



The Growing Wealth Gap: Executive Compensation and Wealth Gap – 2000 to 2016

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Citation	Trimzy, Ali. 2018. The Growing Wealth Gap: Executive Compensation and Wealth Gap – 2000 to 2016. Master's thesis, Harvard Extension School.
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The Growing Wealth Gap: Executive Compensation and Wealth Gap – 2000 to 2016

Ali I. Trimzy

A Thesis in the Field of International Relations
for the Degree in Master of Liberal Arts in Extension Studies

Harvard University

November 2018

Abstract

My thesis focuses on studying whether rapid growth in executive compensation over the past two decades can be attributed to value created by top managers and it has contributed to the widening wealth gap. My research showed that the growth in executive compensation far exceeded company financial performance and investor returns during the same period. Furthermore, comparing executive compensation and company financial performance, my research demonstrated that growth in revenues and net income for companies lagged behind increases in executive compensation over the same period. Based on these results, the study concluded that executive compensation is not commensurate with the value creation and can be attributed to rent extraction. The study further analyzed relationship between executive compensation and wealth gap, noting that while executive compensation has grown rapidly, median household income has remained flat. Furthermore, by comparing median household income to median household wealth, a measure used to calculate the wealth gap, I demonstrated that the two are closely correlated, lending support to the idea that excessive executive compensation has contributed to the widening wealth gap.

Dedication

I dedicate this thesis to my wife Hinna and my kids Saa'im and Minha. I further want to thank Nasir and Lynn Ali, without whose support I would not have been able to achieve this.

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Chapter I.

Introduction

Executive compensation has been a topic of intense debate among economists and academics in the field of business management for past several decades. However, the issue was thrust into mainstream during the recent financial crisis sparking a vigorous public and academic debate on the appropriateness of executive compensation structures.

News of top executives and CEOs, such as Richard S. Fuld of Lehman Brothers and Alan Schwartz of Bear Stearns, walking away with hundreds of millions of dollars in accumulated compensation while leaving behind these giant banks in utter ruin, sparked widespread outrage (Bebchuk L. A., 2009). Over the course of a few months, senior executives of companies like AIG, General Motors, Washington Mutual and many others received billions of dollars in severance and other compensation while simultaneously running the very same companies into the ground. All of these events led the topic of executive compensation, once domain of academics and researchers, to enter the public discourse. Questions were raised that whether executive compensation truly reflects the value added by the executives to the company and or are they exploiting their positions to enrich themselves at the expense of both shareholders and workers.

The financial crisis, especially the collapse of the housing market, had significantly exasperated the problem of income inequality and wealth gap. Economists had been raising a red flag over this problem pointing towards the fact that income inequality remained at the highest level not seen since early twentieth century. Over the

years, economists have proposed a host of underlying factors contributing to this problem, one of which happens to be executive compensation, and while much of the focus has been on macro-economic factors, executive compensation as a contributing factor to the widening wealth gap has received relatively less attention.

Critics of the current executive compensation structure point towards these large bankruptcies and corporate failures as evidence of a flawed system that is failing to meet its objectives. They argue that the current structure incentivizes short term behavior and over compensates executives at the expense of shareholders and average workers. Meanwhile the proponents of the current system, argue that these reflect market forces and are in place to attract top talent in executive positions and ensure that the interest of top executives is aligned to that of shareholders.

This chapter introduces my research around executive compensation. It begins by identifying the research problem, as well as overall objectives, core questions, and the significance of the research, followed by a discussion of my hypothesis and methodology.

Research Objectives and Questions

Basic economic principles contend that compensation is dictated by market forces and is measured by the value generation and the risk and reward profile of a position. Therefore, it is implied that the top managers of a company would be compensated based on the value created through their actions. As such, I sought to determine whether top executives are compensated fairly for the value they create for the shareholders and the company, as measured by shareholder returns and company financial performance, or whether there is a transfer of wealth from workers and shareholders to executives, which has been contributing to the growing wealth gap.

By analyzing executive compensation figures published by the companies, as part of their regulatory disclosures and company financial performance, as disclosed in financial statements, combined with macro-economic data on household income and wealth for the period 2000 to 2016, I addressed the following questions:

1. How does the growth in executive compensation compare to company financial performance?
2. How does the growth in executive compensation compare to the total shareholder returns?
3. How does the growth in executive compensation, compare to growth in median household income?
4. Are median household income and household wealth, a key indicator used to calculate wealth gap, statistically correlated?

Research Proposition

My hypothesis is that the rapid growth in executive compensation is due to rents imposed by the top managers on workers and shareholders. As a result, executive compensation has grown at a much faster rate than that can be justified by the value they create. Furthermore executive compensation has grown at a much faster rate than median household income. This disparity contributes to the growing wealth gap, which can be observed through the positive correlation between the median household income and median household wealth, a primary indicator used to calculate the wealth gap. My research further provided evidence to support the idea that executive compensation did not reflect the economic realities of the market and failed to balance the risk and rewards associated with these roles.

While these top corporate executives are a small subset of the top one percent, they may act as a leading indicator of how a larger group of individuals in top management positions are being disproportionately compensated and thus contributing to the problem.

Justification for the Research

Paul Krugman, Thomas Picketty, Gabriel Zucman, Emmanuel Saez¹ and other renowned economists have written extensively about the growing wealth gap in western societies and its economic and social implications. They have analyzed a host of factors contributing to this problem and its long-term implications, however much of the focus has been on macro-economic factors such as fiscal, monetary and tax policies combined with the regulatory framework around business activities. While executive compensation has been a topic of interest, not much has been written on the subject of income gap between executives and average worker and its impact on the wealth gap.

I focus on this specific facet and seek to provide evidence that a significant gap in compensation, of executives and workers, is contributing to this growing divide.

¹ Paul Krugman is a Nobel Prize winning economist, who has written extensively about globalization and its impact on increased inequality. Thomas Picketty is a French economist focusing on wealth and income inequality. He is associate chair at the Paris School of Economics and professor at the International Inequalities Institute at the London School of Economics. Gabriel Zucman is a professor of economics at University of California, Berkley, focusing on economic inequality and tax havens. Emmanuel Saez is a professor of economics at University of California, Berkeley. His work focuses on tracking the incomes of the poor, middle class and rich around the world. He working with Thomas Picketty has shown that top earners in the United States have taken an increasingly larger share of overall income over the last three decades.

Definition of Terms

- I. Wealth gap: Defined as difference between the percentage of household wealth, held by those in the top one to ten percent and those in the bottom ninety to ninety nine percent of the households.
- II. Compensation: Defined as sum of salary, bonus, and other compensation, stock and option awards, non-equity incentives, pension and deferred compensation as declared in FAS 123R disclosures.
- III. Wealth: Wealth is measured as sum of all tangible and non-tangible assets owned by an individual/household. Tangible assets include but not limited to items such as currency, property, valuables, stocks, bonds and ownership stake in businesses and other assets. Non-tangible assets include items such as copy rights, brands and patents.
- IV. Capitals gains: Capital gains refer to increases in market value of the stock price or other ownership stake in an asset, such as stocks and/or bonds of private and publicly traded companies.
- V. Dividends: Dividends refer to part of profits (net income) distributed to shareholders of a public or private company on a periodic basis.
- VI. Yield: The rate of return on an investment is referred to as yield. It is calculated by dividing sum of capital gains plus dividends by purchase price of the ownership stake in the business.
- VII. Index: An index is a statistical measure of changes in value of ownership stake of a group of companies. It is a measure widely used in finance to understand the changes in market values of companies.

- VIII. Market Capitalization: It is measured by multiplying the total number of shares of a business available for sale/purchase in the market with the market value of one of these shares.
- IX. S&P 500: Refers to the Standard and Poors index based on the five hundred largest companies, by market capitalizations, traded in U.S.²
- X. Factset: A company providing data and software solutions to financial services professionals, specializing in financial data and analytics software.
- XI. Capital IQ: A subsidiary of Standards & Poors (S&P), providing financial data and analytic tools to financial services professionals.
- XII. Blackout periods: It refers to time period during which the majority of employees at a particular company are not allowed to engage in sale or purchase of company stock.
- XIII. Principal agent: The principal–agent problem, also known as agency problem, refers to a relationship between two individuals or entities in which one individual/entity, “agent,” is responsible for making decisions on behalf of and in the best interest of the other individual/entity, “principal.” This dilemma exists in circumstances where agents are motivated to act in their own best interests which are contrary to those of the principal, at the expense of the principal.
- XIV. Dot-com bubble: The “dot-com bubble” (also known as the “dot-com boom” or “the dot-com crash”) refers to a period of rampant speculation in the value of internet companies, between the years 1997 to 2001.

² Explanation is based on information obtained from S&P Americas-US indices website. Accessed May 1, 2017, <http://us.spindices.com/regional-exposure/americas/us>.

Chapter II.

Background

Nobel Prize winning economist Milton Friedman, in a 1970 article, argued that the only responsibility of a business and by extension its managers/executives is to make a profit. He deemed executives as “agents” of the shareholders and who must only focus on what is in the best interest of the shareholder, i.e. increase shareholder value (Friedman, 1970).

Through this paper, Friedman upended the long-held concept of an “enlightened manager,” one with a social conscience, who viewed his/her role as a caretaker of the business and his/her duty as an arbitrator of competing interests of all parties (shareholders, workers, government, public) involved in the business (Maslow, 1998). This paternalistic view was best summed up by Frank W. Abrams, chairman of Standard Oil of New Jersey. In 1951, while discussing the role of management, he wrote, “The job of professional management...is to maintain an equitable and working balance among the claims of the various directly affected interest groups,” which he defined as “stockholders, employees, customers and the public at large” (Abrams, 1951, pp. 29-30).

Friedman derided this philosophy and the “inefficiencies” created by it, equating it to socialism. He championed the idea of “principal-agent theory” arguing for a new breed of business leaders, motivated only by profits and whose sole obligation was to the shareholders, concerned only with maximizing the value of their investments (Friedman, 1970).

In a 1976 paper, famed economist Michael Jensen, along with William Meckling, further railed against the “socially conscience” business leaders, arguing that top

executives had become too entrenched and lacked discipline and accountability, and should only be focused on value creation and wealth generation for the shareholders (Jensen & Meckling, 1976, 305-360).

The “Greed is good” mantra of the eighties resonated with the new breed of corporate leaders, who were solely focused on wealth generation. This philosophy, however, turned out to be a double-edged sword. It initially focused the managers on value creation for the shareholders however in many cases this focus soon turned inwards, causing these managers to focus on personal enrichment. As CEO compensation grew in the eighties, so did the criticism that the CEOs were not looking out for the best interest of the shareholders.

In a 1990 *Harvard Business Review* article, Jensen prescribed executive stock options as the solution to this problem of aligning interests of shareholder with those of top managers of the companies. He stated that “[t]here are serious problems with CEO compensation, but ‘excessive’ pay is not the biggest issue. The relentless focus on how much CEOs are paid diverts public attention from the real problem—how CEOs are paid” (Jensen and Murphy, 1990, p. 305). He further argued that contrary to common belief CEOs are not overpaid, but are in fact underpaid, when measured in relation to CEO compensation during 1930s and the value they generate.

The philosophical underpinnings of the modern theory of management, discussed earlier, as professed by Jensen and Friedman, created a motivational framework for senior executives to exploit their control of companies to maximize their own personal value, at the expense of their workers and shareholders. To the extent this was done through cost cutting, through outsourcing and cutting worker compensation, the value

extracted by the executives was at the expense of the workers. This phenomenon contributed to depressed wages for average workers and staggering increase in executive compensation, widening the income and the wealth gap.

Regulatory Response to Executive Compensation

One of the platform promises made by President Bill Clinton during his 1992 presidential campaign was to reign in executive pay and hold corporate leaders accountable for the erosion in blue collar jobs.³ To keep his campaign promise, in 1993 President Bill Clinton signed into law his first federal budget, creating section 162(m) of Internal Revenue Code. This provision limited the amount of executive compensation companies could deduct from their corporate taxes to one million, with an exception for those portions that are performance based: that is portions tied to achieving specific goals. The idea was to discourage higher compensation of senior executives, by eliminating tax benefits to the company, while encouraging an incentive structure that ties their pay to performance.

The Law had significant loop holes, which were effectively exploited by corporations. One of these loop holes was the exception allowing companies to exclude stock options from the one-million-dollar limit. Partly because of this rule, there was a shift away from salary towards stock options and between 1993 to 2000, when stock options as a percentage of executive compensation rose from forty one percent to seventy eight percent (Bebchuk & Grinstein, 2005).

³ A campaign promise made by President Bill Clinton during his 1992 presidential campaign was to address the issue of excessive executive pay. One of the tenants of his campaign manifesto “Put People First” was to put a cap on tax deduction on executive pay so that the tax payers are not subsidizing oversize pay packages for the CEOs. This was highlighted in his 1992 campaign brochure “Fighting for the forgotten middle class” (<http://www.4president.org/brochures/billclinton1992brochure.htm>).

There is a famous proverb that the road to hell is paved with good intentions. Despite the well-intentioned step, the end result was quite the opposite. The average compensation for a fortune 500 company CEO rose from \$3.7 million in 1993 to \$17.4 million in 2000 (Bebchuk & Grinstein, 2005).

Background on Income and Wealth Gap

The issue of wealth gap is one that is increasingly being viewed as a significant detriment to a stable future of not just United States but across the globe. A 2014 Harvard University study by Michael Porter, in which 1947 Harvard Business School alumni were interviewed across the globe and asked about their outlook for the future, concluded that the wealth gap between the wealthiest and middle class is continuing to grow and that “such a divergence is unsustainable” (Porter and Rivkin, 2014, p. 2).

One only has to look at slew of recent studies and data highlighting the enormity of this problem. A study by the OECD (Organization of Economic Co-operation and Development) found significant gaps between the income and wealth of the top ten percent of households for all Western countries, with the U.S having the largest gap among the group (figure 1) (OECD, 2015). It noted that the richest ten percent of U.S households earn about twenty eight percent of the total income (excluding capital gains), while owning seventy six percent of all the wealth, making it an outlier among the western countries.

Share of **income** and **wealth** owned by top 10% of households, 2012

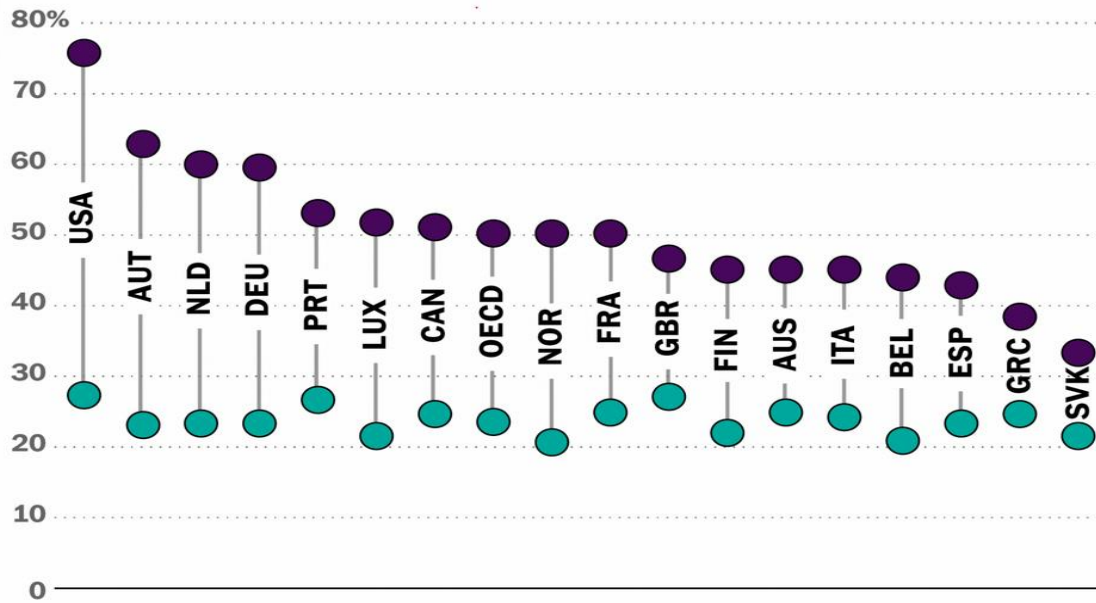


Figure 1. Gap between share of income and wealth owned by richest 10% of households as of year 2012.

Source: OECD, *In It Together: Why Less Inequality Benefits All*, OECD Publishing, Paris. (2015).

Data from CBO (Congressional Budget Office) showed that from 1989 to 2013 (CBO, 2016), the total wealth controlled by top ten percent in United States went from twenty trillion dollars to fifty-one trillion dollars, while those in the bottom fifty percent remained flat at one trillion (figure 2).

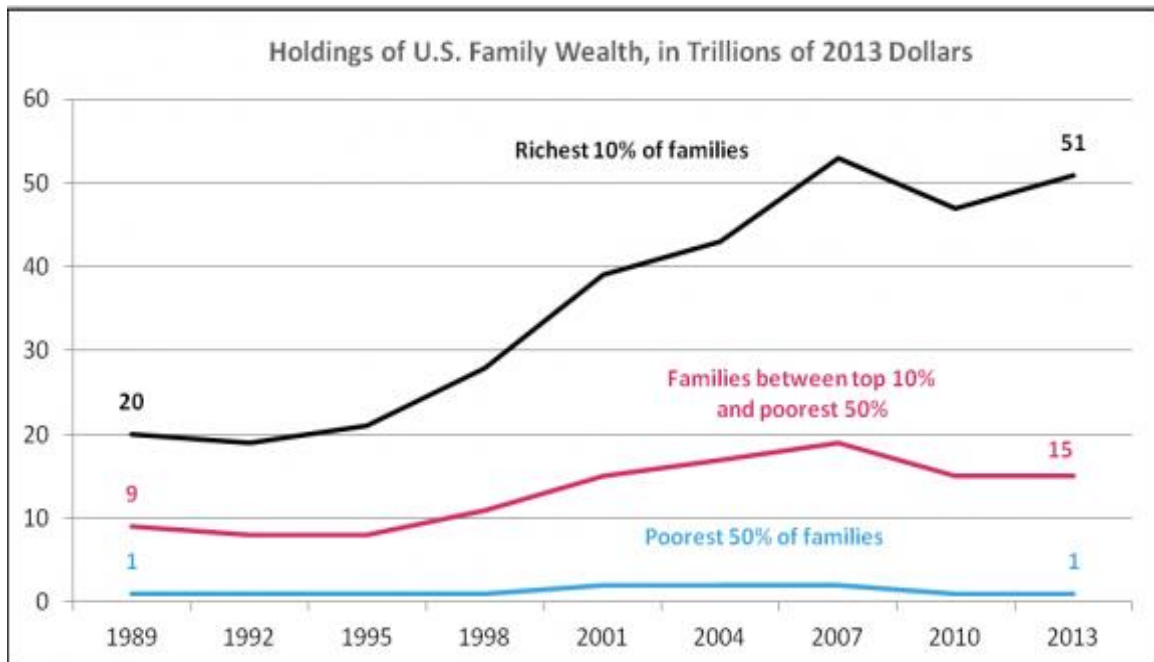


Figure 2. Increase in wealth owned by U.S households for period 1989 – 2013, broken by income bracket.

Source: Trends in Family Wealth, 1989-2013, Congressional Budget Office, (August 2016).

The significance of this problem is not lost on economists, social scientists and leaders at large, all of them lamenting the structural issues in the current global economic system that exasperate this problem and warning of dire consequences if this problem continues to go unchecked.

Chapter III.

Research Methodology and Limitations

I took a two-pronged approach to validating my hypothesis. First, I took a sample ‘the sample’ of fifty public companies domiciled in the United States and analyzed financial performance and executive compensation data of these companies to validate my hypothesis. Companies were selected randomly with the only consideration that an attempt was made to ensure companies from all economic sectors are represented in the sample.

Secondly, I obtained similar data for the market, which I defined as public companies that are components of S&P 500 index or when possible all public companies in the United States. I used financial and compensation data for these companies to validate my hypothesis.

I selected the 2000 to 2016 time period for analysis, taking into consideration two factors: first to ensure that the analysis is performed on the most contemporaneously available data and second to ensure the data covers at least one full economic cycle.

My research can be broken down in three phases: 1. Data gathering, 2. Data analysis and 3. Hypothesis and conclusions.

Phase I. Data Gathering

During the first phase, I identified specific data and sources that were needed for the research. I did this by first breaking down my hypothesis into discrete parts and then identifying the analysis needed to be performed in order to validate each part.

I further reviewed relevant studies on wealth gap and income inequality to reaffirm my choice of data and analysis. Based on this review, I identified the following specific data and sources for this study:

In order to calculate investor returns and company financial performance, I chose revenue and net income as relevant metrics for gauging financial performance. I obtained financial statement data for my sample and the market. This data was obtained from data services “Factset” and “Capital IQ,” both of which provide financial statements and other publicly available data reported by companies. Using these data sources, I obtained net income, revenues, dividends and yield data for my sample and the market.

I further obtained total returns, dividend yield and capital gains data for S&P 500 index to calculate investor returns for the market using data services Factset and Capital IQ.

I also obtained index and sector yield data from Professor Aswath Damodaran’s website, where he posts such data periodically with his commentary. This data is obtained from data service Capital IQ. (See research limitations below for further discussion.)

I also obtained wage, median household income and wealth data from government sources, such as U.S Bureau of Labor and Statistics and U.S Census Bureau, and the Federal Reserve Bank of St. Louis, allowing me to calculate growth in median household income and wealth.

In order to obtain executive compensation data, I leveraged data services Execucomp and Capital IQ – Boardex, through which I obtained compensation data for the board and executive officers of the companies, as disclosed in their public filings.

Phase II. Data Analysis

I analyzed the data, collected during the data gathering phase using Excel and Alteryx data analysis tools. Below are the details of the analysis performed as part of this study.

Using executive compensation data, I calculated average executive compensation per year and growth in executive compensation in one, four and sixteen year periods, in order to adjust for survivorship bias (most CEO terms are three to five years). Using the data calculated through these procedures, I compared executive compensation data to company financial performance and investor returns to determine if increases in executive compensation is in-line with similar improvements in financial performance of the company.

I calculated growth in net income and revenues for the period 2000 to 2016 to quantify company performance on an annual basis. I noted that for companies in my sample, revenues and net income grew by 123% and 145% respectively for the period 2000 to 2016. This was slightly higher than growth of 90% and 104% in revenues and net income for all companies in S&P 500 index.

Comparing these two metrics measuring financial performance of companies to growth in executive compensation, I noted that average CEO compensation grew by 340% for companies in my sample and 252% for S&P 500. Whereas average executive compensation grew by 314% for companies in my sample and 287% for S&P 500, far out pacing company financial performance.

I then calculated total shareholder returns, defined as dividend yield plus capital gains, and compared it to growth in executive compensation. My analysis showed that for

the period 2000 to 2016, the total shareholder returns for S&P 500 index was 98%, while average CEO and executive compensation grew by 340% and 314% respectively.

In order to compare growth in executive compensation to that of average worker, I compared changes in median household income to growth in executive compensation for the period of my study. Analyzing compensation data for approximately 2299 public companies, I noted that average CEO compensation increased more than five folds, from approximately \$1.5 million in 2000 to \$7 million in 2016. During the same period median household income remained flat at approximately \$59,000.

I further compared median household wealth and median household income data for the bottom ninety percent of the households to demonstrate that the two are positively correlated. My analysis showed that there was a strong positive correlation ($R = .7523$ and $R^2 = .566$ and $p\text{-value} = .00013$ at $p < .05$) between median household income and median household wealth.

Lastly, to demonstrate the rapid growth in wealth of the highest income earners, I analyzed net household wealth data⁴ to compare net worth of households in the top ten percent of the income distribution to those in the bottom ninety percent. My analysis showed that during the period 1998 to 2016, the net worth of households in top ten percent grew from \$452,280 to \$1,639,550, a four-fold rise. During the same period the net worth of household in bottom 90% of income distribution grew by 72% (from approximately \$394,000 to \$677,000) and those in the bottom 80% of income distribution grew by 40% (from approximately \$205,000 to \$287,000).

⁴ Median household wealth data for 1989 to 2016, as reported in “Survey of Consumer Finances” (SCF) by Federal Reserve Bank. <https://www.federalreserve.gov/econres/scfindex.htm>

Phase III. Hypothesis and Conclusions

Based on the results of the analysis, I argued that empirical evidence suggests that my hypothesis that executive compensation have contributed to a growing wealth gap holds true.

The evidence further suggests that executive compensation is not always in line with similar improvements in company financial performance and investor returns and the growth in executive compensation can best be explained by rents extracted by the executives by exercising their immense control over the resources of the company.

Research Limitations

My research was limited to public companies for which adequate financial information was available for the years 2000 to 2016. My selected sample was focused primarily on companies based in United States. I deemed S&P 500 index and its components as proxy for the market and used financial performance data for the index as a proxy for the public companies in United States.

I obtained financial statement and compensation data gathered by primary and secondary sources such as data services Factset, Capital IQ, Boardex and Execucomp. These services obtain data from original sources, i.e. financial statements and disclosures by companies to SEC. I heavily relied on this data and as such, to the extent there may be errors in data provided by these data services, the analysis and conclusions may also be impacted. In order to minimize the risk of data errors, I performed spot checks on some of the data, tying it to source documents.

When calculating absolute returns and value created by the executives, one must take stock of value created for all affected parties rather than just the shareholders, i.e.

workers, management and the public. However, given the diverse and complex nature of businesses involved in this study combined with lack of data on many of these metrics, I primarily focused on investor returns and company value.

I also relied on data and analysis performed by some of the leading academics in finance, such as Professor Aswath Damodaran of New York University Business School.⁵ I utilized some of the data and analysis routinely posted by Professor Damodaran on his website. This analysis was performed by Professor Damodaran on raw data obtained from Capital IQ on regular basis and is extensively used and cited in financial sector. Furthermore, Professor Damodaran made available his methodology and calculation on the website, along with the results, allowing me to ensure that the any calculation performed are accurate and agree with my methodology.

⁵ Aswath Damodaran is a professor of Finance (Kerschner Family Chair in Finance Education) at New York University Stern School of Business. He is the author of several widely used and quoted books and papers on Valuation, Corporate Finance and Investment Management. Business Week profiled him as one of the top 12 U.S. business school professors.

Chapter IV.

Analysis

In this chapter I will analyze the theoretical basis of the current executive compensation models and some of the challenges to them based on new research and empirical data. I will further provide analysis of current executive compensation data to support my hypothesis.

Executive Compensation and the Agency Problem

Nobel Prize winning economist Milton Friedman, in a 1970 article, argued that the only responsibility of a business and by extension its managers' is to make a profit. He argued that managers were "agents" of the shareholders and must only focus on what is in the best interest of the shareholders, i.e. increase shareholder value (Friedman, 1970). The principal agent theory, where professional managers are responsible for protecting the interest of shareholders, is the foundation of modern professionally managed corporation. The idea, however, failed to take into account the immense power business managers wield over the capital and resources of the company and the ease with which this power can be exercised to benefit the managers at the expense of the shareholders.

Over the past several decades we have seen numerous such cases where poor corporate governance and lack of shareholder oversight led executives to enrich themselves at the expense of the shareholders. In 2013, American Airline's CEO Tom Horton was able to negotiate a twenty-million-dollar severance package for a mere sixteen months of service while the company was still in bankruptcy proceedings. The company proposed the package in the bankruptcy court at the same time when billions of

dollars in stockholder equity and debt holder value was being wiped out, highlighting the risk of abuse of the significant power executives command over the resources of the company.⁶

The proponents of this model of corporate management have argued that the potential of such abuse is minimal at best. In one of the most significant academic papers on the topic of executive compensation and agency problem, Michael C. Jensen and Kevin J. Murphy explored the relationship between total CEO compensation and change in stock holder wealth. Analyzing data from 1974 to 1986, the authors noted that for every \$1000 change in stock holder wealth, the CEO wealth increased by \$3.25 (Jensen M. C., 1990). The authors argued that not only was this a reasonable price for the value created by the CEOs but also hypothesize that public and private political forces, both within and outside the organization, imposed constraints that limited pay-performance sensitivity and as such acted as an effective mechanism to control executive over reach.⁷

Evidence from recent studies, however, questions this conclusion. In their 2006 book *Pay without Performance, The Unfulfilled Promise of Executive Compensation*, authors Lucian Bebchuk and Jesse Fried explored this idea and analyzed influence of executives on setting their own compensation (Bebchuk & Friedman, 2004). They noted that this influence resulted in widespread distortions in pay arrangements and further highlighted some of the mechanisms through which top managers can neutralize any efforts to limit control over the company. The authors argued that managers can leverage

⁶ Finger, Richard. Forbes, 2013, "Paid to Fail: Bankrupt American Airlines CEO Slated for \$20 Million Severance"
<https://www.forbes.com/sites/richardfinger/2013/03/29/paid-to-fail-bankrupt-american-airlines-ceo-slated-for-20-million-severance/#378ec9e46e19>

⁷ Defined as dollar change in CEO wealth for every dollar change in wealth of the shareholders

their influence to extract rents and command a disproportionate compensation compared to performance.

Over the past several decades, efforts have been made to address these concerns by redesigning executive compensation structures to better align the interests of top managers with those of the shareholders. The rise in stock-based compensation as the most significant component of total executive compensation is evidence of this change. It has been argued that a greater percentage of executive compensation in form of stocks and options would give executives “skin in the game” and therefore would mean that executives would have as much to lose from value extraction and ineffective management as shareholders. Therefore, a prudent executive would always focus on maximizing shareholder value as this would maximize their own personal wealth. This view point, however, does not take into consideration several key factors.

First, as top managers, executives are privy to valuable information about the company and the industry in which they operate. A marginal shareholder is unlikely to have similar information available to them about either the company or the industry. While SEC rules prohibit executives from trading on this privileged information, it does not prohibit them from offloading their stake in the company through prescribed methods. This is one of the reasons why many market observers believe keeping a close eye on insider trading activity is a valuable tool in forecasting company performance.

Second, this arguments fails to take into consideration the significant value associated with the options and stock compensation grants given to executives. The non-cash nature of these plans along with complex accounting treatment associated with them means that boards are more likely to approve a much higher pay in form of options and

stock grants as compared to cash salary. This combined with the influence top executives have on setting their own compensation, as noted by studies by Lucian Bebchuk and Jesse Friedman (Bebchuk & Friedman, 2004), and the significant upside associated with these options means that over the long run they are likely to payout significantly higher returns to executives.

Lastly and perhaps most importantly, the mechanisms through which these incentives are granted, i.e. meeting short term earnings or vague performance goals, combined with the nature of these incentives compels executives to take a short-term view of the company, resulting in either taking undue risks or making decisions to achieve short-term milestones at the expense of long-term prosperity of the business. This short-term view, more than any other factor, results in value destruction for the shareholders.

The value extraction by the executives, the evidence of which I will present below, is the result of breakdown in the “principal agent” theory and the failure of the current executive compensation models.

Executive Compensation and Company Performance

In one of the most cited paper on topic of executive compensation, authors Lucien Bebchuk et al. investigated the relationship between CEO compensation as a percentage of total compensation of the top five executives of the company, termed “CEO Pay Slice” (CPS),⁸ and the performance and behavior of the company (Bebchuk, Cremers, & Peye, 2011). The authors studied executive compensation data of the top five executives for

⁸ CEO Pay Slice (CPS) is defined is the percentage of total executive compensation of the officers of the company that goes to the CEO. The authors propose that higher CEO pay slice indicates that CEO has greater control of the company and limited checks and balances to their power.

approximately 2,015 public companies and 3,256 different CEOs for the period 1993 to 2004. The study focused on analyzing correlations between CPS and company performance. The authors concluded that CPS was negatively correlated with firm performance and value i.e. a higher CEO pay slice percentage indicates higher control of CEO over the company which likely resulted in poorer financial performance.

In order to further build upon the study, I compared company financial performance with executive compensation. In order to determine company financial performance, I calculated growth in net income and revenues of a company and compared it to growth in executive compensation.⁹ I set out to demonstrate that changes in executive compensation was not proportionate to changes in revenues and net income, i.e. reflective of company financial performance.

As such, I analyzed executive compensation data for companies in my selected sample and the market¹⁰ and compared it to company financial performance over the same period.

⁹ Compensation is defined as the sum of salary, bonus and other compensation, stock & option awards as declared in FAS 123R disclosures, non-equity incentives, pension and deferred compensation.

¹⁰ Market is defined as approximately 2299 public companies in North America for which compensation figures were gathered for this analysis.

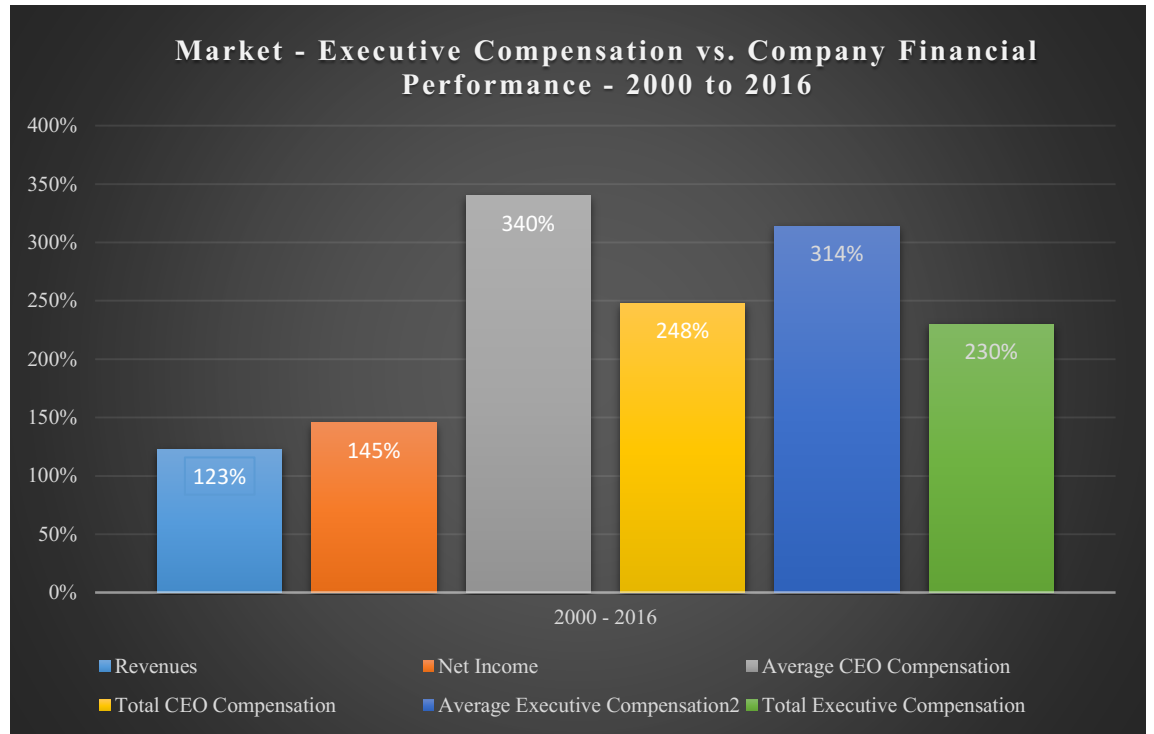


Figure 3. Executive compensation growth for 2299 public companies in the United States compared to growth in revenue and net income for companies in S&P 500.

Source: Calculated using compensation data from Capital IQ – Execucomp and financial performance data for S&P 500 from Factset (obtained Feb 21, 2018).

Analyzing executive compensation data for 2299 public companies, I noted that for the period 2000 to 2016, average compensation of a CEO grew by 340%, whereas during the same period average compensation for all executives grew by 314%, both significantly outpacing growth of 123% in revenues and 145% in net income for companies in S&P 500 (figure 3).

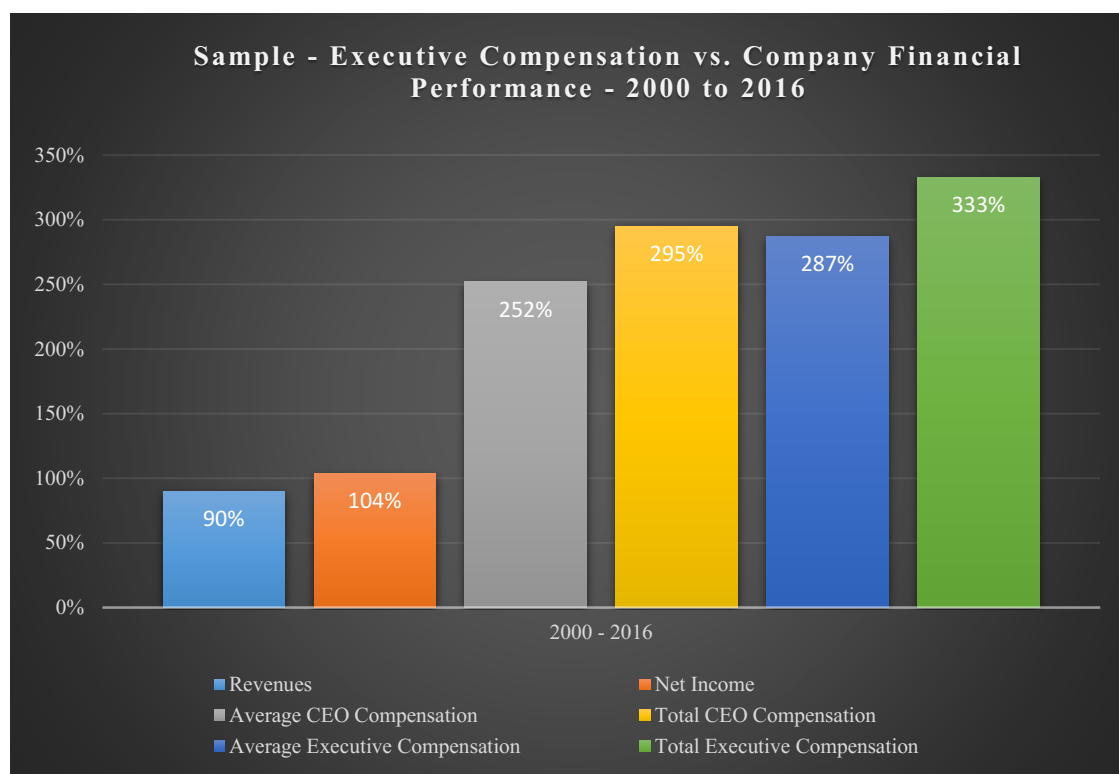


Figure 4. Executive compensation growth compared to growth in revenue and net income for a sample of public companies in the United States.

Source: Calculated using compensation data from Capital IQ – Execucomp and financial performance data from Factset (obtained Feb 21, 2018).

Analyzing compensation and financial performance data for companies in my selected sample netted very similar results, with growth of 295% in total CEO compensation and 333% in total executive compensation, compared to a growth of only 90% in revenues and 104% in net income for the same period (figure 4).

The significant differences in growth of executive compensation compared to financial performance provides evidence to support my hypothesis that growth in executive compensation is significantly higher than the financial performance of these companies and as such cannot be justified may be evidence of value extraction by the executives.

Executive Compensation and Shareholder Returns

In order to study the relationship between executive compensation and shareholder returns, I compared growth in executive compensation to total shareholder returns for the same period. Similar to the prior analysis, I compared growth in executive compensation to shareholder returns for my selected sample and the market.

Contrary to prior results, shareholder returns for my selected sample were very closely aligned with growth in executive compensation. For the period 2000 to 2016, total executive compensation grew by 333%, while total CEO compensation grew by 295%. During the same period total shareholder returns were 266%, which is comparable to growth in executive compensation (figure 5).

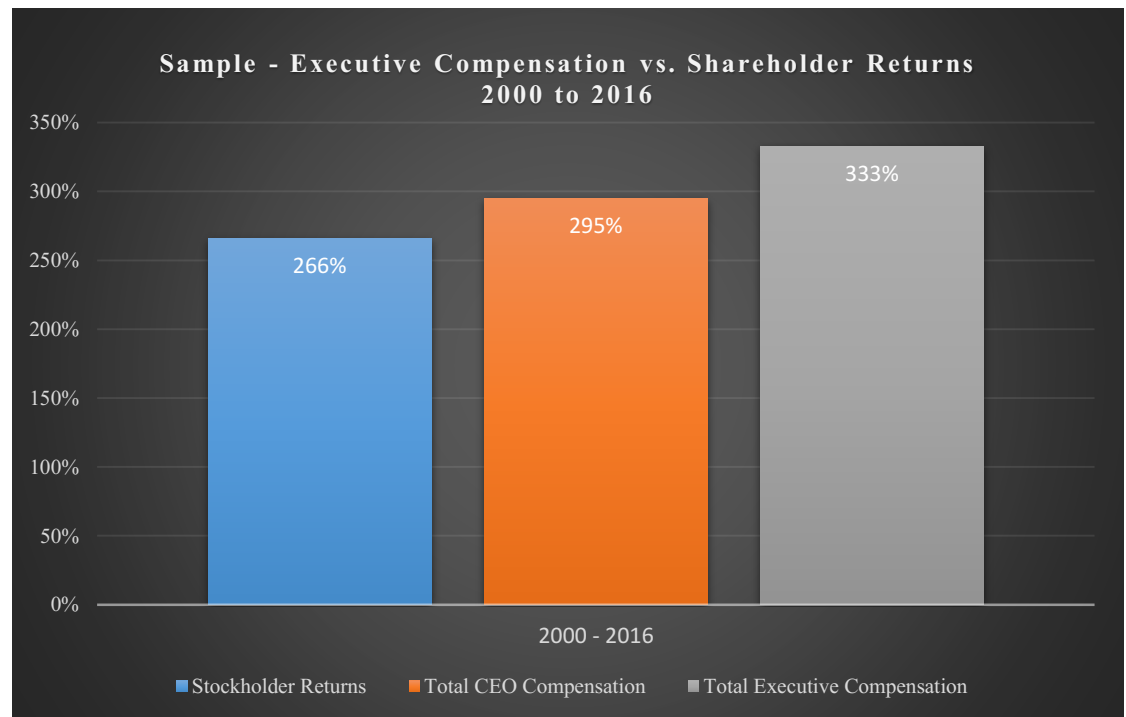


Figure 5. Executive compensation growth compared to shareholder returns for a sample of public companies in the United States.

Source: Calculated using compensation data from Capital IQ – Execucomp and financial performance data from Factset (obtained Feb 21, 2018).

There are a few factors that should be taken into consideration while analyzing these results. First, the results are for a subset of companies i.e. those in my selected sample. These companies in many cases are sector leaders, outperforming their peers. Second, the start year of the study, the year 2000, was in the middle of the collapse of the dot com bubble and the beginning of a recession, therefore providing an artificially low base to calculate investor returns.

This becomes evident when we analyze shareholder returns and compensation data for the market. When I performed the same analysis for the market, the results were in line with my hypothesis. Comparing growth in executive compensation for 2299 public companies to shareholder returns for S&P 500, I noted that while total shareholder returns for S&P 500 were 98%, for the period 2000 to 2016, while during the same period average CEO and executive compensation grew by 340% and 314% respectively (figure 6). The results clearly show that for public companies as a group, growth in executive compensation significantly exceeded shareholder returns.

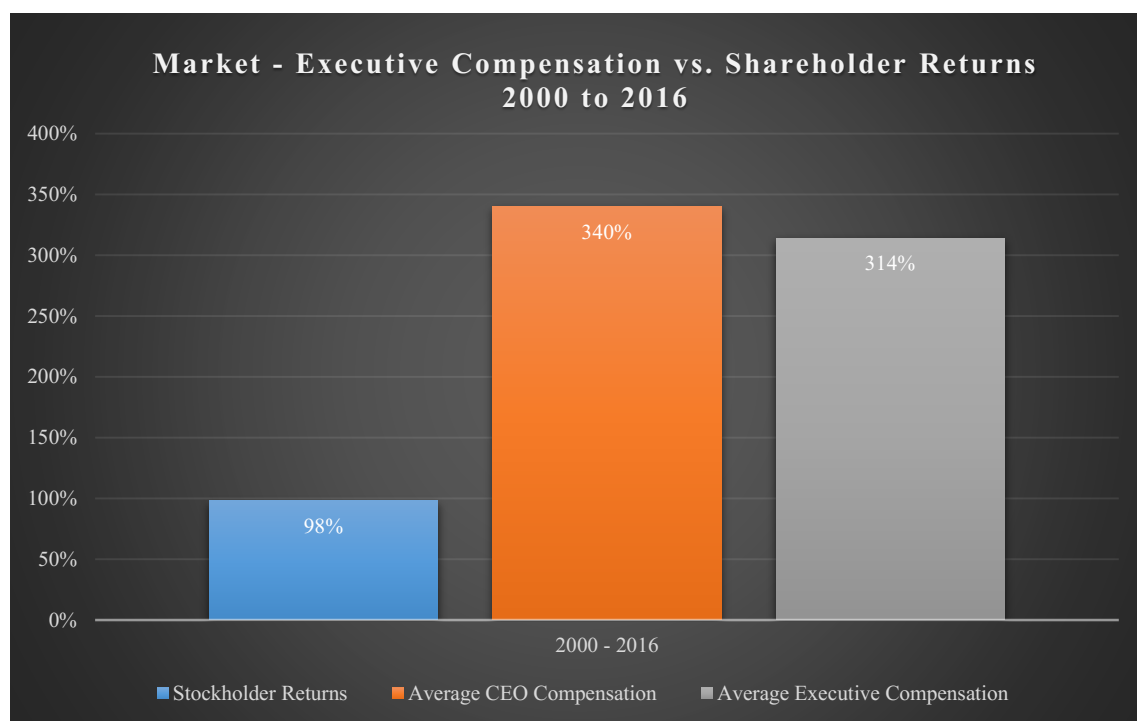


Figure 6. Executive compensation growth for 2299 public companies in United States compared to shareholder returns for companies in S&P 500.

Source: Calculated using compensation data from Capital IQ – Execucomp and financial performance data for S&P 500 from Factset (obtained Feb 21, 2018).

The difference in executive compensation and shareholder returns is further pronounced when comparing the two for the period 2000 to 2010. For the ten-year period, shareholder returns for my selected sample dropped to 179%, a thirty percent drop from the initial analysis. Growth in total executive and CEO compensation on the other hand drop only slightly to 268% and 297%, respectively (figure 7).

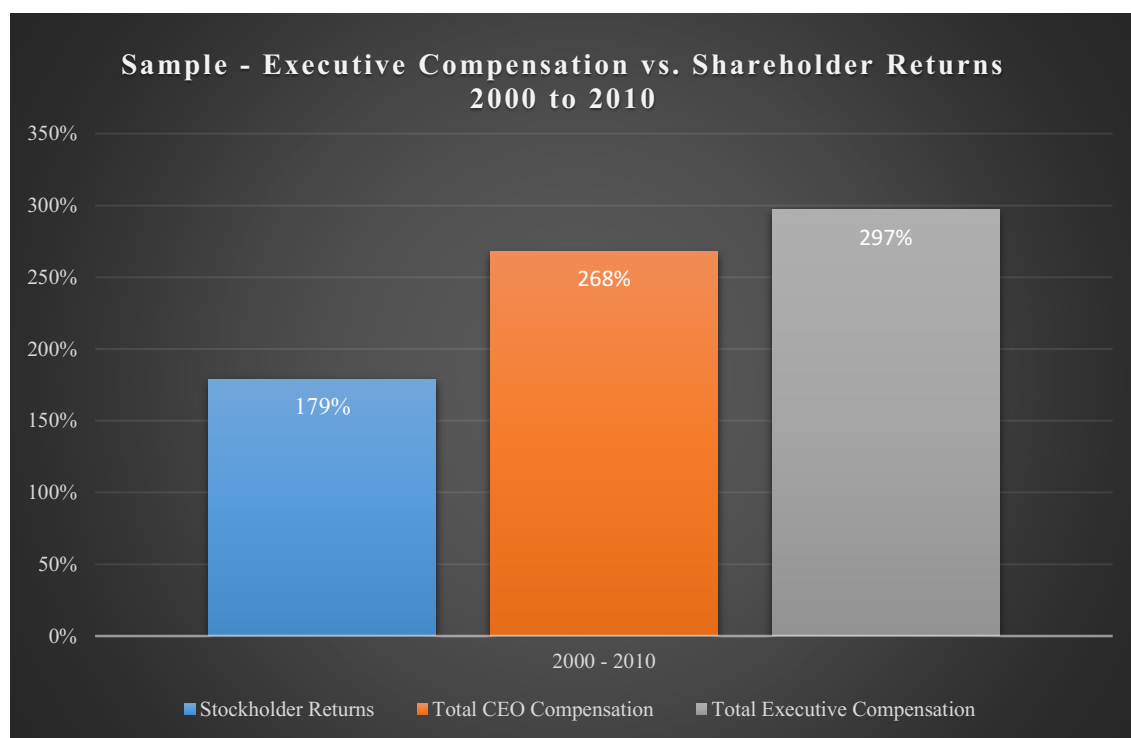


Figure 7. Executive compensation growth compared to shareholder returns for a sample of public companies in the United States for the period 2000 to 2010.

Source: Calculated using compensation data from Capital IQ – Execucomp and financial performance data from Factset (obtained Feb 21, 2018).

The conclusion is further supported by performing the same analysis for the market. When analyzing data for S&P 500 for the period 2000 to 2010, shareholder returns for the most part are wiped out, with total shareholder returns of only 13.6% over a ten year period (figure 8). On the other hand, growth in executive compensation was more than 200% over the same period, providing strong evidence that executive compensation is not strongly correlated to the value created by executives for the shareholders. In fact, the exponential growth in executive compensation showed that there was some degree of value extraction at the expense of shareholder, with limited to no discernable consequences.

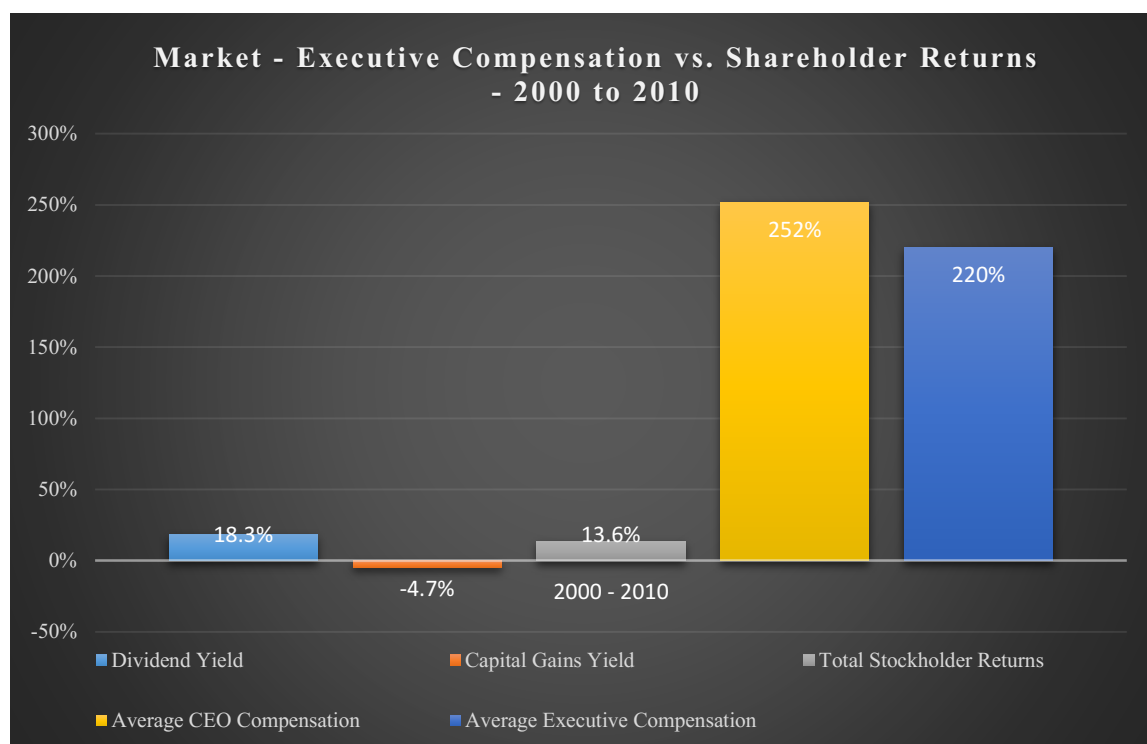


Figure 8. Executive compensation growth compared to shareholder returns for 2299 public companies and companies in S&P 500 for the period 2000 to 2010.

Source: Calculated using compensation data from Capital IQ – Execucomp and financial performance data for S&P 500 from Factset (obtained Feb 21, 2018).

Executive Compensation and Median Household Income

A 2014 article by Lawrence Mishel at the Economic Policy Institute analyzed trends in CEO compensation, specifically focusing on growth in CEO compensation over the last three decades. After reviewing data for the period 1997 – 2012, Mishel noted that CEO compensation grew far faster than that of other highly paid workers, i.e. those earning more than 99.9 percent of other wage earners. He noted that CEO compensation in 1979 was 3.33 times that of the top 0.1 percent of wage earners, increasing to 4.75 times by 2012 (Mishel, 2014). Authors concluded that the fact that CEO pay grew far faster than pay of the top 0.1 percent of wage earners indicates that CEO compensation

growth does not simply reflect the increased market value of highly paid professionals in a competitive market but reflects the presence of substantial rents embedded in executive pay.

This fact becomes more pronounced when comparing average executive compensation data for approximately 2299 public companies in U.S. to median household income. As figure 9 shows, over a sixteen-year period average executive compensation grew from approximately \$1 million to more than \$3 million for an average executive and to \$7 million for CEOs. During the same period, the median household income remained stagnant at approximately \$59,000. In fact, between years 2007 to 2012, the median household income dropped from \$59,149 to \$53,331 and at the same time executive compensation grew from \$2.54 to \$2.98 million and CEO compensation grew from \$5.3 to \$6.03 million (figure 9).

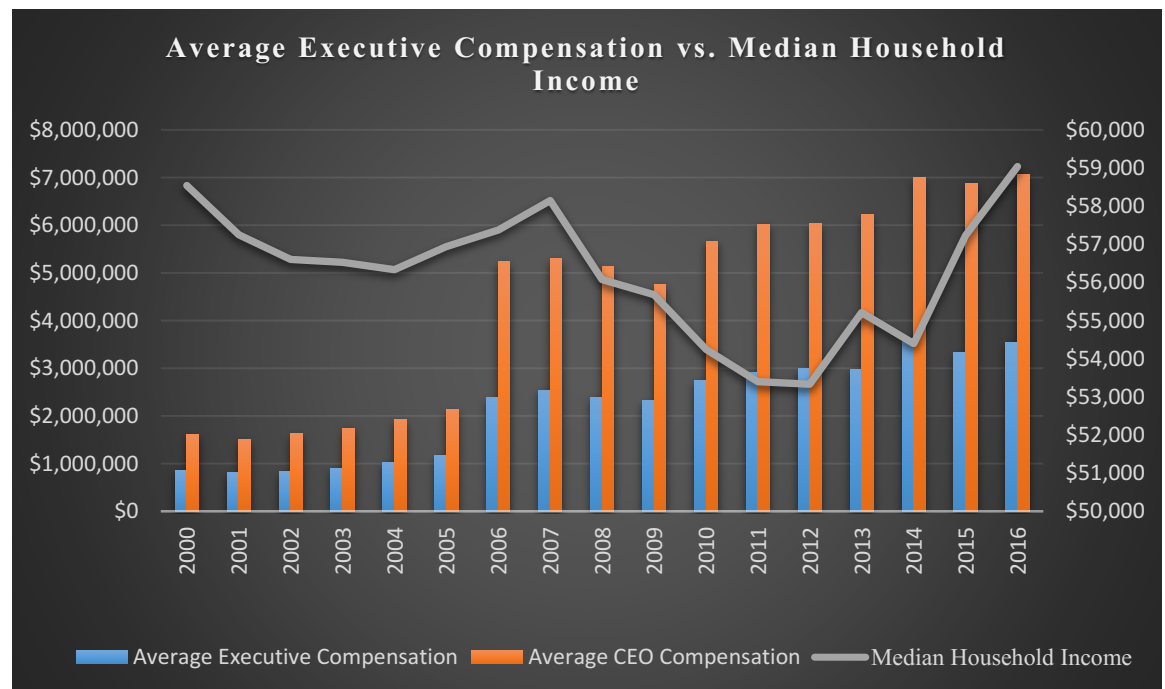


Figure 9. Increase in executive compensation compared to median household income.

Source: Calculated using compensation data from Capital IQ – Execucomp, (obtained Feb 21, 2018) and Federal Reserve Bank of St. Louis, “Real Median Household Income in the United States”, 2016 CPI adjusted dollars, (2016) <https://fred.stlouisfed.org/series/MEHOINUSA672N#0>.

Analyzing growth rates in median household income and comparing them to growth in executive compensation further highlights this difference. As figure 10 shows, the growth rate for median household income hovered around zero percent in real terms for the period 2000 to 2016, whereas during the same period, executive compensation grew by an average of 11-12% per year (figure 10). What is most interesting is the spike in executive compensation growth rate from 2005 to 2007, during the boom years prior to the financial crisis and yet the limited negative impact on their compensation as a result of the crisis.

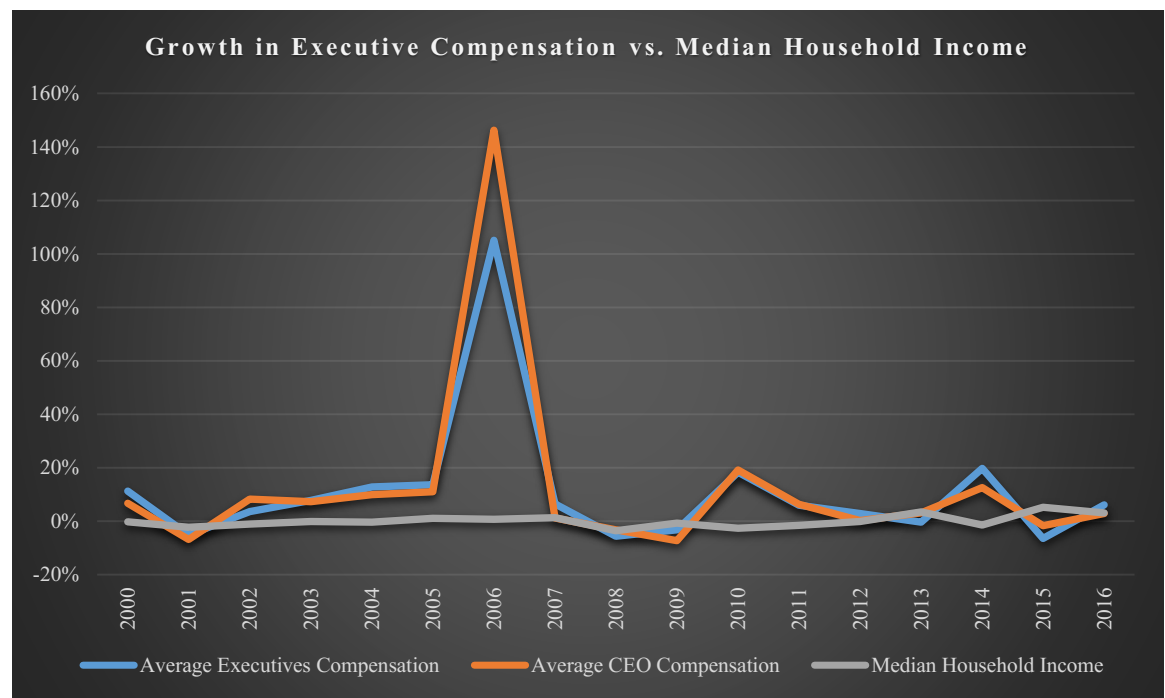


Figure 10. Growth in executive compensation compared to median household income for the period 2000 to 2016.

Source: Calculated using compensation data from Capital IQ – Execucomp, (obtained Feb 21, 2018) and Federal Reserve Bank of St. Louis, “Real Median

Household Income in the United States”, 2016 CPI adjusted dollars, (2016)
<https://fred.stlouisfed.org/series/MEHOINUSA672N#0>

Furthermore, comparing average CEO and executive compensation as a multiple of median household income provides a clearer picture of this long-term trend. In 2000 average CEO compensation was approximately 27x the median household income and over the course of next sixteen years it increased to approximately 120x of the median household income (figure 11). This is a staggering increase over the course of a relatively short period of time, due to both stagnation in wages of average workers and significant increases in executive compensation.

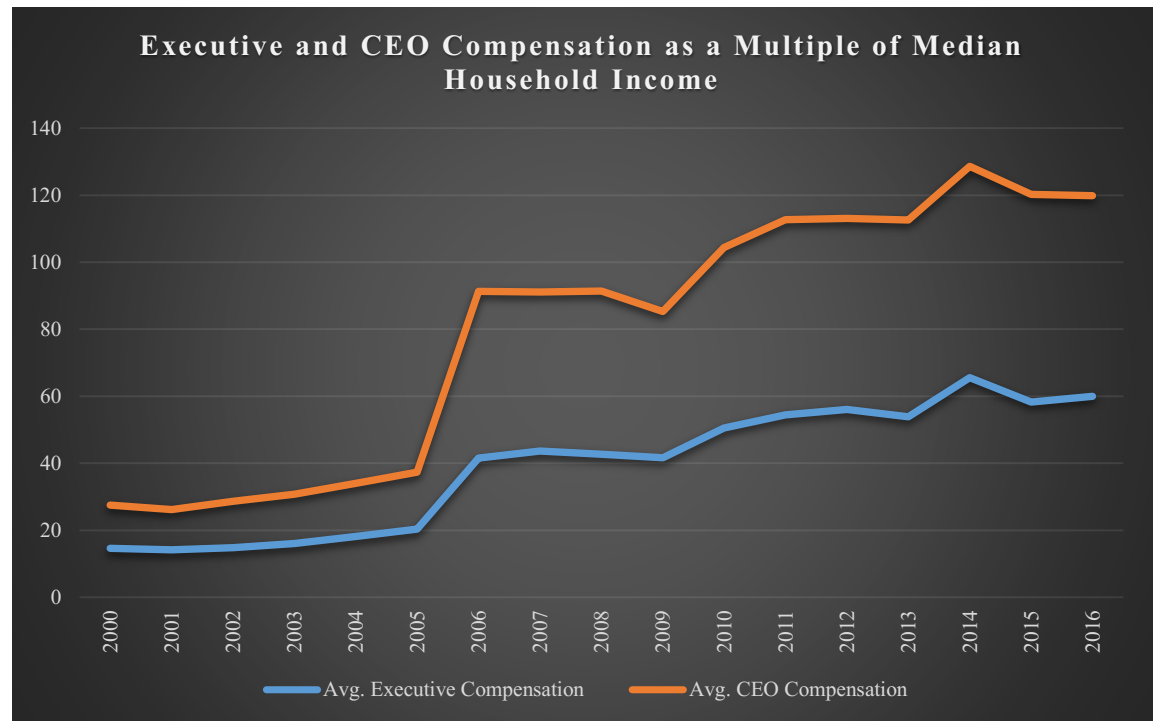


Figure 11. Executive compensation as multiple of median household income for the period 2000 to 2016.

Source: Calculated using compensation data from Capital IQ – Execucomp, (obtained Feb 21, 2018) and Federal Reserve Bank of St. Louis, “Real Median Household Income in the United States”, 2016 CPI adjusted dollars, (2016)
<https://fred.stlouisfed.org/series/MEHOINUSA672N#0>.

Median Household Income and Median Household Wealth

Thomas Piketty, in his seminal work *Capital in the Twenty-First Century*, analyzed the issue of the growing wealth gap. He concluded that our economic system is skewed to favor those who own capital and therefore allows them to control an ever-greater piece of the economic pie. He noted that as the long-term return on capital has been, and is likely to continue to be, greater than the long-term growth in wages therefore we can conclude that those who own capital are likely to continue to own ever greater share of overall wealth in the global economy, further exasperating an already wide wealth gap (Piketty, 2014).

In order to demonstrate that excessive executive compensation has contributed to the growing wealth gap, I first established a correlation between income and wealth. Analyzing household income and wealth data, I demonstrated that changes in median household income and median household wealth are statistically strongly correlated.

Using data for period 1989 to 2016, I compared median household income, as reported by Federal Reserve Bank of St. Louis¹¹ and mean household wealth data from survey of consumer finances,¹² conducted by the Federal Reserve System, to determine whether there is a strong correlation between the income and wealth. I analyzed income and wealth data for much longer period as compared to my original study to ensure that the correlation holds true over longer periods of time. Looking at the data it is evident

¹¹ <https://fred.stlouisfed.org/series/MEHOINUSA672N#0>. 2016 median household income in 2016 CPI-UR\$ Adjusted Dollars as reported by U.S Bureau of Census.

¹² Every three years since 1989 Federal Reserve System in coordination with US Treasury Departments has been conducting an extensive survey of balance sheet, pension, income and other demographic characteristics of families in the United States, called the Survey of Consumer Finances (SCF). The latest survey was conducted in 2016 and data made available to public on Federal Reserve System website for public. <https://www.federalreserve.gov/econres/scfindex.htm>

that changes in income and wealth are closely aligned, with the exception of 2004 – 2007 (figure 12).

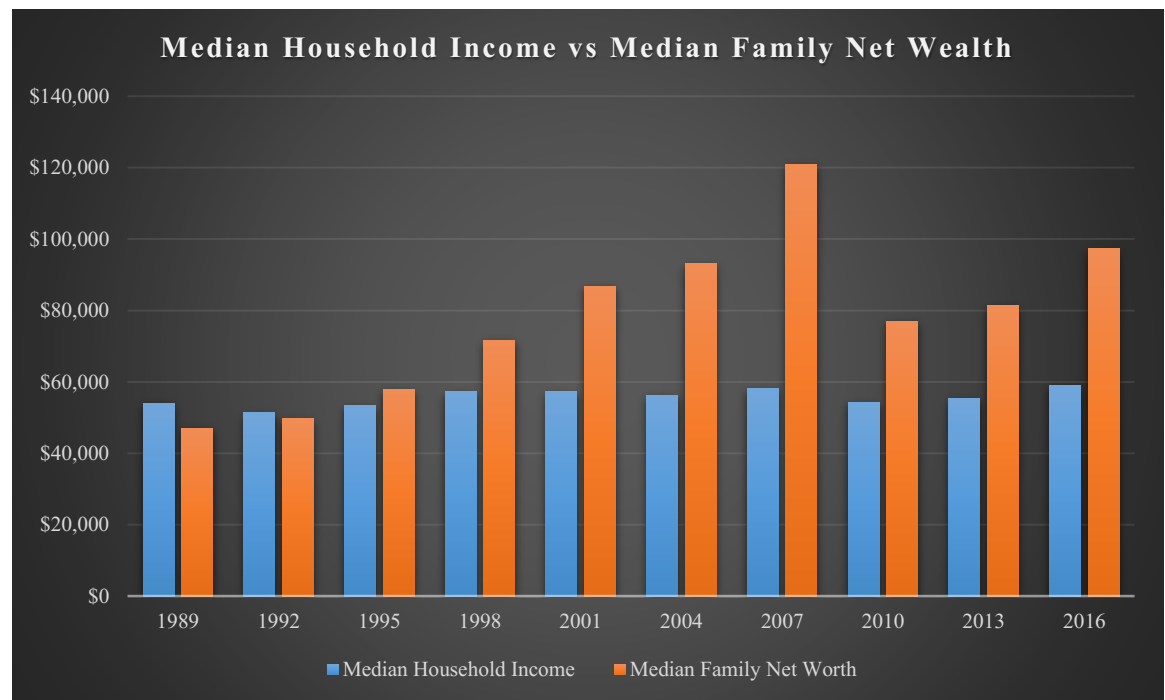


Figure 12. Median household income and median family wealth for the period 1989 to 2016.

Source: Calculated using median household income and wealth data from Federal Reserve Bank of St. Louis, “Real Median Household Income in the United States”, 2016 CPI adjusted dollars, (2016)

<https://fred.stlouisfed.org/series/MEHOINUSA672N#0> and 2016 Survey of Consumer Finances (SCF) conducted by the Federal Reserve Banking System <https://www.federalreserve.gov/econres/scfindex.htm>.

I further compared growth in median household income and wealth and noted that growth rates of the two metrics are closely aligned, with the exception of 2004 to 2010 period, when growth in wealth spiked from 2004 to 2007 and then went into correction between the 2007 to 2010 period (figure 13).

The anomalous behavior can be explained by the 2007-2009 financial crisis and the preceding boom in housing prices. For the majority of U.S. households, the value of their homes comprised the greatest portion of their net wealth. The subprime housing

boom, which was also the primary cause of the financial crisis, pushed home values well over historical levels, boosting net wealth of majority of households. The sudden rise in median family wealth between the 2004 to 2007 period can be attributed to this phenomenon. Home values collapsed in the aftermath of the financial crisis, as seen by the sudden drop in median family wealth, bringing it back to historical levels.

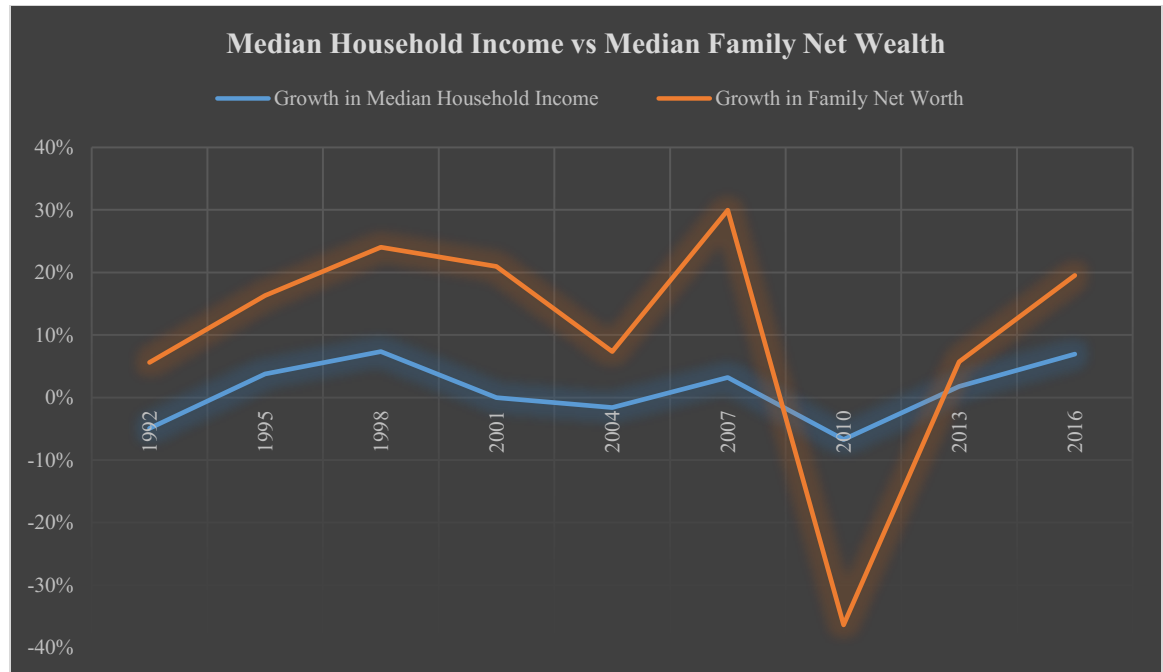


Figure 13. Growth rate of median household income and median family wealth for the period 1989 to 2016.

Source: Calculated using median household income and wealth data from Federal Reserve Bank of St. Louis, “Real Median Household Income in the United States”, 2016 CPI adjusted dollars, (2016) <https://fred.stlouisfed.org/series/MEHOINUSA672N#0> and 2016 Survey of Consumer Finances (SCF) conducted by the Federal Reserve Banking System <https://www.federalreserve.gov/econres/scfindex.htm>.

In order to further reaffirm the correlation between median household income and household wealth, I performed a correlation coefficient analysis on the two data sets to determine whether the median household income and median family wealth were

statistically correlated. Based on the analysis, I noted that there is a strong correlation between the two variables ($R = .7523$ and $R^2 = .566$ and $p\text{-value} = .00013$ at $p < .05$).

Income and Wealth Distribution

In a 2012 paper, Job Bakija et al. analyzed tax data to identify occupation of tax payers in the top percentile of national income distribution, as reported on individual tax returns for the period 1979 to 2005. The authors noted that executives and finance professionals account for approximately 60% of the top .1% of income earners and furthermore account for approximately 70% of the increase in the share of national income going to the top 0.1% (Bakija, Cole, & Heim, 2012).

These findings validate one of the underlying assumptions of my hypothesis: that corporate executives account for a large percentage of income going to top earners and as such significant growth in their compensation would account for corresponding increase in income of those in the top percentile of the population.

In order to further re-affirm these assertions, I obtained mean household income data from U.S. Census Bureau¹³ for the period 1999 to 2016. Analyzing this income distribution data, I noted that the mean income for the top five percent of the households increased from \$252,400 in 2000 to \$375,088 in 2016, a 49% increase, far outpacing all other income levels (figure 14).

¹³ U.S. Census Bureau, Current Population Survey, 2017 Annual Social and Economic (ASEC) Supplement. <https://www.census.gov/data/tables/time-series/demo/income-poverty/historical-income-households.html>
<https://www2.census.gov/programs-surveys/cps/techdocs/cpsmar17.pdf>

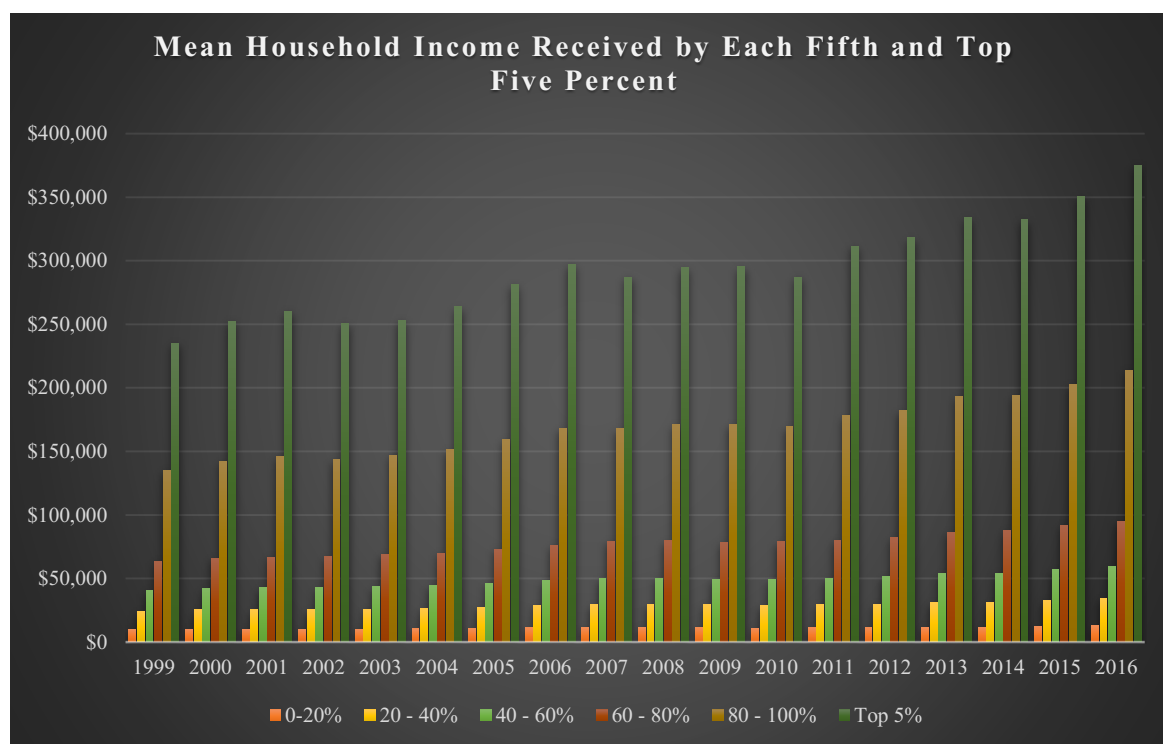


Figure 14. Mean household income received by each fifth quantile of household.

Source: U.S. Census Bureau, Current Population Survey, 2017 Annual Social and Economic (ASEC) Supplement. <https://www.census.gov/data/tables/time-series/demo/income-poverty/historical-income-households.html>.

Similarly comparing net household wealth data¹⁴ for the same period, it becomes clear that the growth in net worth of households in the top ten percent of the income distribution was significantly higher than those in the bottom ninety percent. From 1998 to 2016, the net worth of households in top ten percent grew by 363 %, from \$452,280 to \$1,639,550 (figure 15).

¹⁴ Median household wealth data for 1989 to 2016, as reported in “Survey of Consumer Finances” (SCF) by Federal Reserve Bank. <https://www.federalreserve.gov/econres/scfindex.htm>

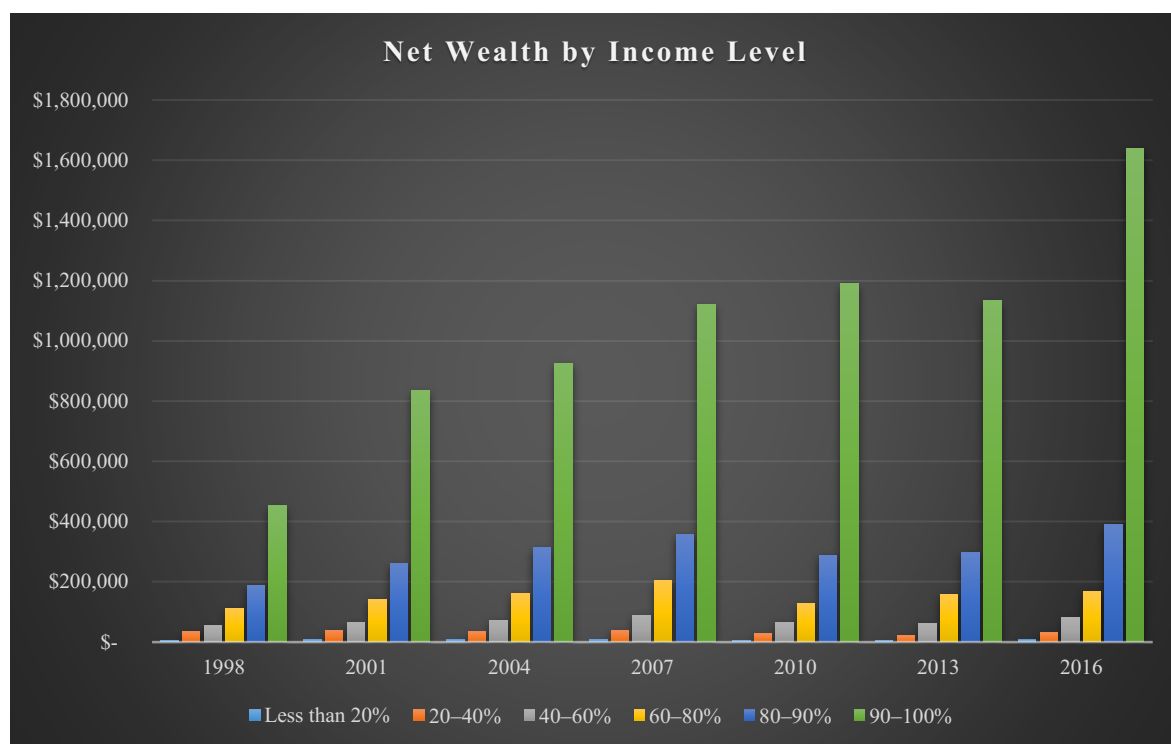


Figure 15. Net family wealth for each fifth quantile of income distribution.

Source: Median household wealth data for 1989 to 2016, as reported in “Survey of Consumer Finances” (SCF) by Federal Reserve Bank.

<https://www.federalreserve.gov/econres/scfindex.htm>

This analysis combined with the study by Job Bakija et al. clearly demonstrate that top executives of corporations account for significant percentage of households in the top one percent and that the growth in income and wealth of households in top one to ten percent of the income distribution disproportionately accounted for growth in both income and wealth. In addition this growth far outpaced growth in income and wealth of those in the bottom ninety percent of the households thus contributing to further widening the wealth gap.

A Global Trend

As discussed earlier, numerous studies and surveys have shown that income inequality and wealth gap is a global phenomenon. As such if executive compensation is one of the underlying factors contributing to this phenomenon, one would expect that the trends in executive compensation growth across the globe would be similar.

In order to determine whether disproportionate growth in executive compensation is a global phenomenon, I obtained executive compensation data for 8735 public companies in Europe and 6261 public companies across the rest of the world (RoW), including Asia, Africa and Latin America. I further obtained compensation data for CEOs of 7117 public companies in Europe and 5142 public companies across the rest of the world and calculated growth in compensation of CEOs and officers of the companies to determine if the growth rates are similar to those noted for companies in U.S. (figure 16).

The results of the analysis were strikingly similar, re-affirming the assumption that growth in executive compensation across the globe has been disproportionately high. As the graph shows, growth in executive compensation across the globe has followed similar trends, with Europe showing the lowest growth of 112% and on the opposite end a 379% rise in board compensation for public companies in rest of the world.

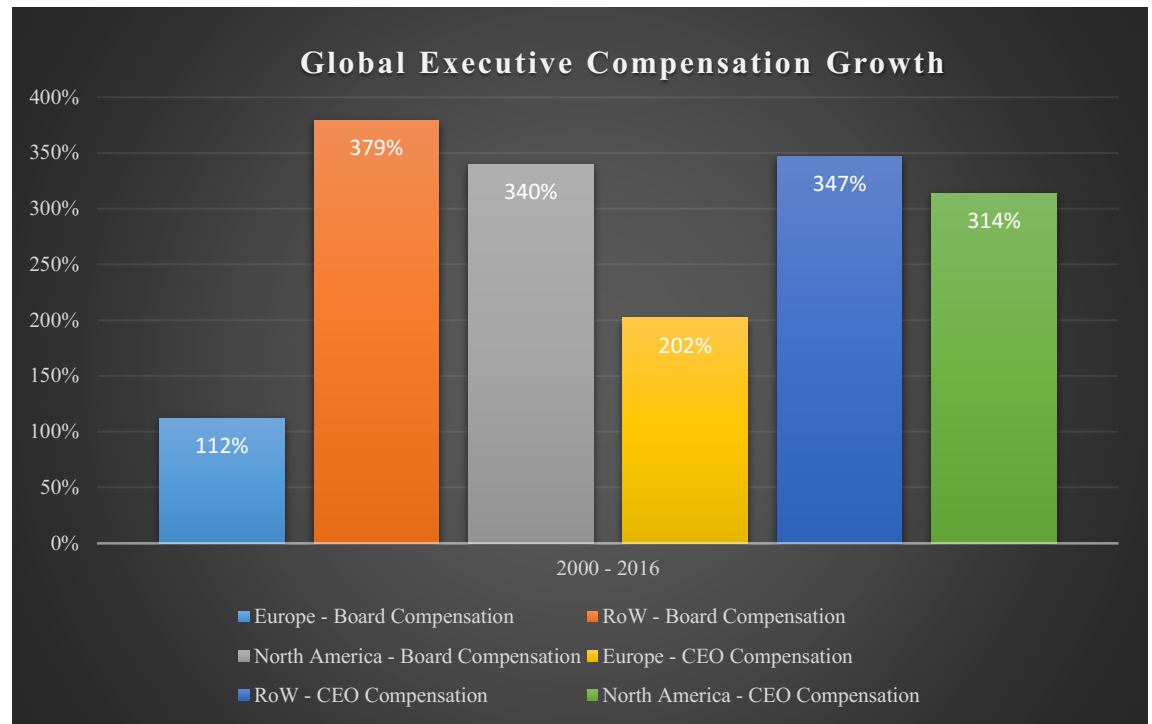


Figure 16. Executive compensation growth for public companies across the globe for period 2000 – 2016.

Source: Calculated using compensation data from Boardex (obtained Feb 21, 2018).

To understand the impact of equity linked components of the compensation i.e. stock grants and options, on executive compensation and wealth, I analyzed the growth in the value of these components. Studies have shown that growth in these components have fueled the growth in executive compensation. Based on my analysis, I noted that for both Europe and rest of the world, growth in these components have been significant. While Europe showed significant growth in equity linked wealth, it was in line with growth in overall compensation. The figures for the rest of the world were much more startling, equity linked wealth grew by 2230% for boards and 1554% for CEO, pointing towards a growing trend across the globe of adopting compensation structure similar to U.S. (figure 17 & 18).

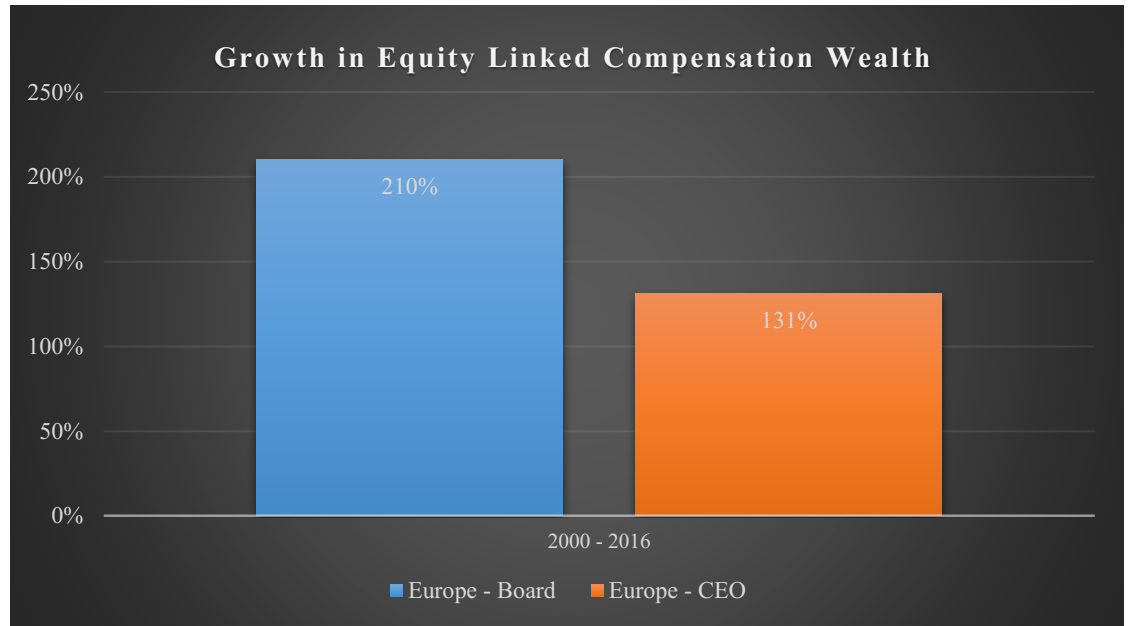


Figure 17. Growth in equity grants associated wealth for executives in public companies in Europe for period 2000 - 2016.

Source: Calculated using compensation data from Boardex (obtained Feb 21, 2018).

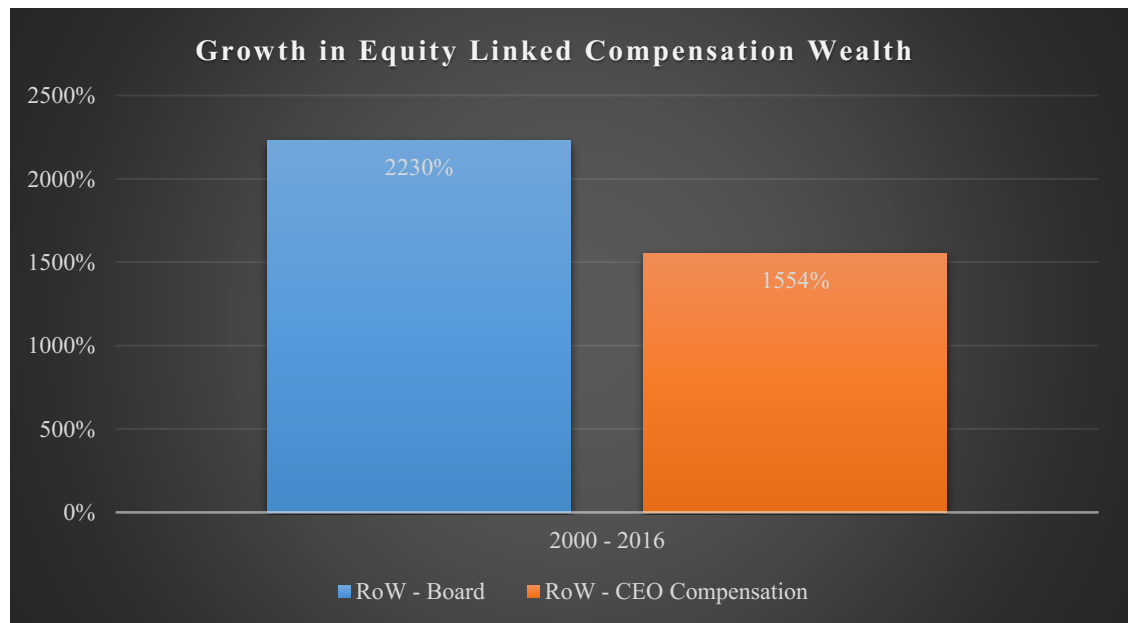


Figure 18. Growth in equity grants associated wealth for public companies in RoW for period 2000 - 2016.

Source: Calculated using compensation data from Boardex (obtained Feb 21, 2018).

Chapter V.

Research Conclusion

In this research I set out to explore whether the disproportionate growth in executive compensation is one of the contributing factors in the growing wealth gap. In order to establish this fact, I first sought to determine if executive compensation growth in recent years can be rationalized through performance measures such as shareholder returns and company performance or is indicative of rent extraction by the executives at the expense of various stakeholder in the company.

Basic economic principles contend that compensation of any profession is dictated by market forces of supply and demand and measured by the value created by specific profession. Based on this basic principle, one can assume that executives of a company should be compensated based on the value they create. If the compensation is not proportionate with the value creation, then one can argue that there is a break down in fundamental principles underlying this construct, which could be a sign of rent extraction by one of the parties.

Through analysis of executive compensation data for a large number of public companies and then comparing it to company performance and value creation, I was able to demonstrate that executive compensation over 2000 to 2016 period grew at disproportionately higher pace than can be justified by the underlying performance measures. Analyzing data from a large number of public companies, I was able to demonstrate that this is a systematic issue at most public companies and most likely a sign of executives exercising their control over the resources of the companies to extract

compensation that cannot be justified by their performance. It is further evidence of a breakdown in effective corporate governance and oversight by the shareholders.

Building upon these findings, I set out to demonstrate the impact of this rent extraction on the growing wealth gap. Through analysis of median household income and wealth data and comparing it to executive compensation, I was further able to demonstrate how executive compensation has contributed to the growing wealth gap.

Analyzing changes in median household income and comparing it to executive compensation growth, I demonstrated how median household income has lagged behind while executive compensation has grown by leaps and bounds. Using median household income as a proxy to wages, this significant discrepancy is a sign of rent extraction by executives from workers.

Finally looking at wealth and income data, I showed that income and wealth are strongly correlated and as such stagnation in household income levels directly translates into corresponding changes in wealth. I further demonstrated how disproportionate percentage of total income and wealth generated has gone to those in the top five to ten percent of the economic spectrum and that each passing year a greater percentage of wealth and income went to those at the top contributing to the growing wealth gap.

Based on these findings, I concluded that my hypothesis that executive compensation has contributed to growing wealth gaps holds true.

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