Risk, Return and Forecast
Negative Correlation of BETA and PE

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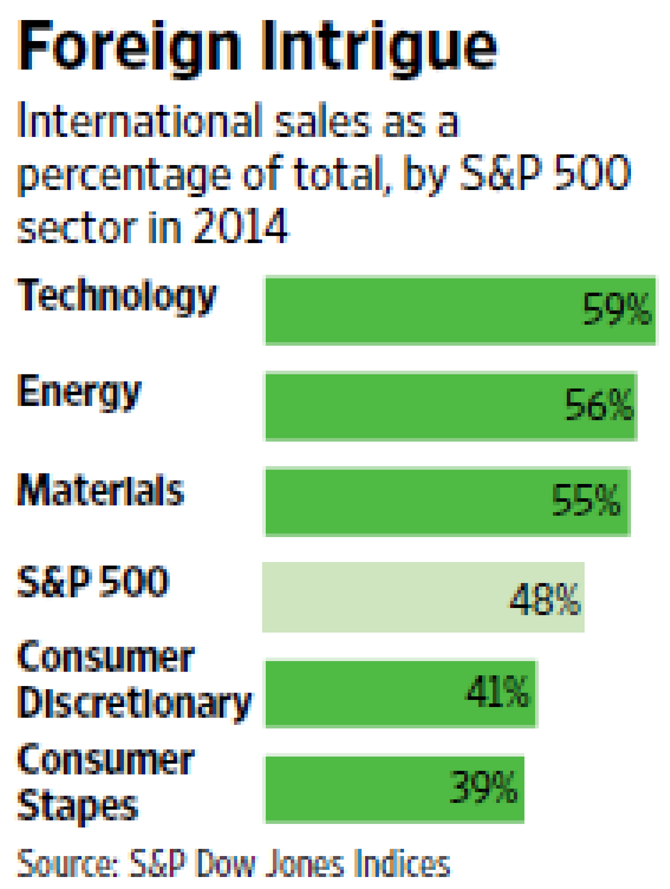
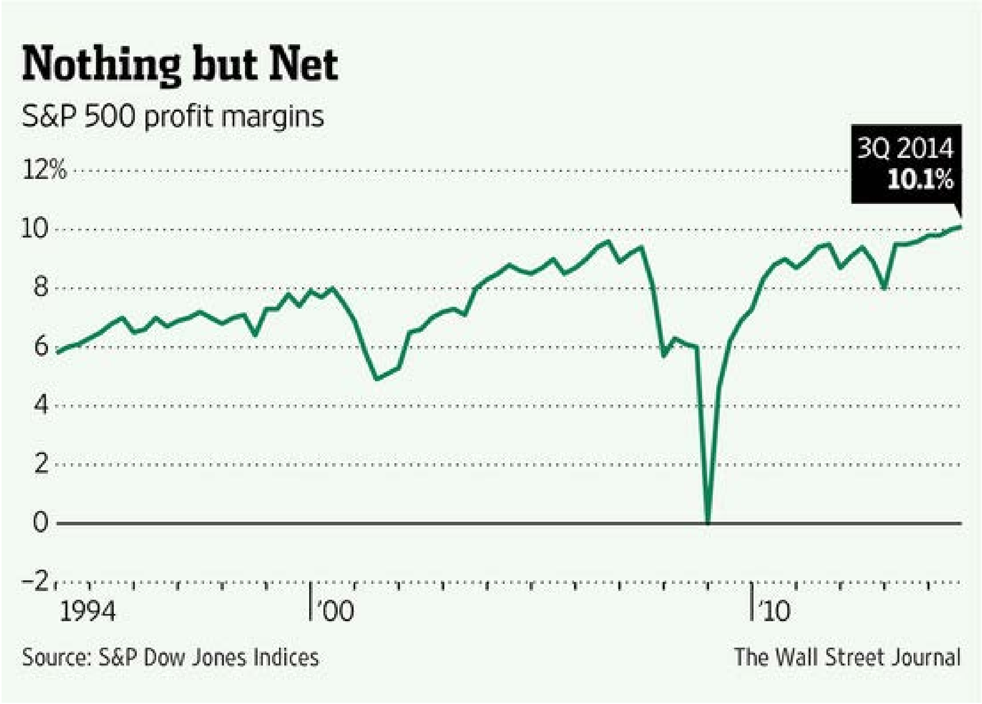
Abstract

We all want to forecast returns. Profits are the main sources of corporate valuation increase and price earnings ratio has been widely used to select stocks. Half of the US corporate profits come from international sales and that also depends on currency rate, too. This research re-visits traditional PE ratio approach and propose new implication of PE ratio approach using risk consideration.

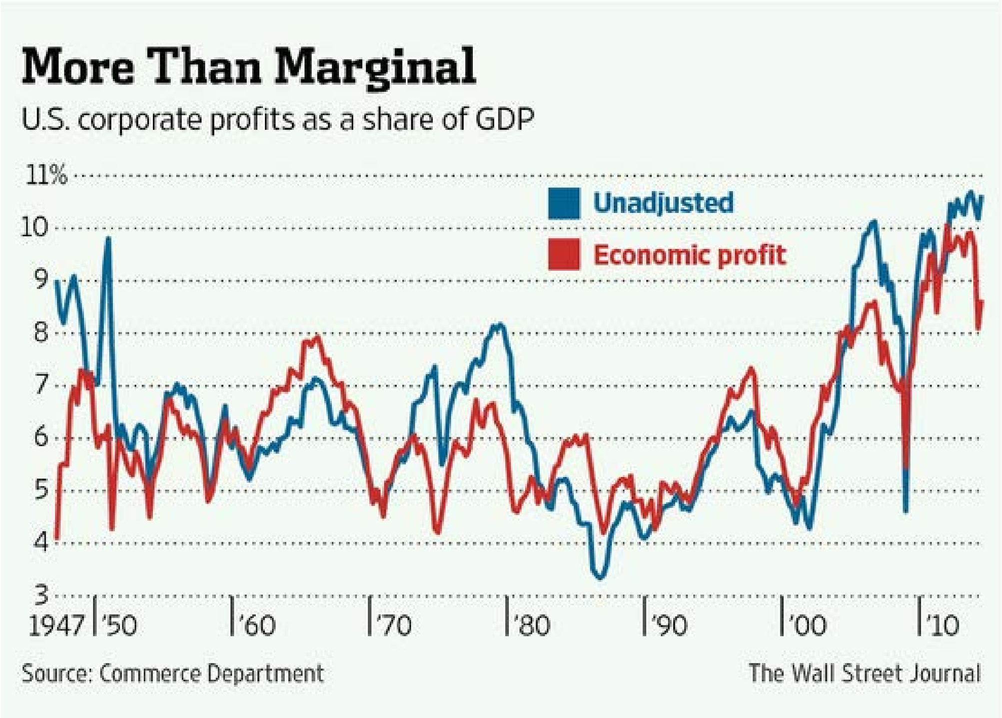


Earnings and Profits

US profit margins steadily increased to record high 10 percent from financial crisis in 2009.



And increased to record high of 10 percent of US GDP of 17 trillion dollars.



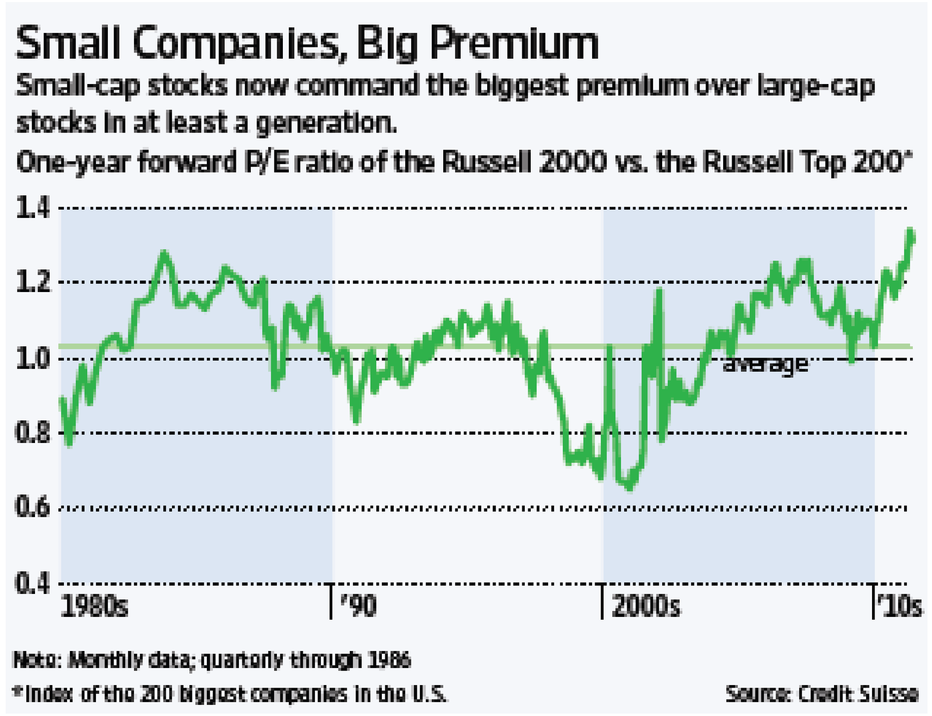
Price/Earning Ratio Forecast

PE(Price-Earning) ratio has long been used to forecast undervalued stocks. Nobel Laureate Robert Shiller reported low PE ratio signals stock prices are undervalued. As shown below Lower PE ratio stock performs better in the future compare to Higher PE ratio stocks, especially in the long run.

Recent study shows the lowest decile of Shiller PE ratio outperforms highest decile of Shiller PE ratio with a wide margin.

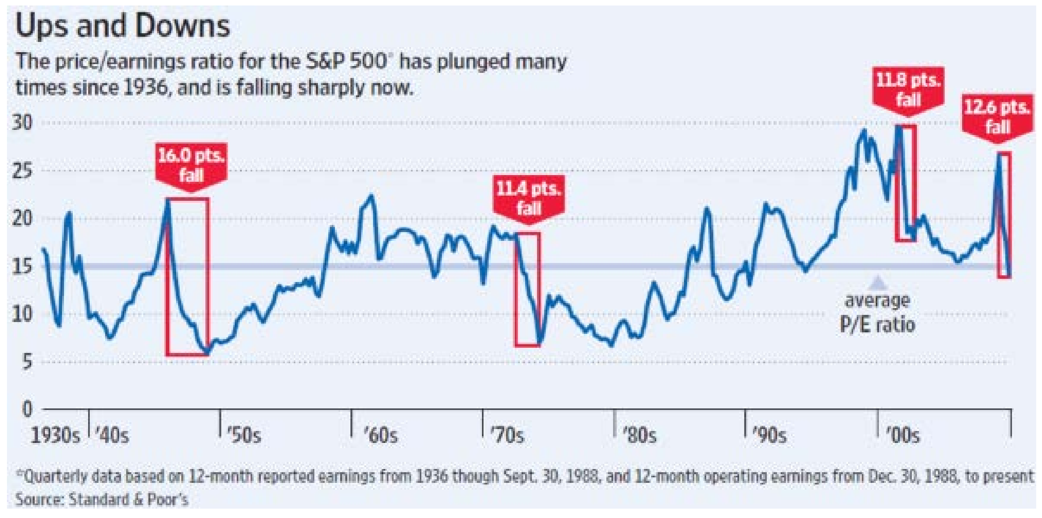
Size Factor in PE ratio

Company size factors has been reported for PE ratio analysis. Small stocks command premium over large cap stocks.



Price/Earning Ratio History

US Price/Earning ratio has been fluctuated around 15 with high of 30 and low of 5 for the last 100 years.

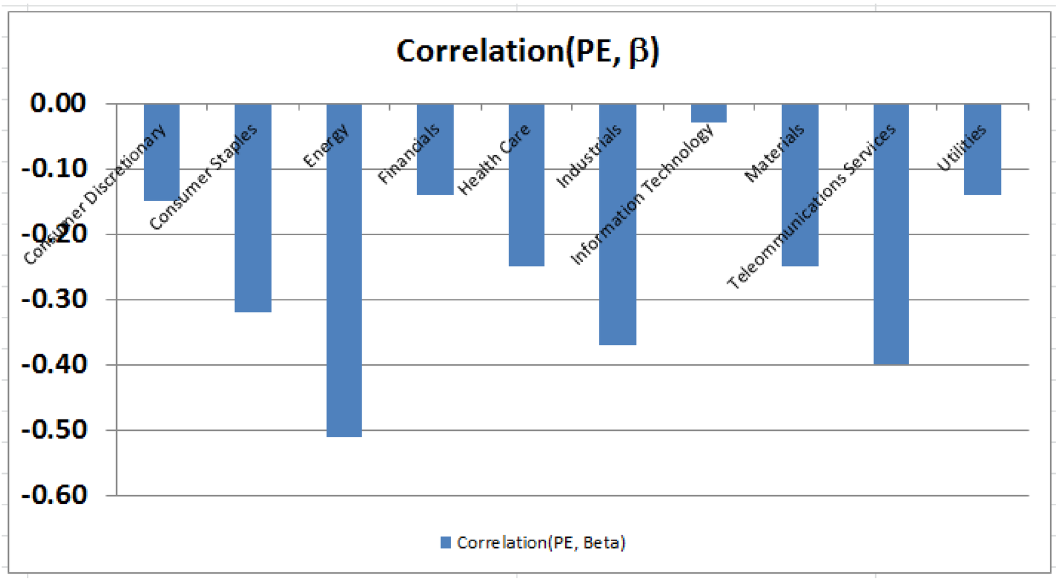


RiskAdjusted PE (Beta PE)

Low PE ratio stocks mean they are under-priced so they will increase more than average. This notion has been more return for investments. This research investigate whether those extra returns come from Low PE or other sources. I used SP 500 stocks data in Yahoo and Google finance website and compare PE ratio and risk measure Beta.

Findings show that correlations of PE ratio and Beta is negative in every industries, this means low PE ratio stocks have higher Beta (i.e. more risk). So, more return from Low PE stocks may come from High risk of Low PE stocks.

We need Risk-adjusted PE ratio to see the function of Low PE ratio for Forecasting.



CONCLUSION

We need Risk-Adjusted PE ratio to measure the forecasting power of PE ratio and I propose to use Beta adjusted PE ratio to measure the effect of PE ratio for future forecasting power.

	Industry	Correlation(PE, Beta)
1	Consumer Discretionary	-0.15
2	Consumer Staples	-0.32
3	Energy	-0.51
4	Financials	-0.14
5	Health Care	-0.25
6	Industrials	-0.37
7	Information Technology	-0.03
8	Materials	-0.25
9	Teleommunications Services	-0.40
10	Utilities	-0.14