

Introduction: What Stocks Are

What's behind those blips on charts that bounce around in price?

Agenda

Education – Week 1

What is a stock?

Why are stocks good investments?

Why do people lose money trading stocks?

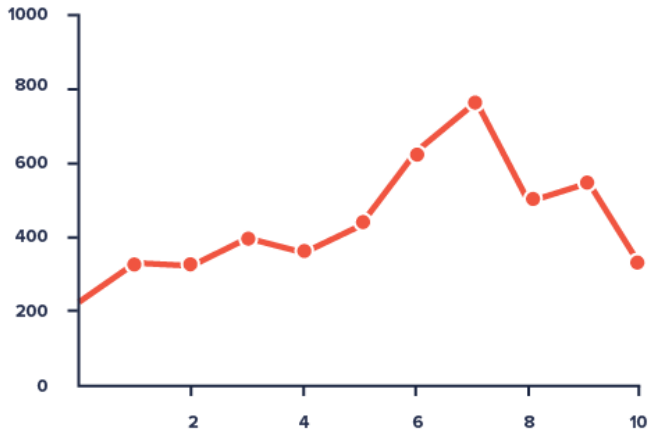
Where's your edge?

Our role as investment analysts

What is a stock?

What is a stock?

A.



B.

Market Summary > Alphabet Inc Class A

2,353.50 USD

NASDAQ: GOOGL

-39.26 (1.64%) ↓

+ Follow

Closed: Apr 30, 5:10 PM EDT -Disclaimer

After hours 2,356.91 +3.41 (0.14%)

1 day | 5 days | 1 month | 6 months | YTD | 1 year | 5 years | Max



C.

S&P Commodity Index to S&P 500



D.



What is a stock?

A stock is an ownership share in a business!

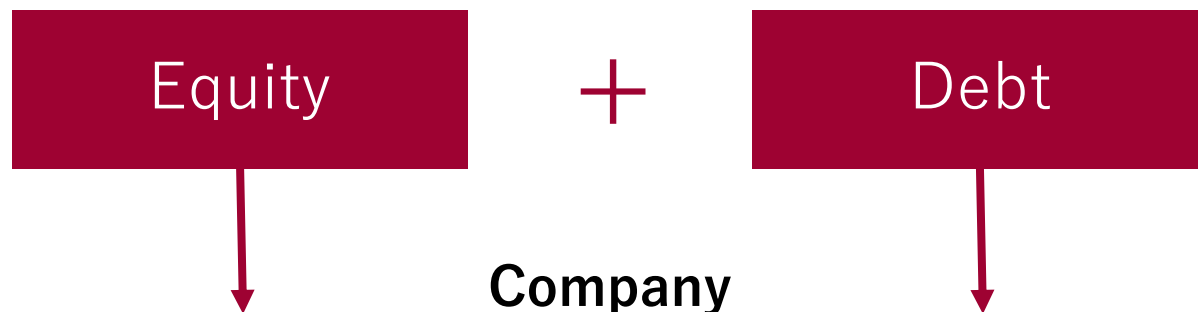
They are not pieces of paper that bounce around in price that you constantly trade

- > Stocks represent fractional ownership shares in businesses, and when you buy a stock, you are buying a piece of a company
- > If you use this framework, your fortunes will rise up and down with the nature of the business, not the short-term stock price movements
- > All the ticker tells you is the price, and it is up to you to determine whether that price is roughly right or way out of line

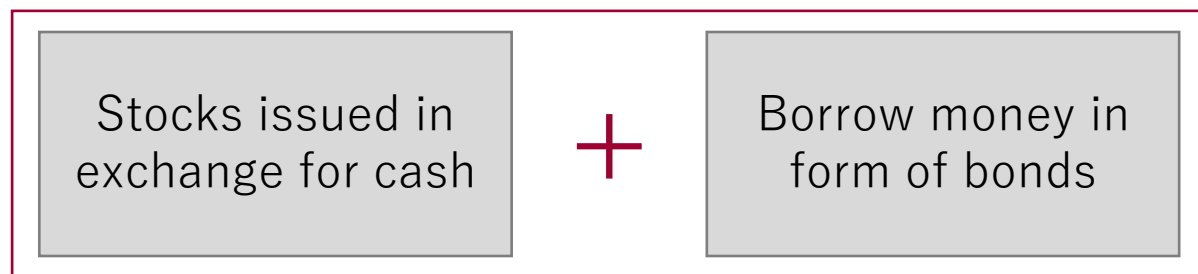
“In the short run, the market is a voting machine but in the long run, it is a weighing machine” – Benjamin Graham

What is a company?

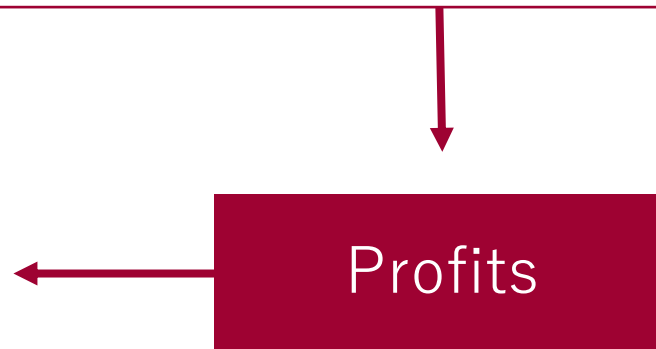
Two ways a company can raise capital



Company uses cash to invest in business



Reinvested in business and excess cash is returned to debt and equity holders

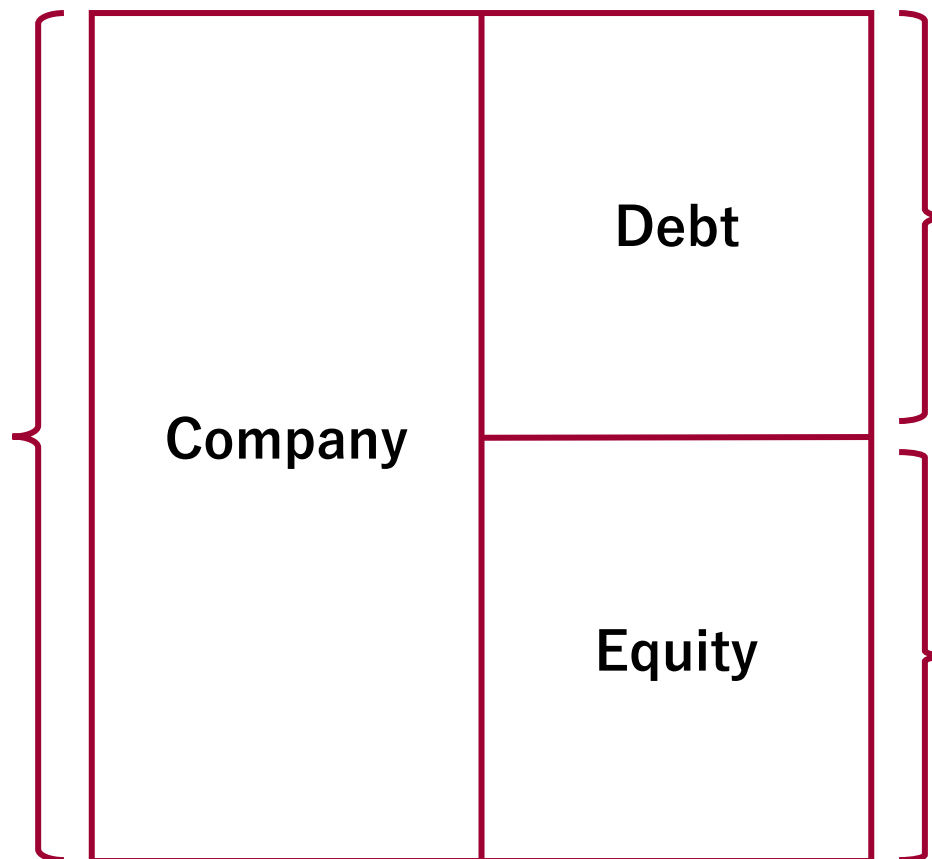


The capital structure

Where are stockholders in the capital structure of a company?

Everything the company owns:

- > Cash
- > Inventory
- > PP&E
- > Investments
- > Intangibles
- > etc.



Fixed claim on assets:

Money owed to creditors

Residual claim on assets:

Owned by stockholders

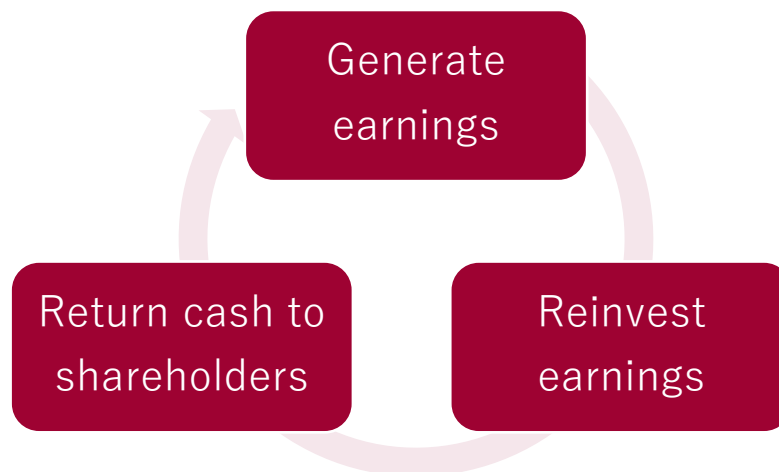
Why are stocks good investments?

Why are stocks good investments?

Stocks are ownership shares in businesses

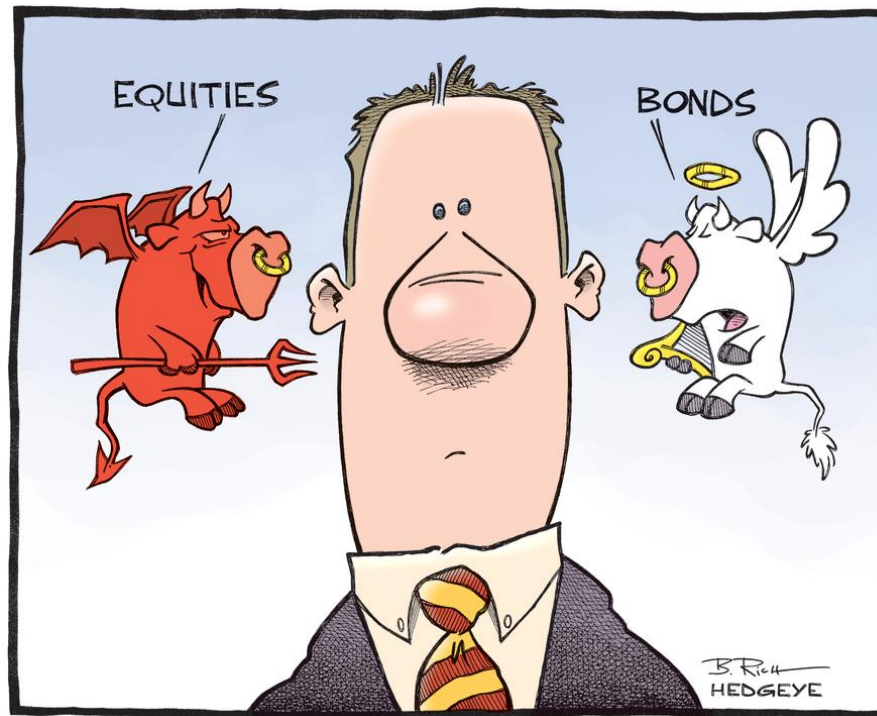
Over time, the performance of the stock mirrors the performance of the business

- > A stock is a **productive** asset that **generates cash flow**
- > As the underlying business generates more cash, it can reinvest those excess earnings to generate even more cash



Stocks vs. bonds

- > Why should you own stocks if they are at the bottom of the capital structure?
- > What's the difference between a stock and a bond?



Stocks vs. bonds

What is a bond?

- > Loan to investors made by company in exchange for cash
- > Company must pay fixed amounts of money to investors and pay back the principal amount in full by maturity
- > Those fixed cash flows are called coupons



Stocks vs. bonds

- > **Example**: let's say you buy a bond with face value of \$1,000 and a coupon rate of 5% that matures in 5 years

$$CF_1 + CF_2 + CF_3 + CF_4 + CF_5 + \textit{Principal}$$

$$CF_n = \$50$$

$$\textit{Principal} = \$1,000$$

$$\$50 \times 5 \textit{ years} + \$1,000 = \$1,250$$

When you own a bond, you know exactly how much the future coupon payments will be and when you get your principal

Stocks vs. bonds

- > Stocks generate cash flow too, but there is no mandatory fixed-rate coupon payment
- > Some stocks never directly distribute any cash to shareholders via dividends and instead reinvest all profits
- > Why would anyone want to invest in the stock market?



Stocks vs. bonds

- > **Example:** A stock that sells for \$1,000/share will produce \$50/share of cash flow this year, earning a 20% return on every \$1 invested, and reinvests 100% of all profits
- > The math starts to get much more interesting...

	Year 1	Year 2	Year 3	Year 4	Year 5
Reinvestment	\$50	\$60	\$72	\$86	\$104
ROIC	\$10	\$12	\$14	\$17	\$21
Cash flow	\$50	\$60	\$72	\$86	\$104

$$CF_{10} = \$258$$

$$CF_{15} = \$642$$

$$CF_{20} = \$1,597$$

$$CF_{30} = \$9,891$$

Stocks vs. bonds

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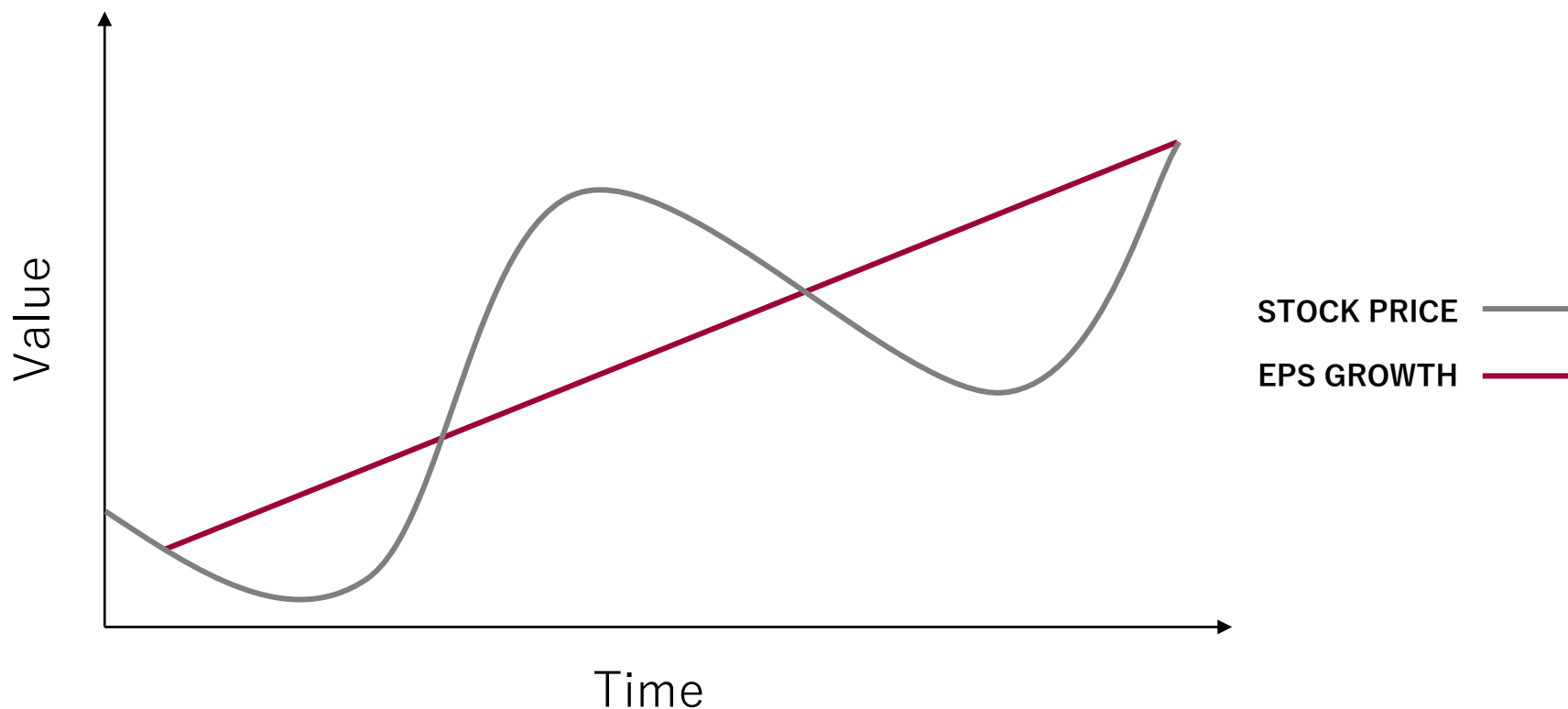
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A stock is like a bond, but it is up to you to estimate what the future cash flows will be and what the stock is worth

Why are stocks good investments?

Over the long-term, you own a business not a stock

Stock prices eventually reflect the fundamentals, driven by trajectory of earnings power



Stock returns reflect business returns

Year	ROE	Earnings
1972	11%	39
1973	11%	44
1974	11%	49
1975	12%	55
1976	12%	62
1977	14%	86
1978	16%	116
1979	16%	123
1980	14%	122
1981	13%	124
1982	13%	139
1983	13%	155
1984	13%	169
1985	14%	190
1986	15%	274
1987	2%	51
1988	24%	513
1989	25%	601
1990	25%	712
1991	0%	21
1992	12%	394
1993	16%	613
1994	21%	800
1995	18%	956

Year	ROE	Earnings
1996	37%	2,228
1997	13%	2,499
1998	11%	2,191
1999	17%	4,012
2000	15%	4,012
2001	13%	3,411
2002	18%	5,434
2003	18%	6,202
2004	19%	7,014
2005	19%	7,671
2006	18%	8,420
2007	17%	8,057
2008	3%	2,655
2009	11%	12,275
2010	10%	12,362
2011	11%	15,869
2012	12%	18,897
2013	13%	21,878
2014	13%	23,057
2015	12%	22,894
2016	11%	21,938
2017	11%	22,183
2018	11%	22,393
2019	10%	19,549

Wells Fargo (1972-2019)	
Average ROE	14.2%
Earnings CAGR	14.1%
BV/share CAGR	10.3%
Stock price CAGR (excl. dividends)	10.1%

1972 WFC BV/share \$0.40
1972 WFC stock price \$0.59
1972 WFC P/BV 1.5x

2019 WFC BV/share \$40.33
2019 WFC stock price \$53.80
2019 WFC P/BV 1.3x



Real life example: Wells Fargo (WFC)

Stock returns eventually reflect business returns

Wells Fargo averaged ~14% return on equity over 47 years,

- > During that time, the stock price and book value have compounded at ~10% per year
- > WFC also paid ~1/3 of its earnings out in dividends, so WFC with dividends reinvested has returned ~14-15%

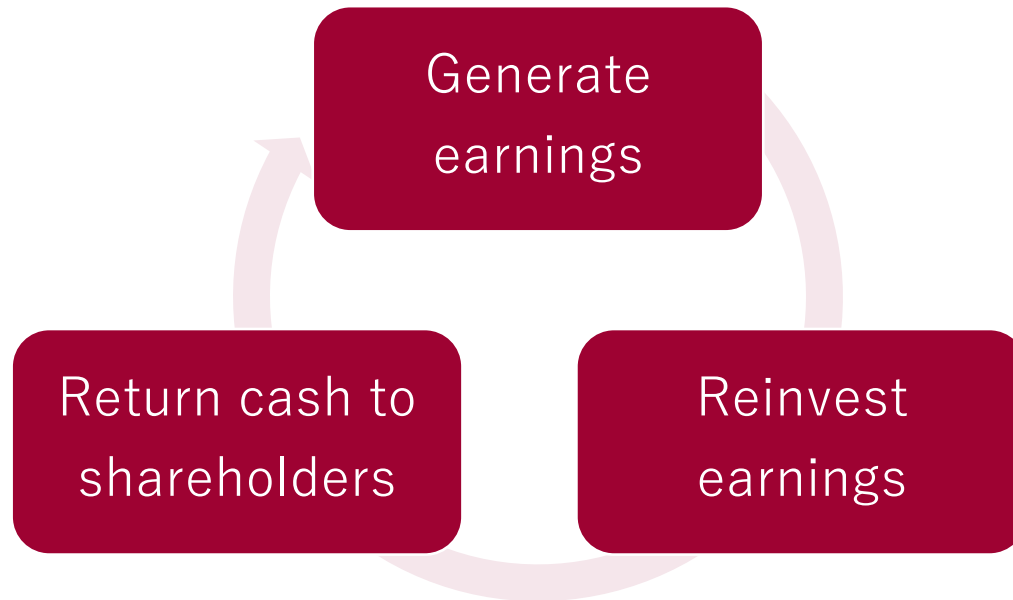
Wells Fargo (1972-2019)

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Why are stocks good investments?

Bonds don't offer the outsized returns of stocks

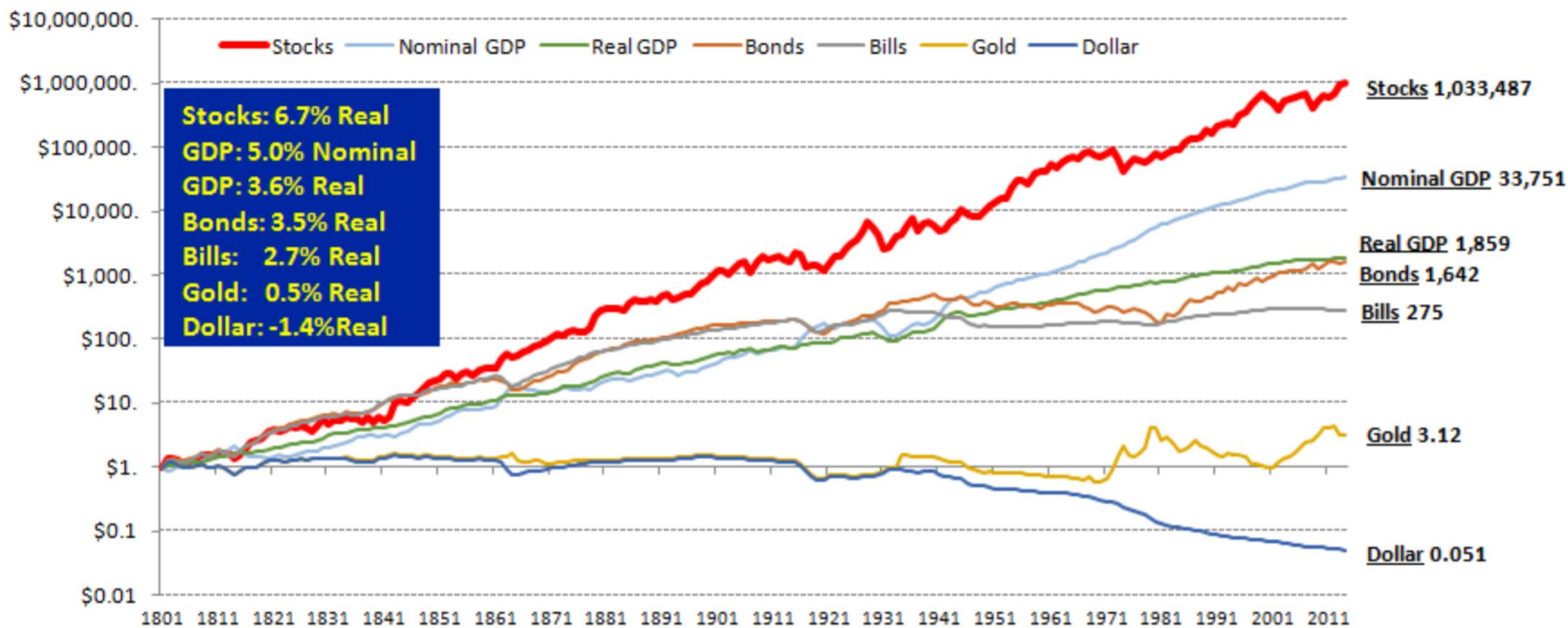
Your residual claim to the business is not limited to a fixed rate of interest



Why are stocks good investments?

Stocks vastly outperformed any other asset class in the past 200 years

Total Real Return Indexes (1801 ~ 2014)



Source: Siegel, Jeremy, *Future for Investors* (2005), Bureau of Economic Analysis, *Measuring Worth*

Why do people lose
money trading stocks?

Why do people lose money trading stocks?

***CGM Focus** was the best performing mutual fund from 2000 - 2010*

*Generated 10-year annualized return of **18.2%***

*A **\$10,000** investment would have turned into **\$53,232***

Guess what the average return was for shareholders?

Highs and Lows

Here's a look at the best- and worst-performing U.S. diversified stock mutual funds over the past 10 years.

BEST

Fund	Category	10-year annualized total return
CGM Focus	Large cap growth	18.2%
Lord Abbett Micro Cap Value I	Small cap blend	14.8%
Robeco Small Cap Value II Inv	Small cap value	14.0%
RS Partners A	Small cap blend	14.0%
Fairholme	Large cap blend	13.6%

WORST

Frontier MicroCap	Small cap blend	-35.6%
Embarcadero Small-Cap Growth	Small cap growth	-25.1%
Embarcadero Alternative Strategies	Mid-cap growth	-20.6%
Embarcadero All-Cap Growth	Small cap growth	-17.6%
First American Mid Cap Select A	Mid-cap blend	-13.9%

Source: Morningstar

Note: Data through Dec. 29, 2009. Excludes leveraged funds.

Why do people lose money trading stocks?

*“The typical CGM Focus shareholder **lost 11% annually** in the 10 years ending Nov. 30, according to investment research firm Morningstar Inc.”¹*

¹*Best Stock Fund of the Decade: CGM Focus*, Eleanor Laise. The Wall Street Journal. December 31, 2009.

Why do people lose money trading stocks?

How is it possible that so many people lost money in CGM Focus if the overall performance was so good?

- > CGM shareholders were buying the fund when it was performing well and sold when it hit bottomed
- > Market fluctuations are emotionally challenging for most people, which creates the “paradox of risk”

“When investors feel risk is high, their actions serve to reduce risk. But when investors believe risk is low, they create dangerous conditions.” – Howard Marks

Why do people lose money trading stocks?

Wells Fargo had three 50%+ declines since '72

Despite returning ~14-15% CAGR (w/ dividends reinvested) from 1972 to 2019



Why do people lose money trading stocks?

The stock market violates supply and demand dynamics

- > When apples are on sale and oranges are marked up at the grocery store, people buy more apples and less oranges
- > However, when stocks go up, people buy more stocks, and when stocks go down, people start selling
- > People like things that go up and don't like things that go down and Mr. Market can be moody when prices fluctuate

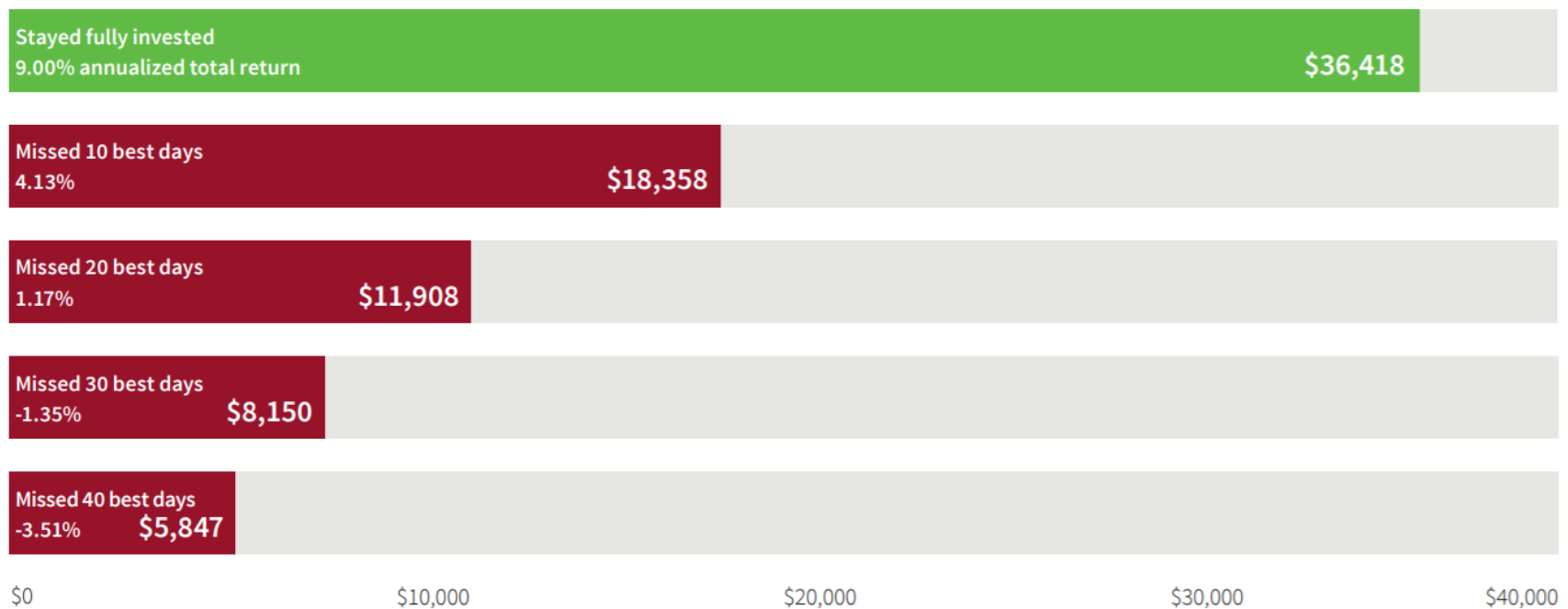
Why do people lose money trading stocks?



Why do people lose money trading stocks?

The “buy-low-sell-high” framework doesn’t work because short-term market fluctuations are unpredictable

\$10,000 invested in the S&P 500 (12/31/04–12/31/19)



Why do people lose money trading stocks?

- > Investing is **hard** because the market is very competitive and it's psychologically counterintuitive in practice
- > It can be difficult to crowd out the noise because there's always something to worry about
- > Rather than trying to time the market, our job is to focus on the underlying business fundamentals

“The real fortunes in this country have been made by people who have been right about the business they invested in, and not right about the timing of the stock market.” – Warren Buffett

What is an investor's purpose?

Two main questions an investor wants to answer

1. How high-quality is the business?

- Does the business have a competitive advantage?
- Is it earning a high return on invested capital?
- Is it being run by able and honest managers?

2. How expensive is the business?

- How much are the assets really worth?
- How much are we paying for each \$1 of earnings?
- How much does it cost to own a similar business?

Where's your edge?

Where's your edge?

> Informational Advantage:

- Getting better/more information than others is hard
- Highly competitive because everyone is looking for bargains

> Analytical Advantage:

- Think about businesses/industries *differently* than others
- Some thought Amazon was an overpriced online retail company with no pricing power and a useless product called the Kindle
- Others saw a company with a frantic desire to delight customers that had GAAP earnings understating the true earnings power

> Time Horizon Advantage:

- Having a 5+ year time horizon while most are more short-term
- Stock prices tend to fluctuate more than intrinsic value

10 largest stocks traded on U.S. exchanges

Even large, well-followed companies can be significantly mispriced because the stock market is volatile, and most investors are short-term oriented

Company	Ticker	Market Value (\$ Billions)	52 Week High	52 Week Low	% Change (High/Low)	Δ in Market Value (\$ Billions)
Apple Inc.	AAPL	\$2,416	\$150	\$103	45%	\$775
Microsoft Corporation	MSFT	\$2,175	\$290	\$196	48%	\$706
Alphabet Inc.	GOOG	\$1,818	\$2,766	\$1,402	97%	\$909
Amazon.com, Inc.	AMZN	\$1,694	\$3,773	\$2,871	31%	\$457
Facebook, Inc.	FB	\$1,025	\$378	\$244	55%	\$376
Tesla, Inc.	TSLA	\$692	\$900	\$273	230%	\$621
Berkshire Hathaway Inc.	BRK.A	\$653	\$445,000	\$297,817	49%	\$224
Taiwan Semiconductor	TSM	\$549	\$24	\$14	69%	\$259
Alibaba Group	BABA	\$534	\$319	\$180	78%	\$380
Visa Inc.	V	\$513	\$253	\$179	41%	\$156

Average % change high/low	74%
Average \$ change in market value	\$486 Billion

“Anyone can cook!”

– *Chef Gusteau*

“Anyone can be a good investment analyst!”

– *Will Zhou (CMC '23)*