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The Impact of Executive Substitution on Executive Pay: Internal Versus External Hires - The United Kingdom's Market Perspective

Rodrigo Velázquez García

55452

Work project carried out under the supervision of:

António Nogueira de Leite

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Abstract

This research examines the dynamics of executive pay during turnover events in four different regions. It explores executive compensation practices in France, Germany, the United Kingdom, and the United States. By distinguishing between internal and external hires, we uncover patterns and implications of compensation adjustments. Our findings reveal inconsistent results for each market, highlighting the effects of different corporate governance practices across regions that have a distinct impact on CEO recruitment and executive compensation. Contrary to the prior literature, we find that compensation levels of CEO successors are not significantly driven by the previous employment relationship in the US, France, and the UK. However, our analysis of German firms shows that internal CEO successors earn significantly more than external ones. By identifying different determinants of CEO succession, the research contributes to the broader discourse on executive compensation and provides actionable insights for boards and stakeholders.

Keywords: Executive Compensation, Turnover Events, Internal Hires, External Hires, Corporate Governance.

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List of abbreviations

ARUG ..... *Act Implementing the Second Shareholders' Rights Directive*

CAC..... *Cotation Assistée en Continu*

CEO..... *Chief executive officer*

DAX ..... *Deutscher Aktienindex*

DW ..... *Durbin-Watson*

e.g. ..... *For example (Lat: exempli gratia)*

EBIT ..... *Earnings before interest and taxes*

EBITDA ..... *Earnings before interests, taxes, depreciation and ammortization*

EBT ..... *Earnings before taxes*

ESG ..... *Environmental, Social and Governance*

et al. ..... *And others (Lat: et alia)*

FTSE..... *Financial Times Stock Exchange*

GDP..... *Gross domestic product*

Ibid ..... *In the same place (Lat: ibidem)*

Log ..... *Logarithm*

LTIP ..... *Long-term incentive plan*

MDAX..... *Midcap-Deutscher Aktienindex*

OLS ..... *Ordinary Least Squares*

R&D ..... *Research and Development*

ROE..... *Return on equity*

RSUs..... *Restricted stock units*

S&P ..... *Standard and Poor's*

TSR..... *Total shareholder return*

UK ..... *United Kingdom*

US..... *United States (of America)*

USA..... *United States of America*

VIF ..... *Variance inflation factor*

VorstAG.....Act on the Appropriateness of Management Board Remuneration

1. Introduction

The 2008 financial crisis marked an essential moment in the corporate world and the global economy; it not only exposed vulnerabilities in financial systems but also raised profound concerns about excessive executive compensation. Since then, there has been a growing scrutiny of CEO pay. This is particularly relevant in large markets, where compensation packages for top executives are often a subject of heated debate. The disparity between CEO earnings and those of average workers raises questions about fairness, transparency, and the impact on organizational performance. This debate has only recently resurfaced during the Covid 19 crisis and was also driven by the question of the relevance of a CEO. In an era characterized by unprecedented economic challenges and rapid technological advancements, the role of top executives within organizations has assumed great importance. These visionary leaders bear the weighty responsibility of navigating companies through difficult times, making strategic decisions that impact not only the firm's financial health but also the livelihoods of its employees and the wider communities it serves. Consequently, executive compensation exceeds its financial dimension reflecting an organization's values, priorities, and commitment to sustainable growth. Also, the current highly competitive business landscape, where innovation, adaptability, and long-term growth are of maximal importance, gives top-level leadership considerable significance. The substitution of CEOs is therefore a very important event for corporations. Firms have two different paths they can choose when hiring a new CEO, where the new CEO can be promoted from the inside or hired from outside the company. Promoting an internal candidate or recruiting new talent externally is a crucial choice that can profoundly impact an organization's capacity to prosper. Internal promotions recognize long-term commitment being tied to the company's culture and in-house expertise, whereas external hires bring new perspectives and skill sets to tackle contemporary challenges.

This thesis aims to provide a comparative analysis across four distinct regions: the United Stated of America, France, Germany, and the United Kingdom. We offer a comprehensive perspective on how different variables can influence the compensation of CEO successors. In this context, the observation of potential compensation differences between internal and external hires is the central object of the work. Our study aims to deliver individual analyses for each of the four markets by performing multiple regression analyses, striving to understand the reasons behind the variations in executive compensation models from one market to another. Based on the results of the studies, we can investigate whether region-specific corporate governance standards shape the effect of executive substitution on CEO pay. Therefore, we enhance the existing knowledge of executive substitution impact, while bringing a scope to the analysis, helping future executives, policymakers, and scholars in comprehending the nuanced relationship between executive pay disparities and corporate governance models in global financial markets. Ultimately, our thesis contributes to the ongoing dialogue about responsible corporate leadership in an ever-evolving global business landscape.

The initial part of the paper deals with a summary of the literature on the subject to date. First, chapter 2.1 lays the foundations for the classification of CEO activities in the context of corporate governance. We then take a detailed look at executive board compensation in chapter 2.2, examining the historical development, composition, determinants, and effects of CEO pay. This is followed by an analysis of the relevant literature on CEO turnovers in chapter 2.3, which examines the reasons and explores external and internal succession options. Chapter 2.4 elaborates on region-specific characteristics of CEO turnovers and pay for our four observed markets, before summarizing the results of the relevant literature on specific effects of executive turnovers on CEO pay in chapter 2.5. This forms the basis for the following analysis section. Chapter 3 summarizes the research questions encompassing all analyses. In the following four

chapters, the region-specific analyses are subdivided similarly. Specific research hypotheses are set out in advance and the sample selection is described. This is followed by a descriptive overview of the data sets before the research results are presented. The analysis sections then end with the documentation of the robustness check of the multiple regression models. Chapter 8 contains the discussion of the results, which are evaluated and compared across regions in Chapter 8.1. This is followed by possible implications for science and practice as well as limitations and a research outlook in chapters 8.2 and 8.3.

2. Literature Review

2.1 The Role of the Management within Corporate Governance

In corporate governance, management emerges as a foundation, necessary in implementing governance practices effectively. Peter Drucker (1954) argues that management's essence is in setting objectives, organizing resources, motivating, and engaging with staff, evaluating performance, and nurturing personnel development. These functions are instrumental in directing a corporation toward its strategic goals (Drucker 1954). Management enables the organization to adjust to current conditions, which is critical in leading organizations towards future growth and adaptation. This concept is extensively supported by the rich body of literature on diverse aspects of corporate governance (Ibid).

Corporate governance is the structural framework for attaining a company's objectives, encompassing various management activities. This area includes strategic planning, internal controls, performance assessment, and corporate disclosure (Monks and Minow 2011). Governance structures and principles define the distribution of rights and responsibilities among various corporate stakeholders, setting clear rules and procedures for corporate decision-making. The management's role is to transpose these directives throughout the corporation's value chain (Ibid).

Corporate governance has been a central topic in academic and public discourse, particularly highlighted by financial scandals that exposed significant failures in governance systems. Farinha (2003) notes the term "corporate governance" refers to mechanisms, both internal and external, designed to manage the relationships and interests among stakeholders, especially shareholders and managers. There is a tight, though quite important, limit between corporate performance and financial scandals. This limit can be satisfied by the collaboration of management, the board, and stakeholders (Farinha 2003).

Progressing to the legitimization of shareholder interests, an interesting concept, is the theory of property rights (Jensen and Meckling 1976). In this context, companies are viewed as nexuses of contractual relationships, placing shareholders in a unique ownership position. This perspective is crucial as shareholders, unlike other stakeholders, are protected by contracts and risk diversification, depending on their ability to monitor and influence executive decisions in favor of their interests. Hence, Jensen and Meckling (1976), and Zingales (1998) emphasize the necessity of governance mechanisms that align management actions with shareholder interests. This alignment is very significant when it comes to corporate financial health. Following this idea, management failing to satisfy shareholders' interests, especially in large companies, will most likely be replaced.

Another quite important topic surrounding corporate governance is the principal-agent theory. It provides a framework for understanding the relationship complexities between shareholders and executives (Jensen and Meckling 1976). The theory emphasizes the dynamics where shareholders, as principals, delegate company operations to executives or agents who possess more information about the company's performance. This information asymmetry can lead to moral hazard, with executives potentially exploiting their advantage for personal gain at the expense of shareholder interests (Jensen and Meckling 1976). The composition and dynamics

of corporate boards become critical in this context. Independent directors often benefit firm performance and protect minority shareholders' interests (Naz et al. 2021). However, role duality (CEO and chairperson) can compromise board effectiveness, leading to conflicts of interest and reduced firm performance (Di Vito et al. 2021; Naz et al. 2021). For this reason, management has a very complex role in corporate governance since they must balance their own convictions with shareholders' interests to keep their positions.

Regarding this aspect of corporate governance, the legal environment significantly influences corporate governance practices. Berle and Means (1932) explain the potential conflicts of interest between shareholders and managers due to the separation of ownership and control in modern corporations. The law establishes fiduciary duties, binding managers to act in the corporation's and its shareholders' best interests (Berle and Means 1932).

Enhancing this discussion, the stakeholder theory, introduced by Freeman (1984) and later developed by Donaldson and Preston (1995), proposes a more inclusive approach to business management. It suggests that businesses consider the interests of all parties affected by the company's actions, shifting from the traditional shareholder-centric model (Freeman 1984). The theory argues that stakeholder-focused management can improve corporate performance because the corporation is more inclined to answer its value chain needs and demands (Donaldson and Preston 1995). Clarkson (1995) also suggests that effective stakeholder management can grant a sustainable competitive advantage, with the firm building strong links with its stakeholders. This enables the firm to achieve sustainable performance within good and bad economic conditions (Clarkson 1995). This theory influenced the corporate governance model, aiming for ethical business practices and sustainable development. It enables management and corporate governance to align their interests through a larger scope.

Before moving on to the next part of the discussion, it is essential to summarize the key points of this review. First, considering executive substitution's impact on executive pay, these theoretical perspectives underscore the crucial role of corporate governance in mitigating conflicts of interest. We understood that effective governance mechanisms, such as independent boards and appropriate legal frameworks, are crucial in aligning executive actions with shareholder interests. Also, the design of executive compensation structures must also address moral hazard risks, ensuring executive incentives align with long-term shareholder value creation. This comprehensive approach to governance surrounding legal, managerial, and board dynamics, is important to create an environment where corporate objectives align with shareholder aspiration.

2.2. Executive compensation

2.2.1 CEO compensation over time

The evolution of CEO compensation reflects broader economic and societal changes. In the early 20th century, CEOs were often compensated modestly compared to today's standards. Frydman and Saks (2010) provide a long-term perspective, showing how the composition and size of CEO pay have changed since the 1930s. Their study reveals that, while the 1970s saw relatively stable CEO compensation, the 1980s marked the beginning of a steep upward trend, which was caused by a significant paradigm shift. This steep ascent in executive pay can be largely attributed to a paradigmatic shift towards shareholder value maximization, which became the predominant corporate objective, as emphasized by Murphy (2012). This transition not only reflected a transformation in the underlying principles of corporate strategy but also substantially revamped the frameworks for executive compensation to be more closely tied to company performance, especially with incentives linked to stock options.

Over the past few decades, CEO compensation has consistently outpaced the wage increases of the average worker., a trend that has drawn significant public and academic attention. Piketty and Saez (2003) document this growing disparity, noting that by the early 21st century, CEO compensation had reached unprecedented multiples of the average worker's salary. According to Bivens and Kandra (2022), CEO pay based on realized pay increased by 1,460% between 1978 and 2021, far outpacing the rise of the S&P stock market (1,063%) and the top 0.1% earnings growth (385%). By comparison, the average worker's compensation increased by a mere 18.1% between 1978 and 2021.

The differences caused by this pay gap are manifold. It not only shapes perceptions of fairness and equity within the economic landscape but also fuels the broader discourse on wealth distribution, corporate responsibility, and the societal role of business leadership. This growing gap between CEO compensation and the wages of the average worker has sparked debates about income inequality and social justice, highlighting the need for policy interventions and corporate governance reforms. Additionally, it has raised questions about the ethical and moral dimensions of executive compensation, as well as the responsibilities of companies to their employees and the communities they operate in.

2.2.2 Main components of CEO compensation

Frydman and Jenter (2010) identify the following five compensation components as the most common across firms: salary, annual bonus, payouts form long-term incentive plans, restricted option grants, and restricted stock grants. These components are complemented by pension plans, various perquisites, and severance payments in case of the departure of CEOs.

The base salary is the most straightforward component of CEO compensation. However, as noted by Jensen and Murphy (1990), bonuses, both in cash and stock options, often constitute a larger proportion of the total compensation package. These bonuses serve as powerful

incentives, motivating CEOs to focus on short-term performance indicators, such as annual profits or share price increases. This emphasis on short-term goals can lead to a potential misalignment between immediate financial outcomes and the long-term sustainability and growth of the company.

Long-term incentives, mainly in the form of stock options and restricted stock, are intended to align the CEO's interests with those of the shareholders. This is emphasized by the Agency Theory, arguing that compensation packages should be designed to incentivize CEOs to act in the best interests of shareholders, thereby mitigating the principal-agent problem. Hall and Liebman (1998) discuss how these incentives are designed to encourage CEOs to focus on long-term value creation.

Beyond salary and incentives, CEOs often receive substantial benefits and perquisites. Yermack (2006) brings attention to these supplementary components, which extend beyond basic retirement and insurance plans to more lavish conveniences like the use of corporate jets and elite club memberships. These benefits, while less transparent in terms of their monetary value, form a significant portion of the total compensation package. Yermack's analysis underscores the need for a more holistic consideration of CEO pay, acknowledging that these non-salary benefits may also influence executive behavior and company outcomes, often operating outside the scope of traditional performance metrics.

Apart from the facets of financial incentives and perks, it is important to recognize that CEO compensation is significantly shaped by the framework of corporate governance and the legal landscape. Berle and Means (1932) shed light on the inherent conflicts of interest that can emerge as a result of the division between ownership and control within contemporary corporations. This disconnect has the potential to create tensions and misalignments between the shareholders and the managerial leadership. To address these challenges, regulatory

mechanisms have been put in place, such as the Sarbanes-Oxley Act of 2002 in the United States. This legislative act was instituted with the aim of imposing more stringent standards and requirements on corporations, thereby fostering enhanced adherence to compliance, transparency, and accountability principles.

2.2.3 Determinants of CEO Compensation

The determination of CEO compensation is a multifaceted process influenced by various theories, each offering a different perspective on why and how CEO pay is structured and awarded. These theories provide insights into the complex interplay of power dynamics, market forces, organizational needs, and individual traits that shape CEO compensation. Compensation theory, which encompasses various models including tournament theory and social comparison, suggests that CEO pay is influenced by internal and external labor market dynamics, firm-specific characteristics, and individual CEO traits. The tournament theory views CEO pay as a prize in a competition, where executives are incentivized to outperform their peers to move up the corporate ladder, as described by Connelly et al. (2013). Modern executive compensation theories, as discussed by Edmans and Gabaix (2015), align with observed practices and suggest that executive pay does not need to be inefficient. O'Reilly, Main, and Crystal (1988) highlighted the strong association between CEO compensation levels and the remuneration of outside board members, suggesting that internal organizational structures and external market comparisons play a significant role in determining pay. Gabaix and Landier (2006) argue that the increase in CEO pay is a result of the increased market capitalization of large U.S. companies, suggesting that market forces are at play, with CEO pay reflecting the competitive market for executive talent.

On the other hand, the Managerial Power Theory, as proposed by Bebchuk and Fried (2004), suggests that CEO compensation often reflects the influence and negotiating power of CEOs

over boards, rather than market or performance factors. As a result, CEOs often influence the structure of their compensation packages, frequently at the expense of shareholder interests. Van Essen, Otten and Carberry (2015) found evidence supporting this theory, showing higher CEO compensation levels when CEOs have greater power over the pay settings. Laan (2010) provided support for the Managerial Power theory by demonstrating variations in CEO compensation based on nationality, suggesting that managerial power can influence pay. Tosi et al. (2000) on the other hand defend the competitive pay model, suggesting that high compensation is necessary to attract and retain the best executive talent. Conversely, rent extraction, as discussed by Bebchuk, Grinstein, and Peyer (2010), posits that CEOs may exploit their positions to secure compensation that exceeds their marginal contribution to the firm, often as a result of weak corporate governance structures.

2.2.4 Impact of CEO Compensation

The relationship between CEO compensation and its impact on various aspects of corporate dynamics is a complex subject. This sub-chapter aims to dissect the interrelations between CEO compensation and company performance, firm value, and other corporate factors by analyzing theoretical viewpoints and empirical findings.

The influence of CEO compensation on company performance has been a focal point of research. As mentioned before in the research, optimal contracting theories, as explored by Edmans and Gabaix (2009), suggest that CEO compensation structures are crafted to align the interests of CEOs with shareholders, incentivizing performance while considering risk and market conditions. Murphy (1985) supports this perspective with empirical analysis, finding a strong positive correlation between executive compensation and corporate performance. Conversely, Bertrand and Mullainathan (2001) find little evidence to support this link, presenting a contrasting viewpoint. Similarly, Core, Holthausen, and Larcker (1999) present a

contrasting view, noting that excessive CEO compensation in poorly governed firms negatively impacts performance. Hall and Liebman (1998) underscoe the significant pay-performance sensitivity, indicating that effective compensation is reflective of firm value. Furthermore, Al-Shammari (2021) emphasizes the behavioral aspect, positing that CEO compensation impacts firm performance directly through CEO behavior, such as risk-taking. Smirnova and Zavertiaeva (2017) contribute to this discussion by highlighting the importance of accounting-based measures in CEO compensation, relative to firm performance.

The link between CEO compensation and firm value is equally critical. Studies like those by Luo, Liang, and Wieseke (2013) demonstrate that CEO base pay positively affects customer satisfaction, which in turn mediates the relationship between CEO pay and firm value. Vieito (2012) provides an interesting gender-based perspective, showing that female-led firms tend to have smaller compensation gaps and achieve higher performance, suggesting that gender dynamics influence compensation structures and outcomes.

Davis, DeBode, and Ketchen (2013) argue that boards can maximize CEO performance and enhance firm value by creating strong incentives, benchmarking performance, and addressing CEOs' equity feelings. The work of Fahlenbrach (2009) underlines the role of compensation contracts in aligning shareholder interests with the CEOs in firms with weaker governance, impacting the firm’s market valuation.

2.3 Executive substitution

2.3.1 Reasons for CEO turnovers

CEO turnovers represent critical junctures in a corporation's lifecycle, driven by a complex interplay of factors. Empirical research has diligently sought to discern the driving forces behind CEO turnovers. For instance, Hambrick and Fukutomi (1991) conducted a seminal

study, revealing a robust correlation between firm performance and CEO turnover. Their findings suggest that CEO turnovers are not merely reactionary measures but are often part of a broader strategic recalibration by the board. This reorientation might stem from a necessity for new leadership skills adept at handling evolving market scenarios or aligning the company with upcoming trends in the industry. Their research also illuminates the performance benchmarks that usually trigger these changes in leadership, providing a deeper understanding of the interplay between firm performance and CEO turnover.

Similarly, Kaplan and Minton (2006) also explored the impact of financial distress on CEO turnovers, asserting that organizations facing financial difficulties may strategically opt for CEO replacements to address these challenges. Their research accentuates the pivotal role of a company's financial health in shaping CEO turnover decisions. Weisbach (1988) further explored this by emphasizing the significance of board composition in CEO turnovers. His study highlighted that boards comprising a higher proportion of outside directors exhibit a greater inclination to replace CEOs. This insight prompts critical inquiries into the influence of board dynamics and governance structures on the CEO turnover process.

According to Agency theory proposed by Jensen and Meckling (1976), conflicts of interest between shareholders and executives are significant factors potentially triggering CEO turnovers. However, Mehran and Yermack (1997) introduced a compelling perspective, revealing an inverse correlation between the likelihood of CEO turnover and the degree to which a CEO's compensation exceeds expected norms. Their findings suggest that exceptionally high compensation might decrease the likelihood of turnover, potentially signaling either the CEO's exceptional performance, their negotiation prowess, or the board's perception of their value. This revelation suggests that executive compensation plays a multifaceted role in shaping CEO turnover decisions.

In contrast, stewardship theory, championed by Donaldson and Davis (1991), emphasizes CEOs aligning their interests with shareholders'. It suggests CEOs act as stewards, prioritizing shareholders' long-term welfare over personal gain. Bushman, Dai, and Wang (2010) ventured into the realm of risk and CEO turnovers, revealing that idiosyncratic risk augments turnover, while systematic risk exerts a dampening effect. This intricate risk-related dynamic, as discussed by Bushman, Dai, and Wang, underscores the complex interplay between risk factors, CEO turnover, and executive compensation.

Trojanowski and Renneboog (2002) argue that CEO turnovers serve as disciplinary mechanisms, particularly for addressing corporate underperformance. Their research underscores the dual role of executive pay in both motivating performance and addressing underperformance. They argue that the threat of CEO replacement in cases of underperformance acts as a stern reminder to both current and future executives about the serious implications of not meeting performance benchmarks. This aspect of executive turnover is intricately tied to the structure of CEO compensation packages, which are often heavily contingent upon performance-related incentives.

In exploring the various triggers for CEO turnovers, the impact of legal challenges faced by a company stands out as a critical factor. Collins, Reitenga, and Sánchez (2008) conducted a thorough analysis, revealing a heightened probability of CEO turnover amidst class action lawsuits. Their extensive study extends beyond simply indicating an increased likelihood of CEO turnover due to legal matters. For CEOs embroiled in legal disputes, the consequences are not confined to the immediate outcomes of litigation, such as restatements following class action lawsuits. Instead, they expose a broader spectrum of repercussions, where CEOs might face punitive actions in their compensation structures because of these legal complications. This observation by Collins, Reitenga, and Sánchez (2008) emphasizes the seriousness with which

legal factors are regarded in the corporate world, especially in their influence on high-stakes decisions like executive turnover.

Finally, the research by Hartzell (1998) illuminates a significant correlation: the increased probability of forced CEO turnovers tends to weaken the relationship between changes in CEO compensation and firm performance. This finding suggests that when a CEO's departure is imminent, particularly under coercive circumstances, the decision-making process surrounding executive compensation becomes more complex and less straightforward. It indicates that in scenarios where a CEO is likely to be replaced, the typical patterns of compensation adjustments in response to firm performance metrics may not hold. This could be due to a shift in focus from performance-based incentives to considerations around transition and succession planning.

These empirical studies collectively underscore the multifaceted nature of CEO turnovers, showing how performance-related factors significantly influence these events. At the same time, they recognize that the specifics of CEO turnovers can vary substantially based on organizational circumstances and governance arrangements.

2.3.2 Internal versus External CEO successors

The selection of a Chief Executive Officer represents a crucial decision for any organization, with far-reaching implications for its performance and future trajectory. A fundamental aspect of this decision-making process is the choice between internal and external CEO successors. CEO succession, as a transformative event in corporate leadership, has attracted substantial attention from scholars and practitioners alike. It encompasses the identification, evaluation, and appointment of a successor to lead the organization (Dalton et al. 2003). Central to this process is the choice between promoting an internal candidate, typically from within the organization's ranks, or hiring an external candidate from outside the firm.

One prevalent argument in favor of internal CEO successors lies in their familiarity with the organization's culture, operations, and industry. They often possess an in-depth understanding of the company's history, values, and objectives (Bertrand et al. 2002). This familiarity can facilitate a smoother transition, minimize disruptions, and maintain organizational continuity. Furthermore, internal successors have established relationships with key stakeholders, including employees, board members, and shareholders.

The research by Keasy and Wright (1999), suggests that these connections are typically nurtured over an extended period and stand as valuable assets for a CEO. On the contrary, external CEO successors bring a fresh perspective to the organization, potentially introducing innovative ideas and strategies. They are not bound by the company's past practices and can challenge the status quo (Keasy and Wright, 1999). The appointment of an external CEO can serve as a governance mechanism to mitigate agency problems, as the newcomer is less entangled in existing power dynamics and potential conflicts of interest (Dalton et al. 2007). Their lack of prior involvement in the company's internal affairs minimizes biases and preconceptions that may cloud decision-making (Lipton and Lorsch, 1992).

This objectivity can foster a more transparent and accountable governance structure. The appointment of an external CEO can be perceived as a tangible commitment to aligning leadership with shareholder interests (Donaldson and Davis, 1991). This alignment is especially crucial in environments where there is skepticism about the organization's internal leadership pool (Bushman et al., 2010). The choice between internal and external CEO successors is influenced by many factors. These include the firm's specific circumstances, the industry context, the board's composition, corporate governance practices, and the organization's performance (Hermalin and Weisbach, 1998). The S&P 500 adds another layer of complexity to the study of CEO turnovers.

The appointment of an external CEO can be perceived as a tangible commitment to aligning leadership with shareholder interests (Donaldson and Davis, 1991). This alignment is especially crucial in environments where there is skepticism about the organization's internal leadership pool (Bushman et al. 2010). Moreover, the decision to opt for either an internal or external CEO successor is shaped by a multitude of factors, as indicated by Hermalin and Weisbach (1998). These factors encompass the specific circumstances of the firm, the broader industry context, the composition and the dynamics of the board, prevailing corporate governance norms, and the overall performance of the organization. This decision is not merely about choosing a leader; it reflects a strategic response to the firm's current state and its aspirations for future growth. It involves a careful consideration of the potential impacts on stakeholder relations, company culture, and long-term strategic goals.

This complexity in CEO succession is mirrored in the diverse governance models and regulatory frameworks across the various global markets examined in this study. This variance leads to distinct patterns in CEO transitions, highlighting the multifaceted nature of corporate leadership changes.

2.4.4 United Kingdom

The evolution of executive compensation within the FTSE 100 in the UK reflects a dynamic interplay of historical, regulatory, and market forces. Historically, executive pay in the UK was relatively modest, with a focus on fixed salaries. However, the landscape began to transform significantly in the late 20th century. The Thatcher era, spanning from the late 1970s to the early 1990s, witnessed significant deregulation and privatization, setting the stage for a more market-driven approach to executive compensation (Conyon et al., 2000).

Research by Smith and Johnson (2020) shows that factors influencing CEO turnovers can vary significantly across markets, leading to distinct patterns and outcomes. For example, in the FTSE 100, known for its diverse range of firms, compensation structures vary widely, encompassing performance-linked incentives such as stock options, restricted stock units (RSUs), and long-term incentive plans (LTIPs) (Smith & Johnson, 2020). This transition aimed to align executive interests with those of shareholders and promote value creation. Institutional investors, including pension funds and asset management firms, wield substantial influence over executive compensation practices in the UK (O'Sullivan, 2019). These entities actively engage with companies to advocate for greater transparency and accountability in compensation decision-making. Their participation in voting on executive pay resolutions during annual general meetings signals shareholder sentiment and can impact CEO turnover considerations (Gregory-Smith et al., 2014).

During the late 20th and into the 21st century, the percentage increase in executive compensation reflects this evolving landscape. CEOs within FTSE 100 companies experienced double-digit percentage increases in their compensation packages, particularly as performance-based components like bonuses, stock options, and LTIPs became integral elements (Bryson et al., 2014). The steady upward trajectory in executive pay stood in stark contrast to the relatively

modest growth observed in the wider workforce's wages during the same period (Hitt et al., 2011). This divergence in compensation trends underscored the complexities of executive pay structures and the challenges of aligning them with broader societal expectations.

The dynamics of CEO turnovers within the FTSE 100 present a complex landscape influenced by various factors. Historically, CEO turnovers in the UK, especially within the FTSE 100, were typically characterized by long tenures (Hermalin & Weisbach, 1998). CEOs often held their positions for extended periods, fostering stability but potentially hindering renewal and innovation (Hitt et al., 2011). However, globalization, shifts in shareholder expectations, and evolving governance norms have reshaped this landscape. CEO turnovers in the FTSE 100 are closely linked to firm performance (Conyon and Peck, 1998). Poor financial performance and suboptimal shareholder returns, particularly during the late 20th and early 21st centuries, were often triggers for CEO replacement (Kini and Williams, 2012). Boards of directors, under increased shareholder scrutiny, are more inclined to act in the face of sustained underperformance (Deli, 2021). In addition to financial metrics, non-financial factors now play a more prominent role in CEO turnovers. ESG (Environmental, Social, and Governance) considerations have gained significance, and CEOs are increasingly evaluated based on their ability to navigate sustainability challenges and social responsibilities (Horne and Phoon, 2019).

The UK's regulatory framework significantly shapes executive compensation practices and CEO turnovers. The introduction of 'say-on-pay' votes, mandated by the UK Corporate Governance Code in the early 2010s, empowers shareholders to voice their opinions on executive pay policies and practices (Krause and Semadeni, 2013). These advisory votes underscore the imperative for transparency and accountability in compensation decisions.

2.4 Effects of CEO turnovers on executive compensation

In the ever-evolving realm of corporate governance, the departure of a CEO signifies a critical juncture in the life of an organization. CEO turnovers, whether initiated by retirements, resignations, or strategic decisions, set off a series of repercussions within the intricate web of a leadership, strategy and organizational dynamics. A particularly intriguing aspect of this interplay is the examination of how CEO turnovers impact executive compensation, a crucial element of firms' human capital strategy for attracting and retaining talent (Jensen and Murphy, 1990).

Recent research by Chulkov and Barron (2022) has illuminated a noteworthy aspect of the interconnection between CEO turnovers and executive compensation. Their findings indicate that the foreseen occurrence of CEO turnover heightens the responsiveness of the current CEO's compensation to the present performance of the firm. Dechow and Sloan (1991) discovered that CEOs tend to decrease discretionary R&D expenditures as they approach departure from the firm, aiming to enhance short-term performance. However, the impact of this tendency is alleviated when CEOs have substantial stock ownership in the company.

Baber, Kang, and Kumar (1998) highlight an intensified association between accounting earnings and cash compensation in proximity to CEO retirement. Cheng (2004) notes the efficacy of option grants in counteracting the tendency of myopic reduction in R&D activities as CEOs approach retirement. Conversely, Guay, Kepler and Tsui (2019) discover an increase in bonus pay with executive tenure but do not observe a corresponding heightened sensitivity of bonus payouts to the financial performance of firms as CEOs approach retirement.

Chulkov and Barron (2022) introduce a principal-agent model that outlines circumstances in which a reduction in the anticipated likelihood of future employment leads to enhanced optimal sensitivity of bonus pay to performance. This effect is particularly pronounced when the CEO's

efforts exert persistent influences on firm performance. According to their model, an escalation in the firm's expectations of CEO turnover diminishes the efficacy of future incentives in promoting the simultaneous effort of the CEO. This allows the companies in general to provide better incentives based on the CEO's current performance. Edmans et al. (2012) demonstrate that with a prolonged CEO tenure, the remaining time for the CEO to derive lifetime utility diminishes. Consequently, a more substantial increase in compensation is required to effectively encourage the CEO's effort.

Research on new CEOs' experiences shows that those replacing forced-out predecessors often receive similar compensation packages. In contrast, successors of voluntarily departed CEOs typically receive higher pay than their predecessors (Graefe-Anderson, 2014). Additionally, if incoming CEOs have prior experience as CEO and/or chair, they are more likely to assume board chair roles sooner, attain greater centrality within the board, and maintain chair positions for longer durations (Horner and Valenti, 2012). Gender plays a role as well, with female CEOs, under similar circumstances, receiving higher severance packages- an outcome attributed to perceived increased vulnerability to termination (Klein et al, 2019). Moreover, Hutzschenreuter et al. (2018) proposed that new CEOs seek to distinguish themselves from their predecessors.

Their study on German firms found that when new CEOs and their predecessors exhibit similarities, the likelihood of divesting organizational units increases. While previous studies highlighted negative labor market outcomes for dismissed CEOs, Schepker and Barker (2018) discovered that dismissed CEOs face less stigma if they possess diverse elements of human and social capital. Prior research relates firm performance to compensation structure and to changes in firm performance surrounding executive turnover. For instance, Mehran (1995) identifies a positive correlation between firm performance and the portion of a manager's compensation linked to equity. Analyzing CEO turnovers spanning 1985 to 1988, Denis and Denis (1995)

observe a notable increase in industry-adjusted operating income in the years subsequent to CEO replacement. Notably, they discern substantial differences in this effect when comparing forced resignations and normal retirements. Forced resignations are marked by significant enhancements in operating income after turnover, while the sample of normal retirements demonstrates only marginal post-turnover improvements in operating income.

Additionally, Huson et al. (2004) finds that firms hiring CEOs from outside the organization tend to experience post-turnover performance improvements. Blackwell, Dudney, and Farrel (2007) discovered that CEOs who step into their roles following both forced and voluntary turnover receive notably higher proportions of new stock and option grants as a part of their total compensation compared to their predecessors. Their research also establishes a positive correlation between the percentage of compensation allocated as new stock grants for the incoming CEO and the subsequent performance of the firm. Additionally, the study revealed that an increase in the new stock grants for the incoming CEO relative to the outgoing CEO corresponds with a subsequent rise in operating income after the turnover event. Chakraborty, Sheikh and Subramanian (2009) conclude that there is a positive relationship between CEO compensation incentives and performance related turnover. This phenomenon suggests that firms implementing robust incentives may be more inclined to terminate their CEOs following poor performance, particularly when CEOs are not entrenched.

3. Research Questions and Hypothesis

The purpose of this work is to gain a comprehensive understanding of CEO compensation and its determinants across various global markets, with a particular focus on the four markets mentioned before. By examining factors such as company size, CEO experience, company performance, and the rules and regulations in each country, we aim to deepen our understanding of executive pay. Through this study, we seek not only to enrich our understanding of executive

compensation but also to address several questions related to the dynamics of CEO pay in diverse market environments, such as the following ones:

- *Is the compensation of newly hired CEOs determined by external drivers?*
- *Is the compensation of newly hired CEOs determined by internal drivers?*

Our analysis begins with a detailed examination of how CEO compensation is influenced, starting with the impact of external variables like GDP growth. We consider whether broader economic conditions might significantly dictate compensation trends, drawing on insights from Frydman and Jenter (2010) about the influence of external market forces on executive pay structures. In parallel, the study explores internal factors specific to each company. These internal variables include elements such as company performance metrics and organizational structure, which are hypothesized to have a distinct and significant influence on CEO compensation, independent of external economic conditions.

Hypothesis 1: *CEOs hired externally will receive higher compensation than those promoted internally.*

We further examine the relationship between a CEO's prior experience and their compensation, drawing on insights from Murphy and Zábojník (2004). This aspect of the study probes whether experience in similar roles is reflected in higher compensation packages. Extant literature suggests that CEOs with previous experience in similar roles tend to receive higher compensation compared to their less experienced counterparts. This study aims to investigate this linkage further, assessing whether prior experience equates to higher remuneration due to an inherent valuation of seasoned expertise in the market.

Hypothesis 2: *CEOs with prior experience in similar roles will receive higher compensation compared to those lacking such experience.*

In addition, our second hypothesis scrutinizes the impact of the source of hiring—internal versus external—on the structure of compensation. Guided by Bidwell's (2011) findings, which highlight that external hiring can bring new capabilities and ideas to an organization, potentially enhancing its performance. we anticipate that externally hired CEOs might receive higher compensation.

Hypothesis 3: *It is anticipated that firms selecting external hires for their CEOs will demonstrate superior performance, and correspondingly, these high-performing firms are expected to provide more substantial equity compensation to their chief executive officers.*

The third hypothesis explores the connection between firm performance and compensation strategy, particularly regarding equity-based compensation. Supported by Hall and Liebman (1998), we hypothesize that better-performing firms may offer more substantial equity compensation to align CEO and shareholder interests. Additionally, we investigate if firms preferring external hires exhibit enhanced performance, potentially due to the introduction of new skills and perspectives, based on findings by Zhang and Nagarajan (2010).

7. Quantitative analysis of CEO successor compensation determinants within FTSE 100 companies

7.1 Specific Research Questions

In this thesis, I aim to investigate the dynamics of CEO compensation changes within FTSE 100 companies, guided by a series of pivotal questions and analyses. The first question I explore concerns the influence of Return on Equity (ROE) on the absolute change in CEO compensation. Subsequently, I examine the link between the logarithm of company assets (Log Assets) and modifications in CEO pay. Another key question I address is the role of Sales Turnover in observed variations in CEO compensation. Additionally, my research looks into the effect of a CEO's age, particularly those over 51, on salary adjustments. I also analyze whether being in the Financial Services sector leads to distinct patterns in CEO pay adjustments. Lastly, the study aims to understand how the nature of CEO appointments—whether internal promotions or external hirings—affects changes in compensation. By addressing these questions, this research aims to provide a comprehensive perspective on the factors influencing changes in CEO pay within the UK market and to explore the broader implications these changes have on CEO turnover.

7.2 Sample selection

The sample selection for this study was meticulously conducted to ensure both the robustness and relevance of the analysis on CEO compensation. The primary dataset was sourced from Bloomberg, focusing exclusively on the FTSE 100, which represents the 100 largest publicly traded companies in the UK by market capitalization. Annual financial reports from these companies were used for cross-verification, especially where data was missing. Additionally, other financial websites served as supplementary sources to ensure a comprehensive and accurate compilation of data for this research.

The research specifically targeted companies within the FTSE 100 that had undergone CEO transitions, as these events typically involve significant compensation decisions and negotiations. A key criterion for inclusion in the study was the availability of complete data sets on salary, bonus, and total compensation. This data was required for both the outgoing CEO, for their last full year of service, and for the incoming CEO, for their first full year in the role.

From an initial pool of 40 companies, which were preliminarily identified for the analysis, only 32 met the stringent criteria of having experienced CEO transitions during the period for which data was available. Furthermore, the research distinguishes between internally and externally hired CEOs. An 'internal hire' refers to a CEO who had been serving in any role within the company before their promotion to the top position, as verified by information from the Bloomberg terminal dataset. This distinction is crucial as it enables investigation into how the source of a CEO's appointment – internal or external – impacts their compensation packages.

Variables included in the analysis were carefully selected in line with previous research. Nonetheless, it's pertinent to consider that other influencing factors on the dependent variable may exist that this study does not cover.

7.3 Results

A multiple regression analysis was performed to explore the collective impact of the independent variables on the dependent variable. A significance level (α) of 0.05 was selected for this study, aligning with conventional standards in regression analysis. The regression model developed formulated as follows: Compensation Absolute Change = $\beta_0 + \beta_1 \times$ ROE + $\beta_2 \times$ Log Assets + $\beta_3 \times$ Sales Turnover + $\beta_4 \times$ Beta + $\beta_5 \times$ GDP Growth + $\beta_6 \times$ Dummy (Actual CEO Age > 51) + $\beta_7 \times$ Dummy (Financial Services Company) + $\beta_8 \times$ Dummy (Tech Company) + $\beta_9 \times$ Dummy (External Hire) + $\beta_{10} \times$ Dummy (Previous CEO Tenure > 7)

In this model, 'Dummy' variables are used to represent categorical data, taking a value of 1 to indicate the presence of a specific condition and 0 for its absence. Each independent variable was selected based on its potential influence on CEO compensation, as suggested by existing literature and theoretical considerations, offering a comprehensive view of the factors that might affect compensation changes in executive leadership roles.

A selection of the dummy variables was methodically employed to delve into the intricate factors affecting CEO compensation change. Foremost in this analysis is the Dummy (External Hire), which differentiates between CEOs recruited externally and those promoted internally. This variable is central to investigating the variations in compensation adjustments that may arise from external hiring strategies.

Following this, the Dummy (Actual CEO Age > 51) was used to explore the potential disparities in compensation changes related to the age of the CEOs, suggesting that compensation dynamics could vary significantly with the CEO's age. Additionally, the model includes 'Dummy (Financial Services Company)' and 'Dummy (Tech Company)' to identify companies within these specific sectors. This approach is designed to reveal any distinctive compensation patterns that might be prevalent in the financial services and technology industries, acknowledging their unique market conditions and operational demands. Moreover, the model integrates the 'Dummy (Previous CEO Tenure > 7)', to assess how the duration of the previous CEO's tenure might influence the compensation structure set for the new CEO.

Key continuous variables complement the binary dummies in the regression model analyzing CEO Compensation change. ROE (Return on Equity), representing corporate profitability, shows a negative correlation with compensation change, suggesting that CEOs in higher-performing companies might experience less variability in their pay. This aligns with the expectation that effective management, as indicated by higher ROE, stabilizes compensation

structures. Conversely, Log Assets, which indicates company size, also displays a negative relationship with compensation change. This implies that larger companies, often dealing with complex management structures and market influences, might have smaller shifts in CEO compensation.

Complementing these insights, Sales Turnover, a measure of the company's revenue, demonstrates a positive but modest influence on compensation change. This relationship suggests that companies with higher turnover might offer slightly more substantial adjustments in CEO compensation, perhaps reflecting the greater responsibilities and challenges involved. Meanwhile, Beta, reflecting stock volatility and inherent business risk, exhibits a positive but non-significant impact on compensation change. These results indicate that while risk considerations play a role in determining compensation, their direct impact on compensation adjustments is nuanced and likely influenced by a range of concurrent factors.

7.3.1 Descriptive Statistics

The descriptive statistical analysis of CEO compensation within our dataset reveals distinct patterns between CEOs hired internally and externally. As indicated in table 8, the average (mean) compensation change for all CEOs is negative, at -101,441.2. This is accompanied by a substantial range of 15,905,930, indicating substantial variability in CEO compensation changes. The standard deviation is notably high at 3,211,860.897, further reflecting this variability in compensation changes.

Table 1: Descriptive Statistics for UK Analysis

Descriptives	N	Mean	Median	SD
Total comp new CEO	32	-1.01E+05	95985	3.21E+06
External Hires	15	4.34E+06	3637000	2.86E+06
Internal Hires	17	-8.34E+05	-145350	3.01E+06

When segregating the data into internal and external hires, we observe stark contrasts. Internally hired CEOs show a lower average compensation change at -833,931.76, with both the average and median figures being negative. This group exhibits a wide range, indicating considerable disparities. The distribution of compensation changes for internal hires is negatively skewed, suggesting a tendency towards lower compensation changes.

In contrast, externally hired CEOs have a notably higher mean compensation change at 4,342,897.33, and a median of 3,637,000. This indicates that external hires generally receive larger adjustments in compensation. The distribution of these compensation changes is positively skewed, as the skewness value suggests, and it exhibits a lower degree of flatness compared to both the overall group and internal hires, as indicated by the kurtosis value. The positive skewness, coupled with a mean that is higher than the median, implies that a subset of external hires receives substantially higher compensation changes, thereby elevating the overall average.

7.3.2 Main results

As shown in table 9, this analysis reveals that a key result is the R^2 value of 0.681 in the linear regression model, reflecting a robust explanatory capability concerning the dependent variable, the absolute change in CEO compensation within the FTSE 100. The model's R value of 0.825 further supports its strong correlation and explanatory power. For a more detailed view, the full regression analysis is presented in Table 38 in the appendix.

The regression coefficients identify several significant predictors of CEO compensation changes. Notably, Return on Equity (ROE) has a negative influence, indicating that CEO compensation tends to increase as ROE decreases. This suggests a compensation strategy that may not be directly aligned with company performance, deviating from the typically observed trend. This finding is particularly notable in the context of the FTSE 100 companies, where performance alignment is typically expected.

Table 2: Regression Summary for UK Analysis

Results summary:

	R	R^2		
	0.825	0.681		
Predictor	**Estimate**	**SE**	**t**	**p**
Intercept [a]	2.31E+07	5.14E+06	4.497	< .001
ROE	-9567.1	2976.31	-3.214	0.004
Log Assets	-4.70e-6	1.24E+06	-3.799	0.001
Dummy Actual CEO 1-0	-5.54e-6	1.18E+06	-4.684	< .001
Dummy Finance 1 - 0	8.52E+06	2.25E+06	3.788	0.001

The logarithm of company assets (Log Assets) shows a negative coefficient, implying that larger firms in the FTSE 100 tend to offer less variable CEO compensation changes, possibly due to their established market presence and stability. In contrast, positive coefficients for sectors like 'Financial Services' and 'Technology' indicate sector-specific compensation trends, reflecting the unique market dynamics and competitive environments within these sectors.

Sales Turnover, with its positive coefficient, indicates a direct link with CEO compensation changes, emphasizing revenue generation as a crucial factor in executive pay considerations in the FTSE 100. The significance of this factor may reflect the market's focus on tangible business outcomes.

Additionally, the model underscores the age factor of CEOs. The significant changes in compensation associated with CEOs over 51 potentially reflect the market's appreciation of their experience. However, the insignificance of the 'Dummy External Hire' variable implies that the method of CEO recruitment—whether internal or external—does not have a marked impact on compensation adjustments within these companies. The near-significant effect of GDP Growth on CEO compensation highlights the role of broader economic trends in determining executive pay. This finding is important as it underscores the sensitivity of CEO compensation to macroeconomic fluctuations, illustrating how executive remuneration is interconnected with the wider economic environment.

7.3.3 Robustness check

To ensure the reliability of the linear regression model used to analyze CEO compensation, a series of diagnostic evaluations were performed. These tests were essential in verifying the fundamental assumptions that support the regression analysis, ensuring the model's integrity and accuracy. We conducted several normality tests on the residuals to ensure the validity of our statistical inferences.

Table 3: Durbin-Watson test for FTSE 100 analysis

Durbin–Watson Test for Autocorrelation		
Autocorrelation	DW Statistic	p
0.0236	1.92	0.53

The first test conducted was the Durbin-Watson Test for Autocorrelation, as shown in Table 10. This test yielded a DW statistic of 1.92 with a p-value of 0.556, indicating a low level of autocorrelation within the data. A low autocorrelation level is vital as it suggests the residuals (the differences between observed and predicted values) from one observation are not dependent on those from a previous observation. Autocorrelation can distort a regression

model's reliability, but our near-neutral DW statistic, close to the ideal value of 2, minimizes this concern in our analysis.

Table 4: Normality Tests for FTSE 100 analysis

Normality Tests		
	Statistic	P
Shapiro-Wilk	0.953	0.173
Kolmogorov-Smirnov	0.134	0.564
Anderson-Darling	0.554	0.141

The Normality Test, specifically the Shapiro-Wilk test as shown in Table 11, focuses on the normality of data distribution. It yielded a test statistic of 0.953, suggesting that the residuals are closely aligned with a normal distribution. The p-value of 0.173, being greater than the standard alpha level of 0.05, indicates insufficient evidence to reject the null hypothesis of normality. This suggests that, according to the Shapiro-Wilk test, the distribution of residuals does not significantly deviate from normality.

Complementing this, we utilized the Kolmogorov-Smirnov test, which compares the cumulative distribution of the data to that expected under a normal distribution. The statistic of 0.134 from this test, along with a p-value of 0.564, further supports the assumption of normality. The higher p-value here reinforces the inference that the residuals of our model do not show a meaningful departure from a normal distribution.

Finally, the Anderson-Darling test, known for its sensitivity to the tails of the distribution, was applied. It resulted in a statistic of 0.554 and a p-value of 0.141, again failing to reject the null hypothesis of normality. The consistent results across all three tests – Shapiro-Wilk, Kolmogorov-Smirnov, and Anderson-Darling – bolster our confidence in the normal distribution of the residuals in our regression model.

Table 5: Heteroskedasticity Tests for FTSE 100 analysis

Heteroskedasticity Tests		
	Statistic	P
Breusch-Pagan	7.64	0.664
Goldfeld-Quandt	0.143	0.974
Harrison-McCabe	0.62	0.832

For assessing heteroskedasticity, we used the Breusch-Pagan test, which examines if the variance of errors from the regression depends on the values of the independent variables. The test, as indicated in Table 12, yielded a statistic of 7.64 and a p-value of 0.664. Since the p-value is above the standard threshold of 0.05, it suggests that heteroskedasticity is not a concern in our model. This implies that the variance of the residuals does not significantly vary with changes in the independent variables, thus affirming the stability of error variance across different levels of predictor variables.

Furthermore, the Goldfeld-Quandt test was conducted, comparing variances in different subsets of the data to detect heteroskedasticity. With a statistic of 0.143 and a p-value of 0.974, the results indicate a consistent variance in the residuals across various data segments, supporting the absence of heteroskedasticity.

Lastly, the Harrison-McCabe test provided additional validation, yielding a statistic of 0.620 and a p-value of 0.819. This result, consistent with the Breusch-Pagan and Goldfeld-Quandt tests, further evidences the lack of heteroskedasticity in our regression model.

Table 6: Collinearity Statistics for FTSE 100 analysis

Collinearity Statistics		
	VIF	Tolerance
ROE	2.21	0.452
Log assets	8.09	0.124
Sales Turnover	2.28	0.439
Beta	1.53	0.656
GDP Growth	1.19	0.843
Dummy Actual Ceo Age >51: 1 – 0	1.4	0.713
Dummy Finance 1-0	4.4	0.227
Dummy Tech Company: 1 – 0	2.68	0.373
Dummy External Hire: 1 – 0	2.07	0.482
Dummy Previous Tenure>7: 1 – 0	1.77	0.565

Collinearity Statistics, encompassing the Variance Inflation Factor (VIF) and Tolerance, were evaluated to check for multicollinearity among predictors. Multicollinearity occurs when independent variables in a regression model are highly correlated, which can inflate the variance of coefficient estimates, making them less reliable. As shown in table 13, the VIF for ROE is 2.21, while for Log Assets it is notably higher at 8.09. For other variables such as Sales Turnover, Beta, GDP Growth, Actual CEO Age > 51, Financial Services, Technology, Dummy External Hire, and Previous Tenure > 7, the VIF ranges from 1.19 to 4.40. Generally, a VIF above 10 indicates significant multicollinearity concerns, though values above 5 can also be problematic. In this case, the VIF for Log Assets is relatively high, suggesting potential multicollinearity, but not at a critical level. The corresponding tolerance values, which are the inverse of VIF, corroborate these findings, with Log Assets showing the lowest tolerance at 0.124, indicating its higher correlation with other variables.

In conclusion, the robustness checks conducted on the linear regression model provide substantial evidence of the model's fitness and reliability for interpreting the dynamics of CEO compensation. The low level of autocorrelation, adherence to the assumption of normality in residuals, and moderate concern for multicollinearity, particularly with Log Assets, collectively affirm the model's strength and validity. These tests ensure that the model's predictions and insights are grounded in a stable and reliable statistical foundation, crucial for drawing meaningful conclusions about CEO compensation trends and their underlying factors.

8. Discussion

8.1 Analysis of Research Findings

This chapter presents a summary of the results of the research conducted in four regions: the United States, France, Germany, and the United Kingdom. The focus is on the impact of executive substitution on executive pay, distinguishing between internal and external hires. Our analysis complements the current literature with region-specific effects of CEO turnovers on compensation. This allows us to draw conclusions about the different corporate governance systems in the respective countries. A multiple linear regression model with the total compensation of the CEO successor in their first full year as the dependent variable was established the US, France and Germany. However, it is important to note that the descriptive and control variables may differ in various analyses to ensure the robustness of the respective regressions, as the regions differ in their characteristics. The results of the analyses vary significantly and will be examined and compared in detail below. For the UK, a regression analysis was conducted with the absolute difference between the compensation of the existing and entering CEO as the dependent variable.

The comprehensive analysis of the US region (S&P 500) reveals its dynamics that shape executive pay structures. Among the key findings, certain factors seem to influence the level of CEO successor pay with statistical significance. Among that, the size of the firm, emerges as a key determinant. This underscores the influential role of changes in firm size in shaping executive compensation structures. CEO tenure also shows robust statistical significance, challenging conventional expectations and suggesting that the length of the previous CEO's tenure has a significant impact on his or her successor’s compensation. Surprisingly, the variable "gender" also shows a notable association with CEO pay. Contrary to prior literature, the much-discussed factor, whether the incoming CEO is an insider or outsider, fails to achieve

statistical significance. This implies the absence of a statistically significant difference in CEO compensation between internal promotions and external hires within the US region. Additionally, the analysis indicates a lack of compelling evidence for the hypothesis that previous CEO experience allows the CEO to elevate their compensation.

In the context of the CAC40 index, our research revealed notable differences in compensation packages awarded to internally and externally appointed CEOs. This variation, as our analysis indicates, is influenced by a mix of factors, both intrinsic to the executive substitution process and external economic elements. The significance of CEO age emerged as a key factor, suggesting a correlation between age and compensation levels. Additionally, it was observed that companies with assets under €20,000 million tend to offer more generous compensation to newly hired CEOs, highlighting asset size as a determinant in executive pay decisions. Furthermore, the analysis of French companies reveals the relevance of EBIT in shaping CEO compensation, affirming its role as a critical financial performance metric. Surprisingly, our findings revealed that, while nearly significant GDP growth was nearly significant, did not show a definitive impact on CEO pay scales. This could indicate a nuanced relationship between macroeconomic factors and individual corporate compensation strategies. Interestingly, contrary to some expectations, the status of the CEO as an external hire did not show significant influence on their compensation package. This suggests that, within the CAC40 market, the origin of the CEO (internal vs. external) might not be as crucial in determining pay as other factors like age, company assets, and financial performance. On the other hand, while looking at descriptive statistics for this market, we were able to observe that there is a significant difference in compensation packages between externally and internally hired CEOs. These insights align well with existing literature, for instance, during the literature review we stated that Hameed (2018) argued that the CAC40 market shifted towards a

performance-based compensation. Hence, after our quantitative analysis, we can infer that factors surrounding CEOs' performance strongly influence their compensation.

It has been observed that in the event of a CEO turnover in German stock corporations, the CEO's salary is significantly modified. Successors, both internal and external, appear to earn more than their predecessors. The premium on the predecessor's salary is not added as a cash payment but is primarily reflected in the form of other forms of compensation, such as stock options. The central result of the analysis is that internal successors seem to earn a higher compensation than internal successors. In addition, previous experience in a CEO position is also rewarded with a higher level of pay. However, the circumstances of the company in which the CEO is replaced, and the company's performance have no impact on the compensation of CEO successors. Furthermore, the analysis points to the trend that the compensation of external successors is more strongly linked to company performance than that of internal successors.

In the UK's FTSE 100 market, our focus was on the absolute difference in compensation between incoming and outgoing CEOs. This analysis highlighted that firm size is a significant determinant of executive compensation, consistent with broader regional findings. These findings align with Agency theory, suggesting that the scale of an organization influences its executive pay structure. Our analysis indicates that larger UK firms tend to offer more substantial compensation packages, reflecting the greater responsibilities and complexities of managing larger enterprises.

Interestingly, our analysis in the UK market challenges some established expectations regarding CEO recruitment sources. Contrary to the advantages of internal hires suggested by Dalton et al. (2003), we observed no significant difference in compensation between internally promoted and externally hired CEOs. This finding suggests a unique valuation of CEO attributes in the UK market, irrespective of their internal or external origins. Moreover, our study reveals that

the tenure of the outgoing CEO significantly influences the successor's compensation, aligning with Smith and Johnson's (2021) observation of varying trends across markets.

In the UK context, this trend underscores the importance of the predecessor's legacy and tenure in shaping the new CEO's pay package. It highlights a nuanced approach to leadership transitions, where the historical performance and tenure of the outgoing CEO play crucial roles in structuring the successor's compensation.

8.2 Theoretical and Managerial Implications

The findings from our study have both theoretical and managerial implications, drawing support from existing literature. In the following chapter, we will discuss the region-specific implications.

When looking at the S&P 500, the substantial R^2 value of 0.59 and the overall statistical significance of the model challenge conventional theories regarding CEO compensation. Theoretical frameworks should evolve to incorporate the nuanced impact of variables like firm size (total assets of the firm), CEO tenure, and gender, reflecting the intricate dynamics of contemporary executive compensation. The robust statistical significance of CEO tenure indicates that the duration of a CEO's tenure significantly influences compensation. The theoretical landscape needs to consider the evolving nature of executive roles over time, acknowledging that sustained leadership may be a pivotal determinant in shaping compensation structures. The insight articulated by Charles W. L. Hill and Phillip Phan (1991), indicates that tenure allows CEOs the opportunity to cultivate influence within companies. Consequently, this extended period enables them to align compensation packages more closely with their individual preferences.

The noteworthy association between gender and CEO compensation emphasizes the importance of incorporating gender dynamics into theoretical models. The findings prompt reevaluating existing theories to address gender biases and inequalities. The research presented by Massimiliano Tani, Keiran Sharpe, and Andrew Valentine in 2023, revealed that newly appointed female CEOs receive comparable or slightly higher pay than male CEOs. Upon closer examination, they found out that within English-speaking countries (Australia, Canada, New Zealand, the United Kingdom, and the United States), there is a noteworthy difference. Although the average compensation for male and female CEOs is similar, male CEOs receive a higher percentage of fixed compensation, while a larger portion of female CEOs' pay is performance-based. In the Anglo-Saxon context, female CEOs earn equivalent overall compensation but must demonstrate performance to a greater extent.

Regarding managerial implications, while the "Age" variable lacks statistical significance, it retains strategic relevance. In 2022, the average age of CEOs in the S&P 500 decreased to 53.8, marking the largest year-over-year drop since 2000. This trend, with approximately 30% of newly appointed CEOs being under 50, suggests that boards may be favoring a long-term approach in CEO succession, prioritizing potential over extensive experience (Spencer Stuart, 2023). Furthermore, the lack of statistical significance in the 'Internal/External' variable aligns with the continuing preference of S&P 500 boards for internal candidates, as evidenced by 82 percent of all transitions in 2022 favoring internal promotions – the highest proportion since 2016 (Spencer Stuart, 2023).

For the CAC40 market, the observations can be linked to theoretical studies, such as the significance of CEO age in determining compensation aligns with the human capital theory, as posited by Becker (1993). Becker suggests that experience and skills acquired over time are valuable assets, which could explain why older CEOs might command higher pay. This idea is

further supported by studies like Murphy (1985), who emphasizes the role of experience in executive compensation decisions. From a managerial perspective, the observation that firms with assets under 20,000 offer higher compensation to new CEOs can be interpreted through the lens of resource-based theory (Barney, 1991). This theory suggests that companies, especially smaller ones with limited resources, may use higher compensation as a strategy to attract and retain top talent, which is crucial for their competitive advantage. Moreover, the significance of EBIT in CEO compensation underscores the alignment of pay with corporate performance, a principle deeply rooted in agency theory (Jensen and Meckling, 1976), which advocates for aligning executives' financial interests with those of the company to mitigate agency problems. However, the near insignificance of GDP growth in determining CEO compensation challenges some traditional economic perspectives, indicating a potential differentiation of macroeconomic indicators from individual firm-level decisions. This could reflect the evolving nature of corporate governance and compensation strategies, as discussed by Tosi et al. (2000), who argue that external economic conditions are not always directly mirrored in executive pay. Lastly, the finding that the status of the CEO as an external hire is not significantly influencing compensation packages suggests a potential shift in the traditional view of the labor market for executives, as discussed by Finkelstein and Hambrick (1996). This might indicate a growing emphasis on internal talent development and succession planning.

The analysis of the impact of executive substitution on executive pay in Germany offers profound insights about regional implications, also through the lens of human capital theory. The finding that internal promotions command higher compensation than external hires substantiate the theory's core premise, as elucidated by Becker (1964), that accumulated firm-specific knowledge and networks are highly valued. This aspect of human capital theory is critical, as it suggests a tangible premium on internal experience and familiarity with company

operations, culture, and strategies. Moreover, the positive correlation between a successor's prior experience as a CEO and their compensation package is another fascinating manifestation of human capital theory in practice. It reflects the German marketplace's valuation of experience and skill, resonating with Spence's (1973) job market signaling theory. The implication here is that firms are willing to invest significantly in individuals whose previous roles signal competency and potential for high productivity.

Furthermore, the positive correlation between a CEO's prior experience and their compensation package resonates with the agency theory (Jensen and Meckling, 1976), which posits that executive compensation should align with shareholder interests. The willingness to pay a premium for experienced CEOs suggests that shareholders and boards perceive experienced CEOs as less risky in the German area, potentially due to their proven track record in navigating corporate complexities. This aligns with the agency theory's emphasis on mitigating risks associated with principal-agent relationships. Interestingly, the study's finding that the circumstances of the predecessor’s departure do not significantly influence the incoming CEO’s compensation challenges the assumptions of the stewardship theory (Davis, Schoorman, and Donaldson, 1997), which advocates for a more holistic consideration of organizational context in executive decision-making. This indicates a potential governance focus on individual attributes of the incoming executive in Germany, suggesting that boards might prioritize leadership qualities and potential over the situational nuances of the predecessor's exit.

Shifting focus to the UK market, our findings carry specific theoretical and managerial implications that are substantiated by existing literature. The works of Cadbury (1992) and the subsequent UK Corporate Governance Code have emphasized the importance of aligning executive pay with long-term corporate goals and shareholder interests. This aligns with the global trend towards sustainability and social responsibility in remuneration packages, as noted

by Eccles and Serafeim (2013). Furthermore, the impact of shareholder activism in shaping executive compensation practices is evident in studies such as Hermalin and Weisbach (1991), which emphasize the need for boards and executives to be responsive to shareholder concerns, fostering transparency and accountability in compensation decisions.

Moreover, the prevalence of performance-based elements in CEO pay in the UK aligns with the principles of agency theory, as advocated by Jensen and Meckling (1976). Scholars like O'Reilly and Main (2010) have discussed the significance of tying executive compensation to company performance. Managerially, these findings suggest that UK firms should continue emphasizing sustainable and socially responsible practices in executive compensation, while also paying close attention to shareholder feedback and the performance-oriented nature of compensation packages. This approach aligns with the UK Corporate Governance Code and is supported by studies such as Aggarwal and Samwick (1999), underlining its importance for long-term corporate success.

8.3 Limitations and Future Research

While the regression analysis provides valuable insights, it is essential to acknowledge certain limitations that may influence the interpretation findings. The study’s findings are contingent to 40 companies of each market. As executive compensation practices can vary across industries and company sizes, the results may not be universally applicable. The dataset used for the analysis may not capture all pertinent variables influencing CEO Compensation. There are many factors like industry-specific metrics, CEO performance indicators, or external economic conditions that could potentially impact executive pay but are not accounted for in the current study. Also, the study employs a cross-sectional design, meaning that data is collected at a single point in time, providing a snapshot or cross-section of the phenomena under investigation. Lastly, the analysis is subject to the challenge of unobserved confounding

variables that might influence both the predictors and the dependent variables. Examples of unobservable factors could be the CEO's decision-making style, corporate culture, or external economic conditions.

The present study's findings provide a foundation for future research aiming to deepen our understanding of CEO Compensation dynamics. Future research could delve into industry-specific nuances that might influence CEO Compensation. Different sectors may exhibit distinct patterns in compensating executives based on industry performance metrics, regulatory environments, and market dynamics. Also, examining CEO performance metrics could shed light on the specific criteria driving compensation decisions. Metrics such as shareholder value creation and strategic goal attainment may be crucial in determining executive pay. Considering the influence of external economic factors on CEO compensation is a valuable avenue. Economic conditions, market volatility, and global economic trends may impact compensation decisions. Future research could investigate how CEO's pay responds to changes in the broader economic landscape. To further complement, qualitative research methods such as interviews or surveys can provide a deeper understanding of the contextual factors influencing CEO compensation. Capturing the perspectives of key stakeholders, including board members, shareholders, and executives, would enrich the understanding of the intricate dynamics at play. Investigating CEO succession planning and its impact on compensation could be a fruitful area of research. Understanding how companies plan for leadership transitions and how this planning relates to compensation decisions can provide valuable insights.

9. Conclusion

Our study's empirical findings and theoretical analysis have illuminated the complexities of executive compensation models, revealing how they respond to corporate governance practices, market conditions, and broader societal changes. Particularly in the context of CEO turnovers

across diverse markets, it has unveiled a multifaceted landscape shaped by connections of internal and external factors.

In the United States, CEO compensation shows a strong correlation with both the size of the firm and CEO's tenure. Our findings suggest that larger firms tend to offer higher compensation, and longer CEO tenures are associated with increased executive pay. This aligns with the perspective that larger firms possess more resources to attract and retain top executive talent and that longevity in leadership roles is rewarded with higher compensation due to accumulated experience and proven track records. Notably, our study did not find significant differences in compensation between internally promoted and externally hired CEOs, challenging conventional expectations about internal hires' compensation advantage.

The French market, following global trends, indicated that CEO compensation is influenced by a combination of factors, including corporate performance, company size, and macroeconomic conditions. Interestingly, our analysis revealed that smaller companies are more inclined to pay higher compensation, potentially reflecting their need to attract top talent to compete with larger corporations. Additionally, the age of incoming CEOs and the tenure of their predecessors emerged as influential factors, suggesting that transition dynamics play a crucial role in shaping compensation packages.

The results of the compensation analysis of German stock corporations surprisingly match previous literature on the impact of executive turnovers on CEO pay the most. Despite its unique corporate governance structure, the research indicates that internal successors tend to earn a higher amount of compensation than external ones. We could also show that firms increase the non-cash compensation after a CEO turnover, with cash-compensation staying on a similar level. Another finding of the study is that the remuneration of external successors is more closely linked to company performance.

In the UK's unique governance environment, CEO compensation and turnover patterns exhibit considerable variation, influenced by an intricate blend of factors. A pronounced focus on sustainability and social responsibility is increasingly shaping CEO remuneration strategies, aligning them with broader long-term organizational goals and ethical governance principles. Our analysis uncovers that the source of CEO recruitment—whether internal or external—has a limited impact on compensation alterations in the UK market. This challenges the conventional wisdom regarding the perceived advantages of internal hires, suggesting a UK market that values diverse CEO attributes, irrespective of their origins. This trend underlines the importance of comprehensive leadership skills and strategic vision, beyond mere organizational familiarity, in executive appointments. Additionally, the near-significant effect of GDP Growth on CEO compensation indicates a sensitivity to broader economic conditions. This suggests that in the UK, CEO remuneration is not isolated from wider economic fluctuations, reflecting a responsive and adaptive approach to executive pay that considers both internal company metrics and external economic indicators. These insights collectively present a multifaceted landscape, offering invaluable guidance to UK firms as they navigate the complexities of executive compensation and leadership transitions in an evolving corporate environment.

Overall, our study provides valuable insights into the dynamic mechanisms governing executive compensation, highlighting the importance of deep contextual understanding in shaping compensation structures. This research makes a valuable contribution to the existing body of knowledge providing stakeholders, policymakers, and academic circles, with actionable insights, contributing to informed discussions on executive compensation and governance in today's evolving global business landscape.

Appendix

Table 7: Descriptive summary for the FTSE 100 analysis.

Descriptives	N	Mean	Median	SD
Total comp new CEO	32	-1.01E+05	95985	3.21E+06
External Hires	15	4.34E+06	3637000	2.86E+06
Internal Hires	17	-8.34E+05	-145350	3.01E+06

Table 8: Multiple linear regression results for the FTSE 100 analysis.

Model Coefficients - Y=Total Compensation

Predictor	Estimate	SE	t	p
Intercept [a]	23,100,000	5.14E+06	4.497	< .001
ROE	-9,567	2.98E+03	-3.214	0.004
Log assets	-4.70e−6	1240000	-3.799	0.001
Sales Turnover	16	7.51E+00	2.092	0.049
Beta	714,806	4.24E+05	1.685	0.107
GDP Growth	81,205	73524.9	1.104	0.282
Dummy Actual Ceo Age >51: 1 – 0	-5.54e−6	1180000	-4.684	< .001
Dummy Finance: 1 – 0	8,520,000	2.25E+06	3.788	0.001
Dummy Tech Company: 1 – 0	-5.06e−6	1.63E+06	-3.096	0.005
Dummy External Hire: 1 – 0	120,277	1120000	0.107	0.916
Dummy Previous Tenure>7: 1 – 0	1,240,000	1.04E+06	1.197	0.245

[a] Represents reference level

Table 9: Durban-Watson test for the FTSE 100 analysis.

Durbin–Watson Test for Autocorrelation

Autocorrelation	DW Statistic	p
0.0236	1.92	0.53

Table 10: Normality tests for the FTSE 100 analysis.

Normality Tests		
	Statistic	P
Shapiro-Wilk	0.953	0.173
Kolmogorov-Smirnov	0.134	0.564
Anderson-Darling	0.554	0.141

Table 11: Heteroskedasticity tests for the FTSE 100 analysis.

Heteroskedasticity Tests		
	Statistic	P
Breusch-Pagan	7.64	0.664
Goldfeld-Quandt	0.143	0.974
Harrison-McCabe	0.62	0.832

Table 12: VIF tests for the FTSE 100 analysis.

Collinearity Statistics		
	VIF	Tolerance
ROE	2.21	0.452
Log assets	8.09	0.124
Sales Turnover	2.28	0.439
Beta	1.53	0.656
GDP Growth	1.19	0.843
Dummy Actual Ceo Age >51: 1 – 0	1.4	0.713
Dummy Finance 1-0	4.4	0.227
Dummy Tech Company: 1 – 0	2.68	0.373
Dummy External Hire: 1 – 0	2.07	0.482
Dummy Previous Tenure>7: 1 – 0	1.77	0.565

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