Analysis of annual stock return by evaluating 10-K filings

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AREAS:

- All the listing companies in NASDAQ (4715 listings) in 2016
- 11 industry sectors:

Companies by Industry

⚙	Basic Industries	💵	Finance
🔧	Capital Goods	🏢	Healthcare
🛒	Consumer Durables	💼	Miscellaneous
🏷	Consumer Non-Durables	💡	Public Utilities
👥	Consumer Services	💻	Technology
🔌	Energy	🚗	Transportation

By evaluating what financial features can I get substantial information about the annual stock return?

Scraped from

Yahoo Finance:

Annual stock return for all NASDAQ listings in 2016
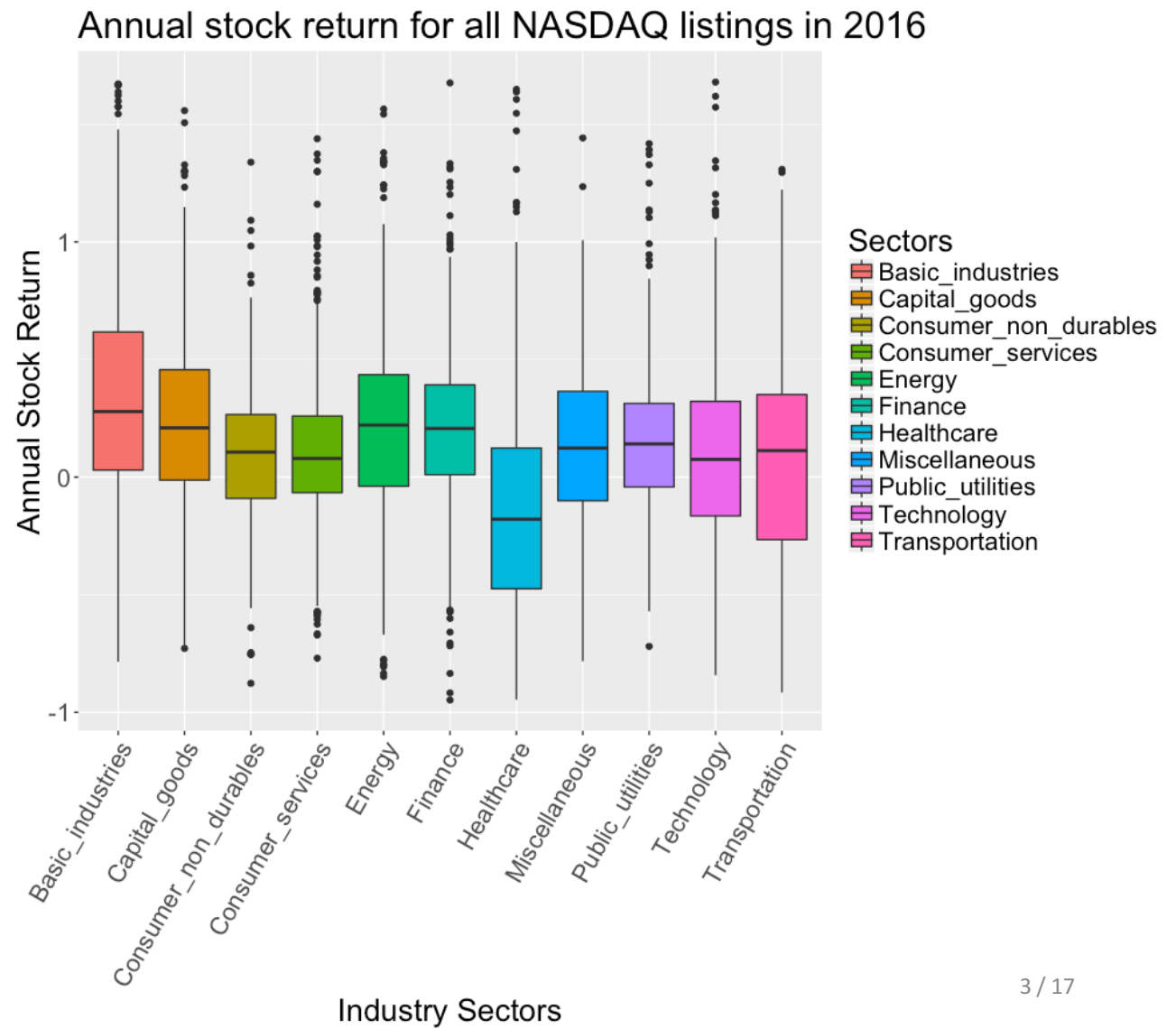
What is the 10-K file

- A 10-K is a comprehensive summary report of a company's performance that must be submitted annually to the Securities and Exchange Commission. Typically, the 10-K contains much more detail than the annual report. It includes information such as company history, organizational structure, equity, holdings, earnings per share, subsidiaries, etc.

- The 10-K must be filed within 60 days (it used to be 90 days) after the end of the fiscal year.

THE COCA-COLA COMPANY AND SUBSIDIARIES

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Scraping the database of sec.gov, three indicators used:

- Return on assets: Net income / Total assets

Return on assets (ROA) is an indicator of how profitable a company is relative to its total assets. ROA gives an idea as to how efficient management is at using its assets to generate earnings.

- Return on equity: Net Income / Shareholder's Equity

Return on equity (ROE) measures a corporation's profitability by revealing how much profit a company generates with the money shareholders have invested.

- Current ratio: Current assets / Current liabilities

The current ratio is mainly used to give an idea of the company's ability to pay back its liabilities with its assets, it can be used to take a rough measurement of a company's financial health.

Total assets of NASDAQ listings in fiscal year of 2016
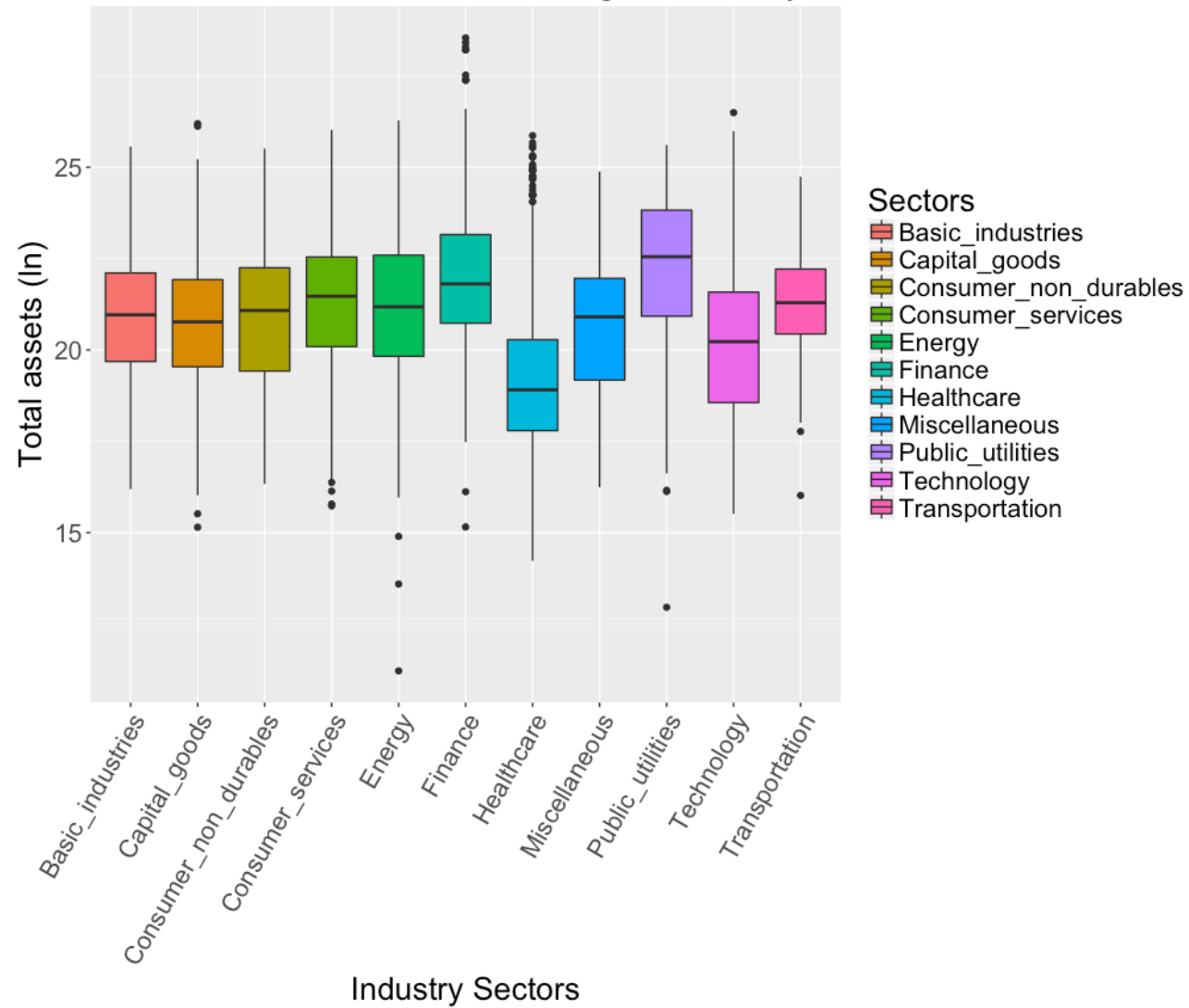
Return on equity of NASDAQ listings in the fiscal year of 2016
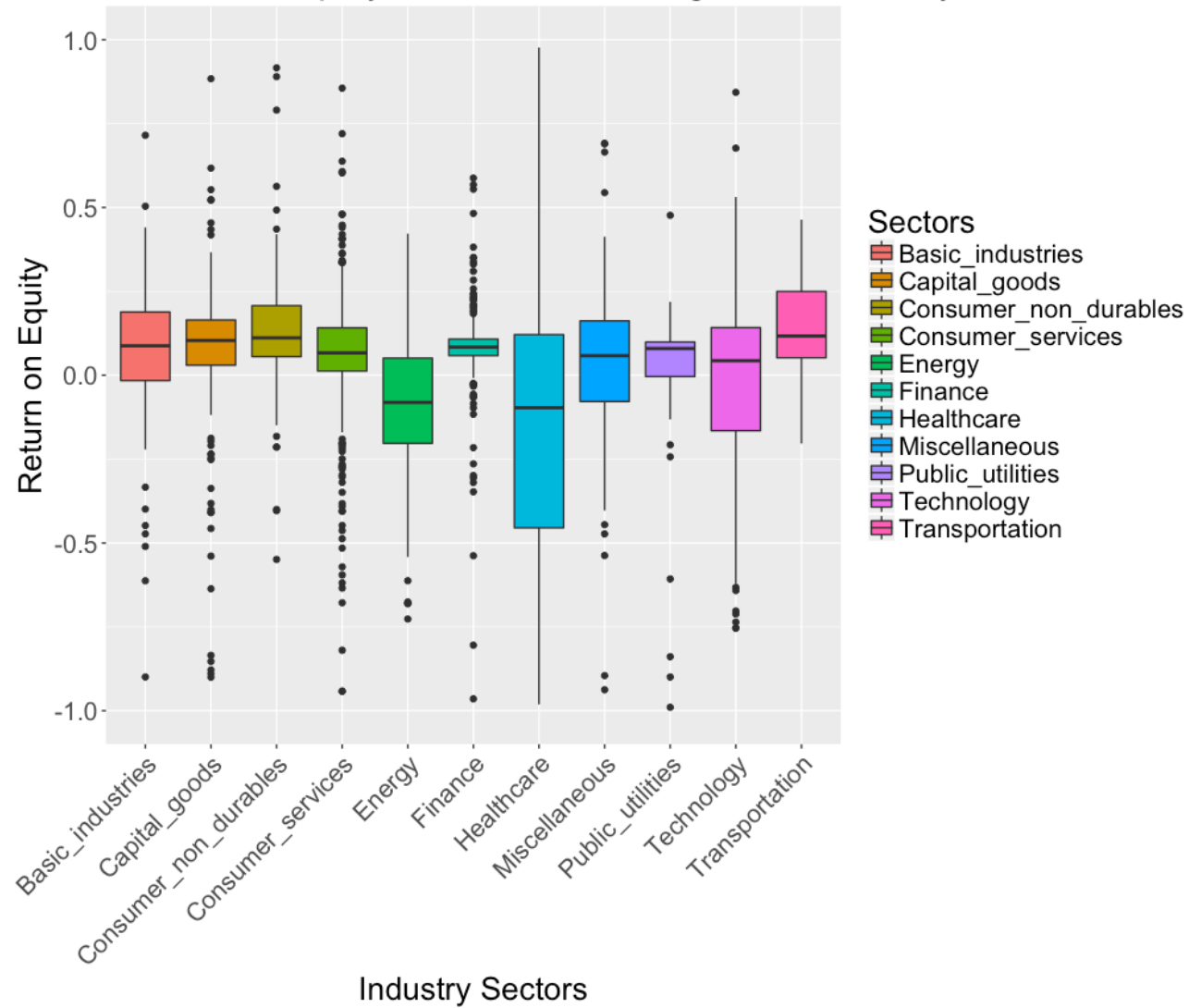
Return on assets of NASDAQ listings in the fiscal year of 2016
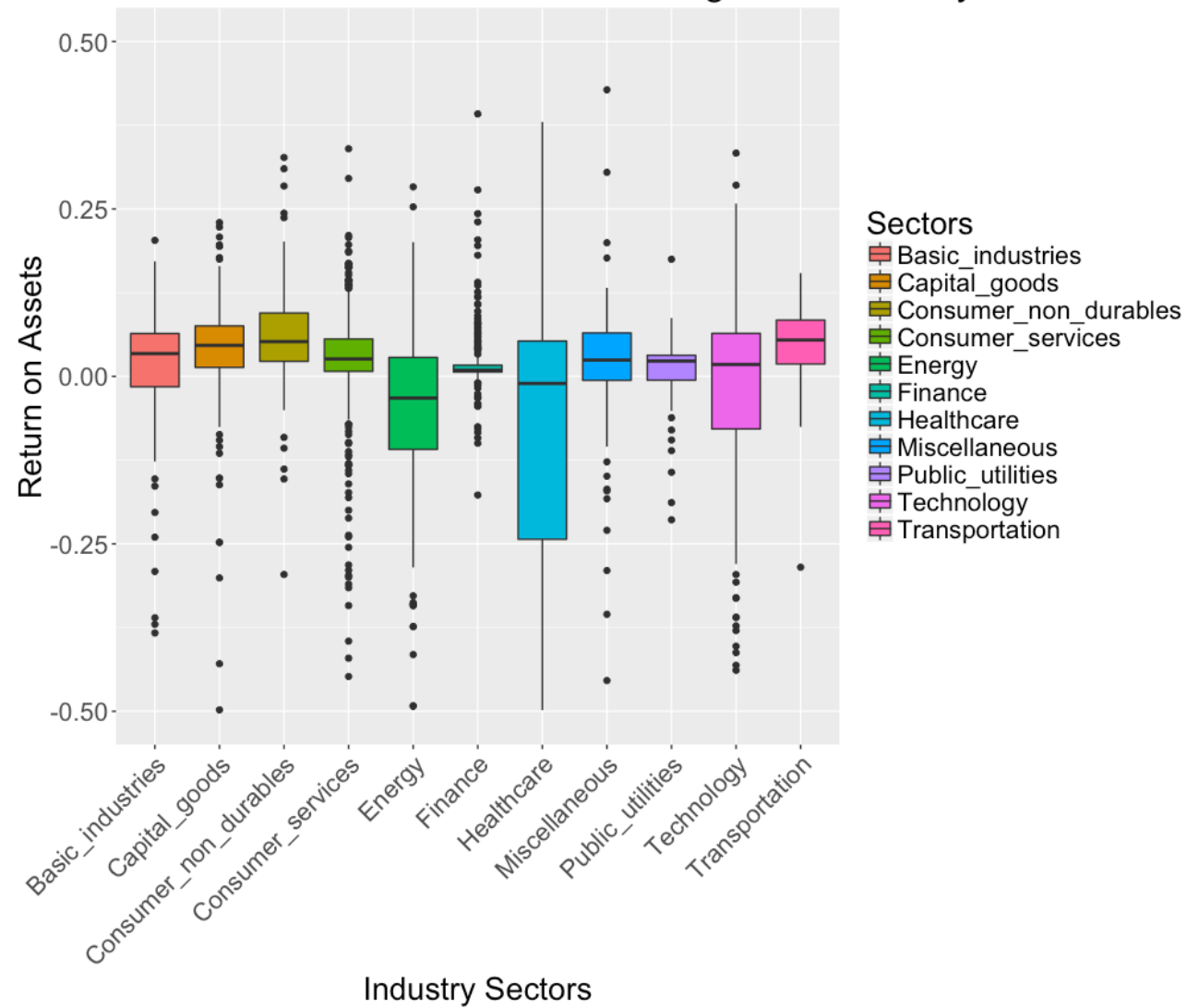
Current ratio of NASDAQ listings in the fiscal year of 2016
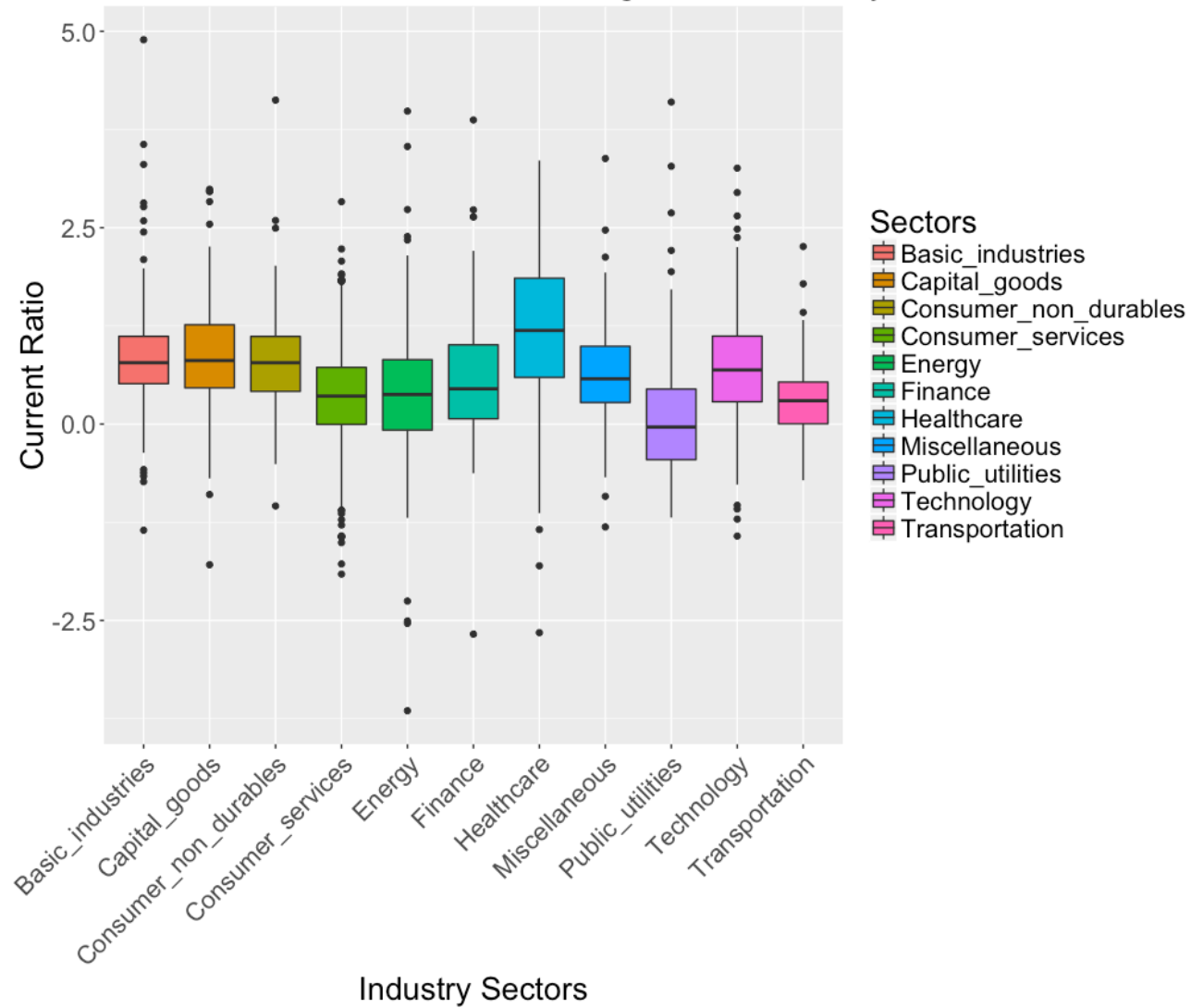
Annual stock return vs. Return on equity in 2016
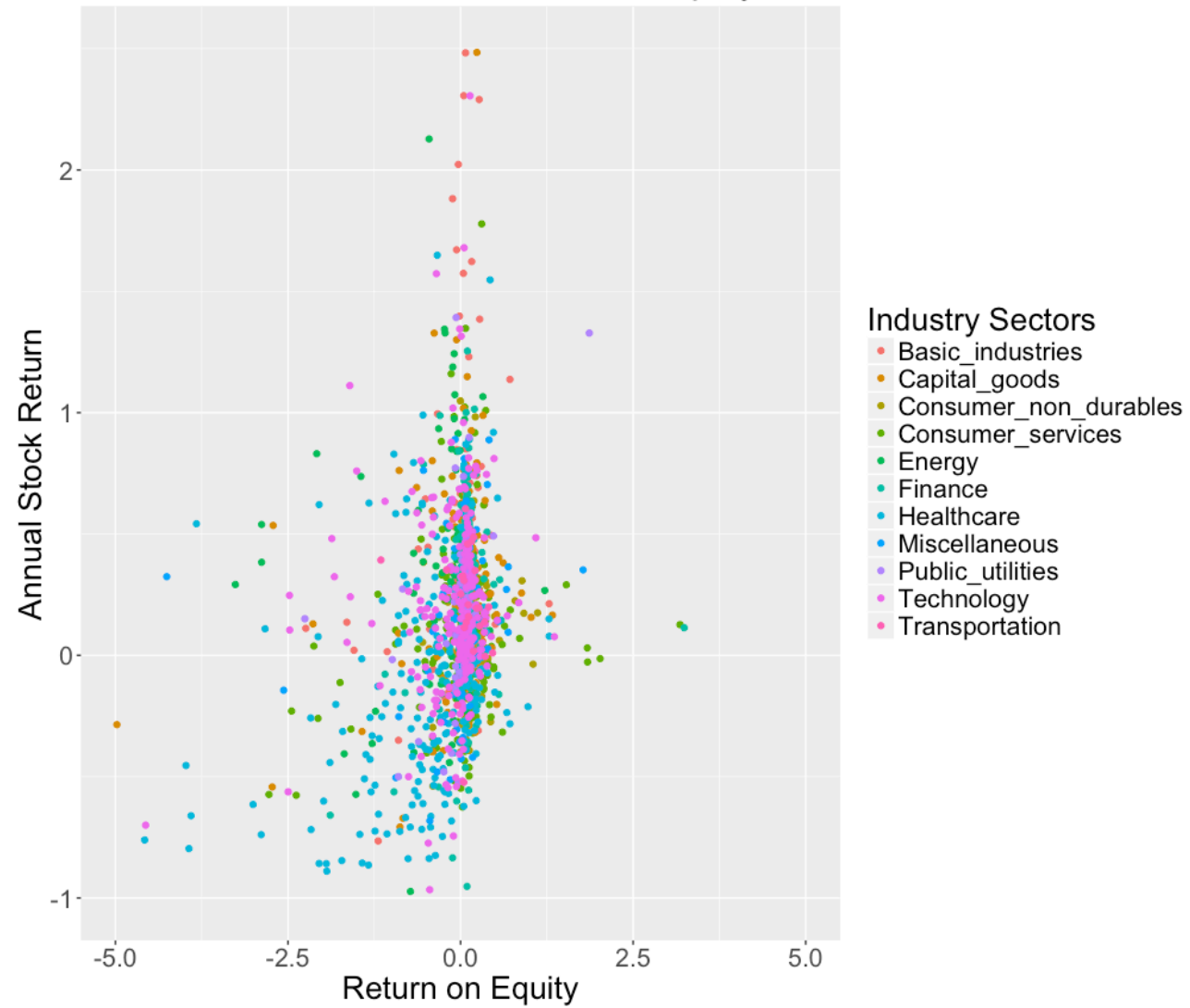
Annual stock return vs. Return on assets in 2016

Annual stock return vs. Current ratio in 2016

Industry Sectors
- Basic_industries
- Capital_goods
- Consumer_non_durables
- Consumer_services
- Energy
- Finance
- Healthcare
- Miscellaneous
- Public_utilities
- Technology
- Transportation

Simple linear regression: Annual stock return vs. Return on equity

Sectors	Intercept	Slope	p-value for Intercept	p-value for slope
Basic Industries	0.355231621	0.18247217	1.58E-15	0.028546516
Capital Goods	0.336702101	0.126801624	4.02E-28	0.106128202
Consumer non Durables	0.225510762	0.018302826	1.49E-12	0.466077375
Consumer services	0.165893504	0.00813999	4.33E-30	0.494754911
Energy	0.368675068	-0.002923266	8.07E-10	0.855902605
Finance	0.358726929	0.347776918	2.06E-60	0.006366251
Healthcare	0.05743789	0.200523609	0.055878211	7.04E-10
Miscellaneous	0.215358904	0.07464239	1.89E-05	0.231190295
Public Utilities	0.240638978	0.263049961	2.72E-12	0.000595729
Technology	0.261536342	0.069303433	1.04E-22	0.095897413
Transportation	0.373388909	-0.009137745	1.88E-06	0.79221854

Simple linear regression: Annual stock return vs. Return on assets

Sectors	Intercept	Slope	p-value for Intercept	p-value for slope
Basic Industries	0.330594989	0.596238709	1.66E-15	0.004437525
Capital Goods	0.303064458	0.361889481	3.36E-30	1.58E-05
Consumer non Durables	0.170056788	0.765273808	9.45E-07	0.012500255
Consumer services	0.142080656	0.69679516	7.88E-26	1.58E-07
Energy	0.366266572	0.232100176	2.70E-13	0.281701288
Finance	0.352035813	-0.125288529	1.03E-71	0.72050919
Healthcare	0.025691108	0.299685086	0.457359828	2.92E-08
Miscellaneous	0.198963377	0.210699384	2.89E-05	0.156874055
Public Utilities	0.208522685	2.405875682	1.58E-14	1.31E-06
Technology	0.252271318	0.281154548	3.06E-23	0.000146544
Transportation	0.36413647	-0.229605123	4.19E-06	0.743215475

Simple linear regression: Annual stock return vs. Current assets

Sectors	Intercept	Slope	p-value for Intercept	p-value for slope
Basic Industries	0.370656669	-1.13E-12	6.87E-19	0.910464037
Capital Goods	0.305918824	-2.42E-12	7.05E-30	0.309531081
Consumer non Durables	0.215105954	-1.47E-12	2.43E-15	0.770846634
Consumer services	0.167368009	-2.18E-12	2.43E-21	0.512133029
Energy	0.267368348	7.92E-13	1.51E-10	0.940114503
Finance	0.132306628	2.75E-12	0.001364733	0.497072028
Healthcare	-0.134979771	6.94E-12	2.72E-07	0.096389706
Miscellaneous	0.238054911	-6.02E-12	1.27E-07	0.506012428
Public Utilities	0.20567902	1.01E-11	5.27E-13	0.245790194
Technology	0.158163786	1.02E-12	4.46E-13	0.514683949
Transportation	0.277715154	3.14E-13	2.53E-06	0.985370257

Conclusion

Two financial features can be used to be evaluated before potential investments:

- Return on assets:

  Basic Industries / Capital Goods / Consumer non Durables / Consumer services /

  Healthcare / Public Utilities / Technology;

- Return on equity:

  Basic Industries / Finance / Healthcare / Public Utilities.

  Return on assets is the best way to evaluate a bank.

  --Warren Buffett