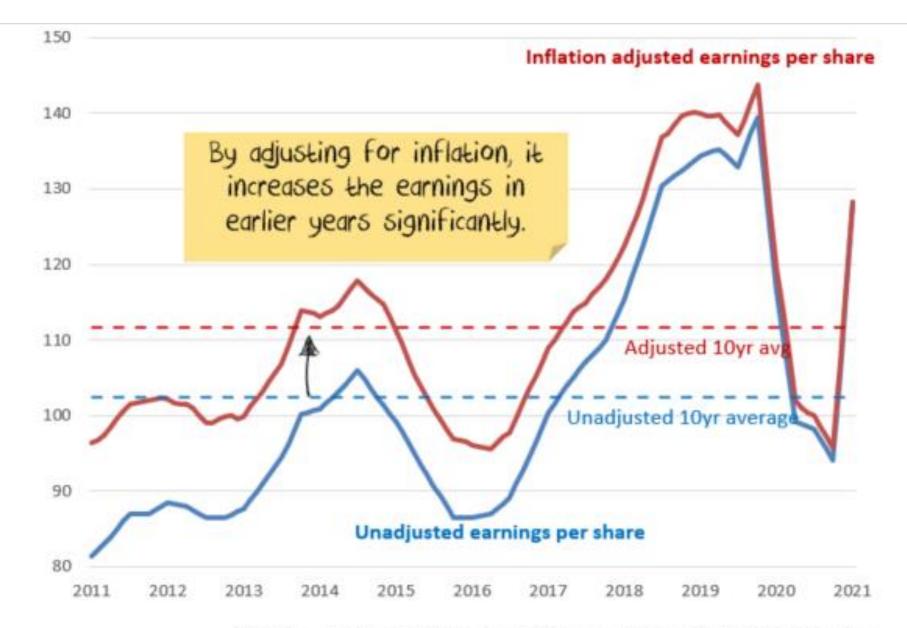




Agenda: Shiller P/E

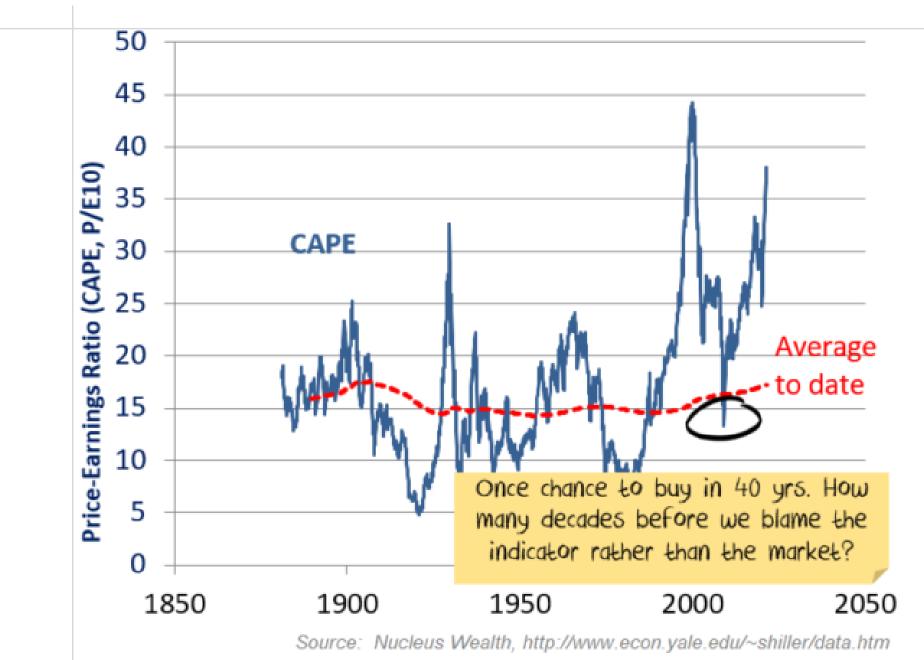
- Background
- The simple changes
- The complex changes
- Investment outlook

Background - Shiller P/E



Source: Nucleus Wealth, http://www.econ.yale.edu/~shiller/data.htm

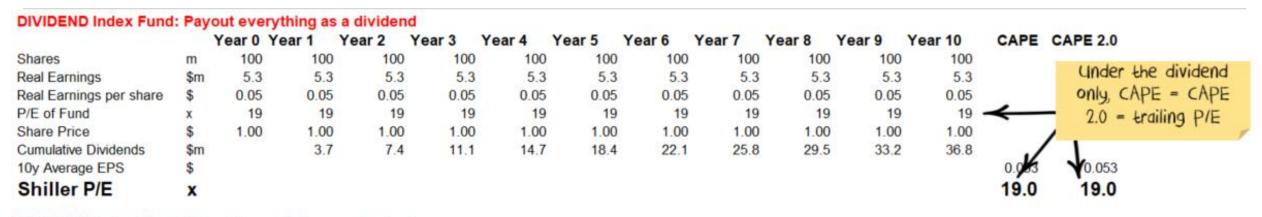
Background - Shiller P/E



Simple Change 1: Tax Rate Changes

- Last 10 years have had 6 years of 35% corporate taxes, 4 years of 21%
- Switch to
 - Average pretax profits
 - Apply today's tax rate

Simple Change 1: Buy Back Adjustment



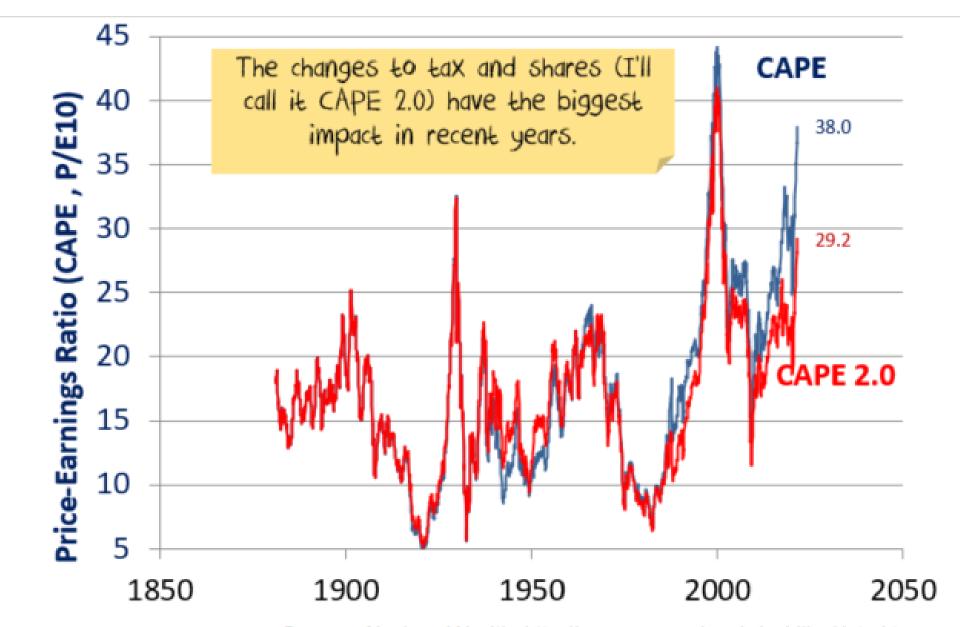
BUYBACK Index Fund: Payout everything as a buyback

		Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	CAPE CAPE 2.0
Shares bought back	m		3.7	3.5	3.4	3.3	3.2	3.1	2.9	2.8	2.7	2.6	
Shares	m	100.0	96.3	92.8	89.3	86.1	82.9	79.8	76.9	74.1	71.3	68.7	Under the buyback only,
Real Earnings	\$m	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	CAPE 2.0 = trailing P/E
Real Earnings per share	\$	0.05	0.05	0.06	0.06	0.06	0.06	0.07	0.07	0.07	0.07	0.08	
P/E of Fund	x	19	19	19	19	19	19	19	19	19	19	19	41
Share Price	\$	1.00	1.04	1.08	1.12	1.16	1.21	1.25	1.30	1.35	1.40	1.46	
Cumulative Buybacks	\$m		3.7	7.4	11.1	14.7	18.4	22.1	25.8	29.5	33.2	36.8	\
10y Average EPS	\$									D I I	DE DIE		0.065 0.077
Shiller P/E	x										APE P/E i higher		22.4 19.0

Source: Nucleus Wealth

- Use average profits (not per share)
- Apply today's shares

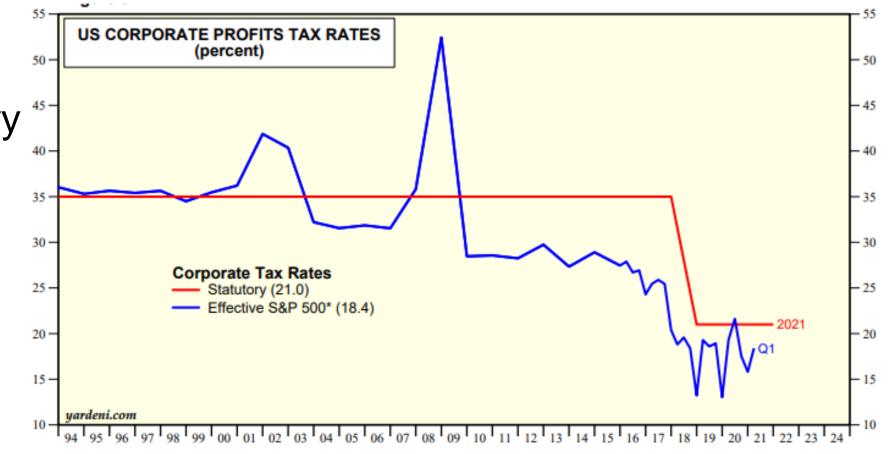
Simple Changes: Net Effect



Source: Nucleus Wealth, http://www.econ.yale.edu/~shiller/data.htm

Complex Change 1: Tax Rates

- International tax
- Actual vs statutory
- Expectations



* Includes US federal taxes and taxes collected by other domestic and foreign taxing authorities. Derived from S&P Analyst Handbook, where tax rate is income tax as percentage of pre-tax income. Source: Internal Revenue Service and Standard & Poor's.

Complex Change 2: Accounting Standards

- Pandemic: 1919 vs 2020
- Example company with \$100 per year in earnings:
 - It buys an asset for \$50, earning \$5 per year.
 - Now company earnings are \$105.
 - \circ Then the asset hits trouble, and the earnings fall to -\$1.
 - The asset gets written down to zero.
 - Company earnings are \$100-\$1-\$50 = \$49 for one year and then \$99 after that.
- Investors only care about \$99 and current capital structure

Complex Change 2: Accounting Standards

- Fake Writedowns
- Sources of Data
- Goodwill Amortisation
- Pre 2000 data.
- Effect: P/Es less extreme around crises

Complex Change 3: Depreciation and inflation

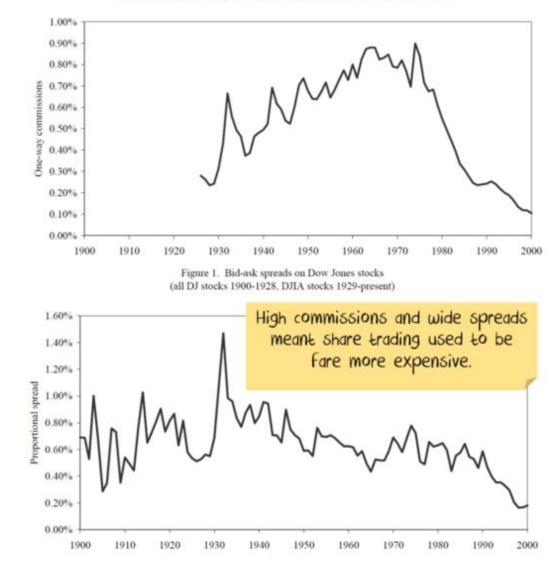
- Profit overstatement
- If capex and inflation constant, doesn't matter
- Harvard survey 1977:

Exhibit V Effect on stockholde (dollar figures in bill			nd net in	come				
	His	storical cost	Replac	cost	Increase (decrease)		Percentage increase (decrease)	
Stockholders' equity	\$	208.1	S	346.8	\$	138.7	66.7 %	
Net income	s	30.9	\$	20.0	\$	(10.9)	(35.3)%	
Rate of return on stockholders' equity		14.9%		5.8%		(9.1)?	6 (61.1)%	

Complex Change 4: Trading and spreads

Figure 3. Average commissions on round-lot transactions in NYSE stocks (based on fixed schedule pre-1968 and member commission revenue thereafter)

- Pre-fee return or post fee
- Diversification ease?
- Trading volumes



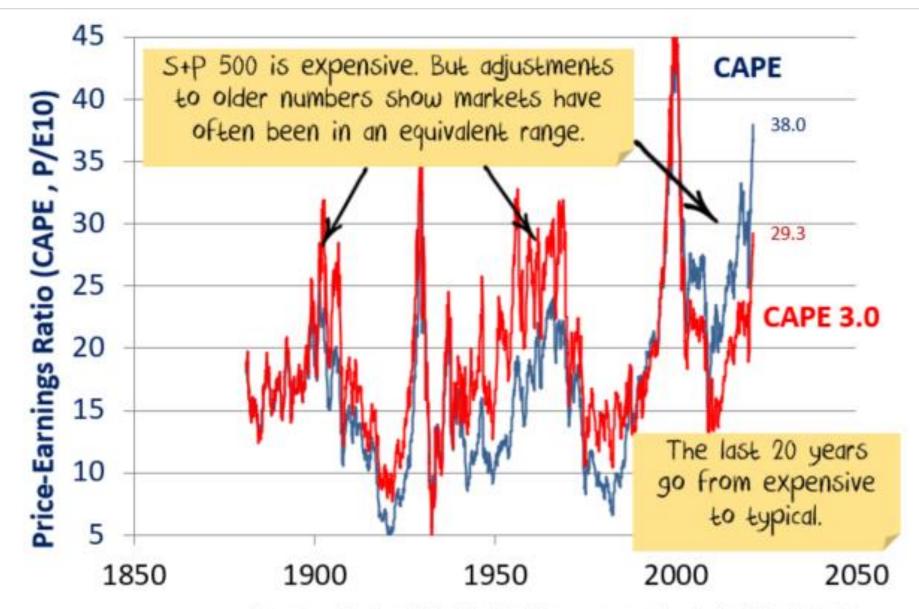
Portfolio of 3 stocks: A, B, C.

- If A&B make \$100 each, C loses \$100, net earnings are \$100.
- Put that on 20x earnings and portfolio is worth \$2,000
- But what happens if C goes broke? Now net earnings are \$200.
- Should the value of my shares in A and B be worth more because C went broke? That doesn't make sense.
- Or is it just that my portfolio should be still worth \$2,000 and it is now on 10x earnings?

Complex Change 6: Re-investment

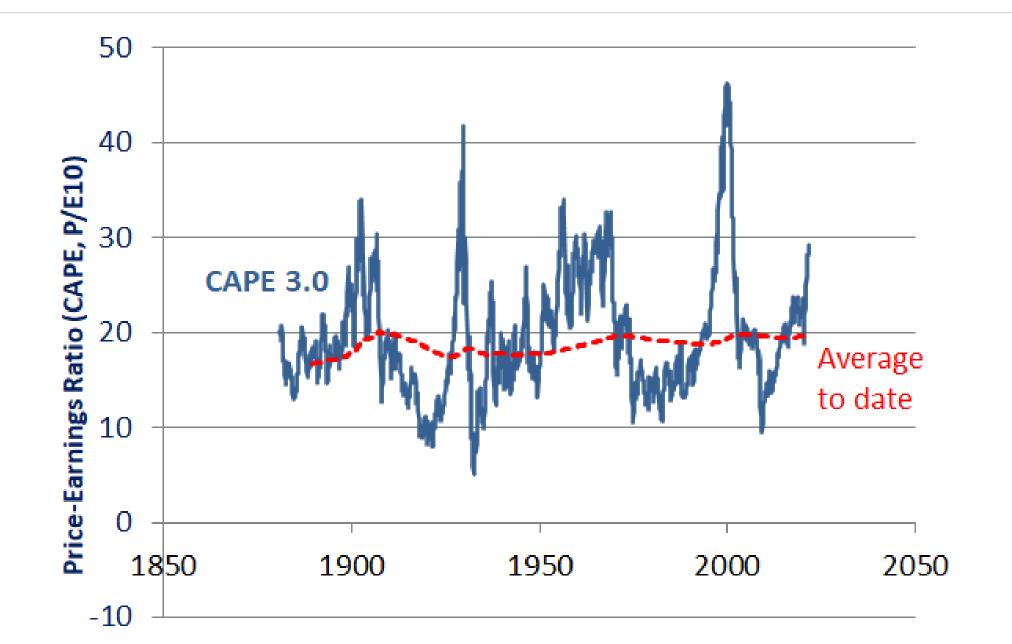
- Some say if companies retain capital by paying lower dividends, future growth should be higher. I disagree.
- Companies, A, B and C. All make \$100 in earnings in year 0 and want to make an investment of \$75 in year 1:
 - A: \$25 dividend, retains \$75 for investment
 - B: \$50 dividend, buyback \$50, borrows \$75 for investment
 - C: \$100 dividend, raise \$75 of new shares for investment
- Need to adjust consistently.

Investment implications

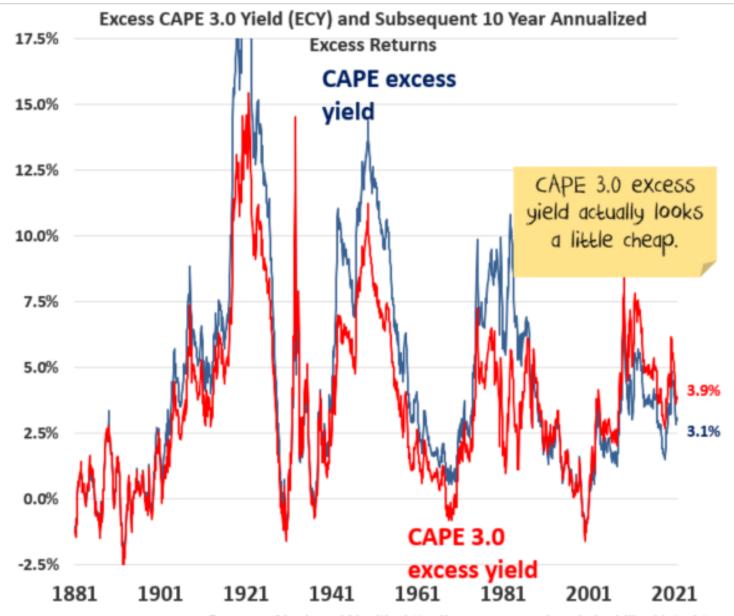


Source: Nucleus Wealth, http://www.econ.yale.edu/~shiller/data.htm

Investment implications



Investment implications



Source: Nucleus Wealth, http://www.econ.yale.edu/~shiller/data.htm

Does valuation even matter anymore?

Drop your answers in the comments

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