

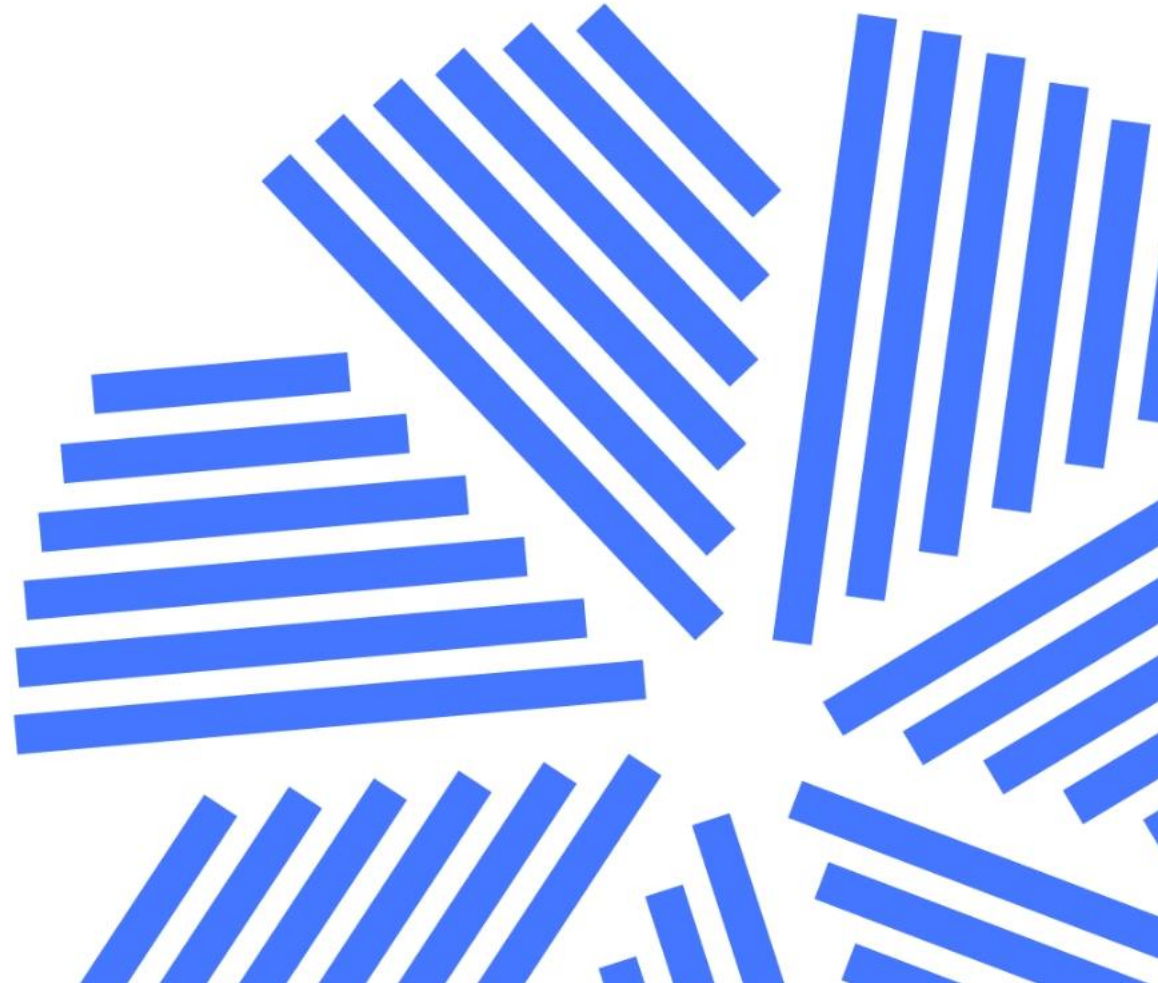


Basics of Investing for Teens

[Presenter name]

[Presenter name]

[Date]



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- Non-profit professional society of over 6,000 investment professionals
- New England's largest investment professional membership organization
- Founded in 1946, CFA Society Boston is a founding society of CFA Institute.



CFA Institute

- Global association of investment professionals
- Sets the standard for professional excellence and credentials
- Champions ethical behavior in investment markets
- Respected source of knowledge in the global financial community



Speaker Biographies

Speaker
Photo
(Optional) [First, Last], CFA ...

Speaker
Photo
(Optional) [First, Last], CFA ...

Speaker
Photo
(Optional) [First, Last], CFA ...



AGENDA



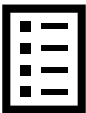
Investing Basics



Savings vs. Investing



Stocks and Bonds



Key Terms



Building a Portfolio



Image from Pexels

Investing Basics

Investing = putting your savings into an asset or endeavor

- Starting your own business
- Buying real estate
- Investing in someone else's business (Disney stock, start up tech firm, etc.)
- Collecting passive income - interest & dividends
- Expecting a profit
- Thinking long term

**“The individual investor should act consistently as an investor and not as a speculator.”
Ben Graham**

“ ... The Most Powerful Force in the Universe ...”

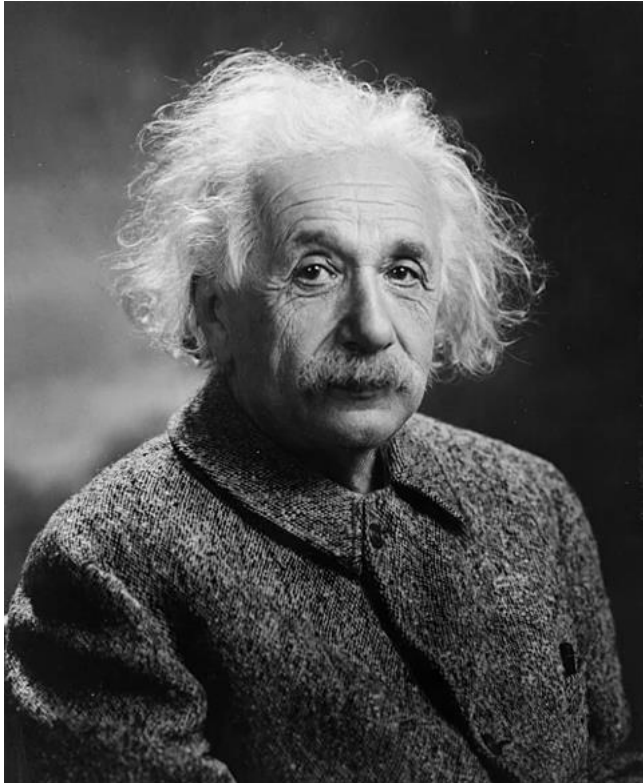


Photo by Oren Jack Turner from the United States Library of Congress

“The power of compound interest is the most powerful force in the universe.”

“Compound interest is the eighth wonder of the world. He who understands it, earns it ... he who doesn't ... pays it.”

Albert Einstein

Compound Interest

Time



Image by PIRO from Pixabay

X

Rate of Return



Image by Nattanan Kanchanaprat from Pixabay

Compound Interest Formula

$$\text{Principal} \times [1 + (R / N)]^{N \times T}$$

P = Principal

R = Rate of Return

N = Number of times interest
is compounded per year

T = Time money is invested

Example

P = \$ 10,000

R = 7.0 %

N = 1 time per year

T = 10 years

$$\text{\$ } 10,000 \times [1 + (0.07/1)]^{1 \times 10} = \text{\$ } 19,672$$

How much would you have if you invested the \$ 100 for 20 years? 30 years?

20 yrs = 38,697

30 yrs = 76,123



Which would you rather have?

\$ 10,000



Image by jannoon028 on Freepik

One Penny



Image by Freepik

Or

**That Doubled Every
Day for 30 Days**

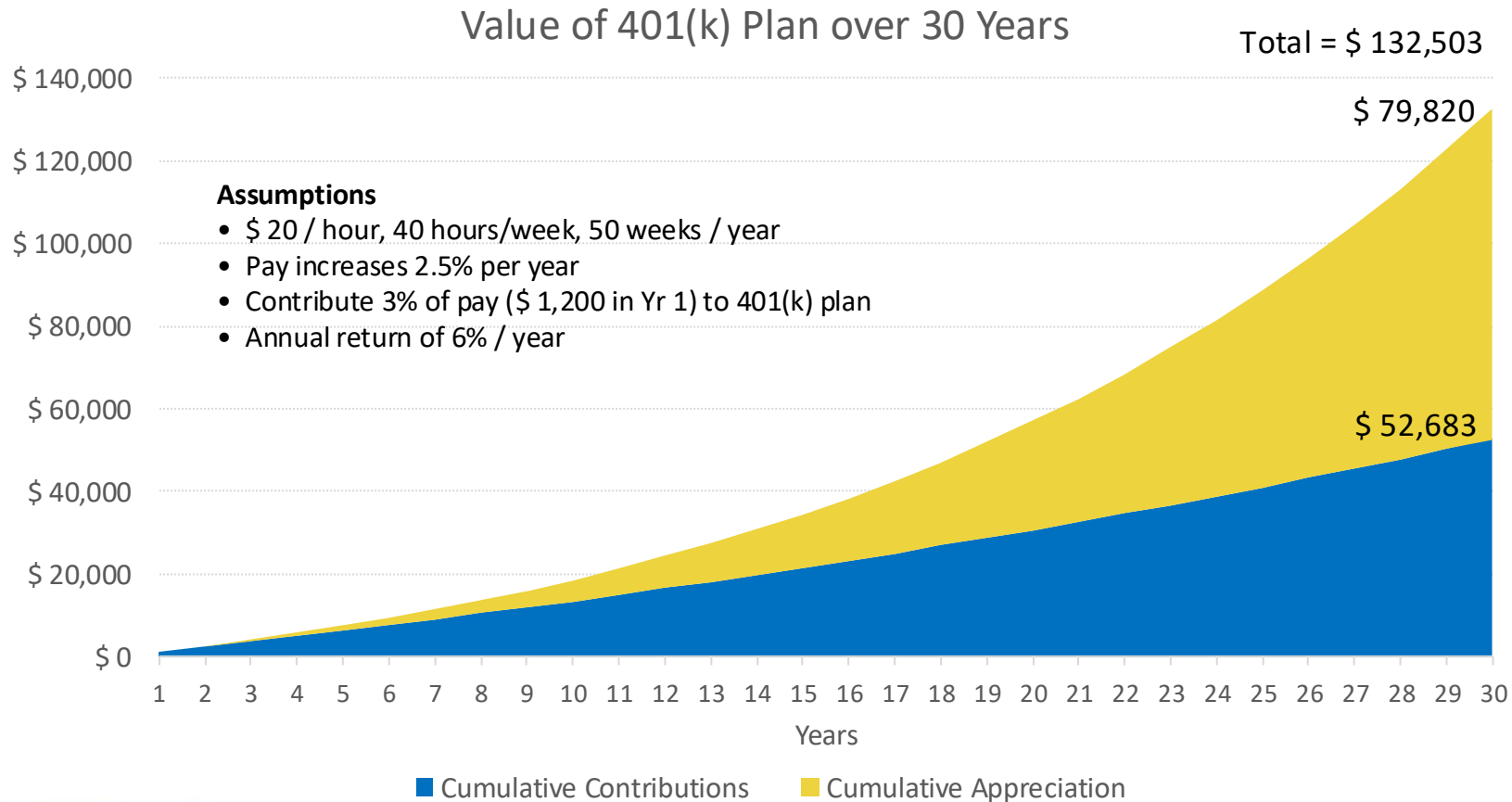
The Magic Penny

| | | | | | |
|---------|------|---------|----------|----------------|---------------------|
| Day 1: | 0.01 | Day 11: | 10.24 | Day 21: | 10,485.76 |
| Day 2: | 0.02 | Day 12: | 20.48 | Day 22: | 20,971.52 |
| Day 3: | 0.04 | Day 13: | 40.96 | Day 23: | 41,943.04 |
| Day 4: | 0.08 | Day 14: | 81.92 | Day 24: | 83,886.08 |
| Day 5: | 0.16 | Day 15: | 163.84 | Day 25: | 167,722.16 |
| Day 6: | 0.32 | Day 16: | 327.68 | Day 26: | 335,544.32 |
| Day 7: | 0.64 | Day 17: | 655.36 | Day 27: | 671,088.64 |
| Day 8: | 1.28 | Day 18: | 1,310.72 | Day 28: | 1,242,177.28 |
| Day 9: | 2.56 | Day 19: | 2,621.44 | Day 29: | 2,684,354.56 |
| Day 10: | 5.12 | Day 20: | 5,242.88 | Day 30: | 5,368,709.12 |



Now imagine if this was a loan!

The Long-Term Picture



Decisions for Investing

More
Important

How much should I save and invest?

Over what time period am I investing?

What should my stocks and bonds (and others) mix be?

Which stocks and bonds (and others) should I buy?

Less
Important

How often should I buy and sell them?



What is Saving and Investing?

Saving

- Putting money away for a future goal or expense
 - Must spend less than you earn
 - Receive a gift or windfall
 - Example: bank savings account, time deposit

Investing

- Taking some of your savings and allocating it to stocks & bonds
 - Longer term arrangement
 - Expect a higher return than cash over long term
 - Risk of losing principle
 - Example: stock in the brokage account, 401k retirement account

What is Saving vs. Investing?

Saving

- Mostly cash and products with “risk-free” interest-rates
 - Checking and savings accts.
 - CDs & Money markets accts.
 - Treasuries

Investing

- Money market fund
- U.S. Treasury bills / bonds
- Bond funds/ETFs
- Stock index funds/ETFs
- Individual stocks
- Cryptos, options, derivatives

Less Risk

More Risk

When To Save vs. Invest?

| <u>Objective</u> | <u>Save?</u> | <u>Invest?</u> | <u>Both?</u> |
|----------------------------|--------------|----------------|--------------|
| College? (very soon!) | ✓ | | |
| Car? (after college?) | ✓ | | |
| House? (10+ years?) | | | ✓ |
| Retirement? (in 45+ years) | | ✓ | |

Decisions for Saving & Investing

Short-term:

- < 5 years
- Mostly cash (savings)
- College, emergency fund

Medium-term:

- 3-15 years
- Blend of stocks, bonds mutual funds & ETFs
- Car, house, wedding

Long-term:

- > 10 years
- Mostly stocks, mutual funds, ETFs
- Retirement

Stocks and Bonds

Stock / Equity Investing (Equity Ownership)

- Acquire ownership in a business
- Earn income from the profits of a business (e.g., dividends)
- Earn capital appreciation on the value of the business (i.e., share price goes up)

Bond / Fixed Income Investing (Debt Obligations)

- Lending money to a business or individuals through purchase of debt securities (e.g., bonds)
- Receive interest on this obligation and eventually receive repayment of initial principal (i.e., amount invested or loaned)



Key Terms

Asset Class:

- Grouping of investments that exhibit similar characteristics and are subject to the same laws and regulations (Investopedia).
- Examples: Equities (stocks), Fixed Income (bonds), Real Estate & Commodities

Types of Equities or Stocks

- Domestic/US equity, International and Emerging Market
- Sub-asset classes:
 - Large Cap, Mid Cap and Small cap
 - Value and Growth

Types of Fixed Income or Bonds

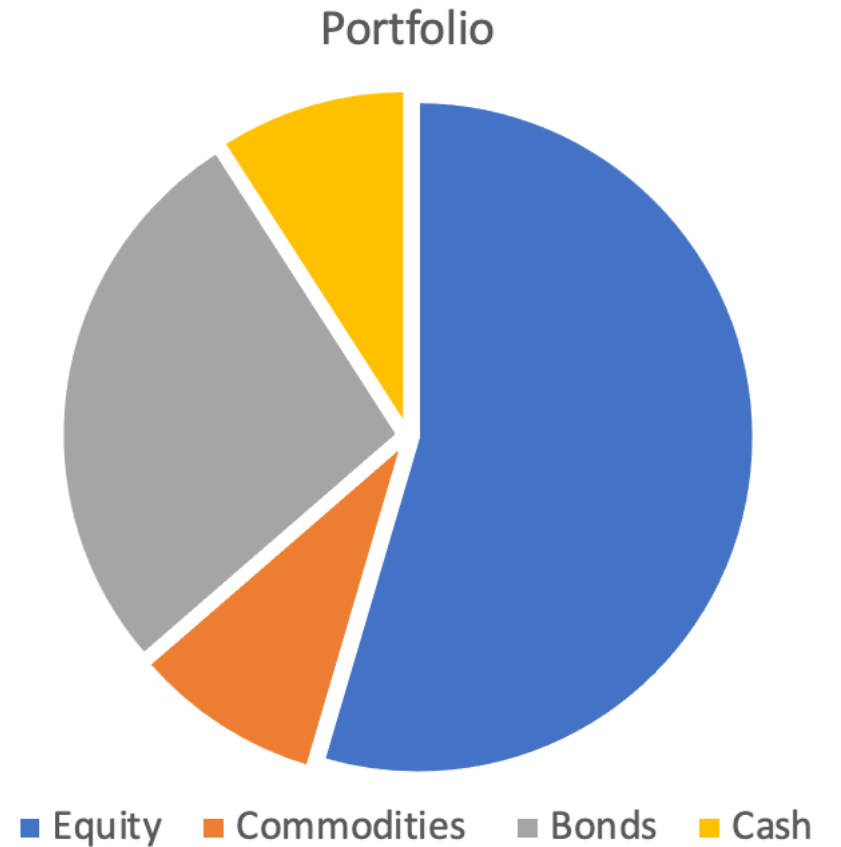
- Investment Grade, High Yield, Emerging Market debt, etc.
 - Sub-asset classes:
 - Duration: Short, Intermediate and Long Term
 - Credit quality: High, Medium and Low



Key Terms

Portfolio Asset Allocation:

- collection of financial investments like stocks, bonds, commodities, cash, and cash equivalents (Investopedia)
- Tailored to your objectives and risk tolerance
- Example: 60% stock, 10% commodities, 30% bonds, 10% cash & cash equivalents



Key Terms

Expected return – Best guess for the future

Volatility – Risk! ... the Up's and Down's

Downside – How much can you lose?

Horizon – A longer time horizon smooths out the bumps

Diversification – ... so does owning many different types of investments

Asset allocation – Trade-off between return and risk



Building a Portfolio

The Market(s)

Stocks = Equities = Shares

- You own a piece of something, and share the profits with other owners
- Return: dividends and capital gains

Bonds = Fixed Income = Credit = Debt

- You lend money to someone, and they pay you interest
- Return: mostly interest (capital gains not as important)

Stocks vs. Bonds

- | | |
|--|--|
| <ul style="list-style-type: none">• Stocks usually return more over the long run | <ul style="list-style-type: none">• Bonds are steadier over the short run (less risky) |
|--|--|

Building a Portfolio – Common Investments

1. **Individual Stocks / Bonds** – *You directly own / lend money to the issuing company (or government)*
2. **Mutual Funds** – *Professionally-managed portfolio of stocks/bonds in which you and others invest*
3. **Exchange Traded Funds (ETF)** – *Professionally-managed portfolio of stocks / bonds that trades like a stock*
4. **Index Funds** – *Replicates the performance of a specified market index*
5. **Target Date Funds** – *Multi-Asset fund where asset allocation adjusts according to set plan*



Building a Portfolio – Diversified Investments

MUTUAL FUNDS

- Mutual funds are investments where you pool your money with other people to buy a diversified portfolio which is difficult to recreate on your own.
- It can have stocks, bonds, cash, and other investments in the portfolio. There is usually an investment team choosing what to buy and sell (“Active Management”).
- Mutual funds trade once a day at the end of the day and reflect the closing price of the portfolio holdings.

ETFs

- ETFs are baskets of securities (stocks, bonds, etc.) that you can buy or sell on a stock exchange.
- You can buy and sell them at any time when the stock exchange is open, and the price changes all day.
- Most of the time, the stock and bond in the portfolio are based on what is traded on the exchange; no one is picking the investments (“Passive Management”)
- ETFs usually cost less than mutual funds



Building a Portfolio – Passive vs. Active Options

Passive management or Index Funds – seek to track a specified index (e.g., S&P 500 for US stocks)

- *Low cost & proven ability to track a specified index is key to selecting an index fund*
- *Expenses are one-fifth of the typical cost of managing a mutual fund*

Active management – more difficult to select successfully

- *Look for consistency of results, repeatable process, tenure of management team & expenses.*
- *Morningstar.com is a good information resource for funds / ETFs.*

Building a Portfolio – Target Date Funds

- Target date funds (TDFs) are a popular investment choice for retirement savers. They offer portfolios that are professionally managed, cost-effective, diversified among equities and bonds, and automatically rebalanced over time as the fund approaches and passes its target date.

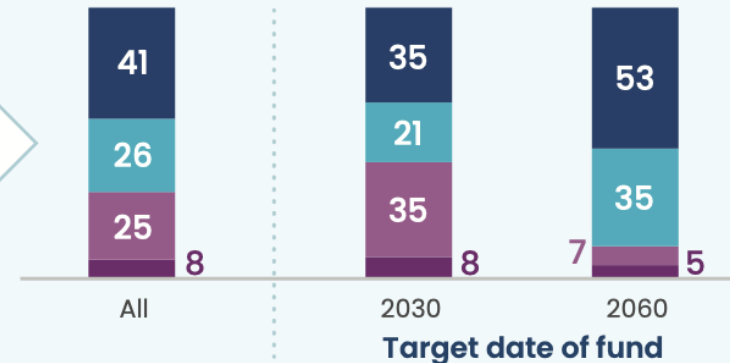
Key TDF Features Are Diversification and Rebalancing

Age-Appropriate Diversification

Underlying investment category

● Domestic equity ● World equity ● Bond ● Other

TDFs typically launch as a suite such that investors can choose a target date based on their expected retirement age. Investors get exposure to both domestic and international investments in different age-appropriate allocations.



Building a Portfolio - Diversification

What does it mean to
"put all of your eggs in one basket"?

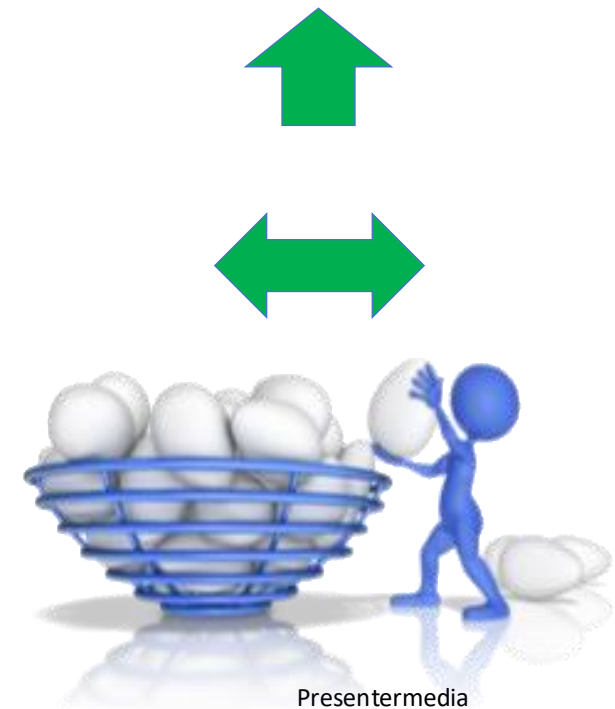


Photo by Woodleywonderworks on Flickr

Building a Portfolio - Diversification

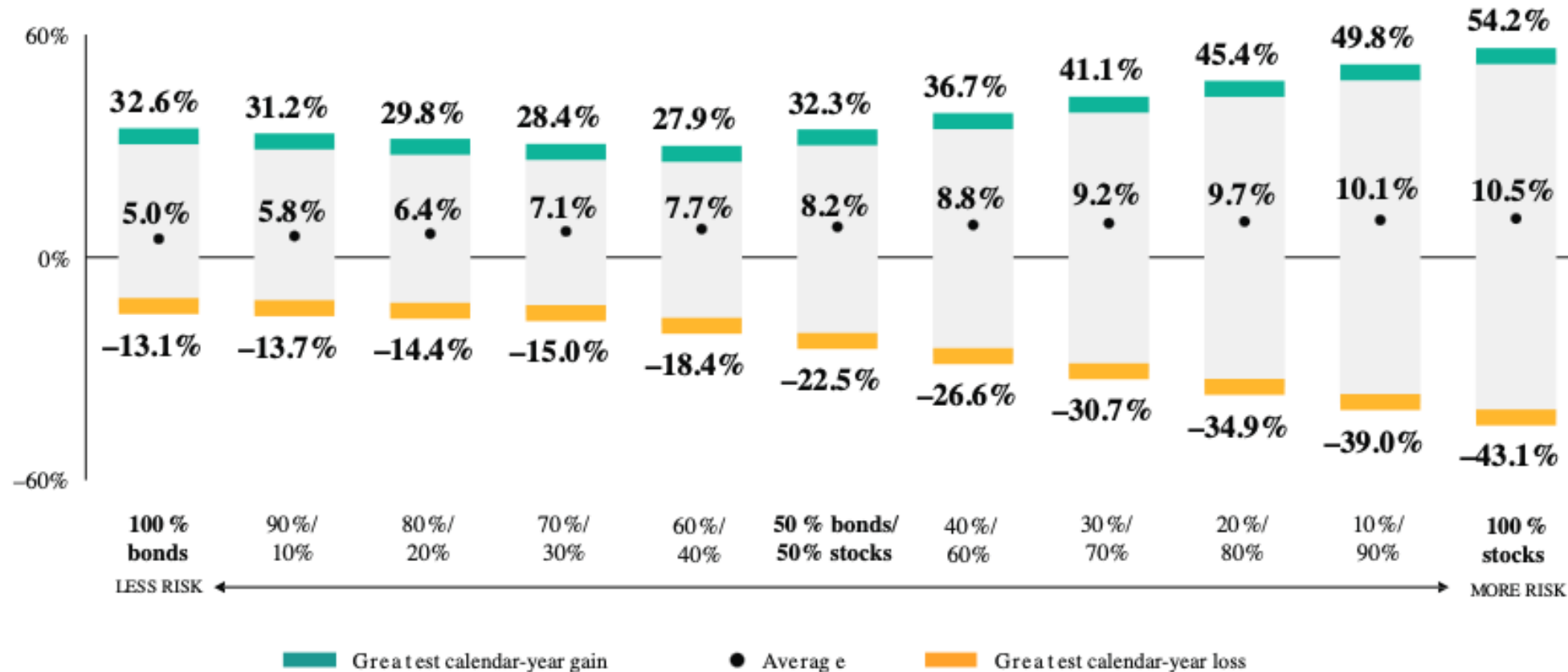
Stocks vs. Bonds

- *Stocks* are bought to increase in value over time; usually return more over the long run
- *Bonds* are intended to remain relatively stable (less risky)
- Owning some of each, called “**Asset Allocation**”, means owning a mix of investments and NOT having all your eggs in one basket!



Higher Risk, Higher Avg Returns but More Volatility

Range of calendar-year returns (1926 – 2024)



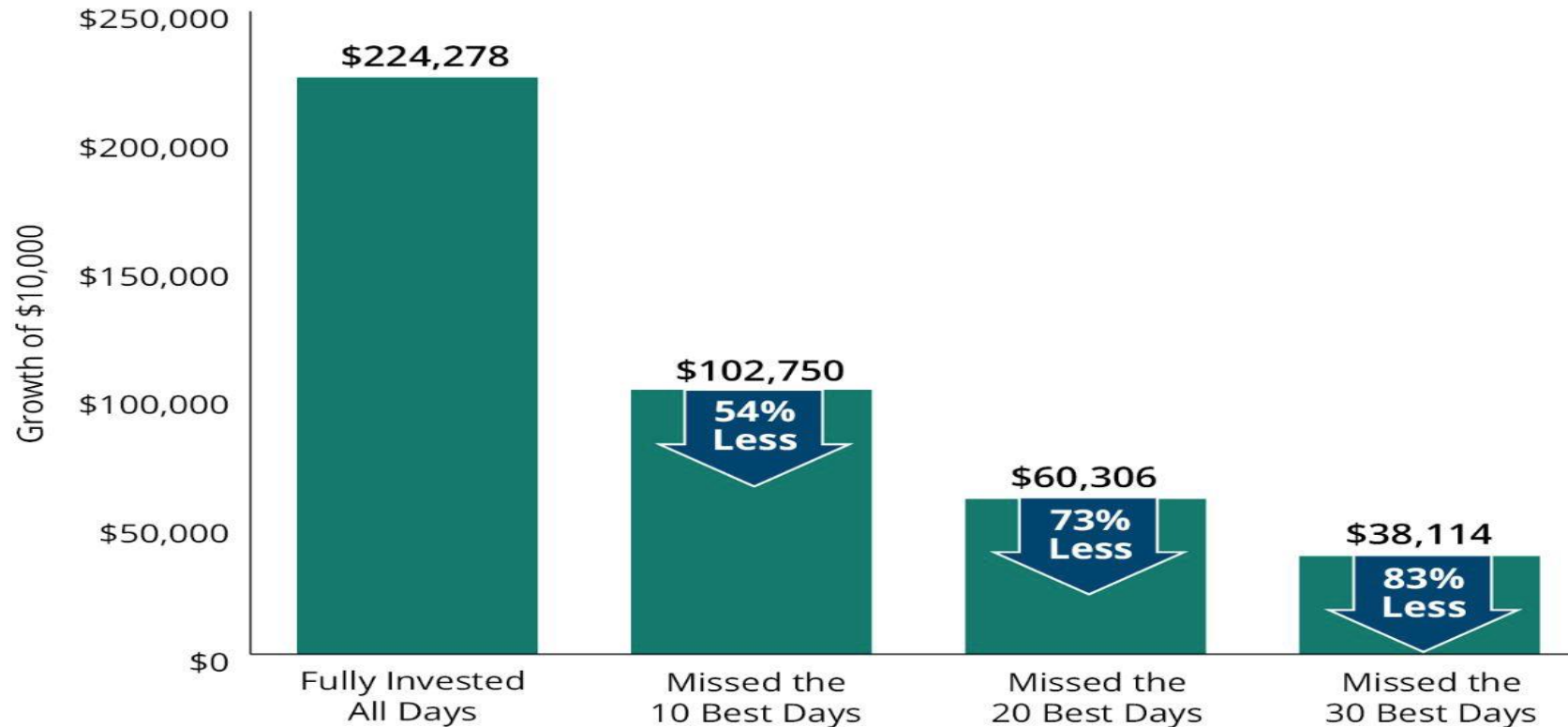
Building a Portfolio – Trade-offs between Risk & Reward

| ASSET ALLOCATION | AVERAGE ANNUAL RETURN (1926-2023) | INFLATION-ADJUSTED AVERAGE ANNUAL RETURN (1926-2023) | NUMBER OF YEARS WITH A LOSS (1926-2023) | CUMULATIVE RETURN 12/31/2007-3/31/2009▼ |
|----------------------------|-----------------------------------|--|---|---|
| ○ 100% bonds | 5.08% | 2.07% | 17 of 98 | 5.36% |
| ○ 10% stocks and 90% bonds | 5.77% | 2.75% | 13 of 98 | -0.52% |
| ○ 20% stocks and 80% bonds | 6.42% | 3.38% | 14 of 98 | -6.18% |
| ○ 30% stocks and 70% bonds | 7.04% | 3.99% | 16 of 98 | -11.60% |
| ○ 40% stocks and 60% bonds | 7.63% | 4.55% | 18 of 98 | -16.81% |
| ○ 50% stocks and 50% bonds | 8.18% | 5.08% | 19 of 98 | -21.81% |
| ○ 60% stocks and 40% bonds | 8.69% | 5.58% | 23 of 98 | -26.59% |
| ○ 70% stocks and 30% bonds | 9.16% | 6.04% | 24 of 98 | -31.18% |
| ○ 80% stocks and 20% bonds | 9.59% | 6.46% | 25 of 98 | -35.57% |
| ○ 90% stocks and 10% bonds | 9.99% | 6.85% | 25 of 98 | -39.76% |
| ○ 100% stocks | 10.34% | 7.19% | 27 of 98 | -43.77% |
| ○ 100% cash | 3.32% | 0.37% | 1 of 98 | 1.84% |



Avoiding Investment Pitfalls – Don't try to time the market

S&P 500 Index Average Annual Total Returns: 1995–2024

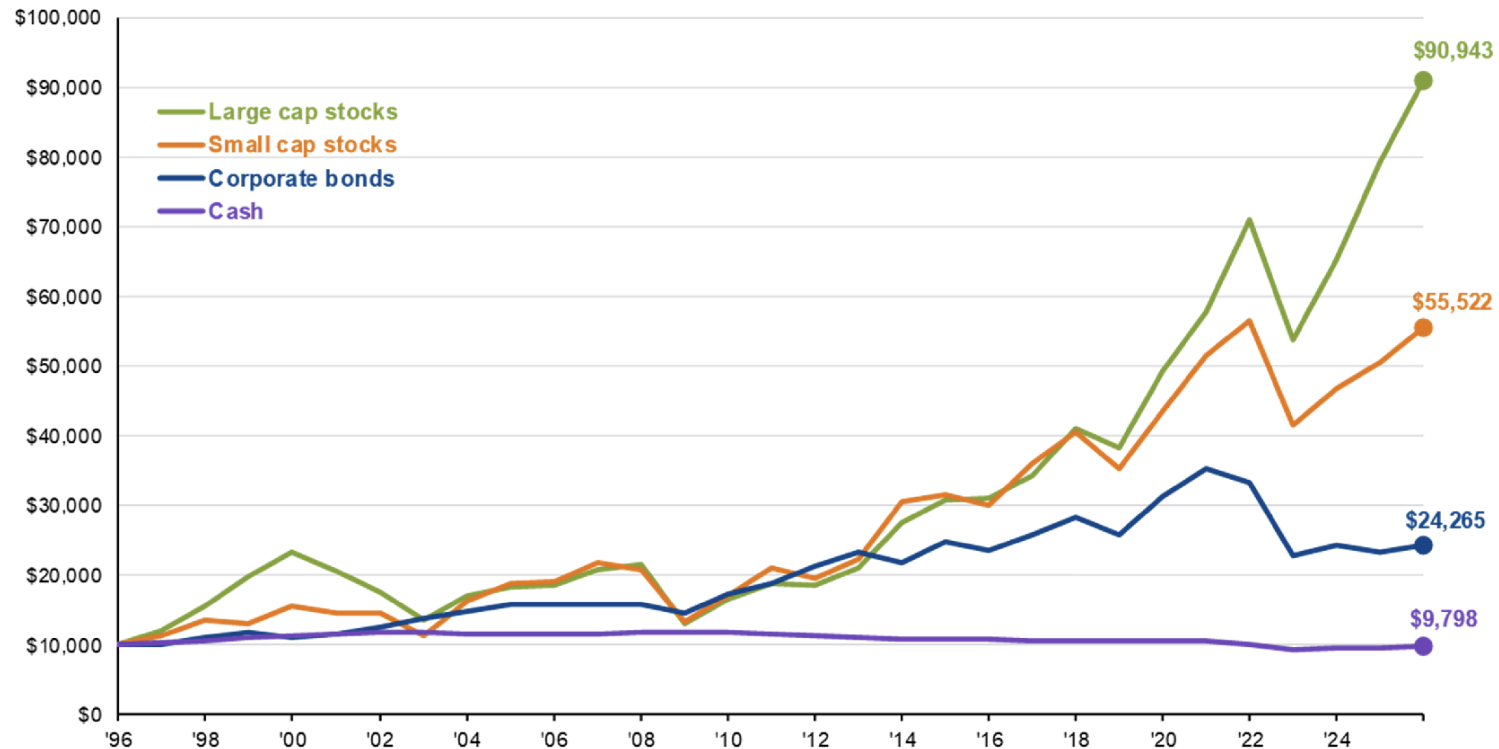


Stay Invested for the Power of Compounding

Higher Risk Investments tend to Outperform over the Long Run

Change in purchasing power by investment in major asset class

Growth of \$10,000, adjusted for inflation, 1996 - 2025, annual returns



5 Rules for Successful Investing

1. Don't use leverage or borrowed money to buy stocks
2. Focus on the long-term (at least 3 to 5 years)
3. Don't put all your eggs in one basket (Diversify)
4. Stay invested and let compounding build your wealth
 - a. You can be your own worst enemy
5. Don't try to pick stocks by yourself
 - a. Unless you know how to value assets and are willing to spend a lot of time researching and understanding the company



Appendix



The Asymmetry of Loss

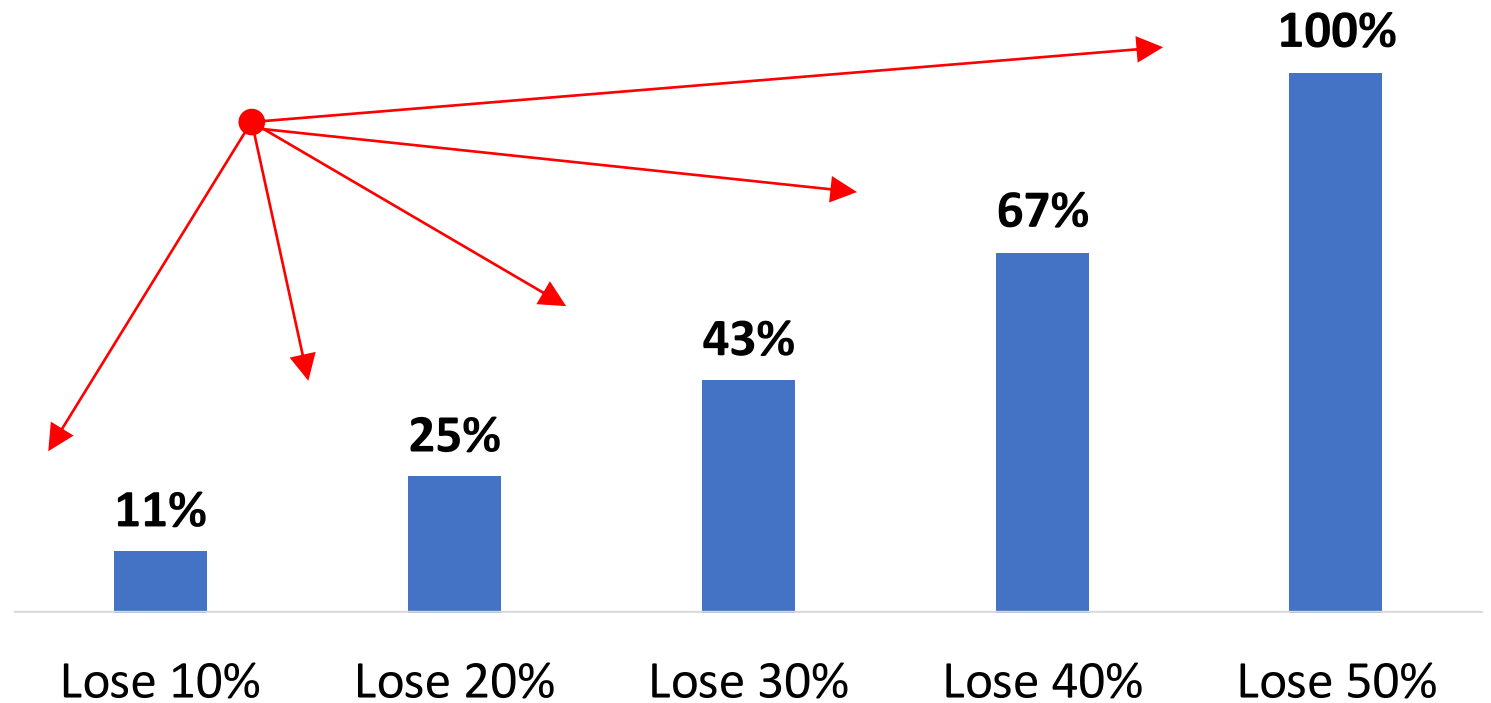
Avoiding catastrophic losses matters more than chasing maximum gains

Note: Losses hit harder than gains heal. Here's why:

If your \$100,000 drops 10%, you lose \$10,000 — and need an 11% gain to recover.

Lose 20%? You need a 25% gain to get your money back.

Lose 50%? You need a stunning 100% gain just to break even.



AUDIENCE POLL

What was the best performing asset class from 2011 to 2025?

- A. Emerging Market Equities
- B. Fixed Income
- C. Large Cap Equities
- D. Commodities (e.g., gold)
- E. Real Estate (REITs)
- F. Cash

Answer the
poll in
Teams or in
the chat

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Answer the
poll in
Teams or in
the chat

Last Year's Winner Is Rarely Next Year's Winner

| 2011 - 2025 | | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | YTD |
|----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------------|-----------------------|----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|------------------------|-----------------------|-----------------------|-----------------------|----------------------|
| Large Cap 14.1% | Small Cap 20.3% | REITs 8.3% | REITs 19.7% | Small Cap 38.8% | REITs 28.0% | REITs 2.8% | Small Cap 21.3% | EM Equity 37.8% | Cash 1.8% | Large Cap 31.5% | Small Cap 20.0% | REITs 41.3% | Comdty. 16.1% | Large Cap 26.3% | Large Cap 25.0% | EM Equity 34.4% | EM Equity 14.9% |
| Small Cap 9.5% | EM Equity 17.5% | Fixed Income 7.8% | High Yield 19.6% | Large Cap 32.4% | Large Cap 13.7% | Large Cap 1.4% | High Yield 14.3% | DM Equity 25.6% | Fixed Income 0.0% | REITs 28.7% | EM Equity 18.7% | Large Cap 28.7% | Cash 1.5% | DM Equity 18.9% | Small Cap 11.5% | DM Equity 31.9% | Comdty. 11.6% |
| REITs 7.8% | REITs 16.4% | High Yield 3.1% | EM Equity 18.6% | DM Equity 23.3% | Fixed Income 6.0% | Fixed Income 0.5% | Large Cap 12.0% | Large Cap 21.8% | REITs -4.0% | Small Cap 25.5% | Large Cap 18.4% | Comdty. 27.1% | High Yield -12.7% | Small Cap 16.9% | Asset Alloc. 10.0% | Large Cap 17.9% | REITs 10.5% |
| Asset Alloc. 7.3% | DM Equity 15.7% | Large Cap 2.1% | DM Equity 17.9% | Asset Alloc. 14.9% | Asset Alloc. 5.2% | Cash 0.0% | Comdty. 11.8% | Small Cap 14.6% | High Yield -4.1% | DM Equity 22.7% | Asset Alloc. 10.6% | Small Cap 14.8% | Fixed Income -13.0% | Asset Alloc. 14.1% | High Yield 9.2% | Asset Alloc. 15.8% | DM Equity 10.1% |
| DM Equity 7.1% | Comdty. 15.4% | Cash 0.1% | Small Cap 16.3% | High Yield 7.3% | Small Cap 4.9% | DM Equity -0.4% | EM Equity 11.6% | Asset Alloc. 14.6% | Large Cap -4.4% | Asset Alloc. 19.5% | DM Equity 8.3% | Asset Alloc. 13.5% | Asset Alloc. -13.9% | High Yield 14.0% | EM Equity 8.1% | Comdty. 15.8% | Small Cap 6.2% |
| High Yield 5.7% | Large Cap 14.7% | Asset Alloc. -0.7% | Large Cap 16.0% | REITs 2.9% | Cash 0.0% | Asset Alloc. -2.0% | REITs 8.6% | High Yield 10.4% | Asset Alloc. -5.8% | EM Equity 18.9% | Fixed Income 7.5% | DM Equity 11.8% | DM Equity -14.0% | REITs 11.4% | Comdty. 5.4% | Small Cap 12.8% | Asset Alloc. 4.7% |
| EM Equity 4.2% | Asset Alloc. 10.1% | Small Cap -4.2% | Asset Alloc. 12.2% | Cash 0.0% | High Yield 0.0% | High Yield -2.7% | Asset Alloc. 8.3% | REITs 8.7% | Small Cap -11.0% | High Yield 12.6% | High Yield 7.0% | High Yield 1.0% | Large Cap -18.1% | EM Equity 10.3% | Cash 5.3% | High Yield 12.1% | Fixed Income 1.7% |
| Fixed Income 2.4% | High Yield 9.1% | DM Equity -11.7% | Fixed Income 4.2% | Fixed Income -2.0% | EM Equity -1.8% | Small Cap -4.4% | Fixed Income 2.6% | Fixed Income 3.5% | Comdty. -11.2% | Fixed Income 8.7% | Cash 0.5% | Cash 0.0% | EM Equity -19.7% | Fixed Income 5.5% | REITs 4.9% | Fixed Income 7.3% | High Yield 1.2% |
| Cash 1.5% | Fixed Income 4.6% | Comdty. -13.3% | Cash 0.1% | EM Equity -2.3% | DM Equity -4.5% | EM Equity -14.6% | DM Equity 1.5% | Comdty. 1.7% | DM Equity -13.4% | Comdty. 7.7% | Comdty. -3.1% | Fixed Income -1.5% | Small Cap -20.4% | Cash 5.1% | DM Equity 4.3% | Cash 4.3% | Large Cap 0.7% |
| Comdty. -1.1% | Cash 0.9% | EM Equity -18.2% | Comdty. -1.1% | Comdty. -9.5% | Comdty. -17.0% | Comdty. -24.7% | Cash 0.3% | Cash 0.8% | EM Equity -14.2% | Cash 2.2% | REITs -5.1% | EM Equity -2.2% | REITs -24.9% | Comdty. -7.9% | Fixed Income 1.3% | REITs 2.3% | Cash 0.6% |

Source: Bloomberg, FactSet, MSCI, NAREIT, Russell, Standard & Poor's, J.P. Morgan Asset Management.

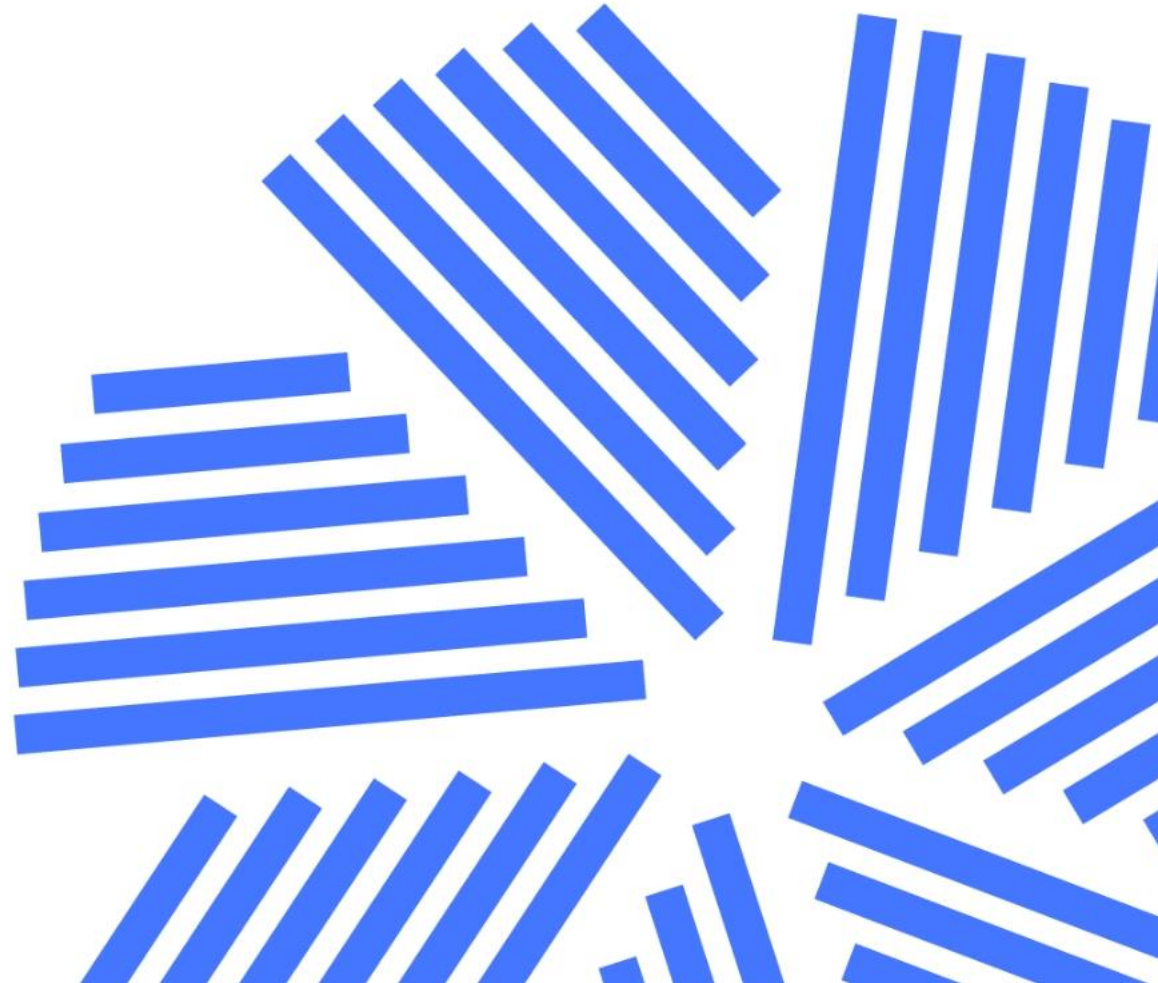
Large Cap: S&P 500, Small Cap: Russell 2000, EM Equity: MSCI EME, DM Equity: MSCI EAFE, Comdty: Bloomberg Commodity Index, High Yield: Bloomberg Global HY Index, Fixed Income: Bloomberg U.S. Aggregate, REITs: NAREIT Equity REIT Index, Cash: Bloomberg 1-3m Treasury. The "Asset Allocation" portfolio is for illustrative purposes only and assumes annual rebalancing with the following weights: 25% in the S&P 500, 10% in the Russell 2000, 15% in the MSCI EAFE, 5% in the MSCI EME, 25% in the Bloomberg U.S. Aggregate, 5% in the Bloomberg 1-3m Treasury, 5% in the Bloomberg Global High Yield Index, 5% in the Bloomberg Commodity Index and 5% in the NAREIT Equity REIT Index. Annualized (Ann.) return and volatility (Vol.) represents the period from 12/31/2010 to 12/31/2025. Please see the disclosure page at the end for index definitions. All data represent total return for stated period. Past performance is no guarantee of future results.





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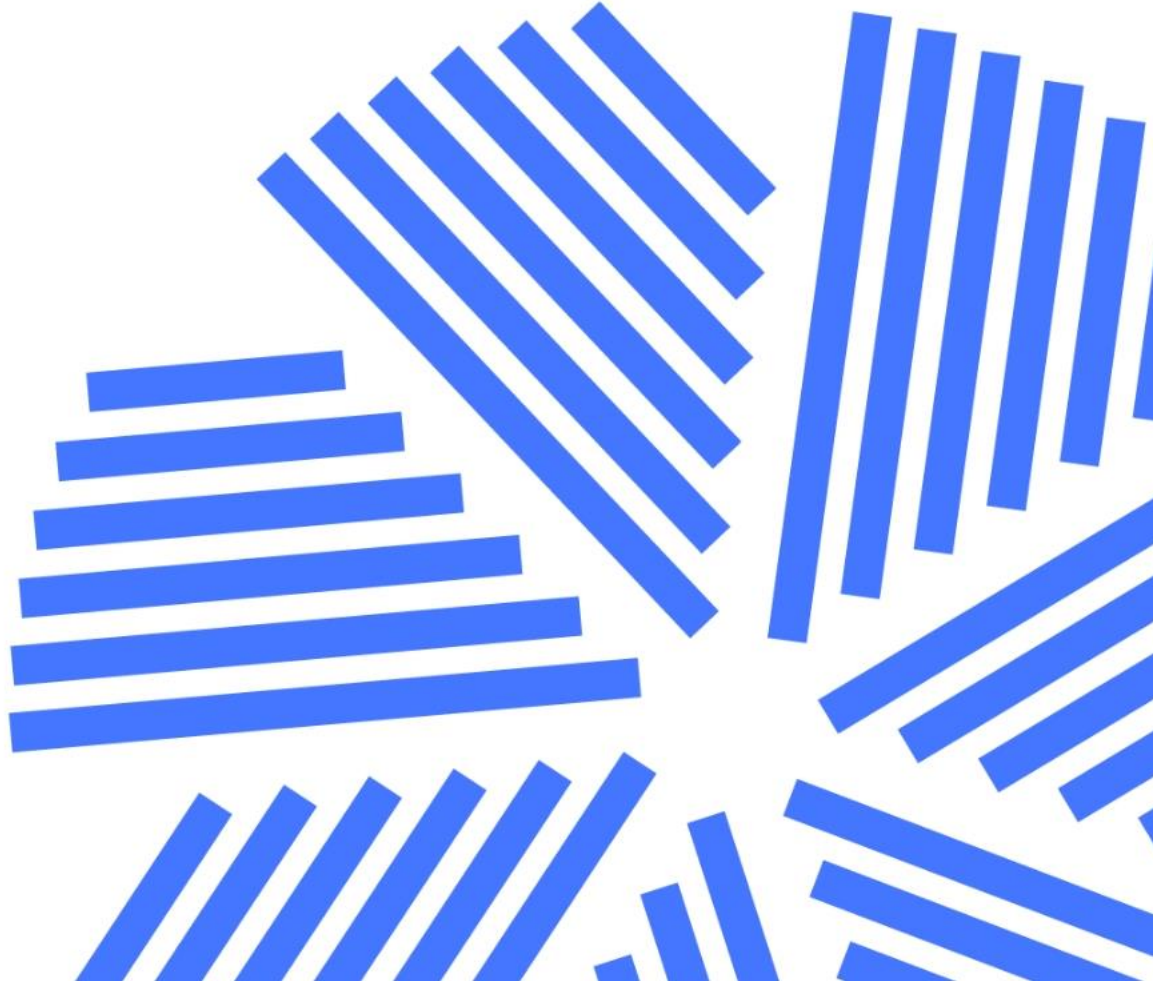
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Thank You



About CFA Society Boston Financial Literacy Program

Who We Are

CFA Society Boston is dedicated to putting investors first and raising ethical standards within the investment profession. We unite Boston's investment community and provide a forum for collaboration, education, and innovation. Originally called the Boston Security Analysts Society, Inc., we are a non-profit professional society founded in 1946. In 2017, we became CFA Society Boston. More than 6,000 investment professionals locally and globally are members of CFA Boston, representing over 650 investment firms. 96 percent of CFA Boston members hold the Chartered Financial Analyst designation from CFA Institute.

Our Financial Literacy Mission

To close the financial literacy gap by imparting financial knowledge without conflicts of interest, thereby improving the lives of the current and future investing public, the credibility of our industry and ultimately, the stability of our economy.

How it Works

This community outreach program aligns with non-profit groups to reach a wide variety of audiences, from late high school onward. Since its inception in 2014, the initiative has touched thousands of people, partnered with over 30 organizations, and currently has over 30 active volunteers. This community outreach program makes valuable financial literacy content available to the general investing public through collaboration with our alliance partners. The initiative addresses issues such as Personal Finance, Basics of Investing, Retirement, Bonds vs. Equities, Choosing a Bank, and more.





How to Partner with the CFA Society Boston Financial Literacy Program

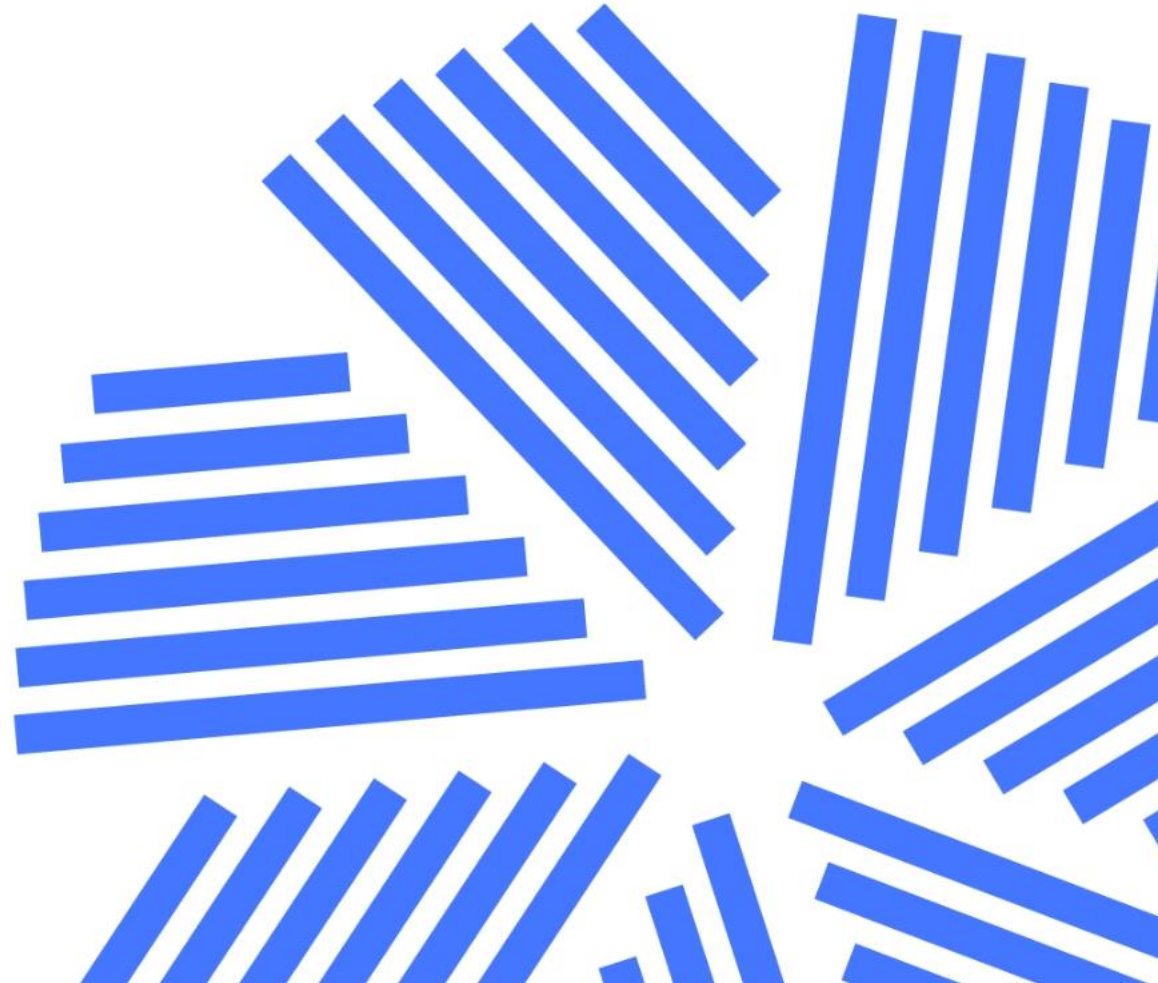
What CFA Society Boston Commits To

- Provide neutral, expert presenters
- Set up and present topics
- Supply the presentation / activity
- Bring a laptop and materials
- Be experienced in presenting in-person and in a virtual setting

What Your Organization Commits To

- Provide the audience and venue, either in-person or virtual
- Promote the event onsite, local newspapers and website
- Make a projector or USB connection available
- Briefly introduce presenter(s) Complete a post offering survey

For more information on how CFA Society Boston can partner with you visit www.cfaboston.org/financialliteracy or email finlit@cfaboston.org.





PRESENTATION INFORMATION

Alliance Leader(s):

Date of Offering:

