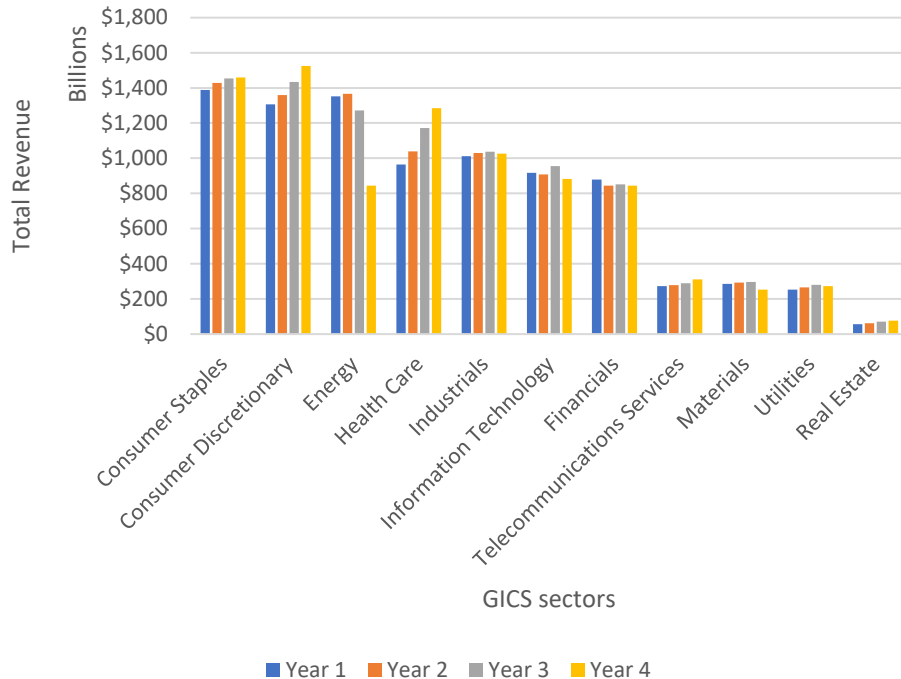# NYSE Data Analysis

By

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Masterschool

GICS Sectors Total Revenue (1)

Total Revenue of NYSE GICS Sectors based on the four years report

NYSE GICS Sectors encountered some extreme volatility during the reported period of years.

From the graph, it can be seen that Energy sector experienced a deep drop of growth from its first year to 4th year of reporting. The total revenue has been dropped from apporx $1.35 trillion in 1st year to approx $0.84 trillion in 4th year of reporting.

GICS Sectors Total Revenue (2)

## Total Revenue of NYSE GICS Sectors based on the four years report
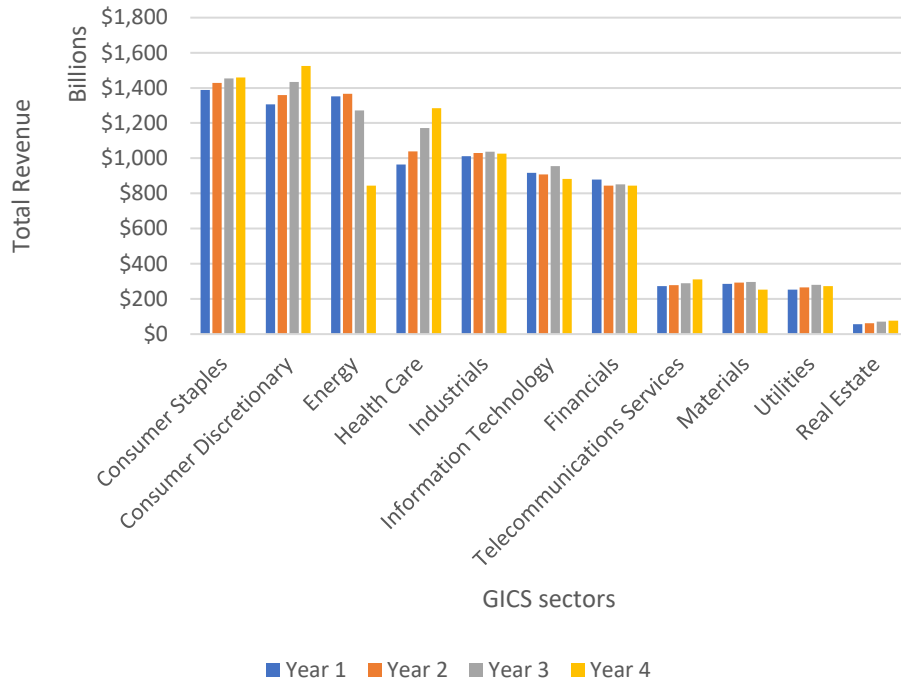
It can also be seen that Health Care sector encountered a steady growth during the reported years from apporx. $0.96 trillions in 1st year, $1.04 trillions in 2nd year, $1.17 trillions in 3rd year and finally $1.28 trillions in 4th year of reporting.

Consumer Discretionary sector encountered the same pattern of revenue growth from approx. $1.31 trillions in 1st year to $1.52 trillions in 4th year of reporting.

# GICS Sectors Growth Rate (1)

Overall Mean of Growth Rate over four years
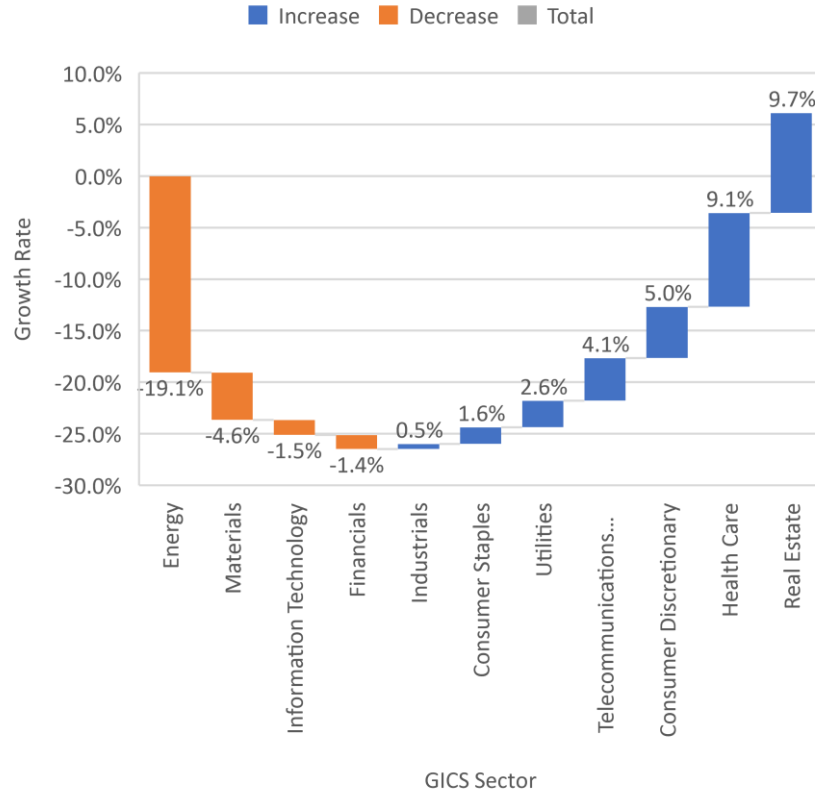
It worth to have a look at the mean of growth during the reported period of years for each GICS sector. Four sectors encountered a growth decrease in their revenues with Financial sector with -1.4% as the lowest decrease and Energy Sector with -19% as the highest decrease in their growth.

GICS Sectors Growth Rate (2)

Overall Mean of Growth Rate over four years
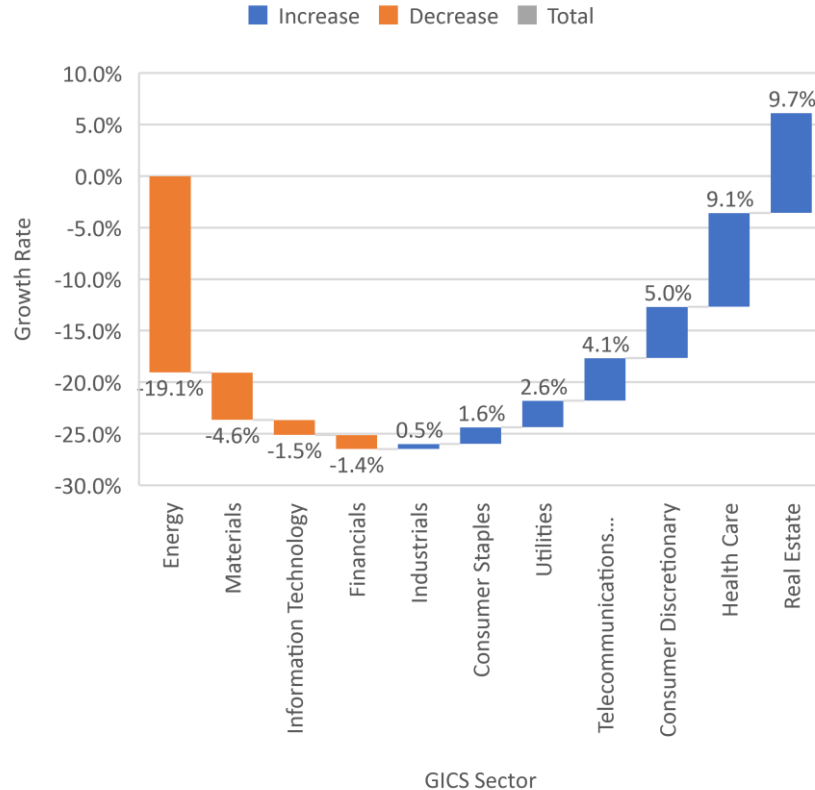
It is also shown that the remaining 7 sectors experienced growth in their revenues such as Industrial sector with only 0.5% growth and Real Estate sector with approx. 10% growth.

GICS Sectors Summary Statistics (1)

Measures of Spread for GICS sectors' total revenue over four years

Looking at the box plots derived from Range and Standard Deviation of All GICS Sectors across four years, it is seen that there are outliers.
In order to have a deep look, lets have a look at the table in next slide.

GICS Sectors Summary Statistics (2)

Total Revenue (summary statistics)				
GICS sectors	Mean	Median	Range	Standard Deviation
Consumer Staples	$1,432,461,562,750	$1,440,971,793,000	$70,299,139,000	$31,991,816,565
Consumer Discretionary	$1,405,917,151,750	$1,396,590,089,500	$217,215,380,000	$94,321,533,189
Energy	$1,208,528,692,000	$1,312,181,740,500	$522,336,553,000	$246,742,166,065
Health Care	$1,114,503,093,750	$1,105,262,046,000	$319,860,933,000	$141,642,781,812
Industrials	$1,025,955,254,750	$1,027,673,994,000	$26,879,327,000	$11,225,762,351
Information Technology	$915,698,055,000	$912,681,352,000	$73,575,708,000	$30,469,652,974
Financials	$853,849,180,750	$846,952,755,000	$34,884,287,000	$16,573,510,151
Telecommunications Services	$287,686,963,250	$283,789,000,000	$37,082,147,000	$16,379,461,337
Materials	$281,069,745,000	$288,389,375,000	$43,597,920,000	$19,872,423,619
Utilities	$267,256,292,750	$269,045,954,000	$26,577,825,000	$11,536,810,267
Real Estate	$65,304,607,250	$65,720,992,000	$19,755,949,000	$8,700,179,073

Looking at Standard Deviation column and Range, there are sectors with outliers such as energy sector and health care sector. Outlier means that there are companies existing with unusual highest revenues in these two sectors. These companies are explained in the following slides.

GICS Sectors Summary Statistics (3)

Total Revenue (summary statistics)				
GICS sectors	Mean	Median	Range	Standard Deviation
Consumer Staples	$1,432,461,562,750	$1,440,971,793,000	$70,299,139,000	$31,991,816,565
Consumer Discretionary	$1,405,917,151,750	$1,396,590,089,500	$217,215,380,000	$94,321,533,189
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Real Estate	$65,304,607,250	$65,720,992,000	$19,755,949,000	$8,700,179,073

The real estate sector has the lowest standard deviation, this means that annual revenue of companies under this sector is not far from the mean value, which indicates that the market is more stable than other sectors.

GICS Sectors Summary Statistics (4)

Total Revenue (summary statistics)				
GICS sectors	Mean	Median	Range	Standard Deviation
Consumer Staples	$1,432,461,562,750	$1,440,971,793,000	$70,299,139,000	$31,991,816,565
Consumer Discretionary	$1,405,917,151,750	$1,396,590,089,500	$217,215,380,000	$94,321,533,189
Energy	$1,208,528,692,000	$1,312,181,740,500	$522,336,553,000	$246,742,166,065
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Utilities	$267,256,292,750	$269,045,954,000	$26,577,825,000	$11,536,810,267
Real Estate	$65,304,607,250	$65,720,992,000	$19,755,949,000	$8,700,179,073

Looking at the table above again, it is shown that The median value in energy sector is significantly higher than the mean value. This means that the dataset is skewed to the left with a long tail of lower values to the right. Looking at the dataset above, it can be defined clearly that energy sector revenue is decreased on yearly basis to its lowest one in 4th year. It shows a decline in growth.
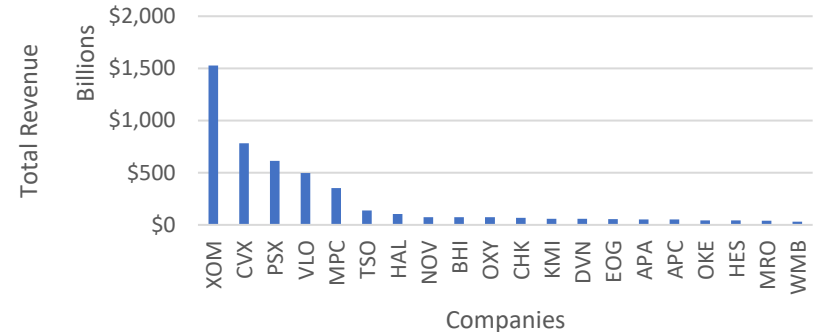
Energy Sector Overview (1)

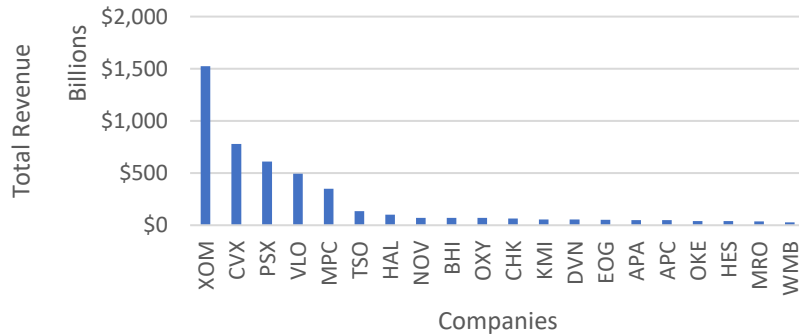Energy sector's total revenue for four years by number of companies
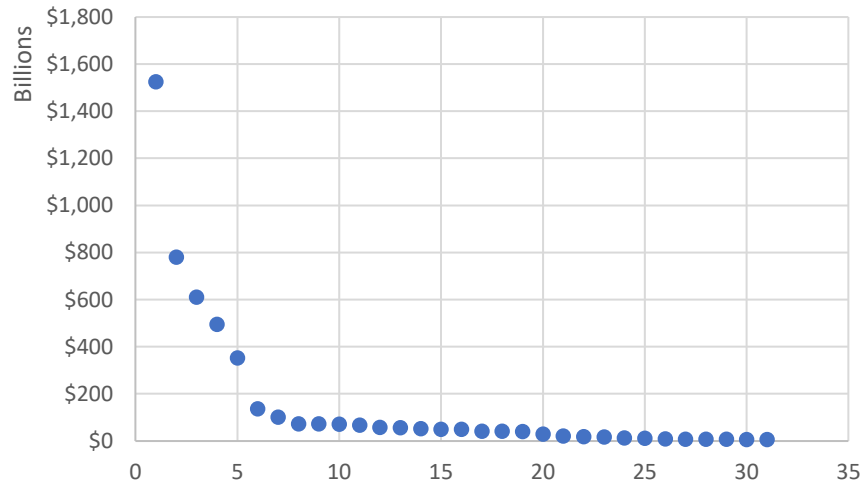
31 companies are included in the reported period. The scatter plot shows one company as outlier and the bar plot shows that Exxon Mobil Corporation (XOM) is the company with the highest total revenue in the Energy Sector in 4 years.
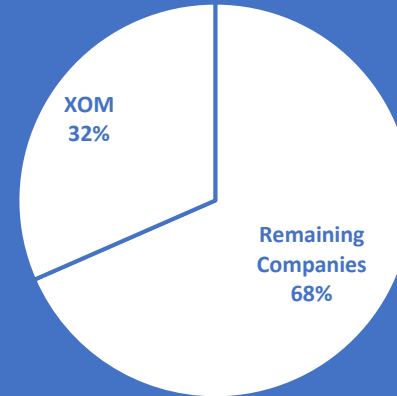
Total Revenue of Energy Sector in four years

Energy Sector Overview (2)

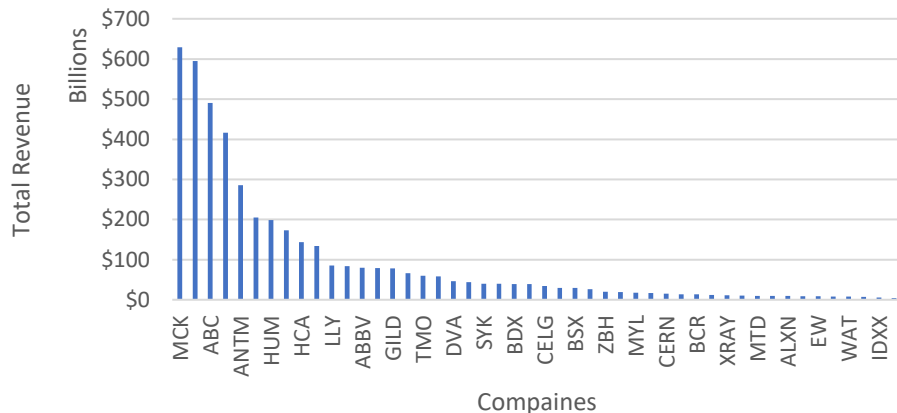## Total Revenue of Energy Sector in four years

Among 31 reported companies in Energy Sector, only one company – XOM is having the one – third share of all Energy Sector Market in four years.

SHARE OF XOM IN ENERGY SECTOR REVENUE OVER FOUR YEARS

XOM 32%

Remaining Companies 68%

Health Care Sector Overview

Total Revenue of Companies in Health Sector over four years

Bar chart with y-axis labeled "Total Revenue" in "Billions" ranging from $0 to $700, and x-axis labeled "Companies" listing: MCK, ABC, ANTM, HUM, HCA, LLY, ABBV, GILD, TMO, DVA, SYK, BDX, CELG, BSX, ZBH, MYL, CERN, BCR, XRAY, MTD, ALXN, EW, WAT, IDXX

Out of 48 companies reported in Health Care Sector, only four companies are dominating almost the half of health care sector market over four years.

1. **McKesson Corporation (MCK)**
2. **UnitedHealth Group Incorporated (UNH)**
3. **AmerisourceBergen Corporation (ABC)**
4. **Cardinal Health, Inc. (CAH)**

Share of dominating companies in Health sector over four years

Pie chart showing 52% Remaining Companies and 48% Top 4
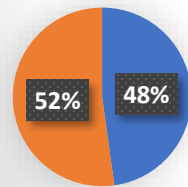
- Top 4
- Remaining Companies

R&D Expenditures across the GICS Sectors

Comparison of Total R&D Expenditure versus Total Revenue by GICS Sectors over four years
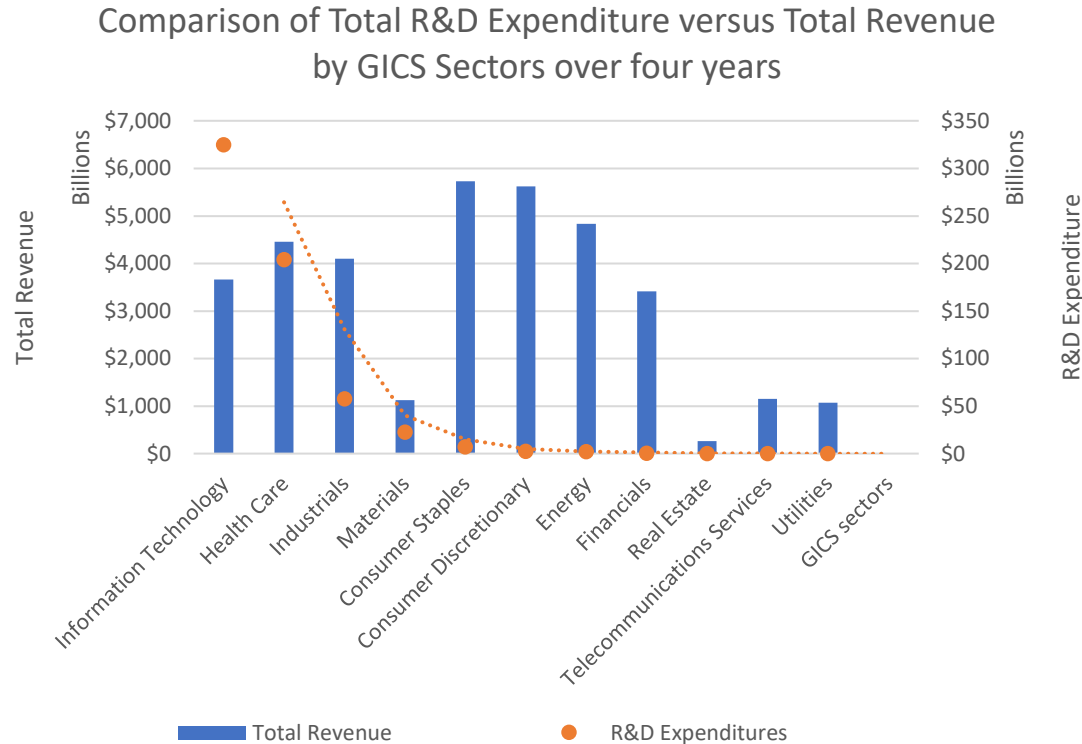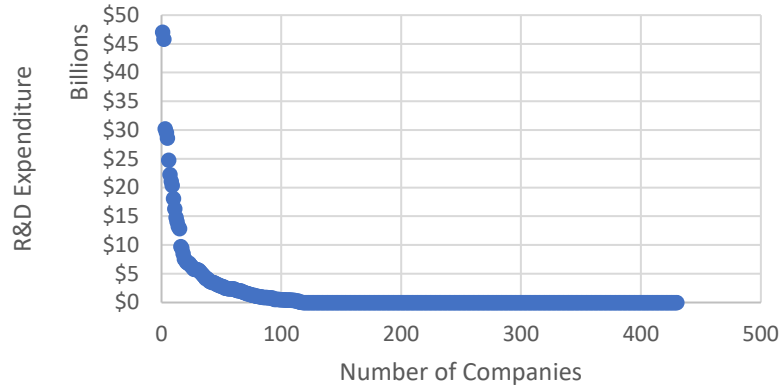

R&D expenditure across all GICS sectors is around 1.8% of the total revenue. This is not evenly distributed across all sectors.

- Telecom and Utility sectors have zero R&D expenditure.
- Consumer Discretionary, Energy, Financials and Real Estate sectors' expenditure is below 0.1% of their total revenue.
- IT and Health Care sectors are spending 9% and 5% respectively on R&D from their total revenue.

R&D Expenditures by companies (2)

R&D Expenditure by number of companies over four years

R&D Expenditure by number of companies over four years
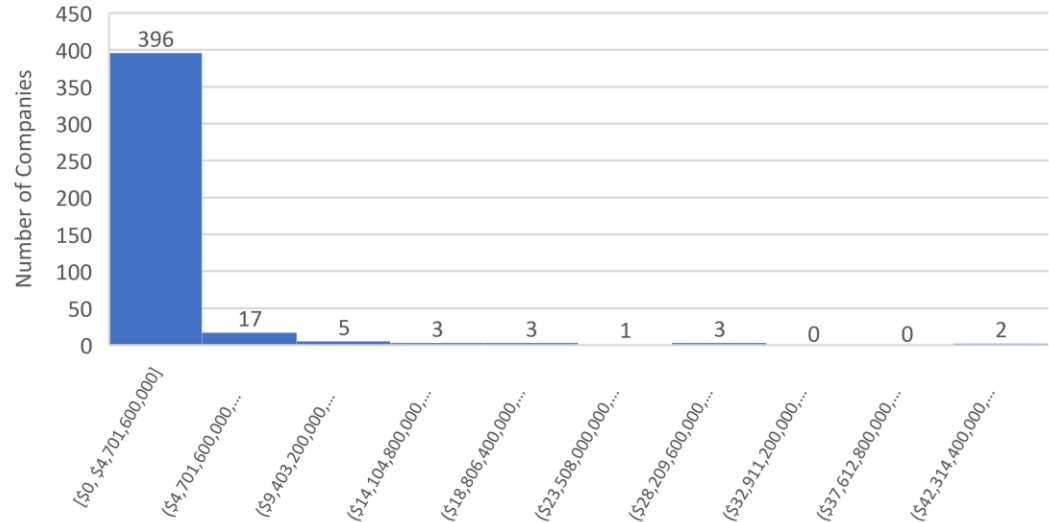
- From total 430 companies across all GICS sector in the reported period of four years, 396 companies spent less than $4.7 billions in four years.
- Only two companies spent more than $42 billions over four years.