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# Giant Losers

**"An Exploratory Data Analysis of the Impact to Top Ranked Companies in the US during the 2008 and 2020 Market Crash."**



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## **Context:**

**The US has suffered 2 major financial crises in the past 23 years. The recession in 2008 caused by negligent lending standards resulted in a housing bubble that was the catalyst for the GDP to fall 4.3%. This was the greatest drop in Gross Domestic Product since world war II.**

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## **Context:**

**Then in 2020 due to the Covid-19 pandemic a stay at home order was in place causing a halt to many non essential businesses. It also changed the corporate culture altogether as many people worked from home that would normally have a daily commute to the office. This resulted in the GDP falling by 8.9% in the second quarter of 2020.**

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# Understanding the problems:

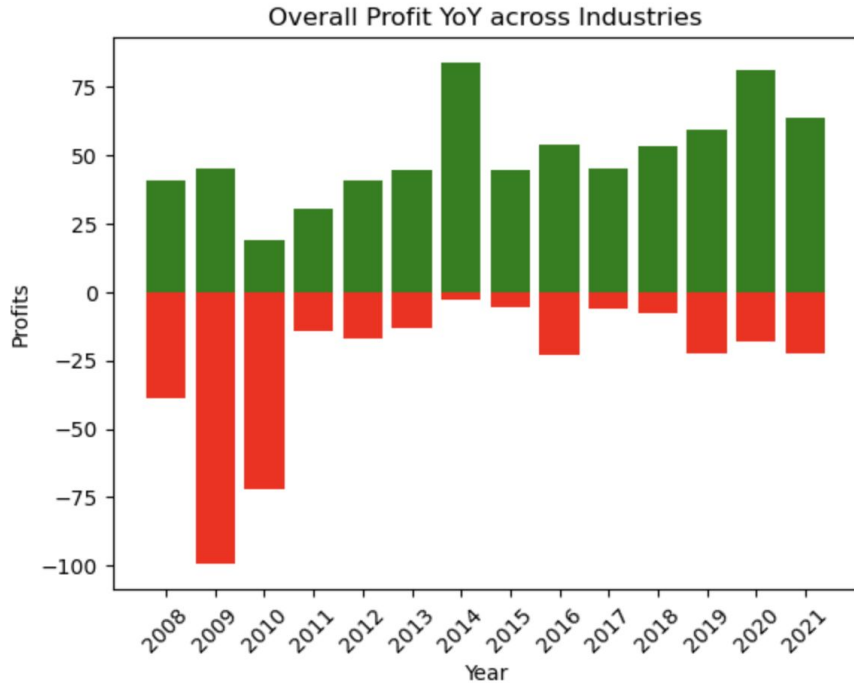
**In this Exploratory Data Analysis we will investigate the Impact of the 2008 & 2020 market crash on top ranked companies.**

**Understanding how different catalyst historically affect the market as a whole and its individual sectors will aid in financial prognostication.**

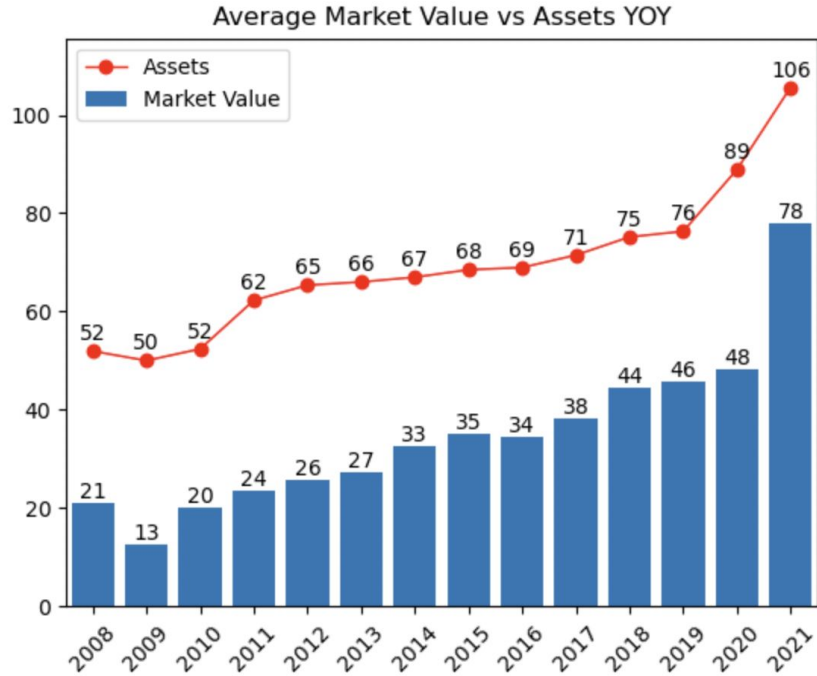
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	Market Value	Profits	Assets	Sales
Year				
2008	21.151711	1.141779	51.916611	17.105268
2009	12.657122	0.300619	49.997905	18.271439
2010	20.036717	0.840619	52.368649	16.767073
2011	23.521528	1.410107	62.253138	18.760463
2012	25.576864	1.648375	65.348566	20.739771
2013	27.384715	1.613076	66.004972	20.701105
2014	32.695636	2.067636	66.965818	20.779636
2015	35.210011	1.817571	68.490333	21.221367
2016	34.396000	1.556317	68.941546	20.211852
2017	38.202078	1.640453	71.467413	20.396835
2018	44.338933	1.963946	75.161648	22.363519
2019	45.635639	2.147210	76.307032	23.137093
2020	48.119062	2.301660	88.880664	25.327363
2021	77.853987	2.078040	105.611233	26.763260

**Profitability  
amongst the Market  
was at a all time low  
in 2009 & 2010.**



Leaving a majority of Companies in the Market with a deficit for those respective years.



Market Value over all industries was at its lowest in 2009. This is also true for Assets.

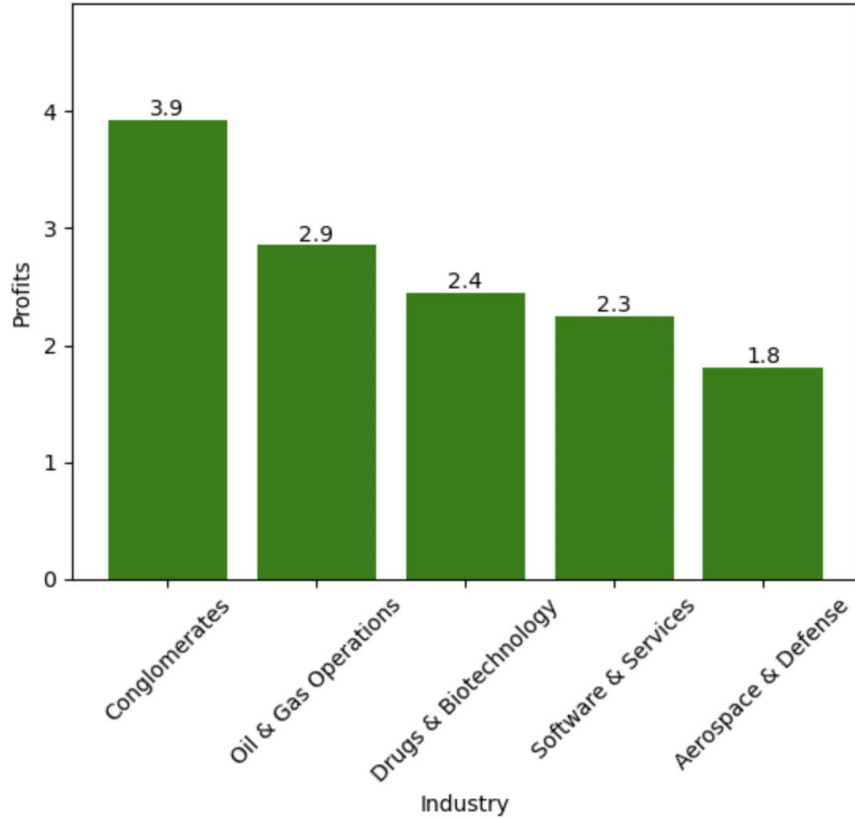
This positive correlation between Market Value and Assets indicate that as price per share goes down companies relinquish cash reserves, operational Equipment, operational facilities, and any other liquidable items.

And as price per share goes up assets are acquired.

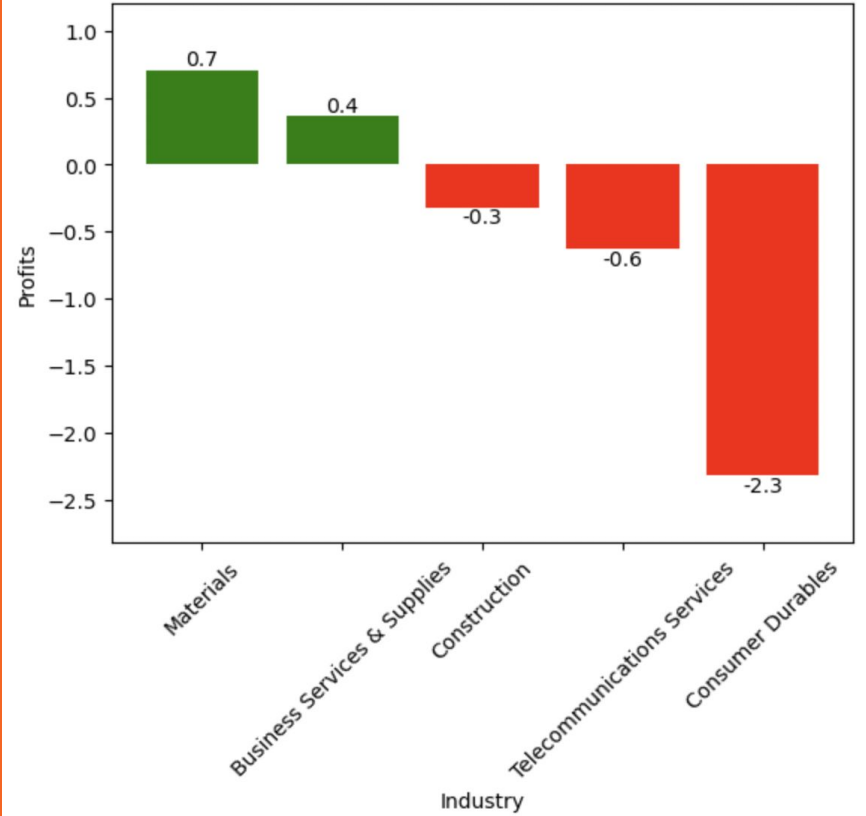
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# 2008 Profits

Top 5 Average Profits Industry in 2008



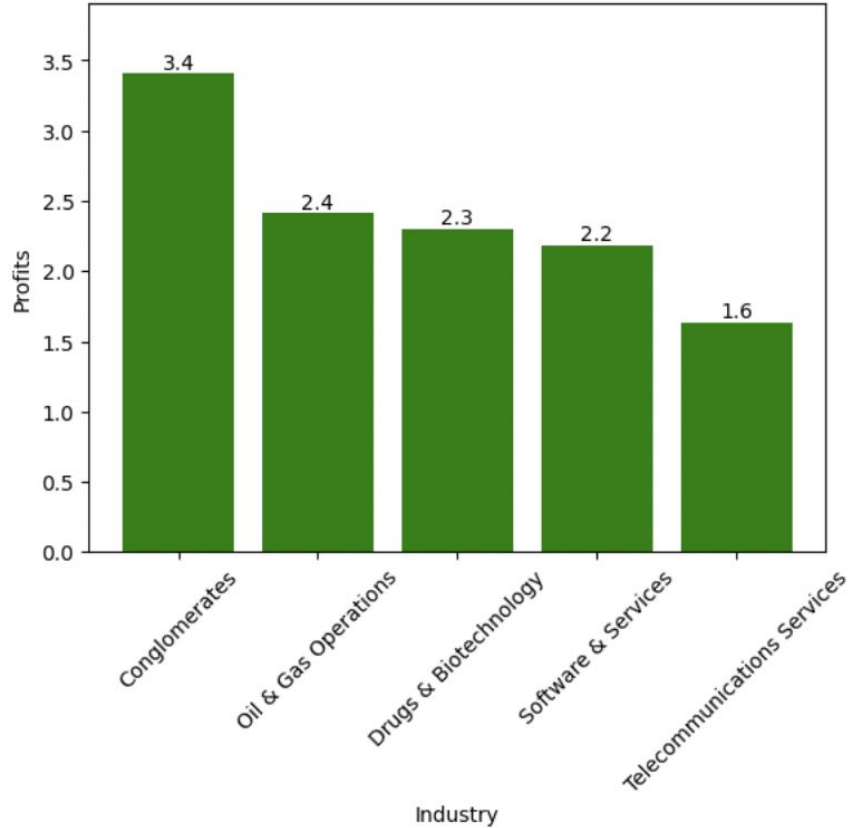
Bottom 5 Average Profits Industry in 2008



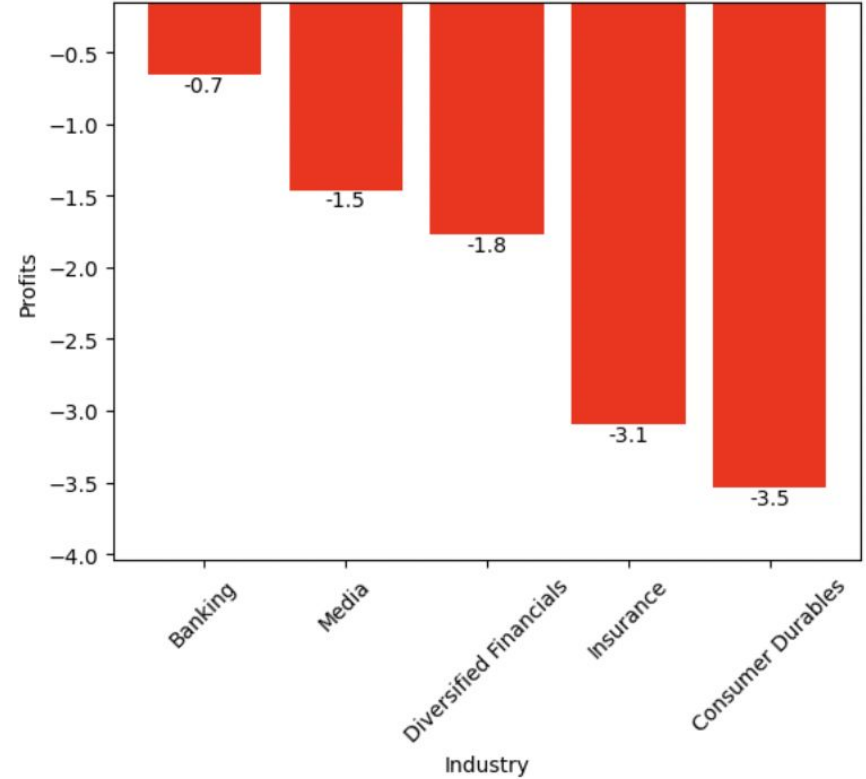


# 2009 Profits

Top 5 Average Profits Industry in 2009



Bottom 5 Average Profits Industry in 2009



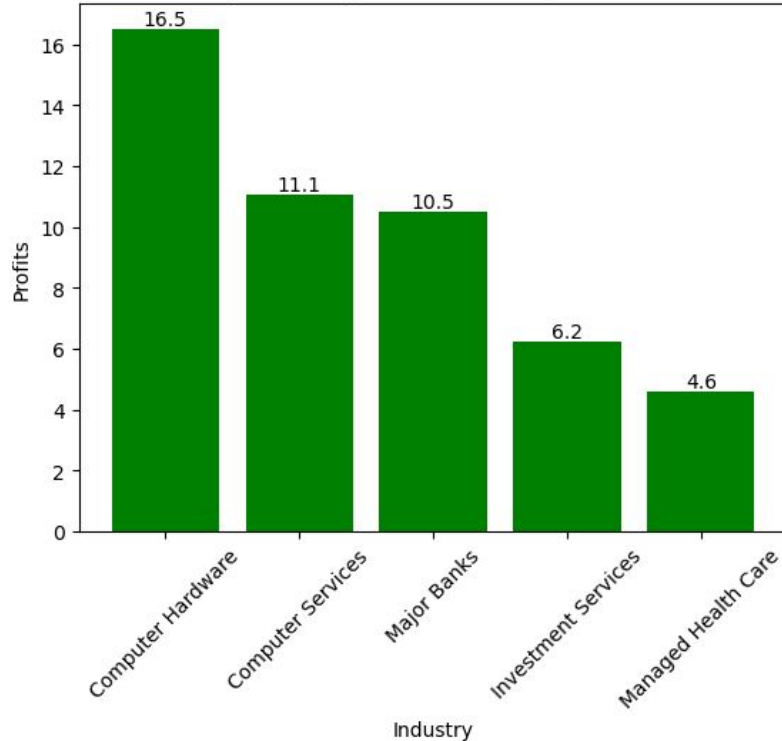
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2021	77.853987	2.078040	105.611233	26.763260

**Profitability amongst the Market was at its highest in 2020.**

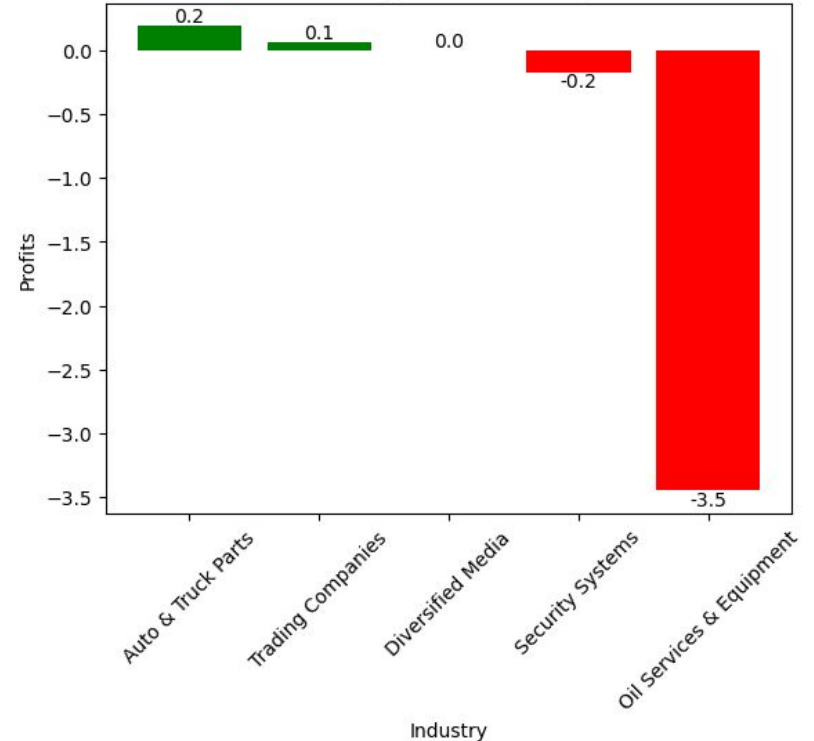
**Period of 2009-2020 is the longest bull market in history.**

**In 2020, the most profitable industry in the USA was the computer hardware. Meanwhile, the least profitable one was oil services & equipment.**

Top 5 Average Profits Industry in 2020

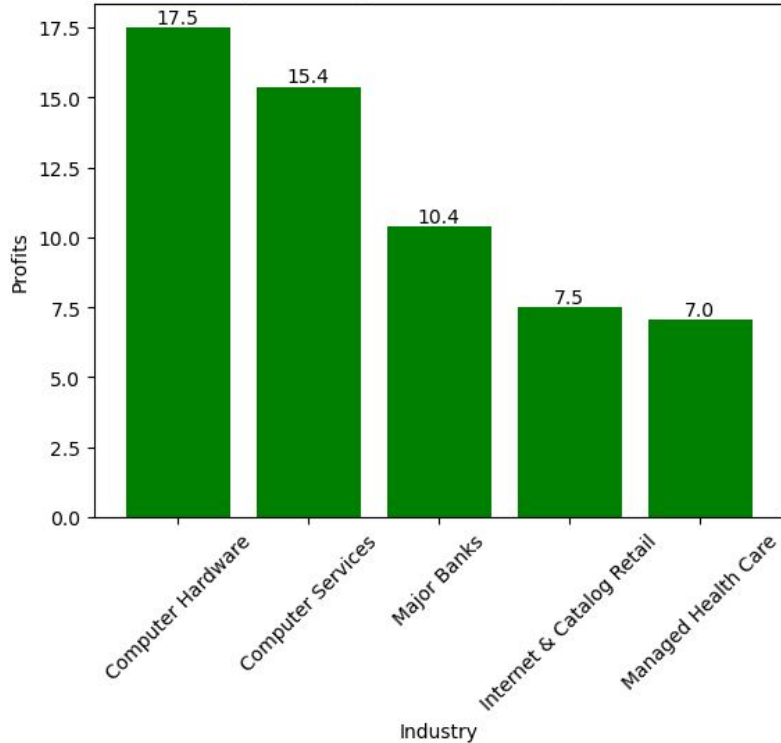


Bottom 5 Average Profits Industry in 2020

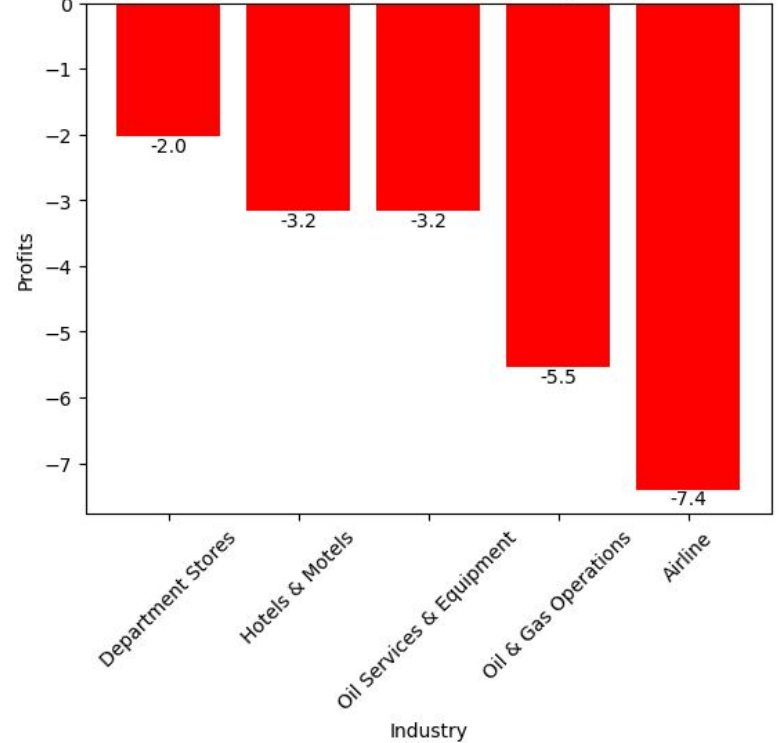


**In 2021, the 5 most profitable industry in the USA earned more than last years.  
But, the 5 least profitable industries had a worse performance than last year.**

Top 5 Average Profits Industry in 2021



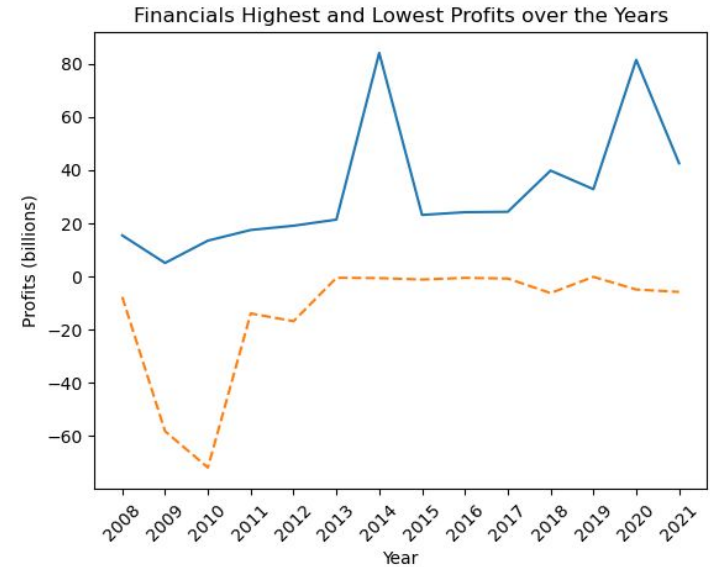
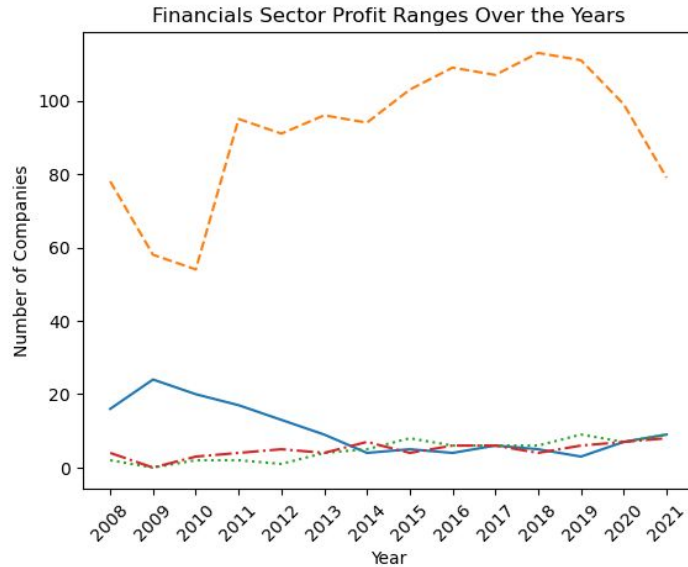
Bottom 5 Average Profits Industry in 2021



**To Evaluate Market Trends the  
population was divided the into  
samples:**

- Financial**
- Technology**
- Petroleum**

# – Financial Sector



## Housing Crisis

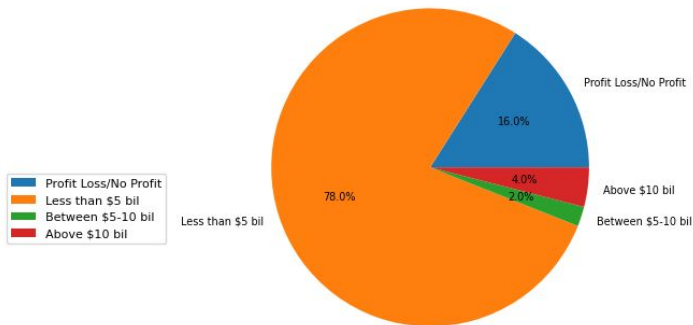
- Highest Number of Unprofitable companies between 2008-2010.
- We see a decrease in number of companies in all profit ranges as well.
- Highest and Lowest Profit dropped in 2009 showing an overall decrease in profit

## Covid 19 Pandemic

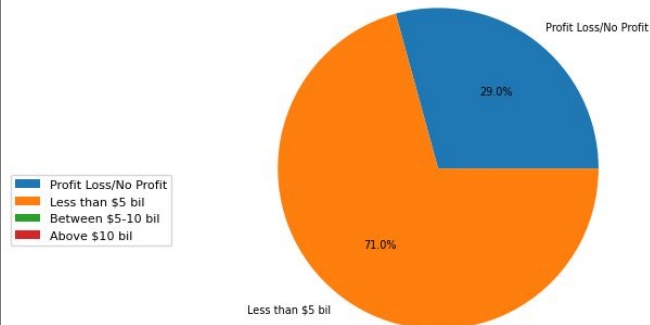
- Top earners were unaffected yet
- Highest Profit jumped in 2020 while Lowest Profit was steady

# – Financial Sector (2008 - 2010)

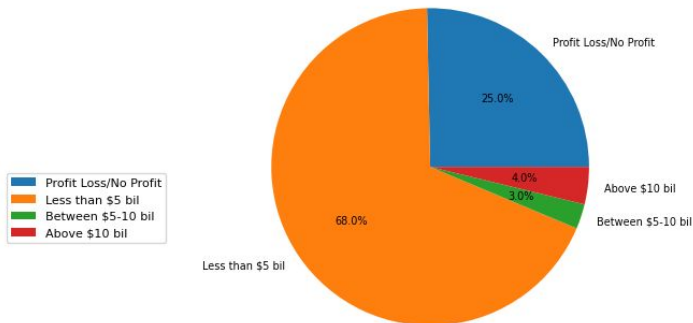
Financials Sector Profit Ranges for 2008



Financials Sector Profit Ranges for 2009



Financials Sector Profit Ranges for 2010

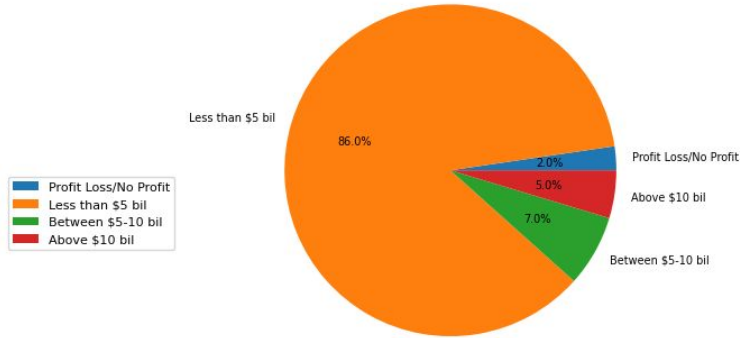


## Profit Loss/No Profit Companies Over the Years

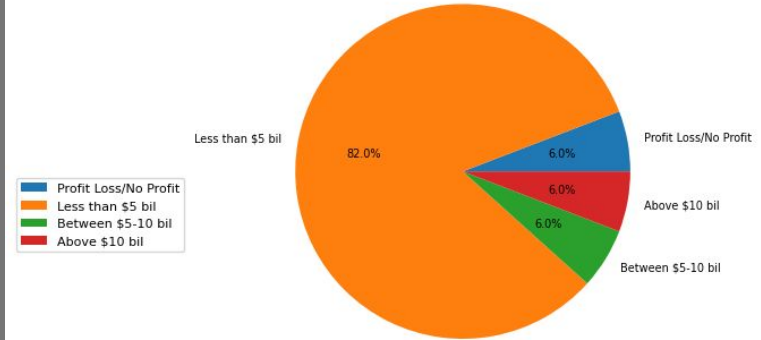
- 16% in 2008
- 29% in 2009 and 0% made more than \$5 billion
- 25% in 2010 with a slight recovery in other ranges

# – Financial Sector (2019 - 2021)

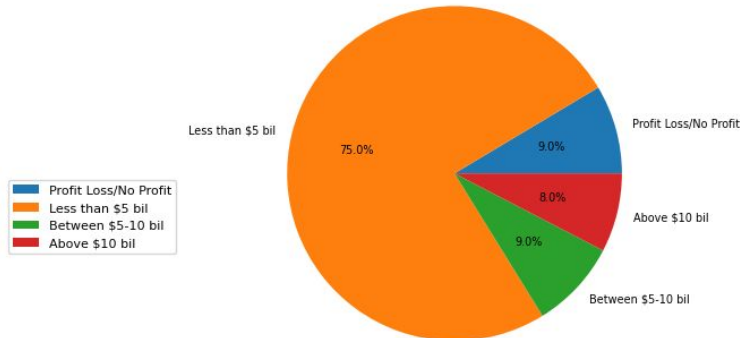
Financials Sector Profit Ranges for 2019



Financials Sector Profit Ranges for 2020



Financials Sector Profit Ranges for 2021

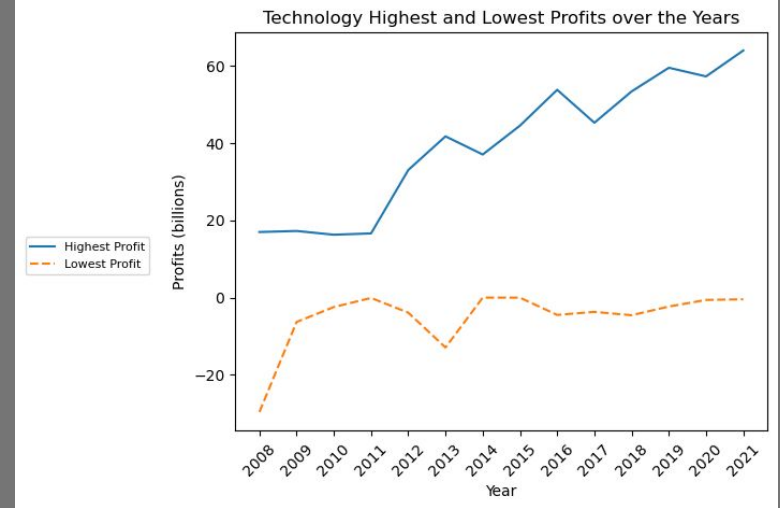
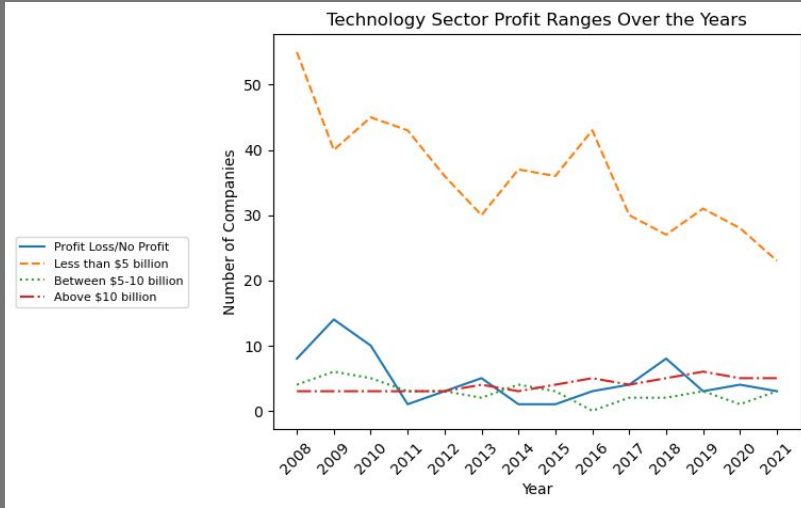


## Profit Loss/No Profit Companies Over the Years

- 2% in 2019
- 9% in 2020 and an increase in companies that made more than \$5 billion
- 6% in 2021



# – Technology Sector



## 2008 Housing Crisis

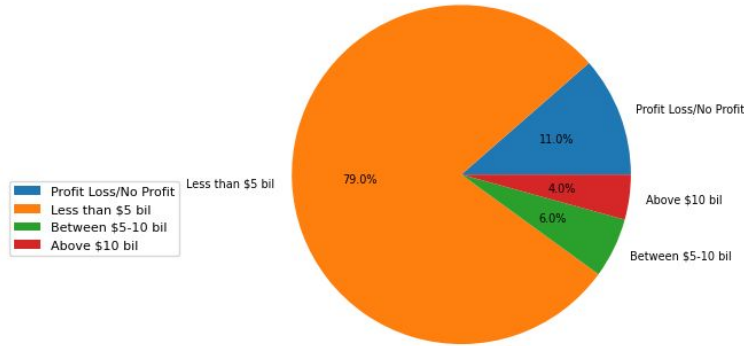
- Highest Number of Unprofitable companies between 2008-2010
- Lowest profit decreased in 2009 while Highest Profit was steady

## Covid19 Pandemic

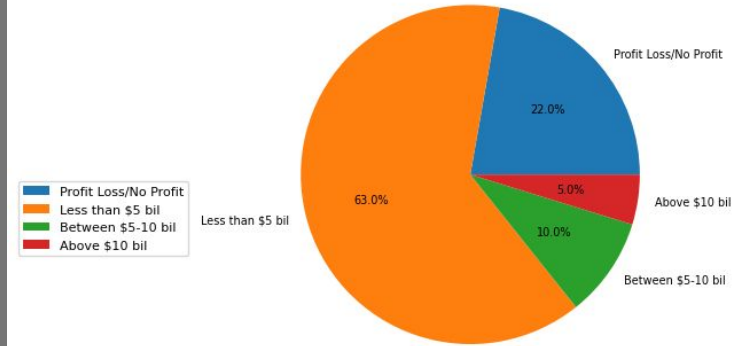
- Highest Profit increased in 2020 while Lowest Profit was steady

# – Technology Sector (2008 - 2010)

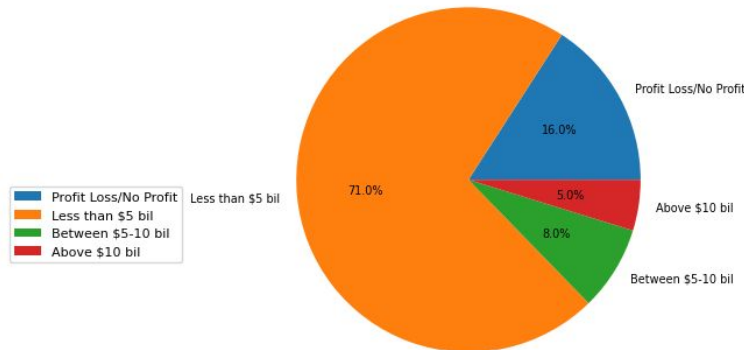
Technology Sector Profit Ranges for 2008



Technology Sector Profit Ranges for 2009



Technology Sector Profit Ranges for 2010

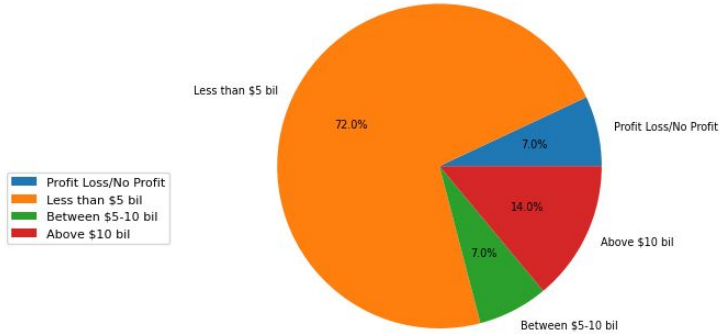


## Profit Loss/No Profit Companies Over the Years

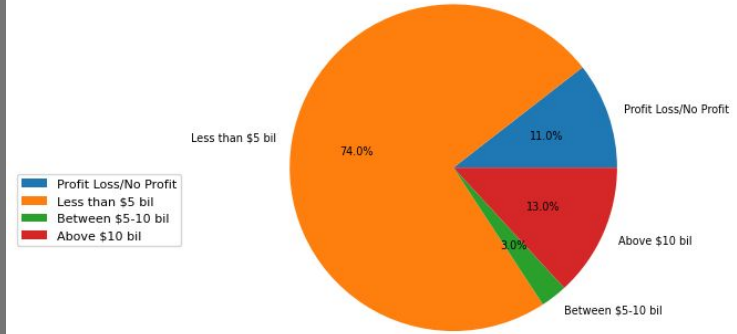
- 11% in 2019
- 22% in 2020
- 16% in 2021

# – Technology Sector (2019 - 2021)

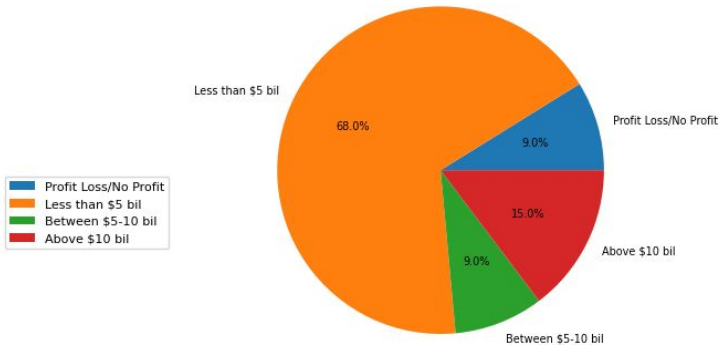
Technology Sector Profit Ranges for 2019



Technology Sector Profit Ranges for 2020



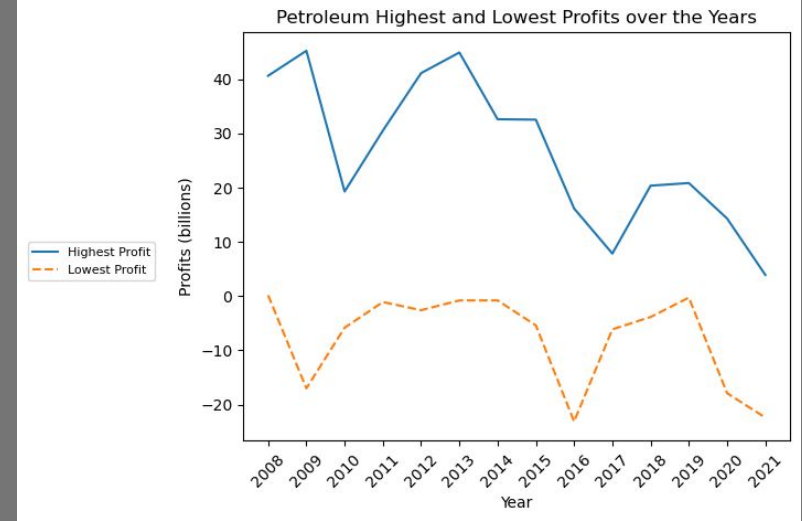
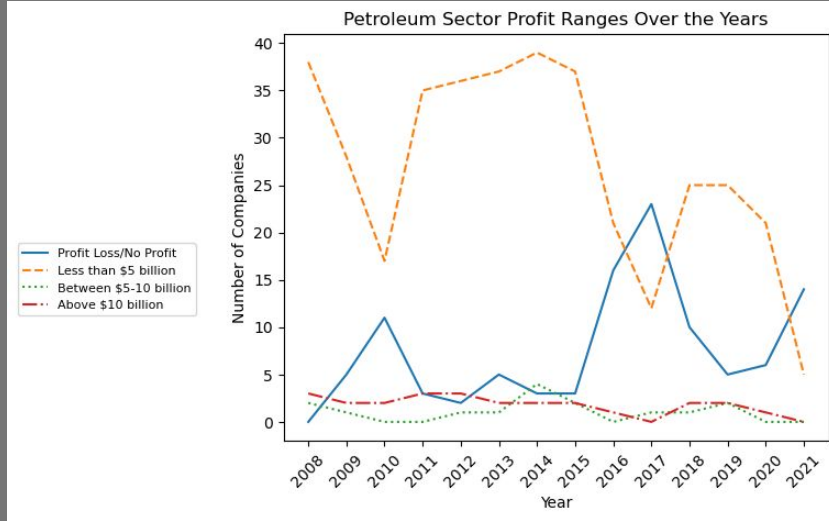
Technology Sector Profit Ranges for 2021



## Profit Loss/No Profit Companies Over the Years

- 7% in 2019
- 11% in 2020
- 9% in 2021 and more companies that made over \$5 billion

# – Petroleum Sector



## 2008 Housing Crisis

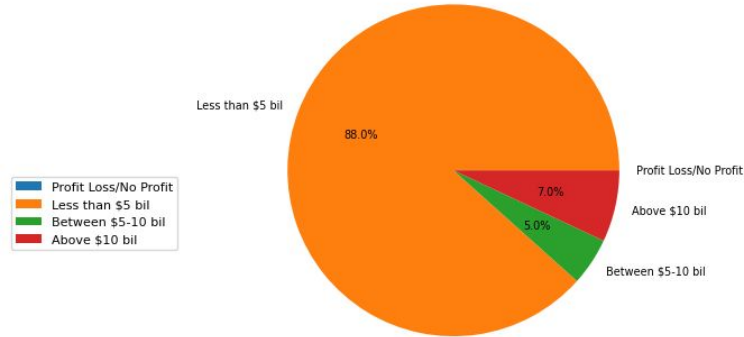
- The Petroleum sector had a volatile performance during the 2008 crisis . It saw its Peak in 2009.
- Highest Profit increased and Lowest Profit increased in 2009

## Covid19 Pandemic

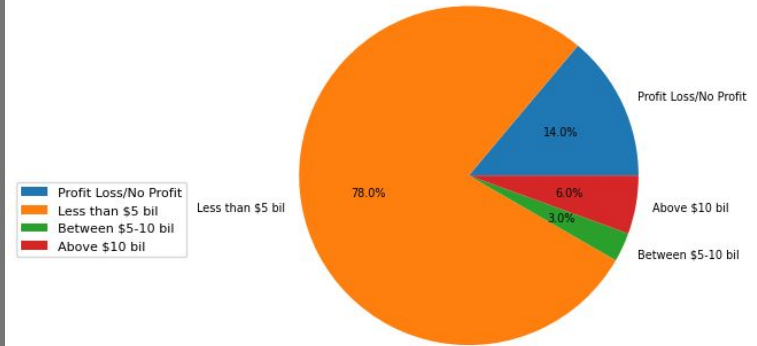
- Highest Profit decreased and Lowest Profit increased in 2020

# – Petroleum Sector (2008 - 2010)

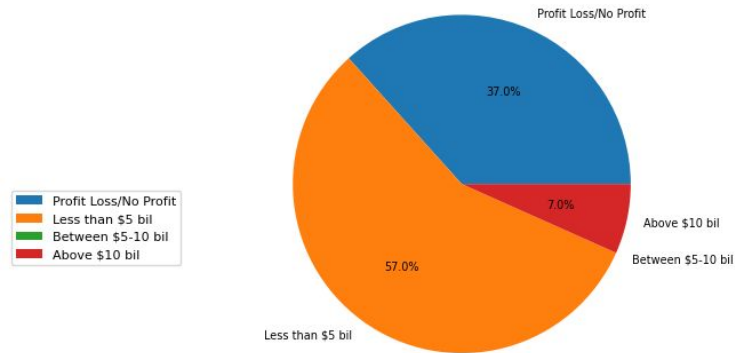
Petroleum Sector Profit Ranges for 2008



Petroleum Sector Profit Ranges for 2009



Petroleum Sector Profit Ranges for 2010

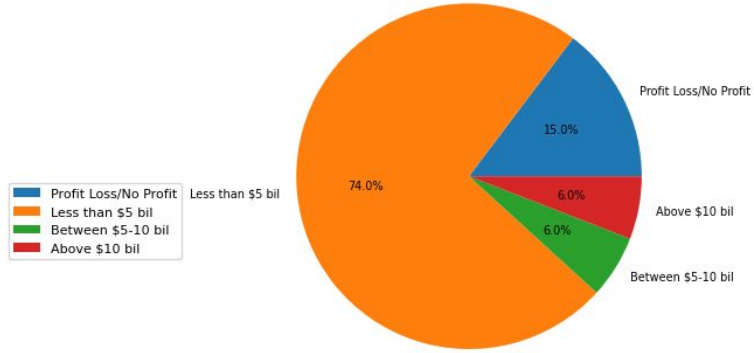


## Profit Loss/No Profit Companies Over the Years

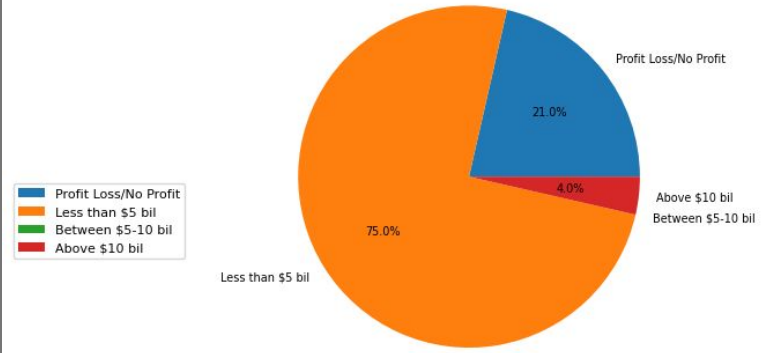
- 0% in 2008
- 14% in 2009
- 37% in 2010

# \_Petroleum Sector (2019 - 2021)

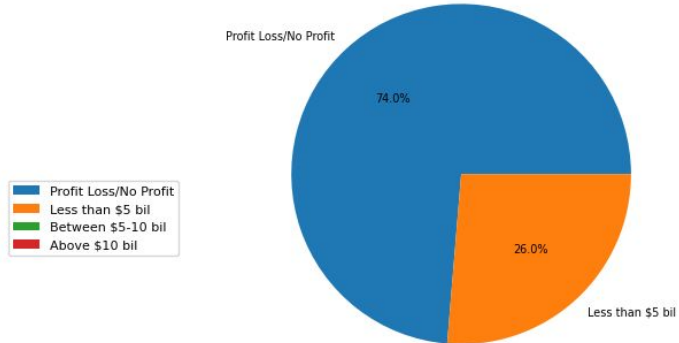
Petroleum Sector Profit Ranges for 2019



Petroleum Sector Profit Ranges for 2020



Petroleum Sector Profit Ranges for 2021



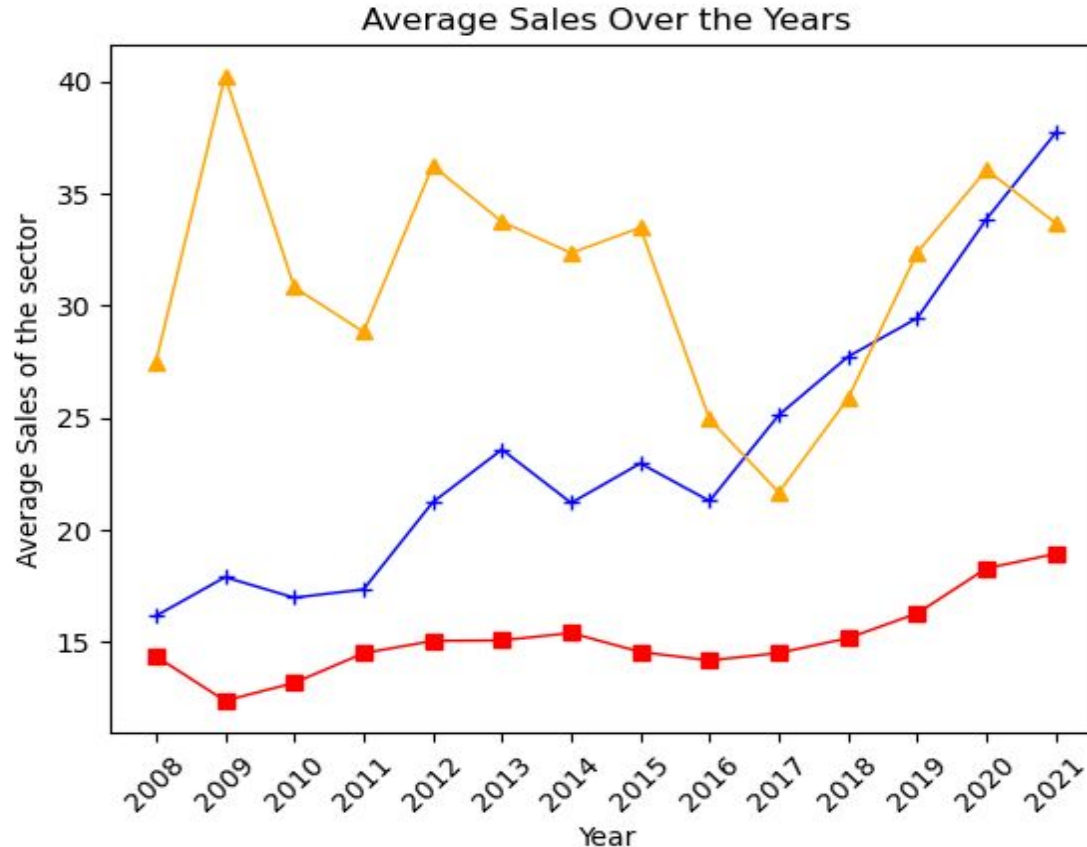
## Profit Loss/No Profit Companies Over the Years

- 15% in 2019
- 21% in 2020
- 74% in 2021 and 0% made over \$5 billion

# – Sales Performance (2008-2021)

	Financial Average Sales	Technology Average Sales	Petroleum Average Sales
Year			
2008	14.355400	16.153857	27.463023
2009	12.373780	17.883810	40.221667
2010	13.169241	16.968413	30.810333
2011	14.490602	17.336000	28.820195
2012	15.042727	21.222222	36.230952
2013	15.066372	23.575610	33.733333
2014	15.392727	21.195556	32.337500
2015	14.548150	22.956841	33.470773
2016	14.171920	21.277784	24.925158
2017	14.502000	25.113850	21.656972
2018	15.163398	27.716524	25.852342
2019	16.270155	29.432651	32.362529
2020	18.276583	33.852632	36.050000
2021	18.923238	37.697059	33.668421

# -Sales Trend (2008-2021)



The 2008 Housing Crisis  
Impact reflected in 2009

Covid-19  
Impact is different from the 2008 housing crisis



## — Company with the highest sales of the year in technology sector

	Company		Industry	Country	Market Value	Profits	Assets	Sales	Rank	Year	Profit Range	Sector
0	AT&T	Telecommunications Services	United States		210.220	11.950	275.640	118.930	12.0	2008	Above \$10 bil	Tech
70	AT&T	Telecommunications Services	United States		140.080	12.870	265.250	124.030	7.0	2009	Above \$10 bil	Tech
133	AT&T	Telecommunications Services	United States		147.550	12.540	268.750	123.020	13.0	2010	Above \$10 bil	Tech
197	Hewlett-Packard	Computer Hardware	United States		90.300	9.100	119.900	127.200	42.0	2011	Between \$5-10 bil	Tech
246	Apple	Computer Hardware	United States		546.000	33.000	138.700	127.800	22.0	2012	Above \$10 bil	Tech
291	Apple	Computer Hardware	United States		416.600	41.700	196.100	164.700	15.0	2013	Above \$10 bil	Tech
332	Apple	Computer Hardware	United States		483.100	37.000	225.200	173.800	15.0	2014	Above \$10 bil	Tech
377	Apple	Computer Hardware	United States		741.782	44.462	261.894	199.378	12.0	2015	Above \$10 bil	Tech
421	Apple	Computer Hardware	United States		585.951	53.731	293.284	233.273	8.0	2016	Above \$10 bil	Tech
472	Apple	Computer Hardware	United States		752.039	45.217	331.141	217.481	9.0	2017	Above \$10 bil	Tech
512	Apple	Computer Hardware	United States		926.946	53.318	367.502	247.535	8.0	2018	Above \$10 bil	Tech
554	Apple	Computer Hardware	United States		961.257	59.431	373.719	261.705	6.0	2019	Above \$10 bil	Tech
597	Apple	Computer Hardware	United States		1285.500	57.200	320.400	267.700	9.0	2020	Above \$10 bil	Tech
635	Apple	Computer Hardware	United States		2252.300	63.900	354.100	294.000	6.0	2021	Above \$10 bil	Tech

# Perspective.

## Financial Sector:

- Evident that poor lending led to the 2008 Market Crash the finance sector suffered greatly.
- After bottoming out in 2009 the financial sector recovered and revenue grew leading up to the 2020 pandemic.
- Unprofitability was at an all time high when Market value was at its lowest.
- The Housing crisis was more detrimental to the financial sector than the covid-19 pandemic.

# Perspective.



## **Technology Sector:**

- 2009 saw the highest amount of unprofitable companies in the technology sector. Top earners were relatively unaffected from 2008-2010.
- During the covid 19 pandemic the highest earning companies increased their profits while performance for the majority of companies were constant.
- The technology sector experienced revenue growth during the duration of our data set. Indicating that its was relatively unaffected by either crisis.



# Perspective.



## **Petroleum Sector:**

- The petroleum sector saw peak unprofitability in 2010 opposed to the other two sectors who peaked in 2009 during the Housing crisis.
- The effects of Covid 19 were detrimental to the Petroleum industry as 74% of the companies were unprofitable and 26% were at the bottom range of profitability. We also see that the lowest amount of revenue was generated during this crisis.
- We can conclude that the covid-19 pandemic affected this sector more than the housing crisis.

# Thank you!

Contributors:

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