Relative Valuation

It's all relative: how to value a company without doing a "DCF"

Agenda

Education – Week 3
What is a company worth?
Equity value and enterprise value
Relative vs. intrinsic valuation
What is a multiple?
Earnings power: cyclicality and operating leverage

What is a company worth?

A company is worth the present value of all the future cash it will generate from now until the end of time (when the firm ceases to exist)

What is a company worth?

That probably sounds a bit abstract… so let's consider a hypothetical example with some tangible inputs…

- **Example**: let's say Company ABC will earn *exactly* $500 annually forever and their opportunity cost of capital is 8%

$$Value = \frac{Earnings}{Discount\ Rate}$$

$$Value\ of\ Company\ ABC = \frac{\$500}{8\%} = \$6{,}250$$

In this hypothetical example, we can use a geometric sequence to determine exactly what Company ABC is worth!

Equity value vs. enterprise value

Because the stock market is not perfectly efficient, sometimes the market value of a firm is *significantly* different than what it's worth

$$Market\ Value \neq Intrinsic\ Value$$

But what exactly is the **market value** of a firm? And how do we estimate the **intrinsic value** of a firm?

> When valuing a company, we can either value just the ***equity*** of a firm or the ***entire*** firm (debt + equity) a.k.a ***enterprise value***

$$Equity\ Value = Market\ Cap = Stock\ Price * Shares\ Outstanding$$

$$Enterprise\ Value = \underbrace{Market\ Cap}_{\textbf{Equity Value}} + \underbrace{(Total\ Debt - Cash\ and\ Investments)}_{\textbf{Net Debt}}$$

Equity value (NASDAQ: COST)

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What is the **equity value** of Costco?

The number of shares outstanding of the registrant's common stock as of September 28, 2021, was 441,823,811.

On November 1st, 2021, Costco's stock price was **~$492/share**

$$Costco's\ Market\ Cap = \$492 * 442M\ Shares\ Outstanding$$

$$Costco's\ Market\ Cap = \$217.5\ Billion$$

Source: Pg. 1 of Costco's 2021 10-K

Enterprise value (NASDAQ: COST)

$$Costco's\ Market\ Cap = \$492 * 442M\ Shares\ Outstanding$$

$$Costco's\ Market\ Cap = \$217.5\ Billion$$

What is the **enterprise value** of Costco?

COSTCO WHOLESALE CORPORATION
CONSOLIDATED BALANCE SHEETS
(amounts in millions, except par value and share data)

	August 29, 2021	August 30, 2020
ASSETS		
CURRENT ASSETS		
Cash and cash equivalents	$ 11,258	$ 12,277
Short-term investments	917	1,028
CURRENT LIABILITIES		
Current portion of long-term debt	799	95
OTHER LIABILITIES		
Long-term debt, excluding current portion	6,692	7,514

$$Net\ Debt = Debt - Cash - Investments$$

$$Costco's\ Net\ Debt = (\$6.7B + \$0.8B - \$11.3B - \$0.9B) = -\$4.7B$$

Enterprise value (NASDAQ: COST)

$$Costco's\ Market\ Cap = \$492 * 442M\ Shares\ Outstanding$$

$$Costco's\ Market\ Cap = \$217.5\ Billion$$

What is the **enterprise value** of Costco?

$$Costco's\ Net\ Debt = -\$4.7B$$

$$Enterprise\ Value = Market\ Cap + Net\ Debt$$

$$Costco's\ Enterprise\ Value = \$217.5B - \$4.7B = \$212.8B$$

The enterprise value tells us the value of the ***entire*** firm. In other words, it is the price an acquirer would have to pay to own the business.

Notice that we are **subtracting cash** to get to enterprise value! This is because the company could use its cash to pay down its debt balance.

Relative vs. intrinsic valuation

When valuing a company, we can either use relative valuation or intrinsic valuation… So, what's the difference?

Relative Valuation

- Values an asset based on how the market values **similar assets**
- Driven by the belief that **similar assets** should trade for **similar prices**
- Can be used to make bets on the relative performance of similar assets
- A limitation is that the market may be currently mispricing a sector/industry
- E.g. The value of an apartment in Claremont based on what similar sized apartments have sold for in Montclair

Intrinsic Valuation

- Values an asset based on the **present value of all future cash flows**
- Driven by the belief that an asset should sell for what it could generate in cash **from now until judgement day** discounted to the present value
- Gives you a better idea of what variables drive s the value of the asset
- E.g. The value of an apartment in Claremont is the present value of all future cash flows you could earn if you were to rent it out

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What are multiples?

Multiples tell us about the **relative value** of a company with respect to key stats (typically enterprise or equity value divided by a key metric)

- Effectiveness of the multiples approach is driven by the belief that **similar assets** should trade for **similar prices**
- Wide discrepancies in multiples can provide insight into the market's perception of a company compared to peers

$$\frac{Price}{Earnings} \qquad \frac{EV}{EBITA} \qquad \frac{EV}{Sales} \qquad \frac{EV}{FCF}$$

$$\frac{EV}{Gross\ Profit} \qquad \frac{EV}{Subscriber} \qquad \frac{Price}{Book\ Value} \qquad \frac{EV}{Reserves}$$

How do you use multiples?

There are a lot of different types of multiples to choose from…
How do you know which multiple to use when valuing a company?

$$\frac{Price}{Earnings} \qquad \frac{EV}{EBITA} \qquad \frac{EV}{Sales} \qquad \frac{EV}{FCF}$$

$$\frac{EV}{Gross\ Profit} \qquad \frac{EV}{Subscriber} \qquad \frac{Price}{Book\ Value} \qquad \frac{EV}{Reserves}$$

- **EV/EBIT or EV/EBITA** is a good default to use because it avoids distortions due to capital structure and non-operating line items
- **EV/EBITDA** is similar to EV/EBIT, but excludes D&A, which makes it more sensitive to reinvestment requirements

How do you use multiples? (Continued…)

- **EV/FCF** implicitly factors reinvestment requirements via capex, but can be hard to use because FCF is more volatile than earnings; good to use for companies with stable FCF generation
- **EV/Sales** is good for companies that aren't yet profitable; or are currently underearning from a margin perspective
- **P/E** is probably most commonly used due to its ease of use, but should typically only be used when considering normalized earnings for companies of similar capital structures
- **P/BV** is most useful when analyzing companies where tangible assets are the primary source for value generation (banks, financials, liquidation situations, etc.); not good for companies with large intangible assets (AAPL, KO, FB, etc.)

How do you use multiples? (Continued…)

- **EV/Gross Profit** is good for valuing companies that are potential acquisition targets (room for synergies) and companies with lots of operating leverage, like SaaS companies

- **EV/Subscriber** can be used to compare against the lifetime value per user for a company with a subscription business and can also be used to compare against other comparable services

- **EV/Reserves** is used to value companies with finite resource reserves, typically commodity businesses (mining, oil and gas, etc.) and compares the total value of the business with respect to the remaining reserves the company has

You can be creative when valuing a company via multiples! Sometimes, traditional earnings metrics don't paint a complete picture…

Relative vs. intrinsic valuation

All multiples-based valuations are implicitly intrinsic valuations because the variables that drive multiples also drive intrinsic values

Growth rates	*How fast are a company's sales, profits, and cash flows growing? How long is the company's runway for future growth?*
Discount rates	*What is the opportunity cost of tying up capital in this business? How risky are the cash flows? What will interest rates be?*
Reinvestment requirements	*How much of the company's earnings need to be reinvested in the business to achieve a certain growth rate? Cash flow vs. earnings?*

How do you calculate a multiple?

Costco's enterprise value in November 2021 was ~$212.8B and the company had ~$6.7B in EBIT in 2021… what was the EV/EBIT multiple?

COSTCO WHOLESALE CORPORATION
CONSOLIDATED STATEMENTS OF INCOME
(amounts in millions, except per share data)

	52 Weeks Ended August 29, 2021	52 Weeks Ended August 30, 2020	52 Weeks Ended September 1, 2019
REVENUE			
Net sales	$ 192,052	$ 163,220	$ 149,351
Membership fees	3,877	3,541	3,352
Total revenue	195,929	166,761	152,703
OPERATING EXPENSES			
Merchandise costs	170,684	144,939	132,886
Selling, general and administrative	18,461	16,332	14,994
Preopening expenses	76	55	86
Operating income	6,708	5,435	4,737

$$Costco's\ trailing\ EV/EBIT = \frac{\$212.8B}{\$6.7B} = \mathbf{31.8x}$$

It's all relative!

Compared to other retailers, Costco is trading at a much higher premium… does that mean Costco is overvalued?

Ticker	Company	P/E 2022	P/E 2023	P/E 2024	EV/EBIT 2022	EV/EBIT 2023	EV/EBIT 2024	3Y Sales CAGR
Super Centers / Discount Retail								
WMT	Walmart Inc.	21.0x	20.4x	19.4x	15.6x	15.4x	14.5x	4%
TGT	Target Corporation	14.6x	14.9x	14.1x	11.5x	11.7x	11.2x	11%
BJ	BJ's Wholesale Club Holdings, Inc.	20.0x	19.1x	16.6x	18.9x	17.5x	15.6x	7%
KR	The Kroger Co.	12.9x	13.5x	13.8x	11.5x	12.0x	12.0x	3%
DG	Dollar General Corporation	19.2x	18.0x	16.8x	15.3x	14.3x	13.3x	11%
DLTR	Dollar Tree, Inc.	24.8x	18.7x	17.0x	19.2x	14.8x	13.4x	4%
Average		**18.7x**	**17.4x**	**16.3x**	**15.3x**	**14.3x**	**13.3x**	**7%**
COST	Costco Wholesale Corporation	40.1x	37.5x	32.5x	28.6x	25.9x	23.3x	12%

Potentially… but it's also possible that Costco is growing faster and has a *significantly* better business than its peers (deserves premium)

How do you use multiples?

Key principle: **similar assets** should trade for **similar prices**, but what constitutes a similar asset? Why are some similar assets valued higher?

Example: if you are buying an apartment, how would you determine what price you should pay?

Key question: what constitutes a similar asset?

- Some characteristics to look for: industry, growth, risk, reinvestment requirements, size, market position, business model, etc.
- Usually, when we are choosing multiples, we look at companies in the same industry/peer group, but you can be more creative
- Example: Google has 92%+ share in search engine market… How do you choose comps if Google doesn't really have any competitors?

Principles for using multiples

1. **Consistency** – The numerator and denominator of the multiple that you're using should be either both equity or both firm values

   > Example: don't use P/EBIT, because P is an equity value while EBIT is earnings that goes to the firm

2. **Uniformity** – Make sure that inputs to your multiple are defined uniformly for the different companies you're comparing

   > Example: earnings can be forward or trailing and some companies may classify costs differently

3. **Choose the right multiple** – The multiple you choose should be representative of the businesses you're comparing

   > Example: don't use P/BV for a technology company

Principles for using multiples

4. **Use normalized earnings** – Make sure the denominator is reflective of the company's true future earnings power
   - > Example: generally, forward earnings provide less variance to cyclicality and are a better reflection of "true" earnings power
5. **Choose the right comps** – Don't just blindly choose companies in a similar industry
   - > Example: oil and gas E&P company should not be valued the same way as an energy equipment supplier
6. **Sum of the parts (SOTP)** – When valuing companies with multiple segments, consider applying a separate multiple to each segment if the nature of the segments are very different
   - > Example: AMZN's retail business should not have the same multiple as its cloud business

Relative valuation considerations

Questions to ask:

- Does the company trade *cheaper* than competitors? Is it a *better or worse business* than its peers?
- How does the stock trade relative to *historical levels*? Has the *business quality* or industry changed during that time period?
- Where are we in the *cycle*? Is the company under or over earning?
- How does the company's current multiple compare with precedent *private market value* transactions?
- Does the company have opportunities for *margin expansion*?

The more companies you look at, the better sense you will get of what multiples are cheap, reasonable, or overpriced for a given company

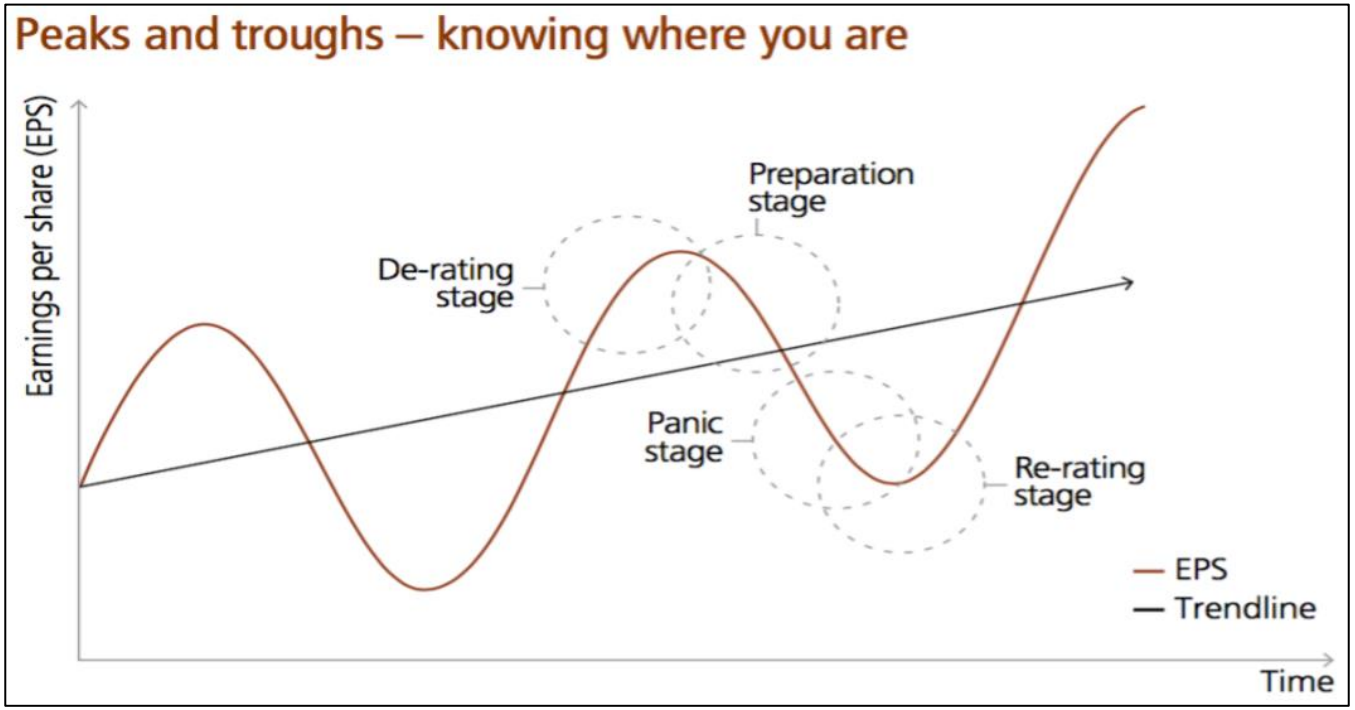
Key considerations

Earnings power: cyclicality and operating leverage

Cyclicality

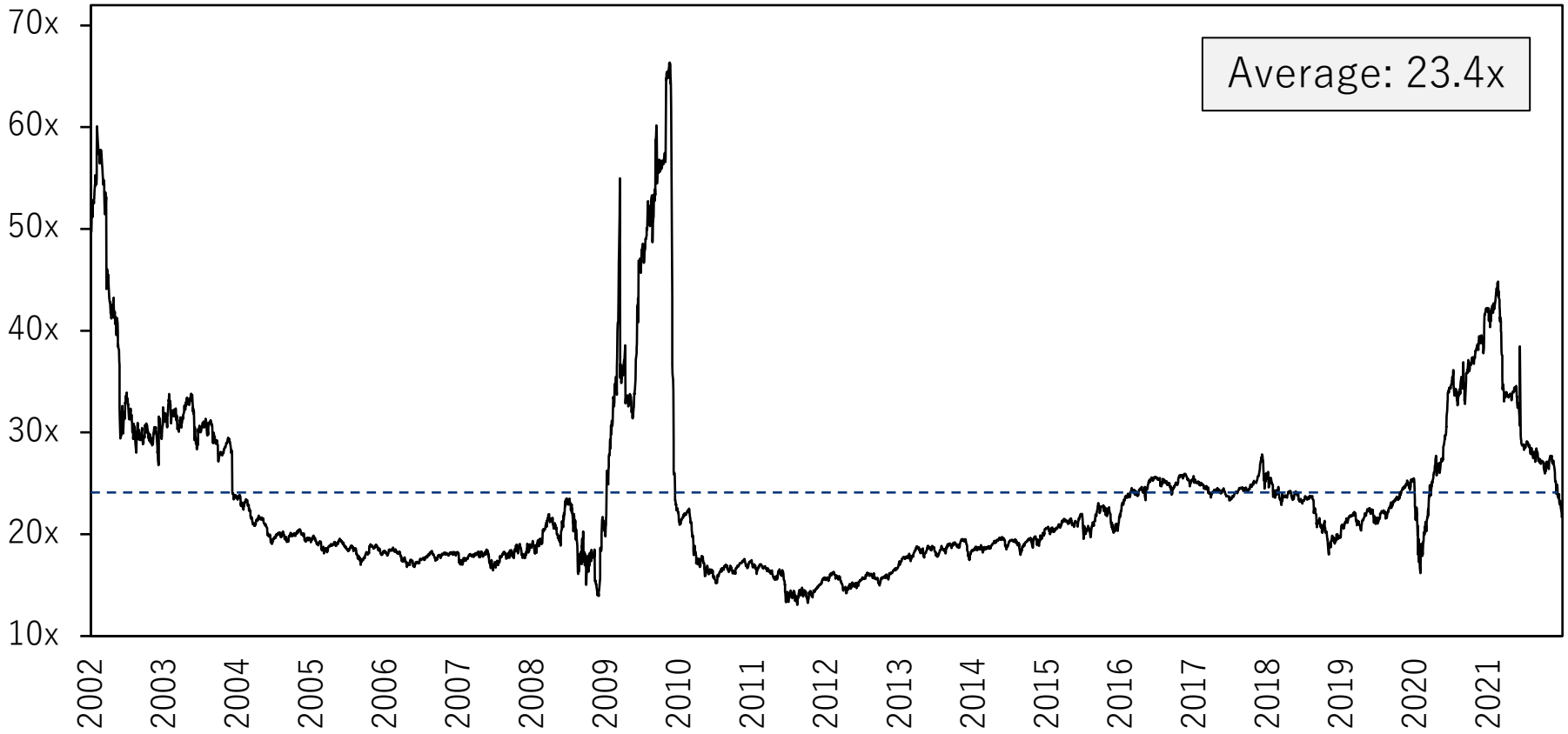
"I think it's essential to remember that just about **everything is cyclical**. There's little I'm certain of, these things are true: Cycles always prevail eventually. **Nothing goes in direction forever.**"

— ***Howard Marks***



Cyclicality: S&P 500

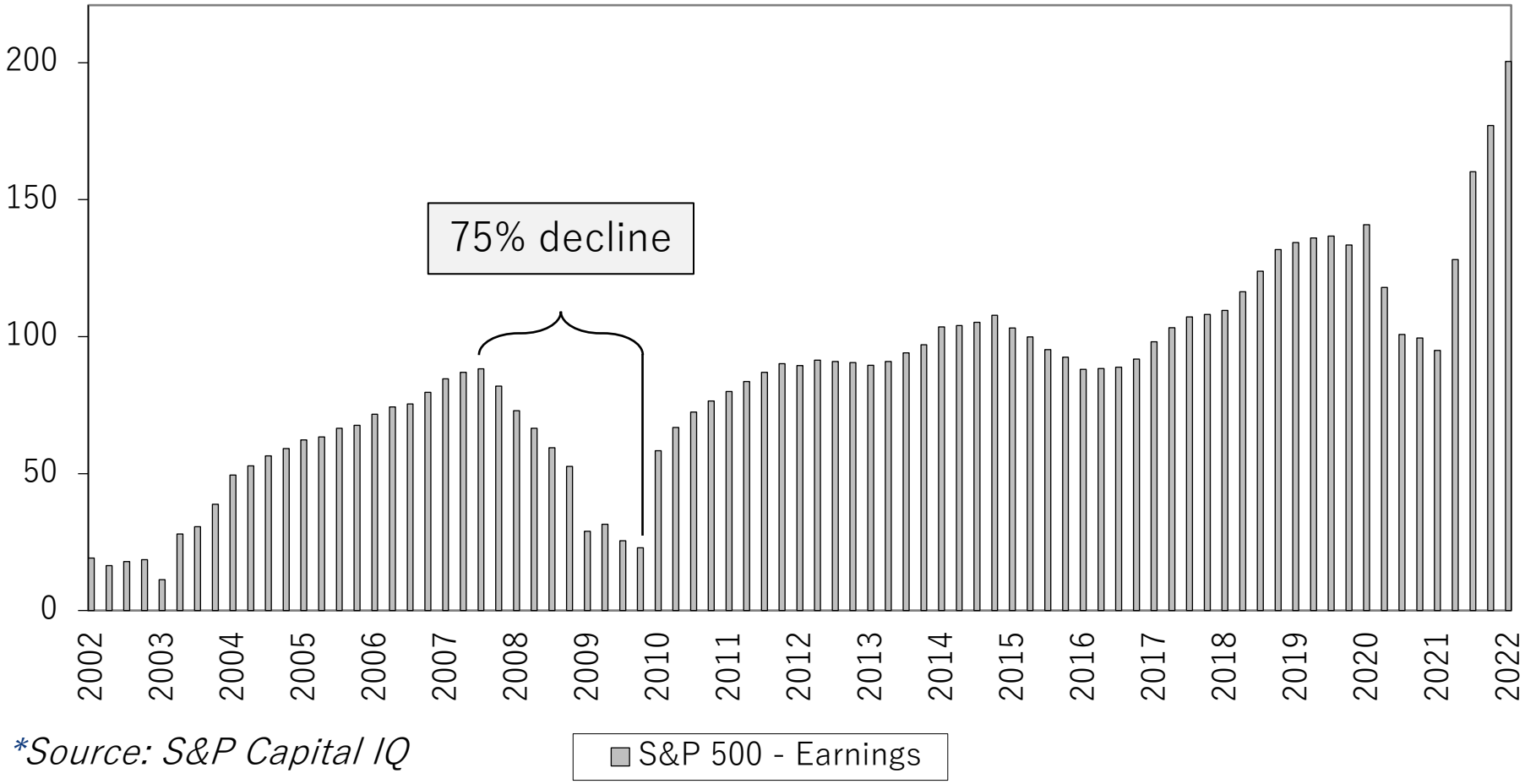
Over the past two decades, the S&P 500 P/E multiple was the highest from ‘09 to ‘10, but that was actually when stocks were the cheapest!



*Source: S&P Capital IQ

Cyclicality: S&P 500

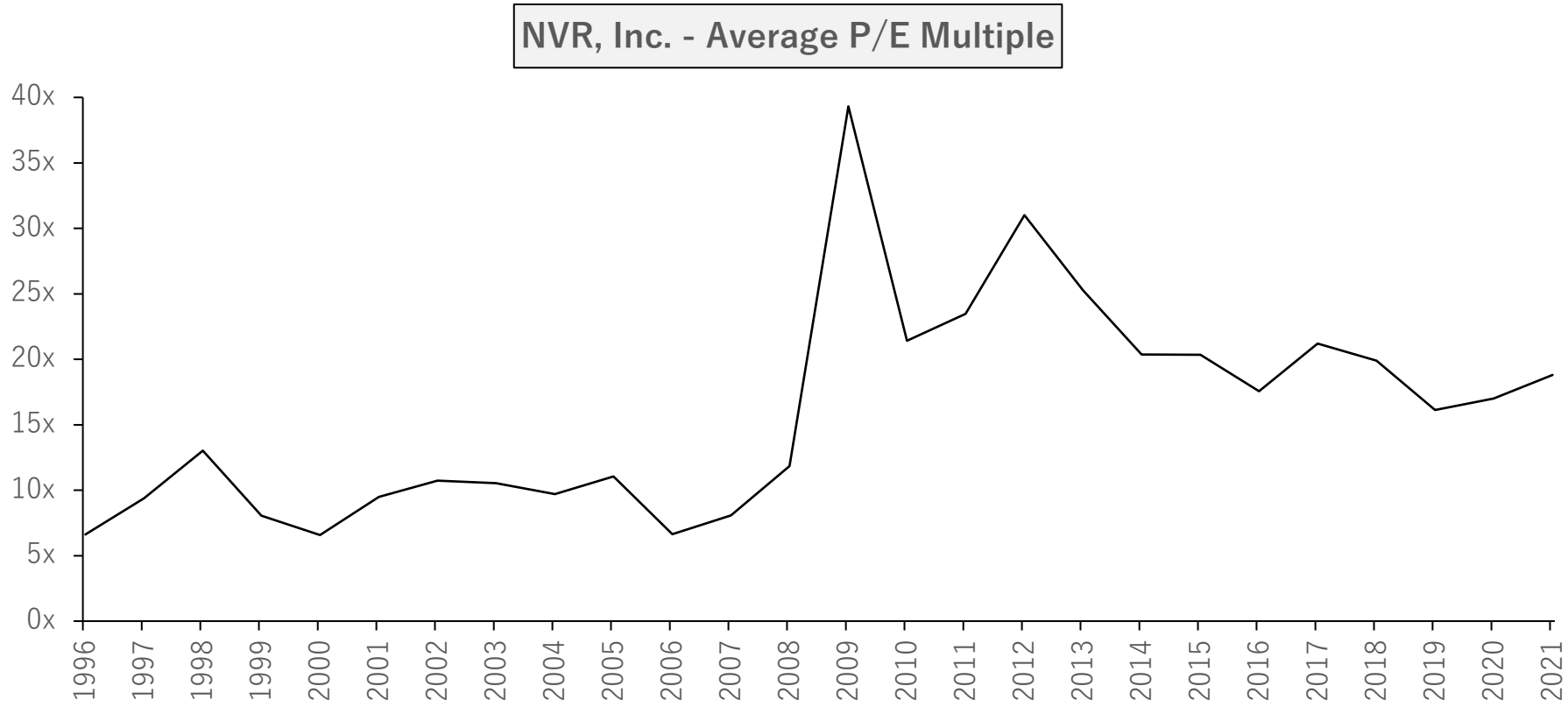
The reason for the market's distorted P/E multiple was due to a steep cyclical decline in earnings during the Great Recession in 2008



**Source: S&P Capital IQ*

Cyclicality – case study (NVR)

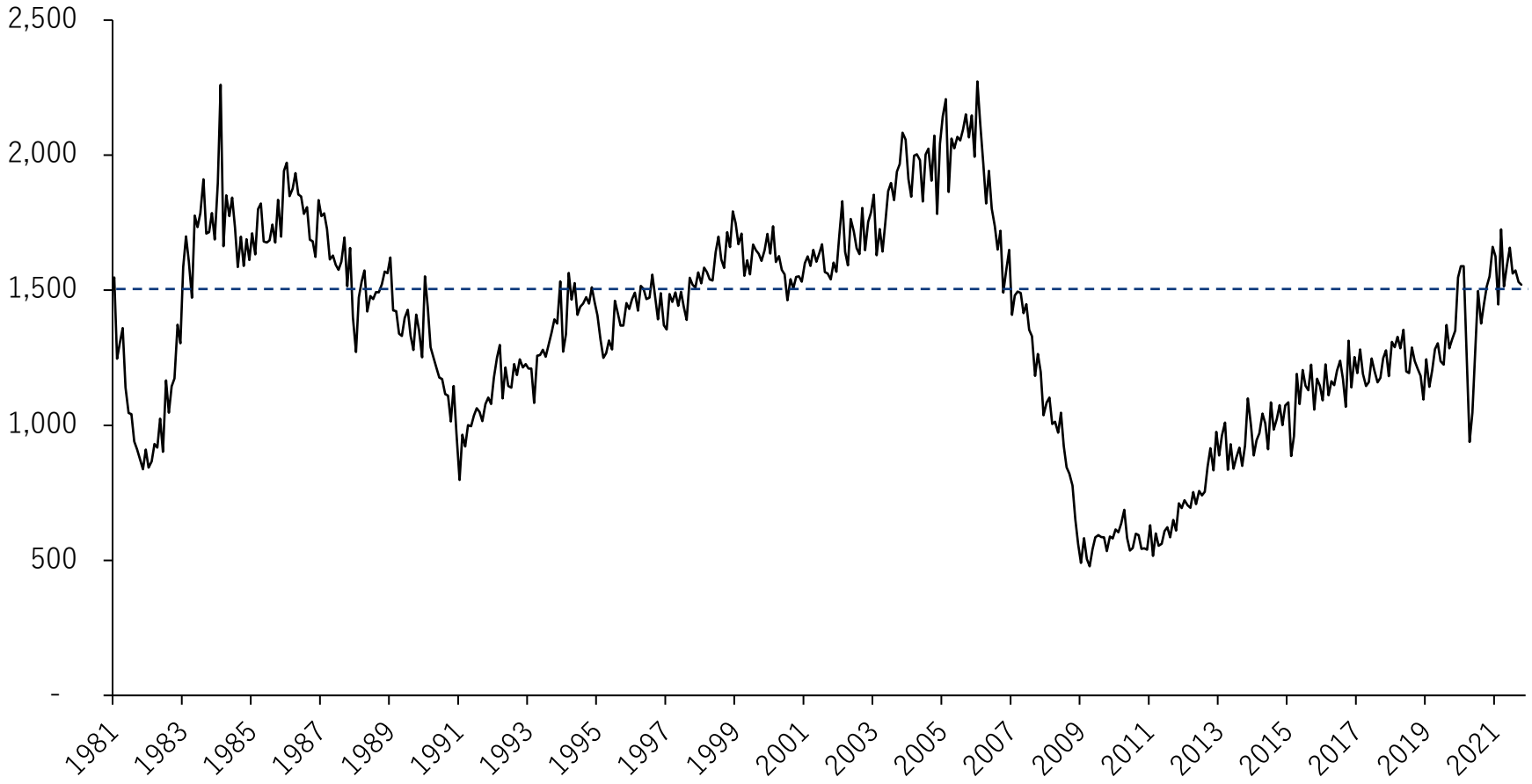
NVR is one of the largest homebuilders in the U.S. with a primary focus on Washington D.C. and Baltimore metro areas



Source: S&P Capital IQ

New construction of housing units

Housing is cyclical, but new construction tends to grow in line with population and job growth with long-run average at ~1.5M units



Cyclicality – case study (NVR)

Cyclical trough = underearning asset and inflated earnings multiple

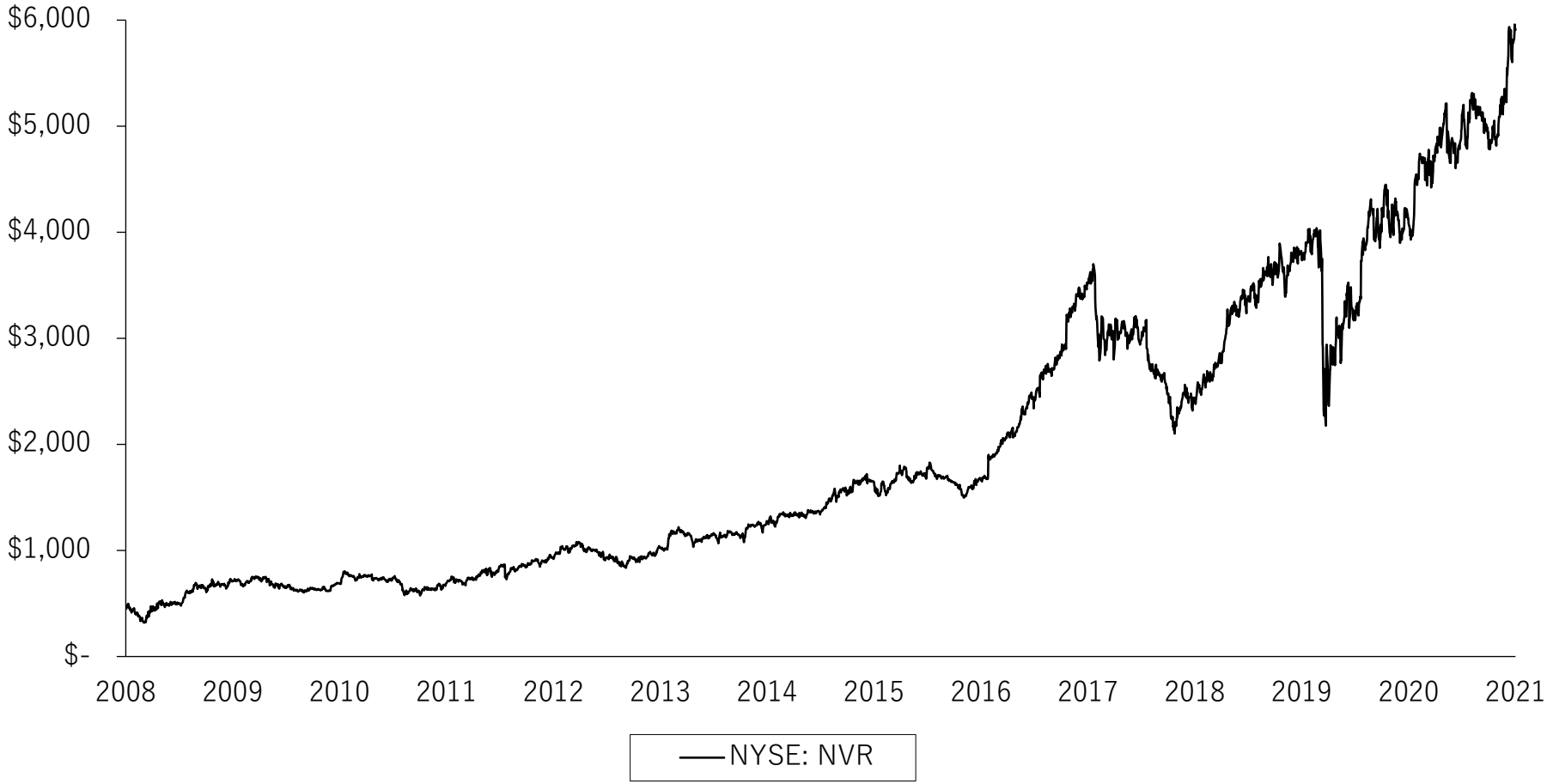
NVR's earnings were depressed during the great recession, so at this point the company looked very expensive on a screener

- You can adjust for this by estimating the **mid-cycle** earnings to determine the company's true earnings power (through-the-cycle)
- You can use earnings from a "normal" year or apply an a "normal" margin to the topline to estimate mid-cycle earnings

	Cyclical Trough
NVR	If you used net profits from 2005, then NVR was trading at ~5.6x P/E in 2009 instead of ~40x; well below its historical average of around 9.4x.

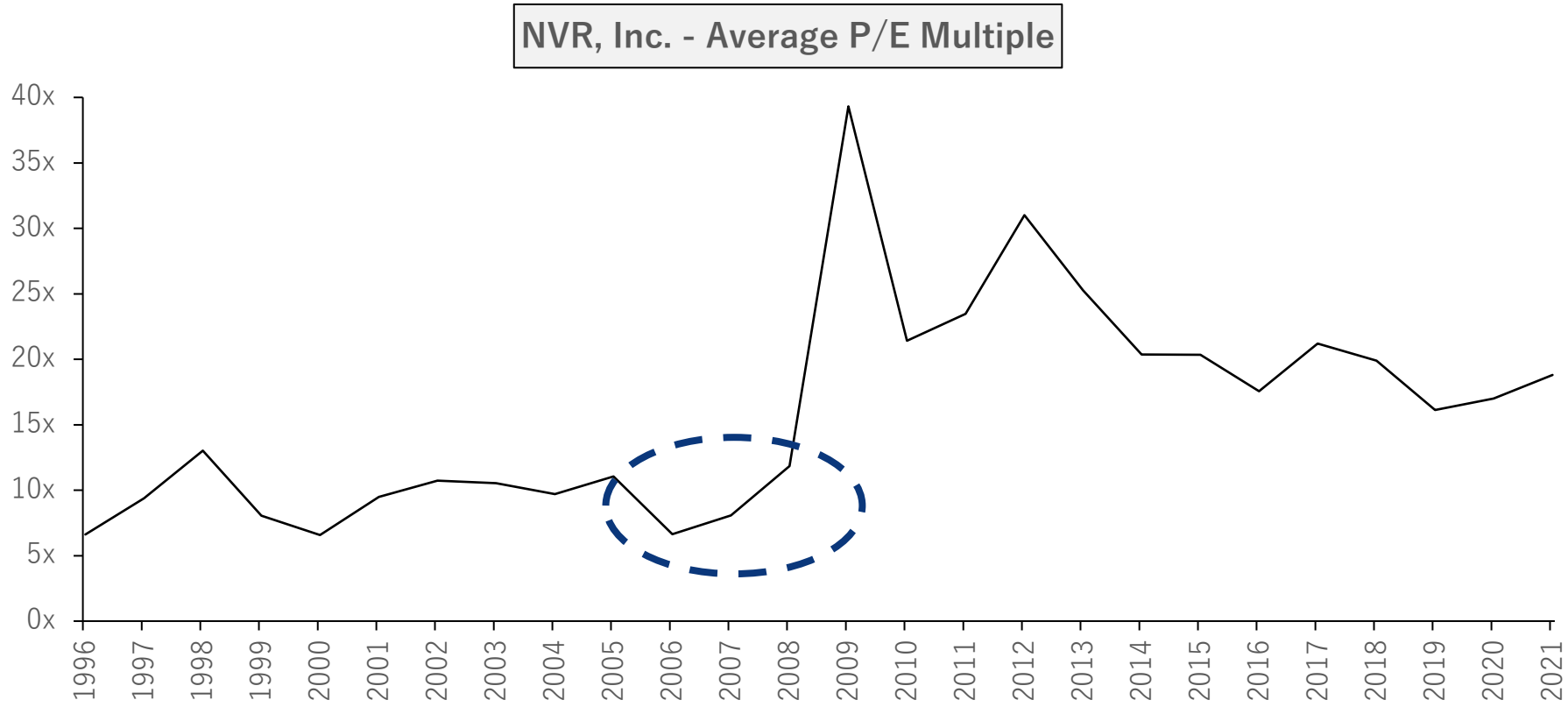
Cyclicality – case study (NVR)

From 2009 to 2021, NVR stock increased ~13x growing at a 22% CAGR compared to the S&P 500's 15% CAGR during the same time frame



Cyclicality – case study (NVR)

Cyclical peaks can also make companies look cheaper than they really are… NVR looked the "cheapest" from 2006 to 2008 but…



Source: S&P Capital IQ

New construction of housing units

New construction was above trend and significantly “overearning”…
The boom in new construction was bound for a correction

Cyclicality – case study (NVR)

From mid-2005 to March 2009, NVR stock declined by ~65%, despite the fact that P/E multiples expanded during that time… Cycles prevail!

Operating leverage – case study (NFLX)

Operating leverage = leverage in company's cost structure

Sometimes, companies have very high fixed costs, but very low marginal cost, and as a result, **margins** become a **function of change in sales**

- High operating leverage = large change in operating profit for each additional dollar of sales
- Low operating leverage = small or no change in operating profit for each additional dollar of sales

	Under-Monetization + High operating Leverage
NETFLIX	Content is a fixed cost; adding new users allows NFLX to spread its content costs over more users. Incremental subscription = incremental profit.

Operating leverage – case study (NFLX)

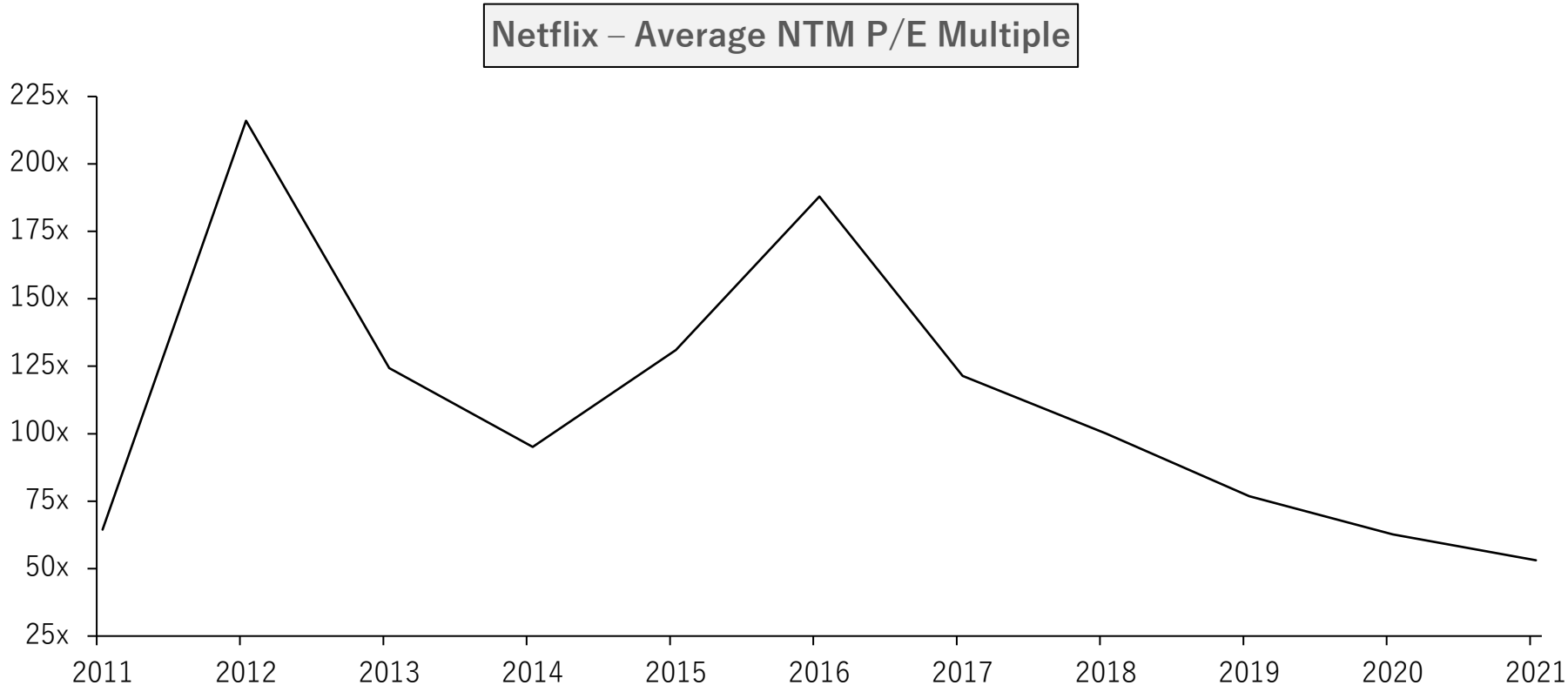
NETFLIX	Under-Monetization + High operating Leverage
	Content is a fixed cost; adding new users allows NFLX to spread its content costs over more users. Incremental subscription = incremental profit.

How does operating leverage relate to multiples?

- In the case of NFLX: margins today ≠ margins tomorrow
- If you were to use a trailing EV/EBIT multiple on NFLX, you're not giving them credit for any margin expansion in the future
- This is when other multiples like EV/Sales or EV/Subscriber come in handy; you can compare based on potential future earnings power

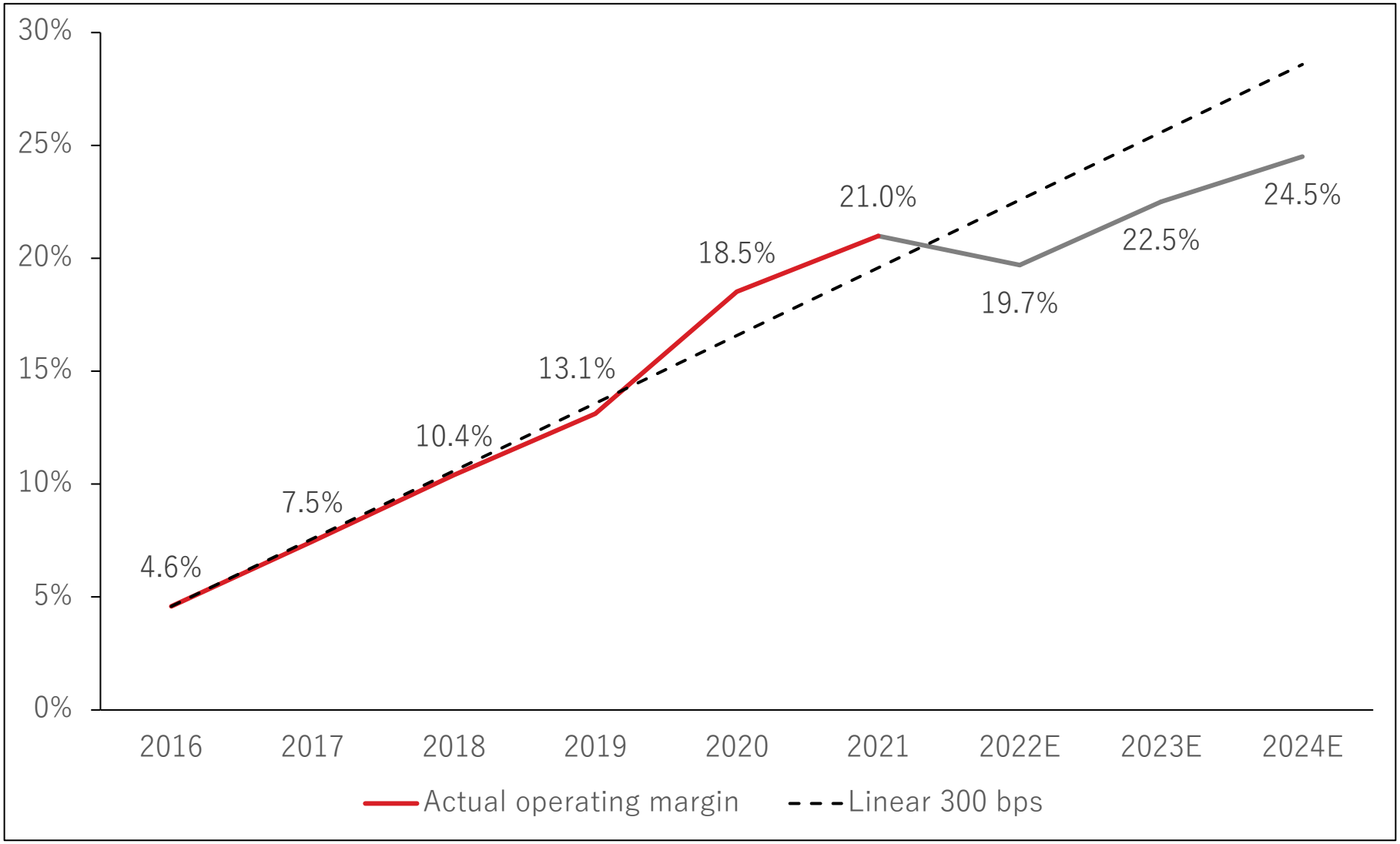
Operating leverage – case study (NFLX)

Netflix was trading at 200x+ its forward GAAP earnings back in 2012, and in hindsight, the stock was very cheap!



Source: S&P Capital IQ

Operating leverage – case study (NFLX)



Operating leverage – case study (NFLX)

From 2012 to 2021, NFLX stock increased ~58x growing at a ~50% CAGR compared to the S&P 500's ~16% CAGR

Earnings power

Question: What do these three situations have in common?

- **Cyclical Trough** – Oil and gas E&P companies' earnings are depressed due to COVID-19 with oil at <$30/barrel
- **Non-Earning Assets** – GOOG loses ~$10 billion/year on GWS and Other Bets (non-core venture capital spending); traditional earnings multiples assign negative value to these non-earning assets
- **Under-Monetization** – NFLX has lots of levers they can pull; price increases (cheaper than cable), disallowing shared accounts, etc.

Using a multiple on past earnings does not give these companies credit for their **true earnings power**

As investors, we care much more about "true" **future** earnings power than **past** earnings, which could be distorted

> A great company is not a great investment if you pay too much for the stock.

BENJAMIN GRAHAM
Co-Founder of Graham-Newman

> Truly dominant companies that are able to achieve rapid, durable and highly profitable growth [are] very, very hard to overprice based on near-term multiples. The basic equations of finance were not built to handle high-double-digit growth as far as the eye can see, making the valuation of rapid growers a complicated matter.

HOWARD MARKS
Chairman of Oaktree Capital