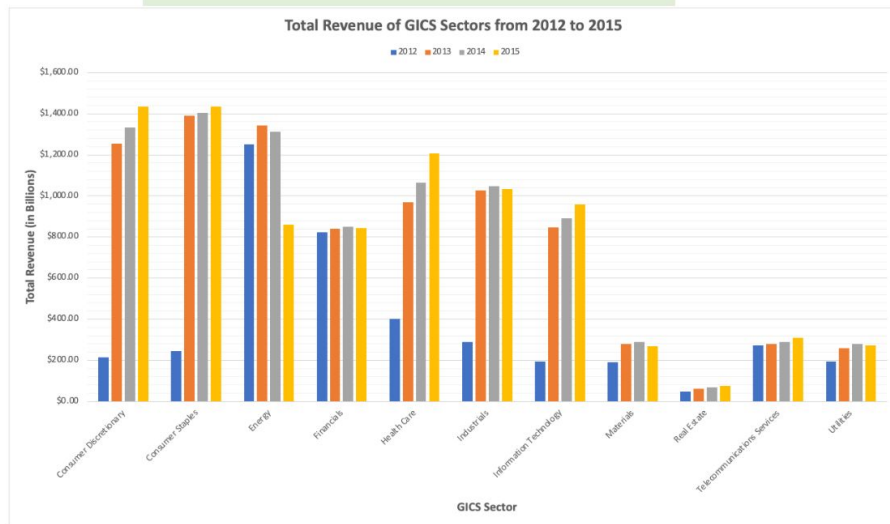


# What is the growth rate of all Sectors from 2012 to 2015?

What is the mean growth rate of all Sectors from 2012 to 2015?



- Compared to 2014, the Energy sector has experienced a 52% decline in 2015. As a result of the market fall, it has experienced a -16% decline in growth
- The data shows that consumer discretionary (32%), IT (30%), consumer staples (28%), health care (26%), and industrials (24%), were the top five industries in growth on the market from 2012 to 2015. When it comes to diversifying a portfolio, these sectors are a good starting point for those without a lot of capital to invest.
- The Consumer Discretionary and Consumer Staples sectors rocketed from 2012 to 2013 with growth rates 82.82% and 82.36% respectively. Their revenues remained increasing steadily afterwards. That's mean consumer spending was increasing and the economic was growing from 2012 to 2015

Sectors' Yearly Revenues from 2012 to 2015					
GICS Sectors	2012	2013	2014	2015	Grand Total
Consumer Discretionary	\$ 215,328,170,000	\$ 1,253,135,104,000	\$ 1,332,319,553,000	\$ 1,435,979,984,000	\$ 4,236,762,811,000
Consumer Staples	\$ 245,019,154,000	\$ 1,389,203,539,000	\$ 1,403,938,460,000	\$ 1,433,176,833,000	\$ 4,471,337,986,000
Energy	\$ 1,251,426,753,000	\$ 1,343,144,975,000	\$ 1,311,915,971,000	\$ 861,802,498,000	\$ 4,768,290,197,000
Financials	\$ 824,461,954,000	\$ 839,516,945,000	\$ 849,113,196,000	\$ 844,713,181,000	\$ 3,357,805,276,000
Health Care	\$ 400,964,085,000	\$ 968,538,424,000	\$ 1,063,334,023,000	\$ 1,205,934,822,000	\$ 3,638,771,354,000
Industrials	\$ 290,135,334,000	\$ 1,026,331,766,000	\$ 1,046,245,863,000	\$ 1,033,831,829,000	\$ 3,396,544,792,000
Information Technology	\$ 192,984,527,000	\$ 847,932,286,000	\$ 892,347,814,000	\$ 960,112,380,000	\$ 2,893,377,007,000
Materials	\$ 189,359,346,000	\$ 280,102,204,000	\$ 290,520,675,000	\$ 267,845,555,000	\$ 1,027,827,780,000
Real Estate	\$ 47,545,345,000	\$ 61,899,503,000	\$ 68,647,454,000	\$ 74,335,202,000	\$ 252,427,504,000
Telecommunications Serv	\$ 273,043,853,000	\$ 278,472,000,000	\$ 289,106,000,000	\$ 310,126,000,000	\$ 1,150,747,853,000
Utilities	\$ 192,771,719,000	\$ 259,755,001,000	\$ 278,082,544,000	\$ 270,915,907,000	\$ 1,001,525,171,000
<b>Grand Total</b>	<b>\$ 4,123,040,240,000</b>	<b>\$ 8,548,031,747,000</b>	<b>\$ 8,825,571,553,000</b>	<b>\$ 8,698,774,191,000</b>	<b>\$ 30,195,417,731,000</b>

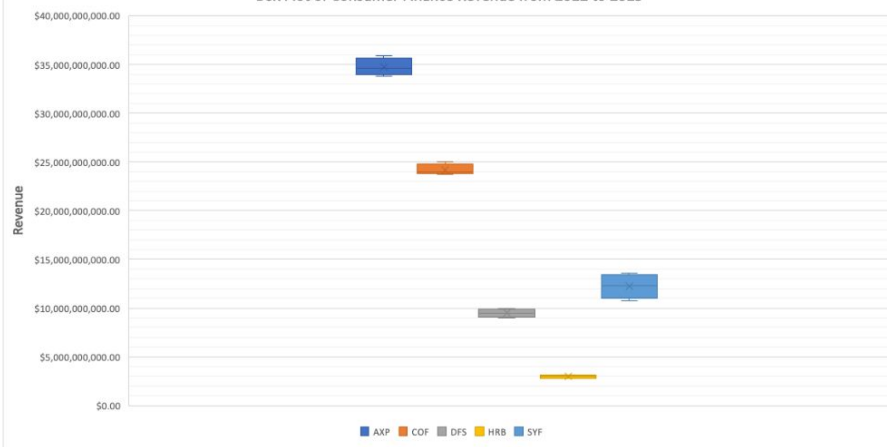
Growth Rates					
Sectors	2013	2014	2015	Variance	Mean
Consumer Discretionary	82.82%	5.94%	7.22%	19%	32%
Consumer Staples	82.36%	1.05%	2.04%	22%	28%
Energy	6.83%	-2.38%	-52.23%	10%	-16%
Financials	1.79%	1.13%	-0.52%	0%	1%
Health Care	58.60%	8.91%	11.82%	8%	26%
Industrials	71.73%	1.90%	-1.20%	17%	24%
IT	77.24%	4.98%	7.06%	17%	30%
Materials	32.40%	3.59%	-8.47%	4%	9%
Real Estate	23.19%	9.83%	7.65%	1%	14%
Telecommunication	1.95%	3.68%	6.78%	0%	4%
Utilities	25.79%	6.59%	-2.65%	2%	10%

Summary Statistics				
Mean	Median	Range	Standard Deviation	
\$ 1,059,190,702,750	\$ 1,292,727,328,500	\$ 1,220,651,814,000	567,535,002,227	
\$ 1,117,834,496,500	\$ 1,396,570,999,500	\$ 1,188,157,679,000	582,163,793,232	
\$ 1,192,072,549,250	\$ 1,281,671,362,000	\$ 481,342,477,000	223,447,646,228	
\$ 839,451,319,000	\$ 842,115,063,000	\$ 24,651,242,000	10,735,058,279	
\$ 909,692,838,500	\$ 1,015,936,223,500	\$ 804,970,737,000	352,908,238,278	
\$ 849,136,198,000	\$ 1,030,081,797,500	\$ 756,110,529,000	372,757,710,145	
\$ 723,344,251,750	\$ 870,140,050,000	\$ 767,127,853,000	356,569,285,704	
\$ 256,956,945,000	\$ 273,973,879,500	\$ 101,161,329,000	46,008,058,004	
\$ 63,106,876,000	\$ 65,273,478,500	\$ 26,789,857,000	11,552,666,445	
\$ 287,686,963,250	\$ 283,789,000,000	\$ 37,082,147,000	16,379,461,337	
\$ 250,381,292,750	\$ 265,335,454,000	\$ 85,310,825,000	39,139,745,772	

# How spread out the earnings of Consumer Finance from 2012 to 2015

From 2012 to 2015, how widely are Consumer Finance's earnings spread out?

Box Plot of Consumer Finance Revenue from 2012 to 2015



- From this box plot of earnings of Consumer Finance from 2012 to 2015, we can quickly assess that there is at least 10 billion dollars of revenue that separates half of the companies that is listed in this sub-industry.
- AXP had the highest revenue of 34 billion in 2015 and is the highest in the plot. It has a mean growth rate of 3% with 885 million standard deviation. However, AXP has the lowest mean growth rate of 0.6% among the five companies in same industry, some of the market share may be obtained by other companies instead.
- SYF has the highest range of revenue in 2015 with 2.8 billion and with highest standard deviation with 1.2 billion. This was due to its high growth rate at around 7.5% in average. According to this trend SYF may surpass AXP in the future.
- All five corporates' mean are equal to their median, which means there's no skewness shown in data.

Ticker Symbol	Growth Rates				Mean
	2013	2014	2015	Variance	
AXP	3%	3%	-4%	0.17%	0.6%
COF	2%	-1%	5%	0.09%	1.7%
DFS	4%	3%	4%	0.01%	3.5%
HRB		7%	2%	0.15%	4.5%
SYF	9%	7%	7%	0.01%	7.5%

Consumer Finance Earnings from 2012 to 2015

Ticker Symbol	2012	2013	2014	2015	Grand Total
AXP	\$ 33,781,000,000.00	\$ 34,828,000,000.00	\$ 35,895,000,000.00	\$ 34,441,000,000.00	\$ 138,945,000,000.00
COF	\$ 23,771,000,000.00	\$ 24,176,000,000.00	\$ 23,869,000,000.00	\$ 25,038,000,000.00	\$ 96,854,000,000.00
DFS	\$ 8,984,000,000.00	\$ 9,370,000,000.00	\$ 9,611,000,000.00	\$ 10,002,000,000.00	\$ 37,967,000,000.00
HRB	\$ 2,807,114,000.00	\$ 3,024,295,000.00	\$ 3,078,658,000.00	\$ 8,910,067,000.00	\$ 8,910,067,000.00
SYF	\$ 10,793,000,000.00	\$ 11,813,000,000.00	\$ 12,727,000,000.00	\$ 13,620,000,000.00	\$ 48,953,000,000.00
Grand Total	\$ 77,329,000,000.00	\$ 82,994,114,000.00	\$ 85,126,295,000.00	\$ 86,179,658,000.00	\$ 331,629,067,000.00

Summary Statistics of each Consumer Finance Corporation from 2012 to 2015

Mean	Median	Range	Standard Deviation
\$ 34,736,250,000	\$ 34,634,500,000	\$ 2,114,000,000	\$ 885,210,851
\$ 24,213,500,000	\$ 24,022,500,000	\$ 1,267,000,000	\$ 576,105,604
\$ 9,491,750,000	\$ 9,490,500,000	\$ 1,018,000,000	\$ 427,086,545
\$ 2,970,022,333	\$ 3,024,295,000	\$ 271,544,000	\$ 143,677,339
\$ 12,238,250,000	\$ 12,270,000,000	\$ 2,827,000,000	\$ 1,213,492,858

# P&L Statement

Ticker Symbol		ABT			
P&L Statement					
Historical					
		Year 1	Year 2	Year 3	Year 4
Total Revenue	\$	19,050,000,000.00	\$ 19,657,000,000.00	\$ 20,247,000,000.00	\$ 20,405,000,000.00
Cost of Goods Sold	\$	8,899,000,000.00	\$ 9,193,000,000.00	\$ 9,218,000,000.00	\$ 8,747,000,000.00
Gross Profit	\$	10,151,000,000.00	\$ 10,464,000,000.00	\$ 11,029,000,000.00	\$ 11,658,000,000.00
Gross Margin		0.53	0.53	0.54	0.57
Research & Development	\$	1,461,000,000.00	\$ 1,371,000,000.00	\$ 1,345,000,000.00	\$ 1,405,000,000.00
Sales, General and Admin	\$	6,735,000,000.00	\$ 6,372,000,000.00	\$ 6,530,000,000.00	\$ 6,785,000,000.00
Other Operating Items		595000000	588000000	555000000	601000000
Total Operating Expenses	\$	8,791,000,000.00	\$ 8,331,000,000.00	\$ 8,430,000,000.00	\$ 8,791,000,000.00
Operating Profit	\$	1,360,000,000.00	\$ 2,133,000,000.00	\$ 2,599,000,000.00	\$ 2,867,000,000.00
Operating Margin	\$	0.07	\$ 0.11	\$ 0.13	\$ 0.14

# Forecast Scenarios

Ticker Symbol	AAP
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Income Statement									
Historical						Forecast			
		Year 1	Year 2	Year 3	Year 4		Year 5	Year 6	
Revenue	\$	6,205,003,000	\$ 6,493,814,000	\$ 9,843,861,000	\$ 9,737,018,000	\$	11,242,426,930	\$ 12,980,582,277	
Cost of Goods Sold	\$	3,106,967,000	\$ 3,241,668,000	\$ 5,390,248,000	\$ 5,314,246,000				
Gross Profit	\$	3,098,036,000	\$ 3,252,146,000	\$ 4,453,613,000	\$ 4,422,772,000	\$	6,467,890,681	\$ 7,467,870,387	
Sales, General and Admin.	\$	2,440,721,000	\$ 2,591,828,000	\$ 3,601,903,000	\$ 3,596,992,000				
Research and Development	\$	-	\$ -	\$ -	\$ -				
Other Operating Items	\$	-	\$ -	\$ -	\$ -				
Total Operating Expenses	\$	2,440,721,000	\$ 2,591,828,000	\$ 3,601,903,000	\$ 3,596,992,000				
Operating Income	\$	657,315,000	\$ 660,318,000	\$ 851,710,000	\$ 825,780,000	\$	1,598,593,045	\$ 1,845,746,357	

Operating Statistics						
Revenue Growth (%)		4%	34%	-1%	15%	15%
Gross Margin	0.53	0.53	0.54	0.57	0.58	0.58
Operating Margin	0.07	0.11	0.13	0.14	0.14	0.14

Operating Scenarios - Sensitivity Analysis			
Scenario	Strong Case		
Revenue Growth (%)			
Strong case		15%	15%
Base case		12%	12%
Weak case		9%	9%
Gross Margin			
Strong case		0.58	0.58
Base case		0.55	0.55
Weak case		0.52	0.52
Operating Margin			
Strong case		0.14	0.14
Base case		0.11	0.11
Weak case		0.08	0.08

# Reference

<https://m-soro.github.io/Business-Analytics/Introduction-to-Data/L9-Project-Analyze-NYSE-Data/>