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Nexus Between Fair Pay and Say-on-Pay Votes

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Abstract: This study explores the magnitude of shareholders' say-on-pay (SOP) votes and its impact on CEO compensation. This study draws its sample from US Russell 3000 companies, the largest US companies, from 2011 to 2019. By creating a dummy variable, we further divided our sample into Russell 3000 and S&P 500 for peer comparison. This study employs descriptive statistics, correlation analysis, and pooled OLS regression and finds that CEO compensation has a significant negative association with pay gap opposition. The coefficient and t-statistic were greater for the S&P 500 than for the Russell group. The study also finds that the CEO-to-employee pay ratio (CTE) is positively correlated with the number of shareholders' dissenting votes. The coefficient and t-statistic were greater for the Russell group than for the S&P 500 group. Each additional point of CTE increases shareholder dissent votes by 1.4% for the Russell 3000 companies. This study has important implications for corporate directors, investors, and policymakers. The study contributes to the corporate governance literature, particularly on executive compensation. Our findings support the perspective of social comparison theory and contend that shareholders view CEO compensation as a biased evaluation of their contribution to the firm. We have developed a unique measure of the CEO-to-employee pay ratio, which is based on SEC methodology. Our findings provide empirical evidence for investors and policymakers in the U.S. and other jurisdictions.

Keywords: CEO compensation; say-on-pay; Russell 3000; S&P 500; CEO-to-employee pay ratio; corporate governance

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1. Introduction

Human capital is a critical asset that drives value creation at individual firms and contributes to the overall economy [1]. Since 2009, CEO compensation has grown substantially over the recovery using the options-exercised measure (52.6%) and the options-granted measure (29.4%). On the other hand, the annual compensation of typical workers increased by just 5.3% over the recovery period but decreased by 0.2% between 2017 and 2018. Smith and Kuntz [2] reported that the CEO-to-employee pay gap was approximately 500:1 for the top 100 firms and 204:1 for the S&P 500. Similarly, Mishel and Wolfe [3] reported that the average CEO compensation of the top 350 firms grew by 1007.5% from 1978 to 2018. They further argued that CEO-to-typical-worker compensation grew substantially from 20:1 in 1965 to 278:1 in 2018. Kelly and Seow [4] found that disclosing higher-than-industry CEO pay (versus comparable-to-industry CEO pay) marginally decreases perceived CEO pay fairness and workplace climate. A significant positive effect on perceived CEO attraction/retention ability counteracts this effect. However, there are no significant indirect effects through these perceptions on perceived investment potential. Nevertheless, incrementally disclosing a higher-than-industry pay ratio (versus disclosing only higher-than-industry CEO pay)

substantially decreases perceived CEO pay fairness and marginally decreases perceived workplace climate. Existing literature also reveals a significant indirect negative effect on perceived investment potential through perceived CEO pay fairness. There was a debate that this exorbitant CEO pay significantly contributed to rising income inequality and induced social and political tensions among investors [5]. The debate came to a head on 13 September 2013, when a divided Securities and Exchange Commission (SEC) voted 3-2 to issue a proposed rule that would require most companies to disclose the total annual compensation of the median employee, the total annual compensation of the CEO (which is already available under existing compensation disclosure rules), and the ratio of CEO-to-employee pay (i.e., the pay ratio). The Wall Street Reform and Consumer Protection Act (the Dodd–Frank Act) requires the SEC to issue the pay ratio rule as part of a larger package of interrelated reforms to provide enhanced compensation disclosure and accountability. Bao and Cheng [6] found that pay equity, a larger CEO pay ratio driven by economic factors, is associated with employee contributions to better firm performance. They further argued that pay inequity, a larger CEO pay ratio driven by noneconomic factors, is associated with employees' contributions to poorer firm performance. Bank and Georgiev [7] argued that sizeable pay gaps have received extensive attention from the media, fueling public outrage and reinforcing concerns over economic and pay inequality. The literature is limited in examining the role of shareholders in executive compensation and whether the CEO-to-employee ratio provides valuable information for shareholders [8–10]. Additionally, compensation is an important governance mechanism that helps limit agency problems. The Council of Institutional Investors (CII) argued that the fairness of executive compensation packages depends on several factors including the pay of other employees (See a comment letter from CII to SEC, https://www.sec.gov/comments/s7-07-13/s70713-296.pdf accessed on 25 December 2024). Barry [11] argued that 90% of compensation policies received support on average, while only about 7% of say-on-pay (SOP) votes failed in the US. In contrast, Institutional Shareholder Services (ISS) (See ISS 2024, Section 5 https://www.issgovernance.com/file/policy/active/americas/US-Voting-Guidelines.pdf accessed on 25 December 2024) will conduct a qualitative review of the compensation committee's responsiveness to shareholder opposition at the next annual meeting [12]. The majority of existing studies have focused on the relationship between CEO compensation and firm performance and the impact of say-on-pay is unclear [11]. Thus, the question arises of how and to what extent shareholders' opposition to the pay gap can reduce CEO compensation in the coming years. This study fills this gap and explores the magnitude of shareholders' say-on-pay votes and its impact on future CEO compensation. Additionally, this study contributes to the existing literature on the importance of shareholders' voices in corporate policies [13–15]. The current US policies that aim to reduce the pay disparities between employees and CEOs among US firms also provide the foundation and need for this study. We adopted a symbolic approach to test two contrasting theories, i.e., tournament theory and social comparison theory. Lazear and Rosen [16] argued that pay disparities are logical and natural and reward tournament participants in terms of their contribution to the firm and hierarchal position. According to this notion, the CEO-to-employee pay ratio (CTE) should be an irrelevant measure of business health for shareholders. In contrast to tournament theory, Festinger [17] argued that pay disparity is a biased assessment of CEO contributions to a firm's success. This approach provides us with the opportunity to address the following two questions:

1. To what extent does the CEO-to-employee pay ratio (CTE) affect shareholder dissent in terms of pay votes?
2. Does shareholder opposition to pay gaps reduce future CEO compensation levels?

The US regulators gave more control to the shareholders and introduced a series of rules related to executive compensation to improve corporate transparency and accountability.

The enforcement of the Dodd–Frank Act 2011 gave a 'say' to investors through a non-binding vote on the executive compensation package [18]. Shareholders can convey dissent through say-on-pay, a non-binding vote, when they disagree with a compensation decision and exerting control is not a viable option [19]. In 2013, the US Security and Exchange Commission proposed another rule in section 953 (b) of the Dodd–Frank Act, which requires the disclosure of the pay ratio between the CEO and the median of all other employees [18]. The rule was enforced in 2017 and required companies to disclose the median of the total annual compensation of all employees, the total annual compensation of the CEO, and the ratio among them. After its implementation, the CEO-to-employee pay ratio became a public symbol of social inequalities for various stakeholders. This is a visible sign of the disproportion of wealth between those at the top of companies and the rest of the community [7]. Sanders [20] documented that some politicians also used it during their campaigns, such as the presidential campaign of Bernie Sanders.

Benedetti and Chen [21] argued that the CEO-to-employee ratio helps in the detection of unfair compensation and the contribution of individuals to a firm's value. In contrast, Edmans [22] argued that firms do not operate in the same business environment and might incentivize CEOs to reduce the pay gap by replacing their workers with lower-paid ones or automating their tasks. Similarly, Lifshey [23] argued that the rule is quite flexible and, therefore, easily malleable by firms, making it expensive to obtain little additional information. Norman and Rose [24] conducted an online experimental study to explore the effect of the CEO pay ratio and say-on-pay on directors' decision. They found that the CEO pay ratio significantly affects directors' decisions and that directors are less willing to increase CEO pay. They further found that pay votes influence CEO compensation only when the pay ratio is higher than the industry average. On the other hand, if the pay ratio is lower than the industry average, directors are willing to increase compensation irrespective of shareholders' say-on-pay votes.

This study investigates the relationship between the CEO-to-employee pay ratio (CTE) and shareholder dissent, as well as the subsequent effect of pay gap opposition on CEO compensation. The findings reveal that the CTE has a statistically significant and positive effect on shareholder dissent votes. This effect is stronger for the Russell 3000 group compared to the S&P 500 group, highlighting the heightened sensitivity of shareholders in smaller firms. The findings support social comparison theory while challenging the tournament theory. These findings suggest that shareholders view the CTE as a key indicator of governance and equity concerns. Furthermore, the study finds that pay gap opposition is negatively associated with CEO compensation in the following year, demonstrating a lag effect where sustained shareholder dissent leads to reductions in future CEO compensation.

This paper is organized as follows: Section 2 expounds on the existing literature and develops the hypotheses of this study. Section 3 describes the methodology while Section 4 expounds on the operationalization of the variables. Section 5 presents and discusses the results of this study. At the end, Section 6 concludes the study, and provides recommendations and the significance of the study. The limitations and future research directions of the study are also presented in this section.

2. Literature Review

Executive compensation has gained increased attention from regulators and academia in recent years. Executive compensation is pivotal in mitigating agency problems and is considered an agency cost in corporate governance [25,26]. Jenter and Frydman [27] and

Goh and Li [28] argued that since the 1970s, CEO compensation has grown significantly and appears to be one of the significant drivers of intra-corporate pay disparities. Otten [29] and Baeten and Balkin [30], argued that the executive compensation literature has three main parts: value, agency, and symbolic approaches. In the literature, corporate governance research has mostly used the value and agency approaches to reflect on executive roles, pay levels, and structures [25,31]. A symbolic approach that challenges the tournament and social comparison theories might provide a relevant framework for studying the link between the CEO-to-employee pay ratio, e.g., say-on-pay votes, and CEO compensation. Amore and Failla [32] found that executive pay dispersion worked as a double-edged sword. They further documented that more dispersion in variable pay leads to more innovation, while more dispersion in fixed pay leads to lower innovation. This shows that compensation is widely used for motivation and increasing innovation.

The CEO is the most crucial figure in an organization [33]. Drawing on the perspective of a socially constructed symbol [29], two theories (i.e., tournament theory and social comparison theory) can underpin the possible outcomes of the CEO-to-employee pay ratio (CTE) and say-on-pay (SOP) votes and their associated effects on executive compensation. On the one hand, tournament theory [16] suggests that remuneration is the outcome of internal competition to reach the firm's top, and CEOs are the ultimate winners. Their compensation reflects the intensity of the competition and demonstrates their superior ability and skills for the position. It also depends on the number of tournament participants [34]. Consequently, pay is seen as a prize and reflects the tournament's outcome [35].

Advocates of tournament theory argue that compensation is based on relative performance rather than absolute output [33]. Similarly, Baker and Jensen [36] argued that compensation is primarily independent of performance, and traditional economic theory cannot explain it. From this perspective, the CEO-to-employee pay ratio contributes to mitigating the agency problem by aligning the interests of shareholders with those of CEOs [30,37–39]. Investors might not see the CEO-to-employee pay ratio as a material indicator affecting the long-term health of the firm or pay gaps as fair because it is a natural outcome of an internal logic that rewards tournament participants based on their hierarchical position and contribution to the firm's success [40]. Although there is no consensus in the executive compensation literature regarding the effects of the CEO-to-employee pay ratio on firms. Some scholars find that a high pay ratio has a positive impact on firms' financial performance [41–44]. In addition, the literature on say-on-pay voting provides robust empirical evidence of an increase in shareholder dissent votes when firms experience poor financial performance and a subsequent reduction in CEO compensation [45,46]. The empirical studies help to apprehend the latent reaction of shareholders to pay disparities and propose that they might not have incentives to vote against the CEO compensation package and that the effect might not be observable in the CEO compensation the following year.

On the other hand, social comparison theory proposes that members of the compensation committee design executive compensation packages by comparing CEO pay with their own and with that of peer CEOs evolving in the same business environment [29]. This approach is consistent with Festinger's theory of social comparisons that arises from humans having the drive to evaluate their opinions and abilities [17]. One possible way is to compare one's opinions and abilities with others with similar characteristics and who are considered slightly better or more expert [34]. Consequently, executive compensation depends on normative judgment [29], which is mainly independent of performance and skills [36]. Consequently, a high CEO-to-employee pay ratio can increase agency costs as a result of misaligning the interests of CEOs with those of shareholders. Therefore, excessive pay disparities might harm the collaboration and trust needed for business success in the long run by undermining employees' motivation [21,47].

Several scholars have reported the adverse effects of significant pay gaps on performance [48,49], firm innovation [32], and employee morale, productivity, and turnover [21,50]. The existing literature also showed a negative relationship between CEO pay and block-holder ownership [51,52]. Nasta and Magnanelli [53] found that environmental scores significantly affect the equity-based compensation of CEOs. Luna and Schuchard [54] have not found any constraints in CEO compensation after the 2017 Tax Cuts and Jobs Act (TCJA).

Kelly and Seow [4] found that incrementally disclosing a higher-than-industry pay ratio (versus disclosing only higher-than-industry CEO pay) significantly decreases perceived CEO pay fairness. On the other hand, investors might see the CEO-to-employee pay ratio as a material indicator affecting the firm's long-term health or perceive pay gaps as unfair because they arise from a biased assessment of the success of the CEO's contribution firm that might be financially detrimental to all stakeholders. Several existing studies (e.g., [19,55,56]) found positive effects of SOP in reducing compensation variation, improving firm value, and impacting CEO pay. In contrast, scholars also questioned the effectiveness of SOP in practice. For example, Kind and Poltera [57] found that SOP does not automatically increase the value of shareholders' voting rights in 14 economies. Bourveau and Brochet [58] took a sample of 14 countries from 2000 to 2015 and found that mandatory adoption of SOP led to a significant increase in insider trading profits, especially in most affected firms. Similarly, Nanda and Silveri [59] found a negative effect of restrictive executive pay on firm value in China, particularly when talented executives leave the firms. They further argued for a more cautious approach towards executive compensation. This highlights the importance of SOP as a monitoring mechanism which, if not properly investigated, may have severe consequences for the firms.

Hypothesis Development

Existing empirical studies on CEO compensation and pay votes show that shareholders might react adversely to excessive CEO pay [49]. Ertimur and Ferri [45] reported a positive relationship between CEO compensation and say-on-pay votes for a sample of S&P 1500 companies. Similarly, Conyon [60] reported a positive relationship between CEO compensation and pay votes for a sample of S&P 1500 companies. Nevertheless, little is known concerning their reaction to pay disparities between the CEO and employees. Crawford and Nelson [61] explored the banking industry using different proxies to measure pay disparities. Their study showed a potential positive association between the CEO-to-worker pay ratio and shareholder dissent votes. Although the approach of shareholder wealth maximization has prevailed for more than forty years [62], this approach is now highly debated because it might narrow the quest for shareholders' interests to maximize returns in the short term [63]. Scholars have proposed a shared value approach in which each stakeholder has equal importance, which might be more appropriate and profitable in today's business context [64–68]. Scholars have also argued that shareholders increasingly understand the adverse effects that environmental, social, and government issues could have on their investment, particularly income inequality and the opportunities provided by shared value maximization [5,69,70]. Consequently, the shared value nascent stream is consistent with the social comparison approach, where the CEO-to-employee pay ratio is a valuable financial metric for shareholders. Therefore, the following first hypothesis is proposed:

Hypothesis 1. *The greater the CEO-to-employee pay ratio is, the greater the likelihood that shareholder dissenting votes will occur.*

The existing evidence from the management and organization fields has shown that value discordances between broader society and businesses could threaten the reputation

and legitimacy of firms, resulting in subsequent financial effects [71,72]. In addition, Kelly and Seow [4] conducted a study by drawing a sample of 75 MBA students. They found that pay ratio disclosure might shame firms with significant income disparities, pushing them to reduce their CEO pay. Consequently, significant pay disparities that affect reputation and question the legitimacy of companies are negatively seen by shareholders and may push them to vote against the executive compensation package the following year. Thus, we propose the following second hypothesis:

Hypothesis 2. *A higher pay gap position, the ratio between shareholder dissent votes, and the CEO-to-employee pay ratio will likely decrease future CEO compensation.*

Shaffer [65] and Arslan and Alqatan [67] argued that the wealth maximization goal of firms could emasculate the welfare of other stakeholders because corporations might try to influence policymakers to shape the legal framework in their interests. In addition, Marti and Scherer [73] argued that theorists in the organizational theory and management fields claim that today's financial regulation focuses on only two pillars—efficiency and stability—while ignoring social justice and fairness. By combining these three pillars, the CEO-to-employee pay ratio disclosure rule has all the characteristics of inclusive financial regulation. Porter and Kramer [64] argued that this is consistent with a shared value approach that gives equal importance to shareholders and other stakeholders, such as employees and civil society.

3. Methodology

This study draws its sample from the Russell 3000 index between 2011 and 2019. This index consists of the 3000 largest companies in the United States and covers 98% of the publicly traded equities of the country. We also created a dummy variable for the companies belonging to the S&P 500. The initial sample consisted of 26,741 firm-year observations from the Russell 3000 index over the sample period. We excluded 10,769 observations due to missing data and outliers for the CEO-to-employee pay ratio and pay vote data variables. The final sample is an unbalanced panel dataset composed of 15,972 firm-year observations with 2228 firms from 2011 to 2019. Table 1 presents the sample and industries of the study. Following the Global Industry Classification Standard (GICS), the final sample is divided into 11 sectors. Table 1 reveals that the three most significant sectors are financials, industrials, and consumer discretionary, while the four most minor sectors are real estate, telecommunications, consumer staples, and energy. We took the period from 2011 to 2019 because say-on-pay voting rights were implemented in 2011. The data were collected from Bloomberg.

Table 1. Sample and industries.

Industry	No. of Companies
Basic Materials	118
Energy	121
Consumer Staples	110
Industrials	335
Consumer Discretionary	310
Health Care	230
Financials	420
Information Technology	251
Telecommunications Services	90
Real Estate	72
Utilities	171
Total Sample	**2228**

4. Operationalization of the Variables

4.1. Dependent Variables

The study has two dependent variables, i.e., say against pay votes (say_no_pay) and CEO compensation (COM_CEO). We followed the prior studies of Ertimur and Ferri [45], Conyon [60,74], and Omar and Sun [75], and say_no_votes is defined as the proportion of shareholders voting against the CEO compensation package. This variable is calculated by dividing the number of shareholders' dissent votes and the total number of votes (addition of 'for', 'against', and 'abstention' votes). Similarly, CEO compensation (Com_CEO) is the natural logarithm of total CEO compensation. Conyon [60,74] used the same measure in his studies.

4.2. Independent Variables

Our primary independent variable is the CEO-to-employee pay ratio (CTE), calculated by dividing CEO compensation (Com_CEO) by CF/Empl. CF/Empl is the cash flow from operations divided by the number of employees, as reported in the firm's financial statements.

The CTE is an estimation of the pay disparities between the CEO and the average employee based on their level of contribution to business activities. The ratio constructed for this study to estimate pay gaps is consistent with the SEC methodology.

Pay gap opposition (Pay_ratio) is measured by dividing the proportion of shareholders' dissent votes by the CEO-to-employee pay ratio [40]. This ratio shows the number of shareholders' dissent votes that will be issued for a certain pay gap. We also included a measure (Peers_CEO) to assess the distance of a CEO's compensation relative to that of other CEOs in their industry to control for social comparison effects (Peers_CEO). Cadman and Carter [76] and Murphy and Sandino [77] also suggested that compensation benchmarking might affect executive compensation and shareholder say-on-pay voting levels. We also included two measures of firm financial performance. We included market-based and accounting-based measures, i.e., return on assets (ROA) and return on share price (R_shareprice). Several researchers have used these measures in the executive compensation literature [45,46,49]. We also used a dummy variable (Firm_Adv) to measure the presence of compensation consultants and indicate whether the firm appoints outside executive compensation advisors [60,77]. We also employed several corporate governance characteristics consistent with previous studies [45,46,60,74,78]. The first proxy is B_Size, which is the total number of executive and non-executive directors on the firm's board. The second variable is CEO duality (Dual_CEO), a dummy variable assessing the separation of roles between chairpersons and CEOs. The third proxy is the non-executive (nonexec) proportion, captured by the percentage of non-executive directors sitting on the board. The last proxy is institutional ownership concentration (Inst_Own), the percentage of institutional shareholders.

Table 2 summarizes this study's dependent, independent, and control variables.

Table 2. Operationalization of the variables.

Variable Name	Description
Dependent Variable	
Say_no_ votes	It is the proportion of shareholders voting against the CEO compensation package.
Com_CEO	It is the total amount of compensation the firm pays to the Chief Executive Officer (CEO) as disclosed in the firm's annual report and reported by Bloomberg.

Table 2. *Cont.*

Variable Name	Description
Independent Variable	
CTE	The CEO-to-employee ratio is calculated by dividing Com_CEO by CF/Empl. The CF/Empl is the cash flow from operations divided by the number of employees, as reported in the firm's financial statements.
Pay_ratio	Pay gap opposition is measured by dividing the proportion of shareholders' dissent votes by the CEO-to-employee pay ratio.
Peers_CEO	The Com_CEO relative to the average CEO pay in their industry. Peers is calculated by subtracting the CEO compensation from the average CEO pay of the associated industry in absolute value.
ROA	Return on Assets is the ratio of net income to total assets
R_shareprice	Return from share price appreciation.
Firm_Adv	1 if the firm appoints outside executive compensation advisors, 0 otherwise.
B_Size	The number of directors on the firm's board, as reported by the firm.
Dual_CEO	1 if the firm's chief executive officer is also chairperson of the board, 0 otherwise.
Non_Exec	Percentage of non-executive directors on the board
Inst_Own	It is the proportion of Institutional ownership to the total firm ordinary shareholdings.
Control Variables	
Fsize	The natural log of total assets
Lev	It is the ratio of debt in current liabilities plus debt in long-term debt divided by the total shareholders' equity.
No.Empl	It is the total number of employees engaged in the business for one year.

4.3. Control Variables

We also employed several control variables, such as firm size (Fsize), leverage (Lev), and the number of employees (No. Empl). Several existing studies have suggested that the level of executive compensation is affected by different firm characteristics, such as the following: firm size, measured by the natural logarithm of total assets [74,79,80]; leverage, calculated by dividing total liabilities by total equity as of Conyon [60]; and finally, the number of employees (No. Empl), measured by the total number of people employed by a firm. The researcher also argued that high pay disparities could enhance employee turnover [81].

To test the first hypothesis (i.e., the relationship between the CEO-to-employee ratio and shareholders' dissent votes), the following model is estimated:

$$\text{say\_no\_votes}_{it} = \alpha + \beta_1 \text{CTE}_{it} + \beta_2 \text{Peers\_CEO}_{it} + \beta_3 \text{Perf}_{it} + \beta_4 \text{Firm\_Adv}_{it} + \beta_5 \text{CG\_charac}_{it} + \beta_6 \text{Controls}_{it} + \varepsilon_{it}$$

where say_no_votes is the dependent variable, which is measured by the proportion of shareholders voting against the CEO compensation package for firm 'i' as a function of time 't'. CTE (CEO-to-employee ratio), Peers_CEO (CEO compensation relative to peers), Perf (Performance measures), Firm_Adv (the presence of compensation consultant), CG_Charac (the corporate governance characteristics), Controls (firm size, leverage, number of employees), and a set of year and industry dummies are also included.

Based on previous empirical evidence on executive compensation and pay voting, the CTE is expected to be positively associated with shareholder dissent votes, meaning that greater pay gaps will lead to greater opposition to the executive compensation package and more voluntary disclosure [4,82]. Peers are considered to have a positive association with shareholders' dissent votes and control for the social comparison approach. However, Firm_Adv and Dual_CEO, Inst_Own, Fsize, and No. Empl are presumed to have a positive association with shareholder dissent votes; a negative association is expected for ROA, R_shareprice, B_Size, Non_Exec, and Lev [45,60,83].

To examine the second hypothesis (i.e., the effects of pay gap opposition from shareholders on future CEO compensation), the following model is estimated:

$$Com\_CEO_{it+1} = \alpha + \beta_1 Pay\_ratio_{it} + \beta_2 Peers\_CEO_{it} + \beta_3 Perf_{it} + \beta_4 Firm\_Adv_{it} + \beta_5 CG\_charac_{it} + \beta_6 Controls_{it} + \varepsilon_{it}$$

where the dependent variable COM_CEO_{it+1} is the natural logarithm of the total CEO compensation in t + 1 for a firm 'i' as a function of time 't' and pay_ratio is the shareholder opposition to pay gaps.

Peers_CEO (CEO compensation relative to peers), Perf (performance measures), Firm_Adv (the presence of compensation consultant), CG_Charac (the corporate governance quality), Controls (firm size, leverage, number of employees), and a set of year and industry dummies are also included.

According to previous empirical studies, the Pay_ratio is expected to be negatively associated with future CEO compensation, implying that the greater the ratio of dissent shareholder votes and CTE is, the lower the CEO compensation package is the next year [4,60].

The control variable for the social comparison approach, peers, is expected to be negatively associated with Com_CEO_{t+1}. The other covariates, ROA, R_Shareprice, Fim_Adv, Dual_CEO, Non_Exec, fsize, and No. Empl, may have positive relationships with CEO compensation, while negative relationships are presumed for B_Size, Inst_Own, and Lev [45,60,83].

The study employed descriptive statistics, correlation analysis, and pooled OLS regression analysis with the help of Stata. The study also used robustness tests.

5. Findings and Discussion

Table 3 shows the descriptive statistics of the Russell 3000 companies. The results show that the average number of say_no_pay votes is 8.95. This is close to the study of Conyon [60], who found an average of 10% in his study. The average CTE pay ratio is 259.27, which is lower than the 279 found by AFL-CIO [84]. The ROA is 5.3%, while the average return from share price appreciation is 12.8%. Conyon [85] also found a 5.3% ROA in their study of S&P 1500 firms from 2010 to 2012. The results also reveal that 42% of the sample firms have dual CEOs, while the average board size is 9.66. The board size is consistent with that of Conyon [60], who also found a 9.5 board size. Eighty-five percent of the sampled firms have compensation advisors. Institutional ownership is 82.93%, while 83.8% of firms have non-executive board members. Conyon [60] found that 88% of non-executive directors participated in their study.

Table 4 shows the results of the Pearson correlation matrix. The results reveal that the CEO-to-employee ratio has a positive relationship with say_no_votes and a negative relationship with CEO compensation. This is aligned with social comparison theory which suggests that shareholders compare the compensation with others for equity and fairness. Therefore, a large pay gap which is not aligned with contributions may lead to dissent. Similarly, a higher pay disparity might lead to subsequent adjustments in CEO compensation. These findings are aligned with Benedetti and Chen [21] and Ertimur and Ferri [45], showing that shareholder activism and transparency initiatives effectively curb excessive CEO pay.

The results also reveal that pay gap opposition has a positive relationship with say_no_votes and CEO compensation. These findings underline the significance of perceived equity in governance practices. Additionally, these findings confirm that pay gap opposition is a critical metric influencing shareholder engagement and voting behavior. Interestingly, the positive association of pay gap opposition with CEO compensation suggests that even when dissent exists, compensation levels might initially remain high due to

factors such as peer benchmarking or contractual obligations. The results also reveal that relative peer CEO compensation is positively linked to say_no_votes but negatively linked to CEO compensation. This reflects social comparison mechanisms, where shareholders benchmark compensation against industry norms to assess fairness. Additionally, this highlights the importance of relative benchmarking in governance evaluations. Return on assets (ROA) has a negative relationship with shareholder dissent but a positive relationship with CEO compensation. It implies that financial performance mitigates concerns about compensation practices and shareholders may tolerate higher pay ratios in exchange for high financial performance. This is supported by Faleye and Reis [42], who show that strong financial performance mitigates shareholder dissatisfaction with executive pay. CEO duality has a positive association with shareholder dissent and CEO compensation.

Table 3. Descriptive statistics.

Variables	Obs.	Mean	St. Dev	Q1	Median	Q3
Say_no_ votes (%)	15,972	8.95	12.17	2.42	4.51	8.78
CTE pay ratio	15,972	259.27	658.15	36.82	98.7	239.27
ln Com_CEO	15,972	16.75	1.79	16.1	17.48	18.03
ln CF/Emp	15,972	12.32	1.86	11.63	12.69	13.2
Pay_ratio	15,972	4.02	16.47	3.21	3.25	4
Peers_CEO	15,972	0.88	0.94	0.36	0.72	1.21
ROA	15,972	5.3	10.2	1.6	4.33	8.41
R_shareprice	15,551	12.8	37.64	−8.59	8.42	28.17
Firm_Adv	15,961	0.85	0.43	1	1	1
B_Size	15,972	9.66	2.21	8.23	9	11.23
Dual_CEO	15,961	0.47	0.52	0	0	1
Non_Exec	15,972	83.8	9.3	81.32	86.7	89.2
Inst_Own	15,581	82.93	20.84	73.85	90.98	100
ln Fsize	15,972	8.42	1.97	7.02	8.11	9.26
Lev	15,817	0.98	12.92	0.16	0.52	1.08
ln No.Emp	15,967	8.54	1.45	7.09	8.56	9.94

According to Table 5, the CEO-to-employee pay ratio has a statistically significant and positive effect on shareholder dissent votes (B = 0.014, *p*-value = 0.01). In addition, the coefficients and t-statistics of the CTE are greater for the Russell 3000 group than for the S&P 500 group. The results in Table 5 suggest that the greater the pay gap is, the greater the proportion of dissenting votes from shareholders. It also reveals that a point increase in the CTE will lead to a 1.4% increase in shareholder dissent votes. This finding supports our first hypothesis. It implies that shareholders may have less tolerance for large pay disparities among smaller firms while larger firms may justify a higher pay ratio through better performance, which moderates shareholder dissent.

This is also consistent with the social comparison approach, which suggests that the CTE pay ratio is a material indicator for shareholders because it is the result of a biased evaluation of the CEO's contribution to the firm. These findings are supported by Kelly and Seow [4] and Bank and Georgiev [7], who argued that disclosure of higher pay ratios increases shareholder awareness of inequities and opposition. Similarly, Lozano-Reina and Sánchez-Marín [9] argued that say-on-pay mechanisms are effective in curbing excessive compensation, mainly when large pay disparities exist. The findings indicate that larger boards provide better governance and oversight and hence are associated with reduced dissent. The findings reveal a significant positive relationship between CEO duality and shareholder dissent and reflect shareholder concerns over the concentration of power.

Table 4. Correlation analysis.

	Say_no_ votes	Com_CEO	CTE	Pay_ratio	Peers_CEO	ROA	R_shareprice	Firm_Adv	B_Size	Dual_CEO	Non_Exec	Inst_Own	Fsize	Lev	No.Emp
Say_no_ votes	1														
Com_CEO	0.290 *	1													
CTE	0.091 *	−0.093 *	1												
Pay_ratio	0.149 *	0.271 *	−0.0241 *	1											
Peers_CEO	0.089 *	−0.491 *	0.112 *	0.041 *	1										
ROA	−0.071 *	0.071 *	−0.014	−0.007	0.024 **	1									
R_shareprice	−0.083 *	−0.041 *	−0.021 *	−0.023 *	0.022 *	0.112 *	1								
Firm_Adv	0.054 *	0.372 *	−0.058 *	0.089 *	−0.271 *	−0.032 *	−0.032 *	1							
B_Size	−0.017	0.283 *	−0.043 *	0.068 *	0.041 *	−0.044 *	−0.041 *	0.191 *	1						
Dual_CEO	0.053 *	0.081 *	−0.019	0.027 **	0.043 *	0.011	0.008	−0.014	−0.004	1					
Non_Exec	−0.007	0.254 *	−0.031 *	0.053 *	−0.112 *	−0.039 *	−0.031 *	0.294 *	0.327 *	−0.029 *	1				
Inst_Own	0.056 *	0.342 *	−0.047 *	0.093 *	−0.212 *	0.053 *	−0.043 *	0.214 *	−0.041 *	−0.006	0.175 *	1			
Fsize	0.077 *	0.497 *	−0.007 *	0.069 *	0.094 *	−0.072 *	−0.091 *	0.241 *	0.591 *	0.143 *	0.291 *	0.161 *	1		
Lev	−0.003	0.019	−0.002	0.007	−0.002	0.003	−0.013	0.004	0.027 **	0.006	0.007	−0.003	0.032 *	1	
No.Emp	0.016	0.471 *	−0.131 *	0.382 *	0.037 *	0.091 *	−0.027 *	0.253 *	0.391 *	0.131 *	0.201 *	0.314 *	0.514 *	0.023 **	1

* and ** represent the level of significance at 1% and 5%, respectively.

Table 5. CEO-to-employee pay ratio as a determinant of shareholder dissent.

	Russell 3000	**S&P 500**
Intercept	9.131 * (6.232)	11.152 * (5.256)
CTE	0.014 * (14.321)	0.003 * (8.313)
Peers_CEO	2.041 * (10.313)	1.921 * (7.941)
ROA	−0.074 * (−4.387)	−0.147 * (−5.013)
R_shareprice	−2.114 * (−8.342)	−2.911 * (−4.011)
Firm_Adv	1.782 * (6.032)	3.23 * (4.290)
B_Size	−0.332 * (−5.321)	−0.412 * (−4.312)
Dual_CEO	0.981 * (5.342)	0.051 (0.132)
Non_Exec	−0.039 ** (−3.124)	−0.083 *** (−2.913)
Inst_Own	0.032 * (4.912)	0.016 *** (2.312)
Fsize	0.792 * (10.343)	0.812 * (4.128)
Lev	−0.044 (−0.632)	0.0031 (0.429)
No.Emp	−0.713 * (−11.342)	−0.681 * (−4.190)
Adj. R sq.	0.175	0.231
No. of observations	15,085	3901

*, **, *** represents the level of significance at 1%, 5%, and 10%, respectively.

Investors might see the information provided by the CEO-to-employee pay ratio as useful because it provides information on corporate governance practices that could be harmful to the firm in the long run. We also conducted additional robustness tests and found similar results.

Table 6 examines the relationship between pay gap opposition from shareholders and CEO pay in year t + 1. The main independent variable, pay_ratio, is significantly negatively associated with CEO compensation (B = −0.003, p value = 0.01). Initially, we found a positive association between pay gap opposition and CEO compensation without any lagged effect. However, sustained opposition often results in reductions in future compensation. This also highlights a lag effect where immediate changes may not occur, but dissent influences subsequent years. Norman and Rose [24] argued that directors' compensation decisions depend on the lagged effect of shareholder dissatisfaction. In addition, the coefficients and t-statistics of the pay_ratio are greater for the S&P 500 group than for the Russell 3000 group. Greater opposition from shareholders to the CEO-to-employee pay ratio leads to lower CEO compensation in year t + 1. Our second hypothesis is supported.

The findings reveal a positive relationship between ROA and CEO compensation. This aligns with traditional agency theory, which advocates for compensation structures that align executive incentives with shareholder interests.

The results are in line with the social comparison approach, which suggests that the CTE, when tied to shareholder dissent votes, to form the Pay_ratio (pay gap), is a material indicator reflecting a biased evaluation of the CEO's contribution to the firm. Therefore, there is a misalignment of interests between investors and the management team, which leads shareholders to issue dissent votes on the compensation package with the effect of reducing CEO pay in the upcoming year. We also conducted additional robustness tests and found similar results.

Table 6. Shareholder opposition to the pay gap and future CEO compensation.

	Russell 3000	**S&P 500**
Intercept	13.346 * (156.434)	14.434 * (68.141)
Pay_ratio	−0.003 * (−5.121)	−0.213 * (−11.342)
Peers_CEO	−0.369 * (−15.321)	0.181 * (7.392)
ROA	0.020 * (13.241)	0.007 ** (2.971)
R_shareprice	0.23 * (8.431)	0.0481 *** (1.791)
Firm_Adv	0.561 * (18.413)	0.914 * (17.904)
B_Size	−0.035 * (−7.981)	0.008 *** (0.129)
Dual_CEO	0.146 * (10.918)	0.081 ** (3.124)
Non_Exec	0.002 *** (1.101)	0.0059 * (4.153)
Inst_Own	0.011 * (21.981)	0.005 * (4.253)
Fsize	0.367 * (32.143)	0.191 * (11.020)
Lev	−0.002 (−1.762)	−0.002 (−1.514)
No.Emp	0.156 * (14.587)	0.081 * (16.145)
Adj. R sq.	0.621	0.394
No. of observations	12,634	3356

*, **, *** represents the level of significance at 1%, 5%, and 10%, respectively.

6. Conclusions and Recommendations

This study shows significant insights into the intricate dynamics between CEO-to-employee pay ratios, shareholder dissent, and future CEO compensation. Our findings suggest that the CEO-to-employee pay ratio provides significant information that is used by shareholders during their say-on-pay votes. CEO-to-employee pay ratio (CTE) has a statistically significant and positive effect on shareholder dissent votes. The coefficients and t-statistics of the CTE are greater for the Russell 3000 group than for the S&P 500 group. This finding confirms our first hypothesis. Each additional point of CTE increases shareholder dissent votes by 1.4% for the Russell 3000 companies. These results underscore the pivotal role of social comparison theory in understanding shareholder perceptions.

We can conclude that the mandatory disclosure of the CEO-to-employee pay ratio provided additional information to shareholders while they made voting decisions. Our findings support social comparison theory, where shareholders view CEO compensation as a biased evaluation of their contribution to the firm, potentially impeding the health of the business. Our findings support the evolution of shareholders' interests in social issues, which is consistent with the nascent stream in accounting and finance promoting shared value maximization. In line with social comparison theory, the findings posit that groups and/or individuals assess fairness and equity by comparing their standing with others.

In the context of tournament theory, the CTE can be viewed as the "prize gap" that motivates lower-tier employees. A high ratio is intended to represent the substantial rewards awaiting those who ascend to the top of the corporate hierarchy. Nevertheless, this study demonstrates that shareholders perceive disproportionate CEO compensation as an overestimation of executive contributions relative to those of employees, leading to heightened dissent during say-on-pay votes and undermining the rationale of tournament structures.

The findings reveal a significant negative relationship between pay gap opposition and future CEO compensation. This finding confirms our second hypothesis. This shows a growing influence of shareholders in shaping executive compensation structures and their

willingness to address perceived inequities in compensation practices. Additionally, the relationship between pay gap opposition and future CEO pay adjustments is stronger in the S&P 500 group than in the broader Russell 3000 group. This also suggests that larger, more prominent firms face greater scrutiny and are more likely to respond to shareholder dissent by reducing CEO pay. This finding is aligned with social comparison theory, which suggests that stakeholders evaluate fairness by comparing compensation structures within the organization. In contrast, this finding challenges traditional assumptions of tournament theory, which posits that large pay gaps serve as motivational incentives for employees. While initial opposition does not immediately reduce CEO compensation, sustained dissent emerges as a powerful mechanism driving reductions in future executive pay. This study also highlights the dual role of financial performance. Higher returns on assets mitigate shareholder dissent and justify greater CEO compensation, aligning with traditional agency theory's emphasis on performance-based incentives. Conversely, the findings reveal governance challenges such as CEO duality, which correlates positively with both CEO compensation and shareholder dissent, signaling stakeholder concerns over power concentration within the firm.

These findings have far-reaching implications for corporate governance and executive compensation practices. Firms should provide rationale (such as performance metrics, market comparison, etc.) regarding the CEO-to-employee pay ratio which may help in mitigating shareholders' dissent. Firms should integrate shareholders' feedback into executive compensation and address the shareholders' concerns about equity and fairness. We also recommend that compensation advisors/remuneration committees consider the CTE as an opportunity to showcase their commitment to fairness, equity, and social responsibility when designing executive compensation packages. On the perspective of tournament theory, the findings challenge the effectiveness of large pay gaps as motivational tools. Firms may explore other alternative methods (such as performance bonuses, career development, etc.) of incentivizing employees. We recommend introducing equity-based mechanisms for non-executive employees, which may reduce perceived inequity and foster a sense of fairness. Additionally, external tournament incentives are low when pay levels are relatively similar.

Significance, Limitations, and Future Research Directions of the Study

This study contributes to the literature on executive compensation and say-on-pay, particularly shareholders' influence in shaping executive compensation. The study highlights the role of the CEO-to-employee ratio on future CEO compensation and shareholders' say-on-pay. We have developed a unique measure of the CEO-to-employee pay ratio, which is based on SEC methodology. Our findings provide empirical evidence for investors and policymakers in the U.S. and other jurisdictions. The study also adds value to the literature on the real effects of mandatory disclosures on firms and their stakeholders [86]. The findings support social comparison theory while challenging tournament theory. This enriches our understanding of pay disparities. The findings also contribute to the ongoing debate around firm value [87] versus value maximization [64,88] and suggest that shareholders have started to factor the pay disparities between CEOs and employees to judge CEO performance. It implies a growing shareholder activism in promoting accountability and equity. The study investigated a direct link between shareholder dissent and future CEO compensation and underscores the increasing power of shareholders in shaping corporate governance and executive pay practices among large firms.

This study also has several limitations. We used data from Russell 3000 and S&P 500 and the findings may not be generalized to local firms in other countries. Future studies can be conducted on a global dataset and cross-country comparisons, considering

different sectors and variations in regulatory, cultural, and governance reforms. This study mainly focused on shareholder perspectives and leaves room for exploring the impact of pay disparities on lower-tier employees' motivation, engagement, and performance. Future studies can explore the impact of pay disparity and shareholder dissent on retention, morale, and productivity of lower-tiered employees. We used cash flow per employee to analyze the firm's operational efficiency per employee. Though this approach is unique, it may have some limitations and varies from one industry to another. It reflects average productivity per employee, not the individual contribution. Future studies may use other measures, such as median employee compensation instead of average productivity per employee and technology-driven compensation tools.

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