
CEO COMPENSATION

DATA SPOTLIGHT

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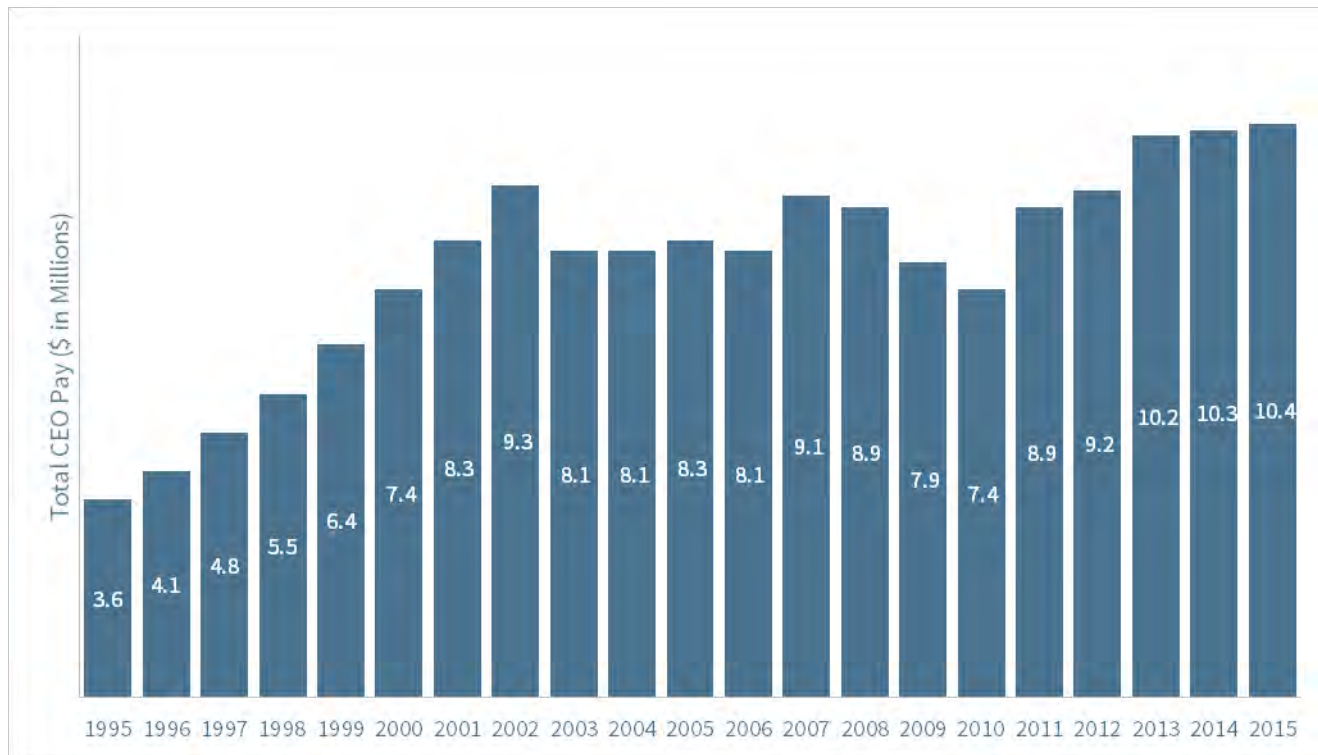
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COMPENSATION LEVELS

The typical CEO of an S&P 500 company receives approximately \$10 million in annual compensation.



Median values. Sample includes CEO compensation of companies listed in the S&P 500 Index.
Source: Equilar, CEO Pay Trends (2016); Murphy (2012)

COMPENSATION BY FIRM SIZE

In general, CEO compensation levels vary with company size.

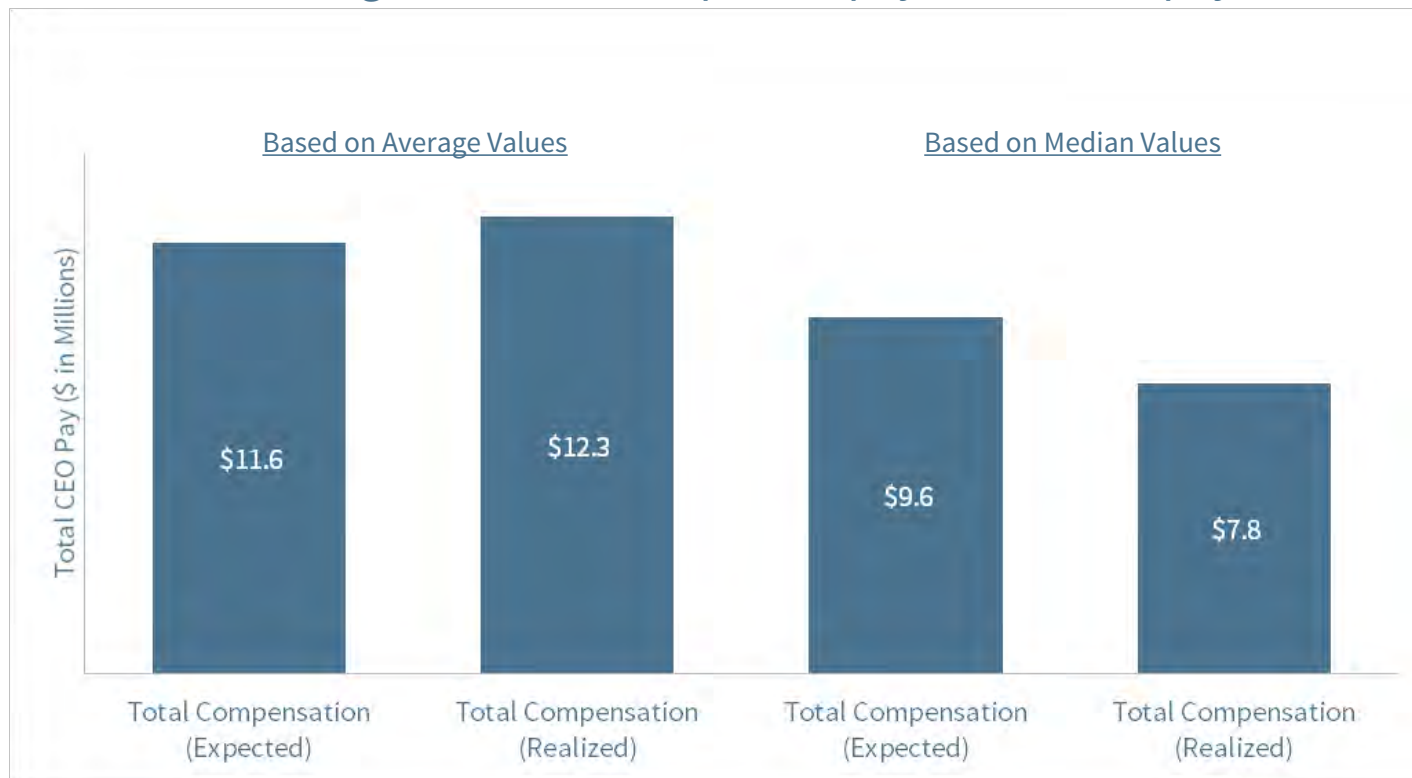
Firm Size	Total Expected Compensation	Market Value (\$ in Thousands)
Top 100	\$13,713,000	\$104,413,000
101 to 500	\$10,656,000	\$21,710,000
501 to 1,000	\$6,458,000	\$6,086,000
1,001 to 2,000	\$3,981,000	\$2,016,000
2,001 to 3,000	\$2,092,000	\$624,000
3,001 to 4,000	\$900,000	\$144,000
1 to 4,000	\$2,869,000	\$1,143,000

Median values. Sample includes largest 4,000 U.S. companies included in the Equilar compensation database, fiscal years ending June 2013 to May 2014.

Source: Data from Equilar; calculations by the authors.

COMPENSATION LEVELS

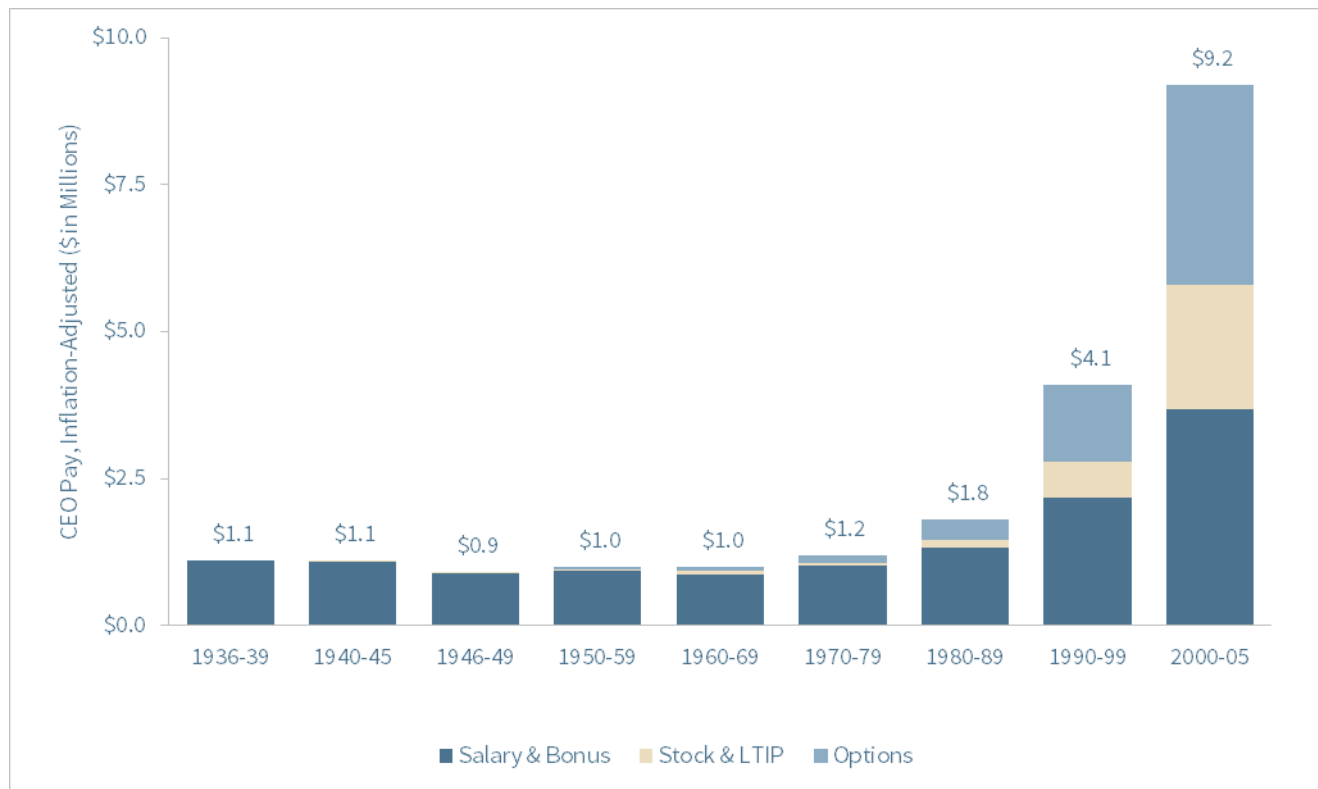
“Average” compensation levels also vary depending on methodology (average vs. median, expected pay vs. realized pay).



Based on 2011 data. Sample includes CEO compensation of companies listed in the S&P 500 Index.
Source: Murphy (2012)

COMPENSATION LEVELS

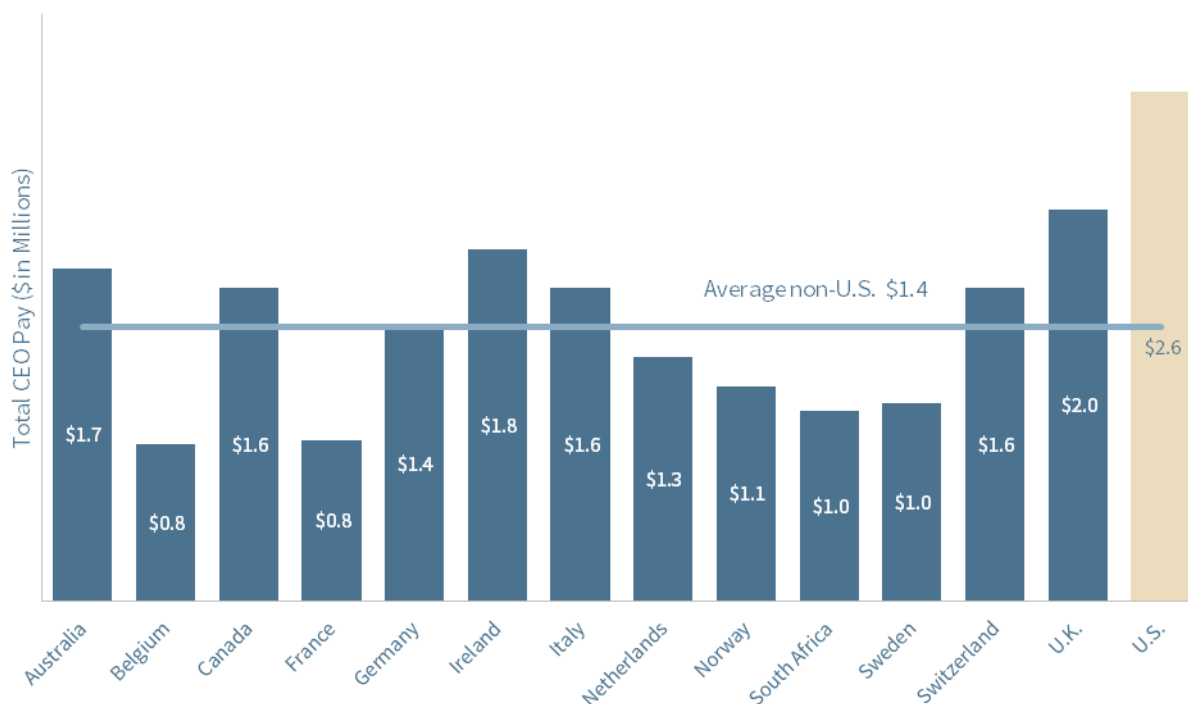
Still, compensation levels have risen considerably in recent decades, driven in large part by equity-based awards.



Sample includes average CEO compensation of the largest firms in 1940, 1960, and 1990, inflation-adjusted in 2000 dollars.
Source: Friedman and Jenter (2010)

INTERNATIONAL COMPENSATION

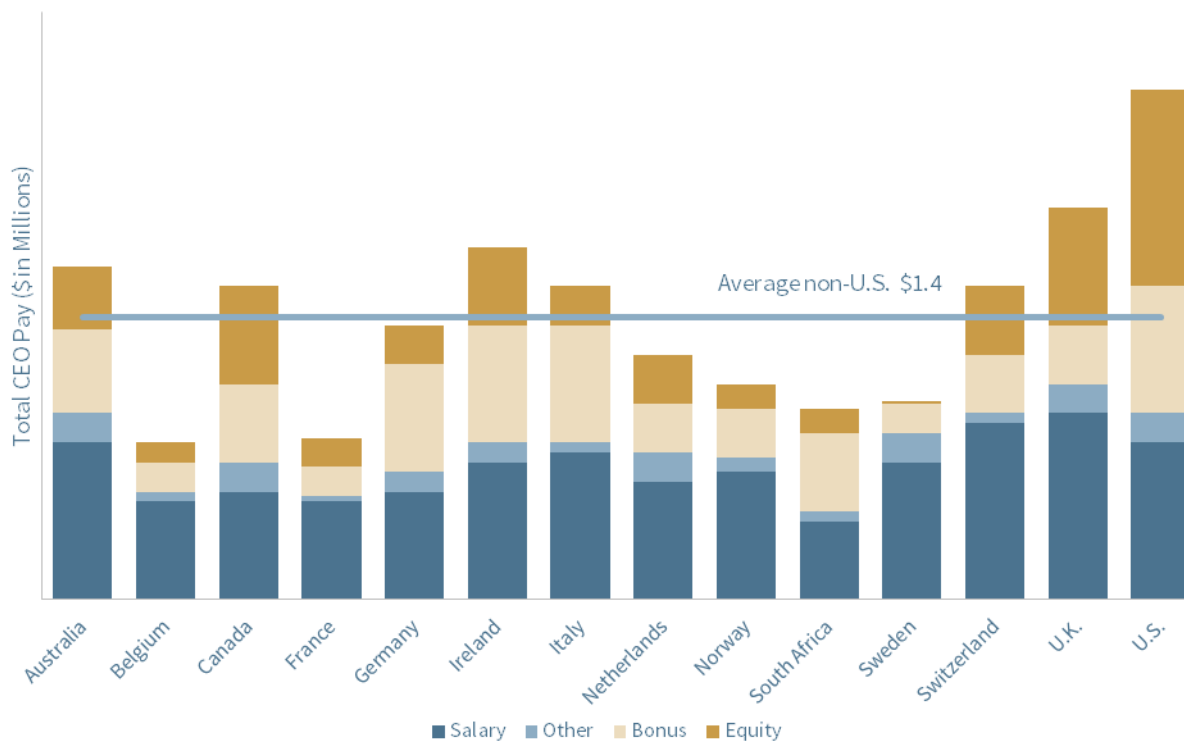
CEO compensation is higher in the U.S. than other countries, after controlling for firm size and industry.



Based on 2006 data. Estimated total CEO pay for hypothetical company with \$1 billion in sales, controlling for industry.
Source: Fernandes, Ferreira, Matos, and Murphy (2012)

INTERNATIONAL COMPENSATION

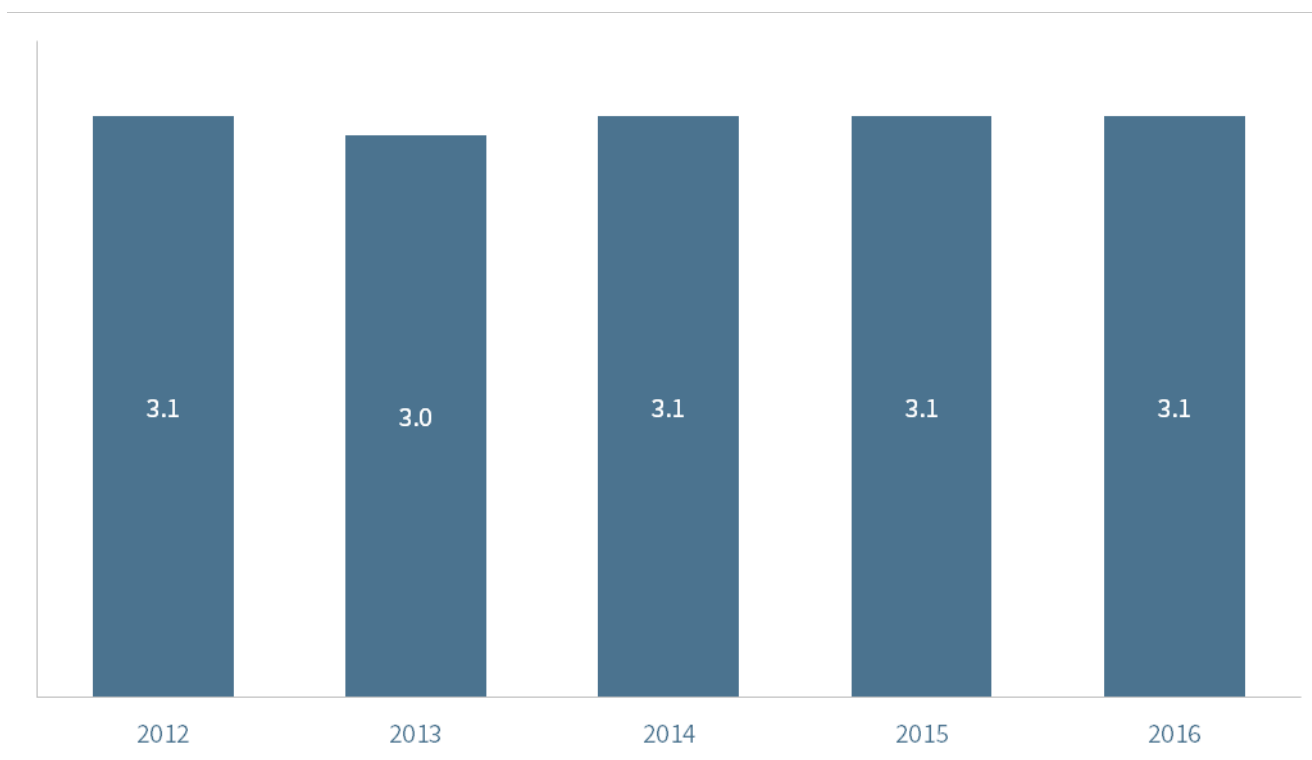
U.S. “pay premium” is driven largely by equity-based awards.



Based on 2006 data. Estimated total CEO pay for hypothetical company with \$1 billion in sales, controlling for industry.
Source: Fernandes, Ferreira, Matos, and Murphy (2012)

RATIO OF CEO TO NEO PAY

CEOs receive approximately three times the compensation of other named executive officers (NEOs) in the company. The ratio has been stable in recent years.

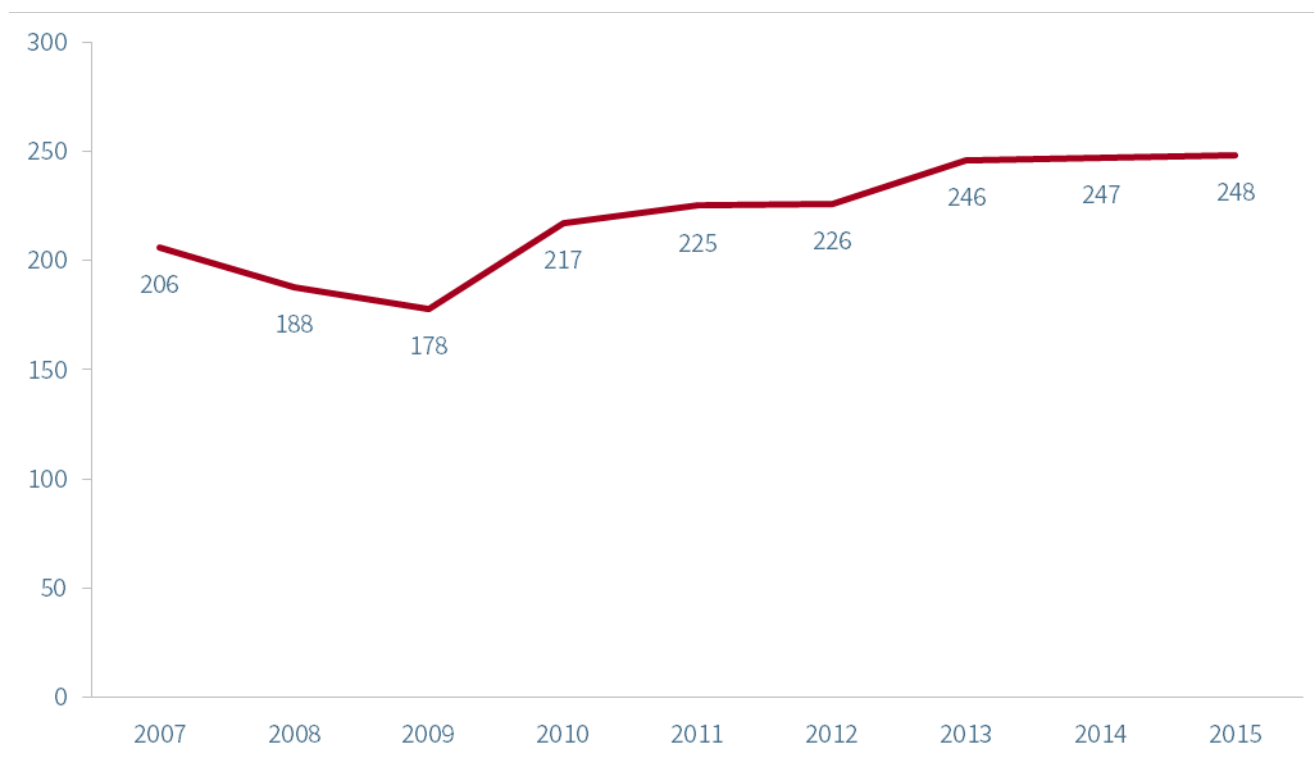


Based on median values. Sample includes CEO and named executive officer (NEO) compensation of companies listed in the S&P 500 Index.

Source: Equilar, Executive Compensation and Governance Outlook (2017)

RATIO OF CEO TO AVERAGE WORKER PAY

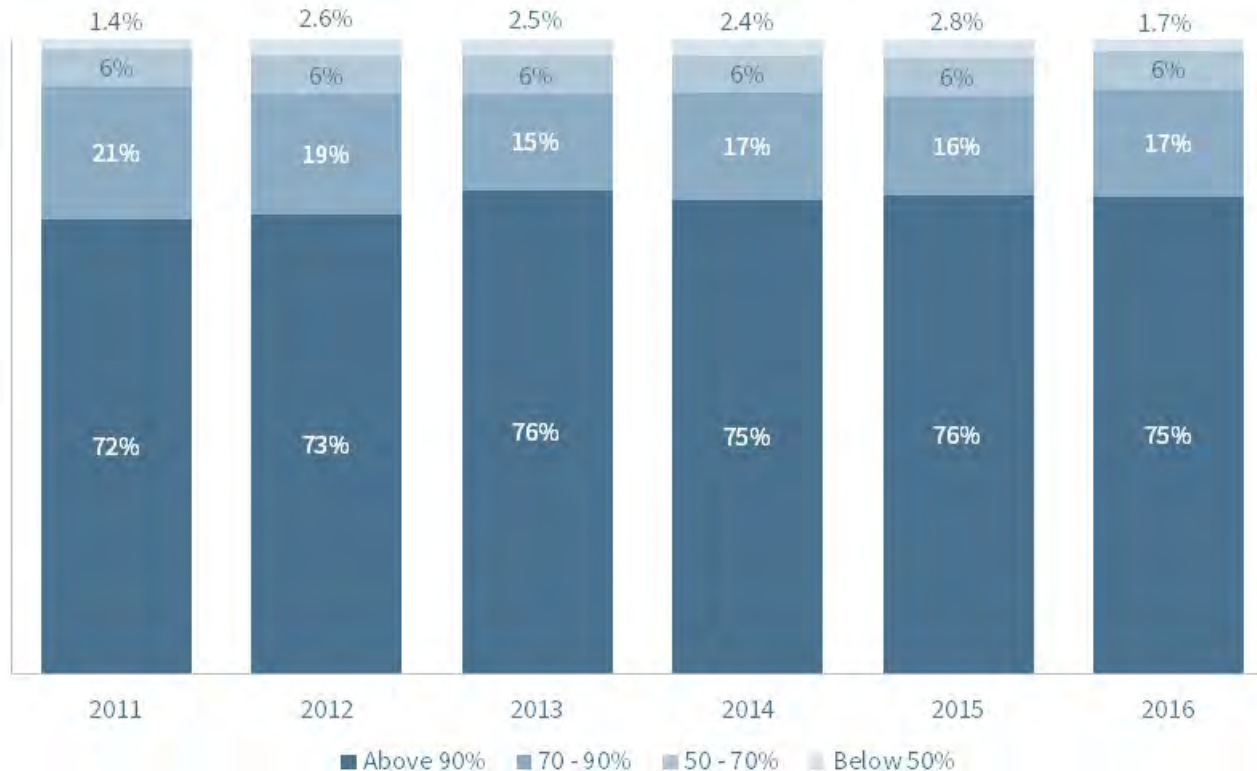
CEOs receive considerably more pay than the average U.S. worker.
The calculation of this ratio depends heavily on methodology.



Based on median values. Sample includes CEO compensation of companies listed in the S&P 500 Index.
Source: Equilar, Executive Compensation and Governance Outlook (2016, 2017)

SAY ON PAY

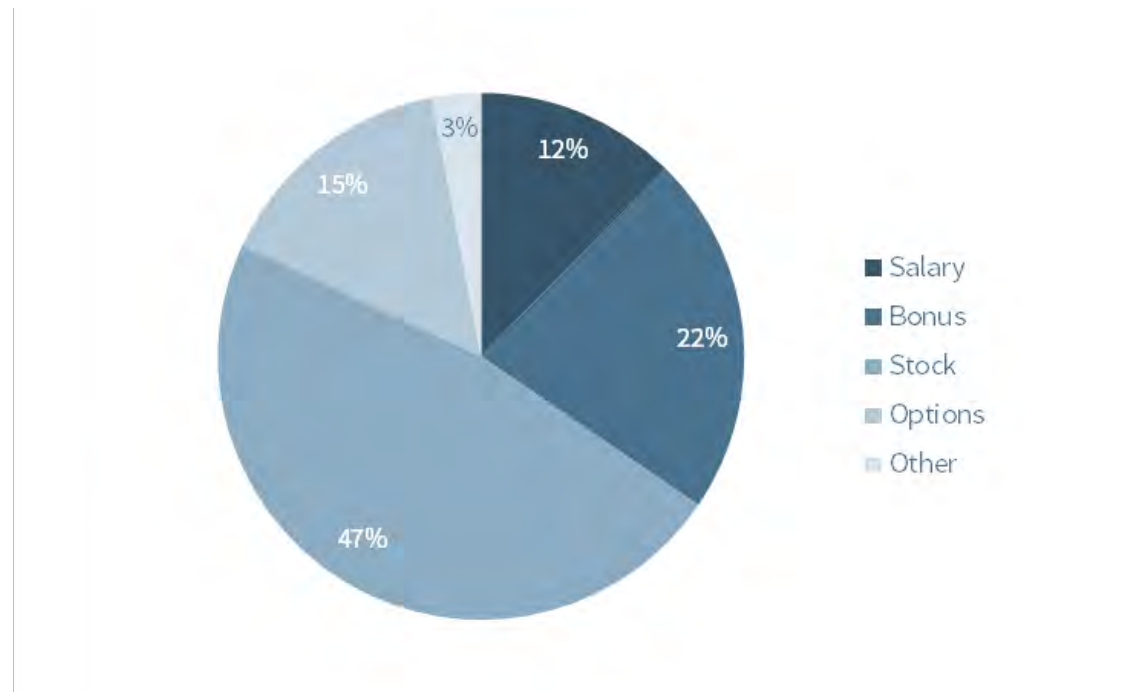
Despite the controversy over pay levels, shareholders generally vote to approve CEO compensation plans as part of the annual non-binding “say on pay” process.



Sample includes voting results for companies in the Russell 3000 Index.
Source: Semler Brossy (2016)

CEO COMPENSATION MIX

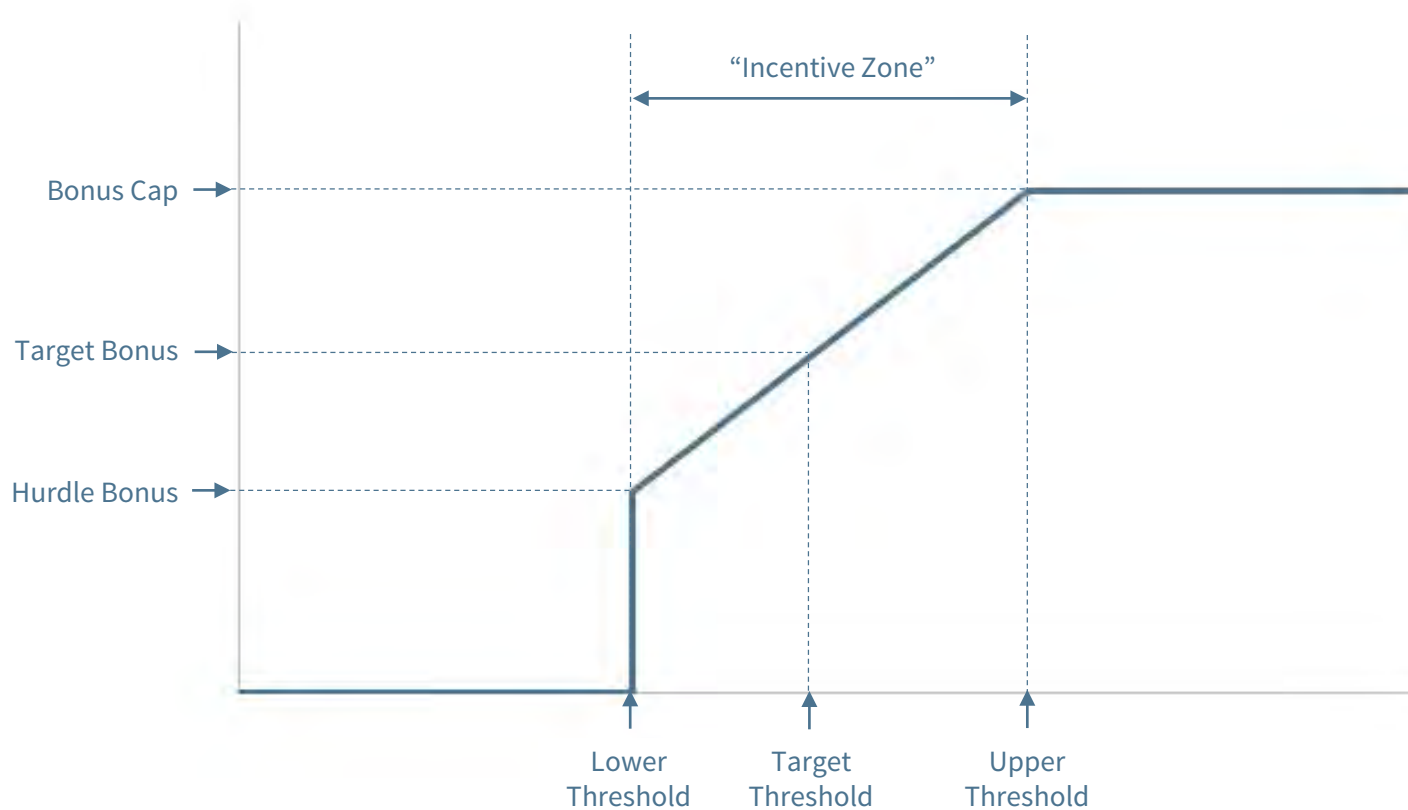
CEO compensation packages are dominated by incentive-based pay (bonus, stock, and options) whose ultimate value depends on performance.



Sample includes CEO compensation of companies listed in the S&P 500 Index.
Source: Equilar, CEO Pay Trends (2016)

TYPICAL BONUS PLAN

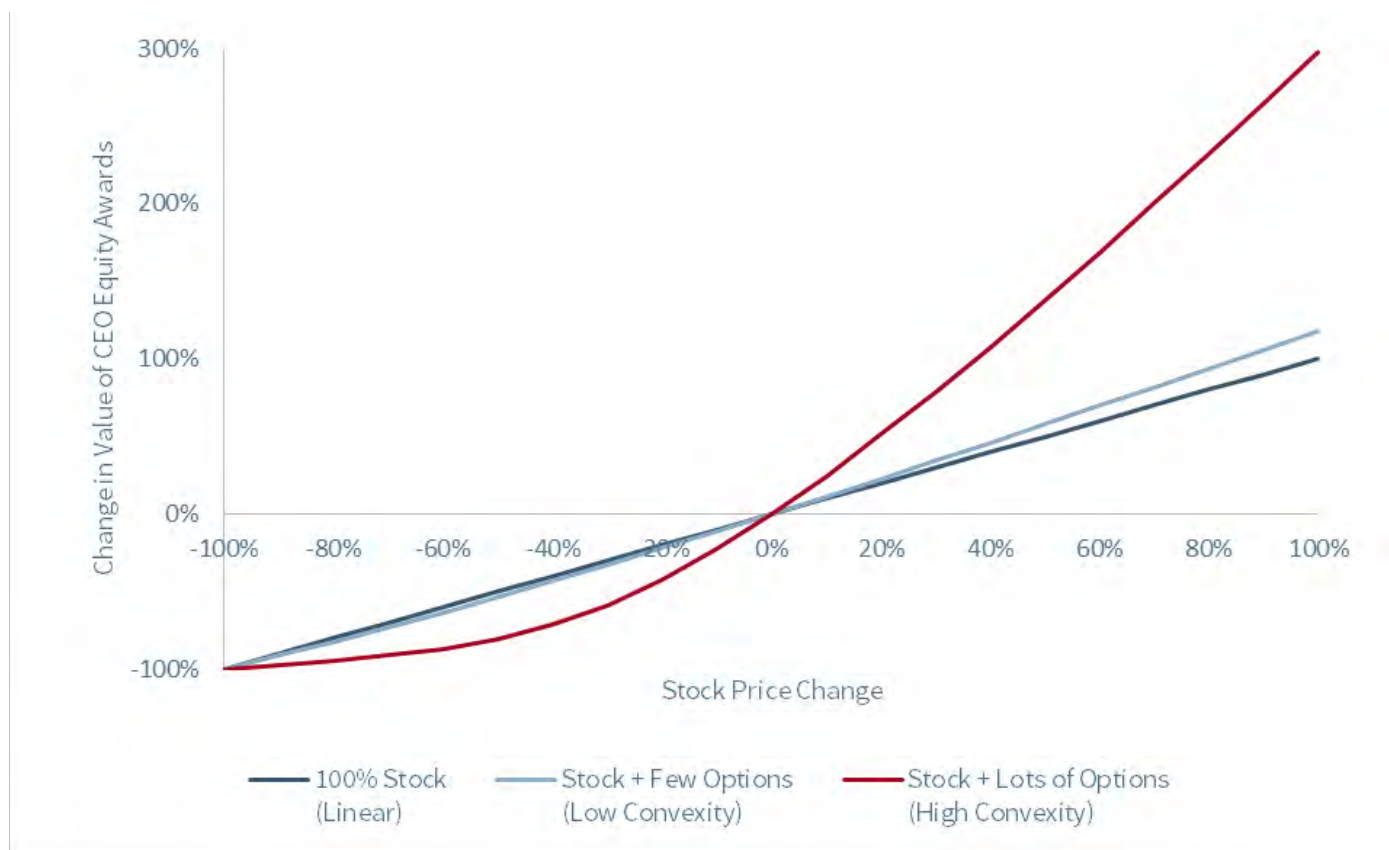
A typical bonus plan offers a range of payouts (lower threshold, target amount, upper threshold).



Source: Murphy (2012)

EQUITY AWARD PAYOUTS

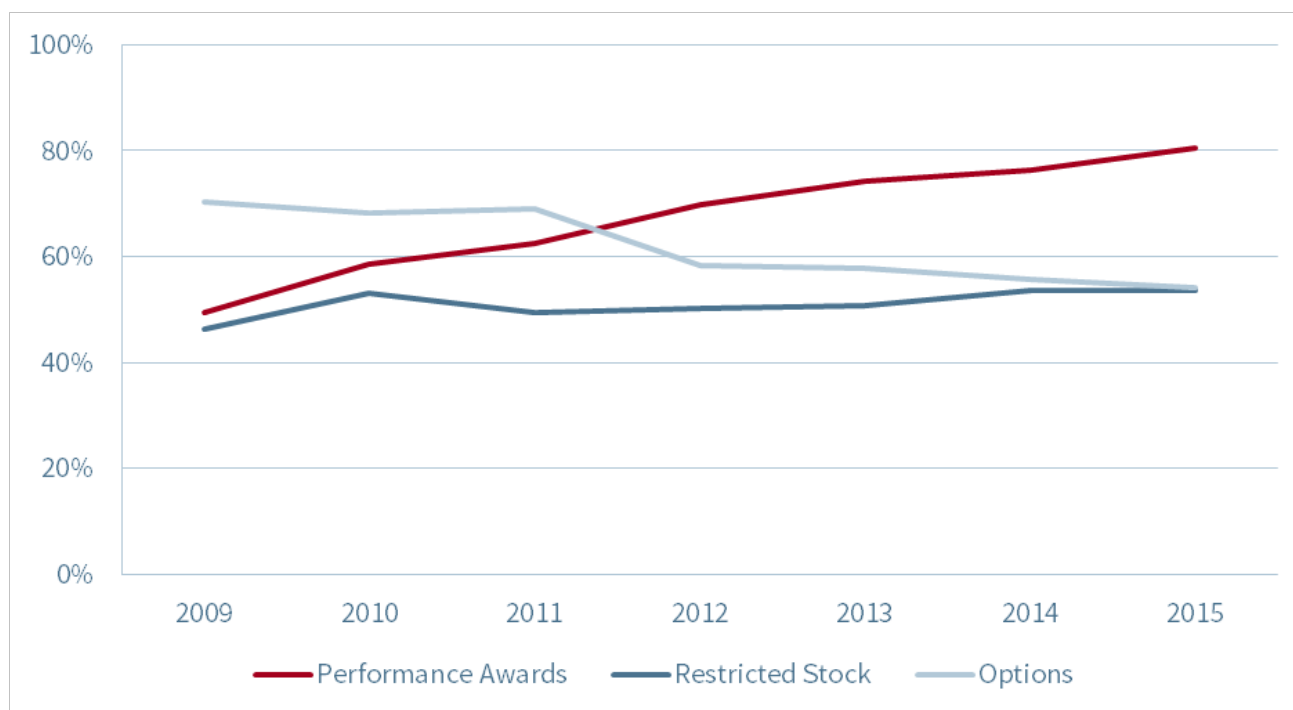
Equity awards tie CEO compensation to stock price. Stock awards change 1-for-1 with stock price. Options add “convexity” by magnifying both upside and downside value.



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EQUITY AWARDS BY GRANT PREVALENCE

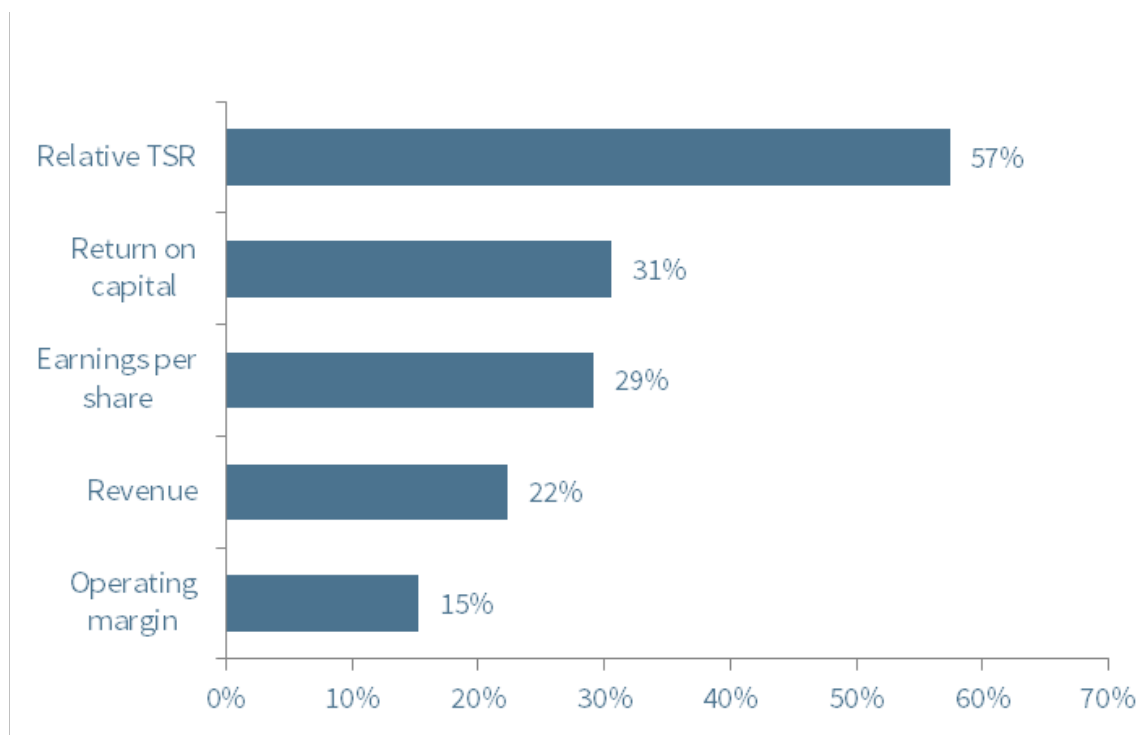
In recent years, stock-based performance awards have replaced stock options as the most prevalent form of equity-based pay.



Sample includes CEO compensation of companies listed in the S&P 500 Index.
Source: Equilar, CEO Pay Trends (2014, 2015, 2016)

PREVALENCE OF PERFORMANCE METRICS

The ultimate value of stock-based performance awards depends on a mix of stock-price and operating performance metrics.



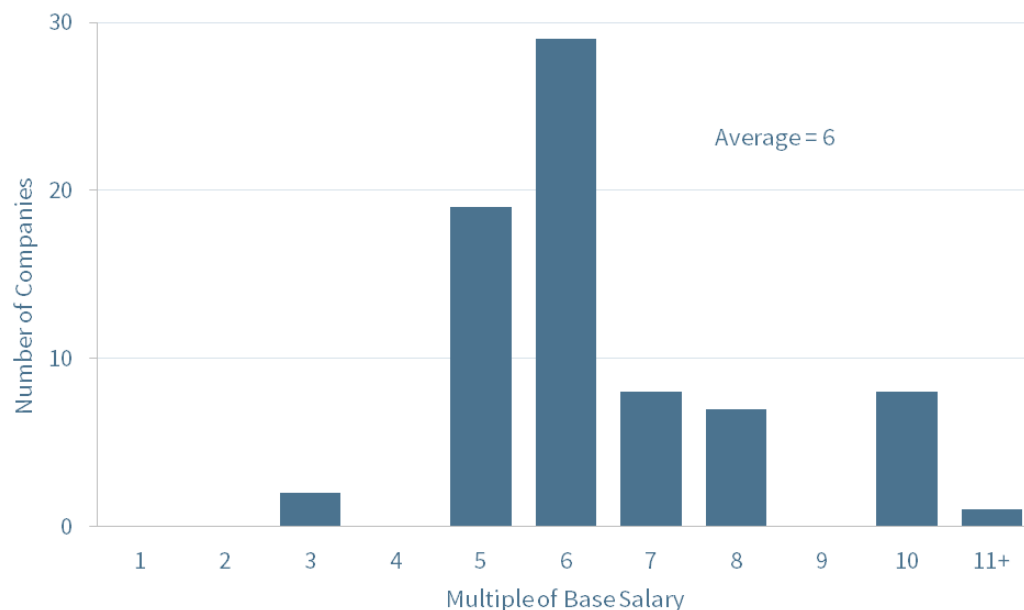
Percentage of companies using these metrics in long-term incentive programs (LTIPs). Sample includes CEO compensation of companies listed in the S&P 500 Index.

Source: Equilar, Executive Long-Term Incentive Plans (2017)

STOCK OWNERSHIP GUIDELINES

CEOs are generally required to hold company stock. This value is usually calculated as a multiple of the CEO's annual salary.

Ownership Guidelines	
Multiple of base salary	84%
Fixed number of shares	8%
Other	8%
Median value	\$9 million



Sample includes CEOs of companies in the Fortune 100.
Source: Equilar, Stock Ownership Guidelines (2016)

CEO WEALTH

The typical CEO holds a significant amount of equity (stock and options) in the company. The value of this wealth varies considerably with stock price changes.

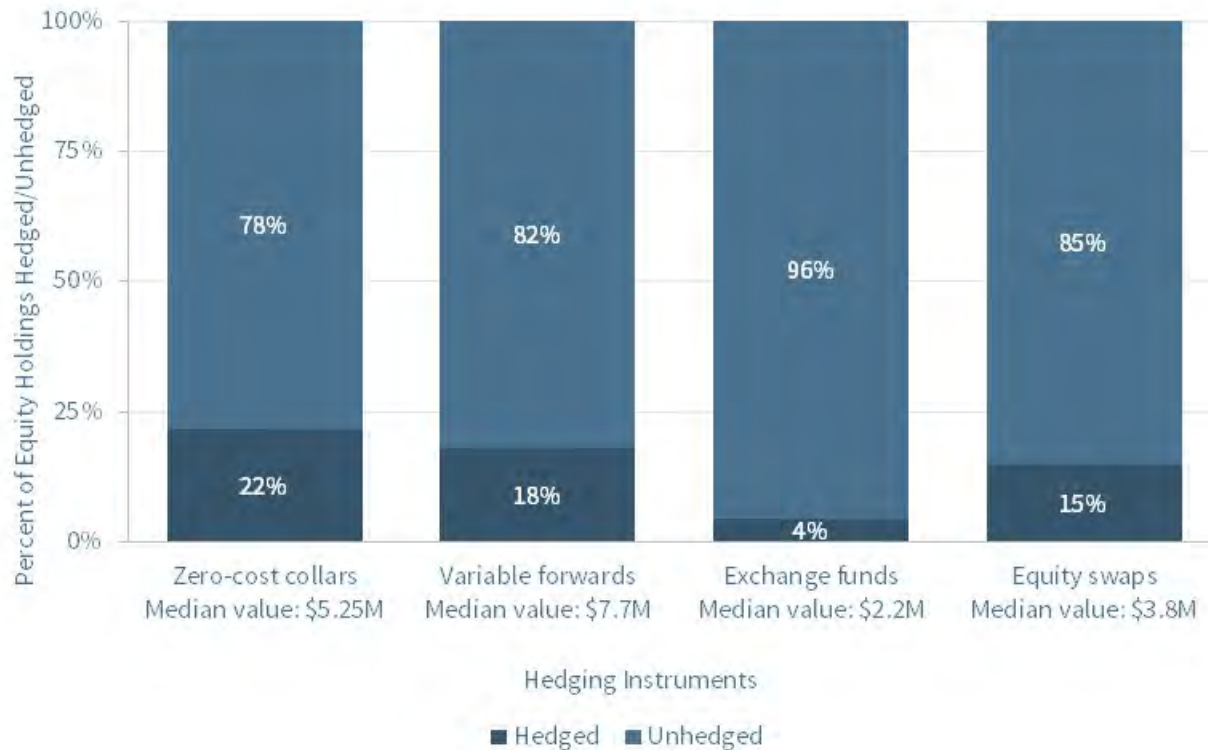
Firm Size	CEO Wealth	Change in Wealth		
		1% Stock Change	50% Stock Change	100% Stock Change
Top 100	\$104,912,000	\$1,556,000	\$85,535,000	\$176,985,000
101 to 500	\$59,922,000	\$922,000	\$47,470,000	\$95,549,000
501 to 1,000	\$34,337,000	\$486,000	\$25,500,000	\$52,131,000
1,001 to 2,000	\$22,300,000	\$310,000	\$16,645,000	\$33,390,000
2,001 to 3,000	\$10,445,000	\$135,000	\$6,923,000	\$14,235,000
3,001 to 4,000	\$3,470,000	\$43,000	\$2,218,000	\$4,534,000
1 to 4,000	\$14,946,000	\$193,000	\$9,907,000	\$20,332,000

Median values. Sample includes largest 4,000 U.S. companies included in the Equilar compensation database, fiscal years ending June 2013 to May 2014. Includes stock options, restricted stock, performance plans, and direct stock ownership. Excludes personal wealth outside company stock. Does not take into account potential equity hedges.

Source: Data from Equilar; calculations by the authors.

CEO HEDGING ACTIVITY

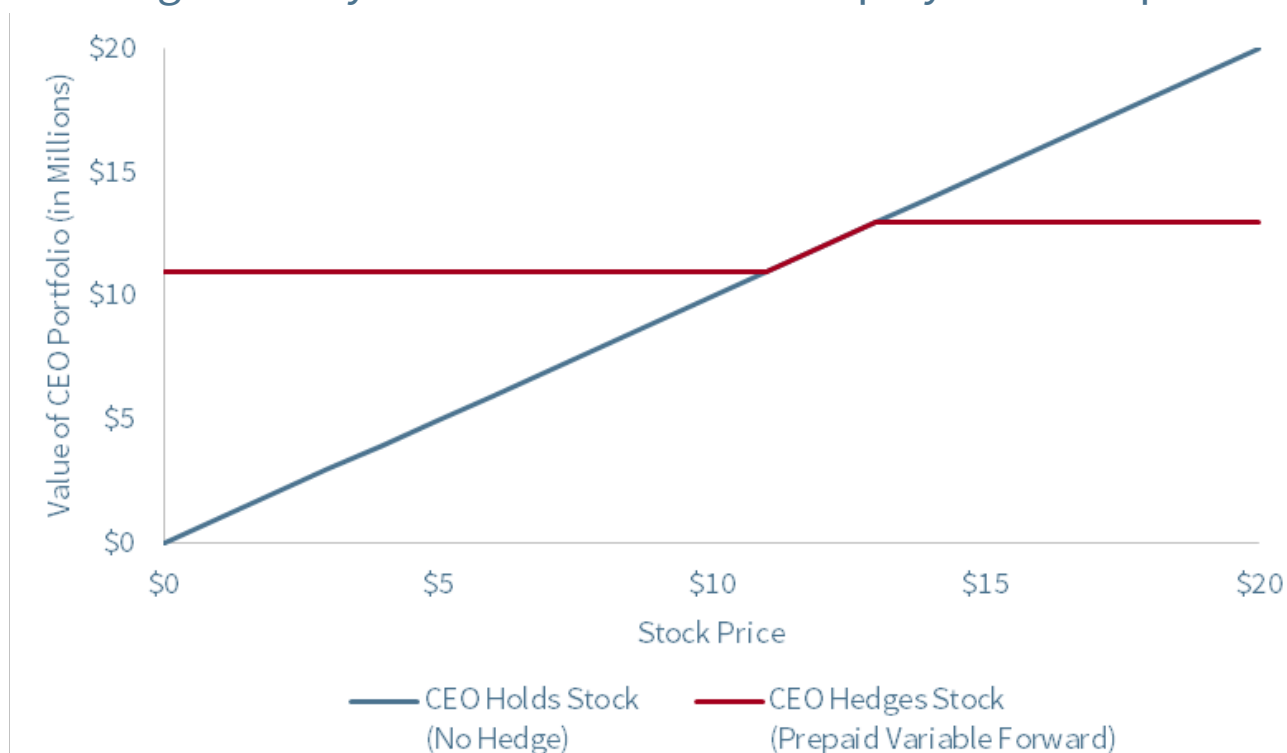
Many CEOs hedge a portion of these equity holdings.



Sample includes 2,042 hedge transactions, 929 individuals, 582 companies, 1996-2006. Median values reflect the dollar amount of equity ownership that is hedged.
Source: Bettis, Bizjak, and Kalpathy (2015)

IMPACT OF HEDGING ON CEO WEALTH

Hedges significantly limit an executive's exposure to changes in stock price and significantly alter the incentives of equity ownership.



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TRENDS IN EXECUTIVE PAY

- The size and structure of CEO compensation is influenced by a mix of market forces, tax, and regulatory changes.
- Significant milestones impacting CEO compensation include:
 - Securities Exchange Act of 1934
 - Revenue Acts of 1950, 1954
 - Revenue Act of 1964
 - Price controls in 1970s
 - Budget Reconciliation Act of 1993
 - Sarbanes Oxley Act of 2002
 - Dodd Frank Act of 2010
- These are summarized in the following pages

HISTORICAL MILESTONES IN EXECUTIVE PAY

Year	Event	Impact
1934	<p>Securities and Exchange Act of 1934</p> <ul style="list-style-type: none"> Requires companies to disclose compensation of officers and directors. Requires executives to hold shares from exercised options and performance-plans six months before sale (“short-swing sale”). 	<ul style="list-style-type: none"> Executive compensation among public companies becomes public information.
1950	<p>Revenue Act of 1950</p> <ul style="list-style-type: none"> Creates “restricted stock options” taxable upon sale (rather than exercise) and at capital gains rate. 	<ul style="list-style-type: none"> Stock option plans increase in prevalence.
1954	<p>Revenue Act of 1954</p> <ul style="list-style-type: none"> Allows companies to lower exercise price of previously granted restricted options. Limits exercise term to 10 years. 	<ul style="list-style-type: none"> Further increases the attractiveness of stock options as a form of compensation.
1964	<p>Revenue Act of 1964</p> <ul style="list-style-type: none"> Creates “qualified stock options” to replace restricted options. Requires executives to hold qualified options three years to qualify for capital gains rate. Prevents companies from lowering exercise price of previously granted options. Limits exercise term to 5 years. Lowers income tax rate. 	<ul style="list-style-type: none"> Reduces the attractiveness of restricted (“qualified”) stock options.

HISTORICAL MILESTONES IN EXECUTIVE PAY

Year	Event	Impact
1969	<p>Tax Reform Act of 1969</p> <ul style="list-style-type: none"> • Qualified stock options are made subject to Alternate Minimum Tax . • Lowers income tax rate and increases capital gains rate. 	<ul style="list-style-type: none"> • Qualified stock options become virtually non-existent. • Companies begin to issue “non-qualified stock options,” taxable at income tax rates and deductible to the company.
1971	<p>Nixon wage-and-price controls</p> <ul style="list-style-type: none"> • Limits executive pay increases to 5.5%. • Limits do not apply to performance-based bonus plans and non-qualified stock option plans approved by shareholders. • Limits do not apply to benefits and perquisites, such as low-interest loans, club memberships, yachts, limos, and jets. 	<ul style="list-style-type: none"> • Increases the prevalence of performance-based plans and non-qualified stock options . • Companies provide more perquisites.
1972	<p>APB Opinion No. 25</p> <ul style="list-style-type: none"> • No accounting expense required for time-vested stock options if exercise price equals stock price on the grant date. • Requires accounting expense for performance-based stock options. 	<ul style="list-style-type: none"> • Increases the favorability of time-vested stock options.
1976	<p>Revenue Act of 1976</p> <ul style="list-style-type: none"> • Bans qualified stock options <p>SEC Release No. 34-13097</p> <ul style="list-style-type: none"> • Exempts stock appreciation rights (SARs) from short-swing sale rule of the Exchange Act of 1934. 	<ul style="list-style-type: none"> • Stock appreciation rights increase in prevalence.

HISTORICAL MILESTONES IN EXECUTIVE PAY

Year	Event	Impact
1977	SEC Interpretive Release #5856 <ul style="list-style-type: none"> Requires companies to disclose value of perquisites in company proxy. 	
1981	Economic Recovery Act of 1981 <ul style="list-style-type: none"> Creates “incentive stock options” (ISO), a new form of qualified stock option limited to \$100,000 per executive per year. 	<ul style="list-style-type: none"> ISOs begin to be issued to middle-level managers.
1984	Deficit Reduction Act of 1984 <ul style="list-style-type: none"> Limits deductibility of change-in-control (“golden parachute”) payments that exceed three times base compensation. Imposes 20% excise tax on golden parachute payments that exceed three times base, payable by the executive. 	<ul style="list-style-type: none"> Golden parachute payments increase in prevalence. Companies offer tax gross-ups to compensate executives for any excise taxes owed.
1991	SEC Release No. 34-28869 <ul style="list-style-type: none"> Changes the start date of the six-month holding period for stock options to the grant date (from the exercise date). Stock options become immediately sellable after vesting. 	<ul style="list-style-type: none"> Increases the attractiveness of stock options to an executive. Stock options increase in prevalence, replacing stock appreciation rights.
1992	SEC Release No. 34-31327 <ul style="list-style-type: none"> Expands disclosure requirements for executive compensation. Requires disclosure of all components of compensation to the CEO and four named executive officers for the previous three years in a Summary Compensation Table. Requires disclosure of the number (but not the value) of stock options. 	

HISTORICAL MILESTONES IN EXECUTIVE PAY

Year	Event	Impact
1993	<p>Omnibus Budget Reconciliation Act of 1993</p> <ul style="list-style-type: none"> Limits tax deductibility of executive compensation above \$1 million. Limit applies to time-vested restricted stock. Limit does not apply to performance-based compensation, including stock options. Applies only to public companies. 	<ul style="list-style-type: none"> Increases attractiveness of stock options to a company.
1995	<p>FAS 123</p> <ul style="list-style-type: none"> Requires companies to disclose the value of stock option grants in footnotes to financial statements. Recommends but does not require the expensing of stock options. 	<ul style="list-style-type: none"> Stock options continue to receive favorable accounting treatment.
2002	<p>The Sarbanes-Oxley Act of 2002</p> <ul style="list-style-type: none"> Requires executives to disclose new equity grants within two business days of grant. Prohibits personal loans to officers and directors. Requires companies to clawback incentive compensation in the case of financial restatement resulting from fraud or misconduct. 	<ul style="list-style-type: none"> Eliminates practice of cashless exercise of stock options. Eliminates practice of stock option backdating.

HISTORICAL MILESTONES IN EXECUTIVE PAY

Year	Event	Impact
2004	<p>FAS 123R</p> <ul style="list-style-type: none"> Requires companies to expense stock options based on fair value on the grant date. 	<ul style="list-style-type: none"> Stock options no longer receive favorable accounting treatment relative to restricted stock or performance-units. Restricted stock grants and performance units increase in prevalence.
2006	<p>SEC Release No. 34-55009</p> <ul style="list-style-type: none"> Requires disclosure of the value of stock option grants in Summary Compensation Table. 	<ul style="list-style-type: none"> Further decreases the attractiveness of stock options.
2010	<p>The Dodd-Frank Act of 2010</p> <ul style="list-style-type: none"> Grants shareholders an advisory vote on executive compensation (“say on pay”). Requires more stringent clawback policies. Requires disclosure of the ratio of CEO-to-average-worker pay. Requires disclosure of executive hedging policy. 	<ul style="list-style-type: none"> No discernable impact on pay levels.

Source: Adapted from Wells (2010); Murphy (2012)

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