, fat, etc.; minimizes carbon footprint)

Current Electronic Growth Opportunities

- Artificial Intelligence
 - Self driving cars, trucks, buses, ships, aircraft
 - Interpreting medical images
 - Data base access efficiencies
 - Making computers easier to use.
- Semiconductor Chips
 - 64 layer 1000 GB chips
 - Small, faster massive memory for computers

Energy Storage Growth Opportunities

- Light weight storage for Mobile Apps
 - Ultra-capacitors
- Massive Energy Storage for Solar Panels and Wind Turbines
 - Using many existing technologies.

Before you invest consider...

- Don't invest just because it is in a new technology
- Don't invest from news hype
- Verifying the investment is a solid, quality, growth stock
- BI Investing Principles
- Doing your own research

Major Social Problems

- National Debt now at over 100% of GDP
- Homeless
- Global warming/oceanic acidification and how that will drive changes in the energy sector
- Unemployment...3-4 day staggered work week?
- Military threats on our country; Russia, North Korea, Syria, Iran

Fodder for meetings:

- Stock Studies and BetterInvesting tools
- Dealing with inflation
- Using scenarios
- Financial Planning for Life

Fodder for meetings:

- Why we focus on growth stocks
 - Comparing growth stocks to other investments
 - Why BetterInvesting uses semi-log plots and what makes them powerful
- Using financial statements to evaluate a stock or company

Things to Consider

- There are no guarantees...work to improve your odds.
- Follow BI Principles
- Seek gains greater than inflation
- Avoid selling during recessions
- Have a plan to deal with recessions
- Failing to grow you money may leave you impoverished

Questions or Comments?

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