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The Impact of Executive Substitution on Executive Pay: Internal versus External Hires, a focus on the CAC40 market.

Alexandre Boigontier (55615)

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. My work focused on the observation of the CAC40. Also, we all contributed individually to the general parts introducing and concluding the thesis.

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 re-search. 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 Executive Compensation and Turnovers in the observed markets

2.4.1 USA

Since the mid-1990s, the compensation landscape for Chief Executive Officers in the largest US firms has experienced a notable transformation, marked by a significant increase compared to the earnings of previous decades. This increase in remuneration does not correspond with a rise in the value of skills or contributions to firms' productivity.

The notable shift over time lies in the CEOs exercising their influence to autonomously determine their compensation. From an economic standpoint, this trend implies that CEO pay often includes significant "rents"- income that surpasses the level justified by genuine productivity (Bivens and Kandra, 2023). Between 1978 and 2020, top CEO compensation outpaced stock market growth by approximately 60%, far exceeding the modest 18% increase in the average worker's annual compensation, with CEO granted compensation surging by an impressive 970.2% during this timeframe (Mishel and Kandra, 2021). Also, the structure of CEO compensation has been transforming, moving from a reliance on stock options to a greater use of stock awards. In 2006, stock options accounted for just over 70% of the stock-related component in realized CEO compensation. By 2022, this figure had declined to only 34%, with vested stock awards making up the remainder portion (Bivens and Kandra, 2023). In 2020, the combined value of vested stock awards and stock options reached $20.1 million, constituting a substantial 83.1% of the average realized CEO compensation (Mishel and Kandra, 2021).

While we pay great attention to the changes in CEO compensation, it is essential to look at the trend of CEO turnover as it is one crucial element influencing the corporate landscape. From 1992 to 2005, CEO turnover stood at 14.9%, suggesting an average CEO tenure of less than seven years. In the more recent period since 1998, the overall CEO turnover rate has risen to 16.5%, indicating an average CEO tenure of slightly over six years (Kaplan and Minton, 2006).

In 2022, the frequency of CEO transitions closely resembled that observed in the pre-pandemic era, indicating a semblance of a return to regular patterns at the helm of S&P 500 companies. Following two consecutive years marked by many CEOs prolonging their tenure to navigate through global uncertainties, the tenure and departure ages of CEOs in 2022 exceeded the customary benchmarks (Spencer Stuart, 2023). Throughout 2022, boards of the S&P 500 companies exhibited a consistent preference for internal candidates in the appointment of new CEOs, with internal promotions accounting for 82% of all transitions, a proportion not seen since 2016. Remarkably, even amid the challenges posed by the pandemic in preceding years, this 80/20 split in favor of internal appointments remained remarkably stable (Ibid).

To sum up, considering the transformative shifts in CEO turnover and compensation dynamics, it seems unlikely that the pre-2020 'normal' will fully reestablish itself. Therefore, it is crucial for boards to adeptly navigate these changes, underlining the critical role of CEOs in adapting to evolving business landscapes.

2.4.2 France

Pre-2000s, CEOs compensations in the CAC40 market tended to be more conservative than the United Sates' market. The French market usually emphasized job security and long-term employment rather than high variable pay (Martin, 2001). This approach was different to the US Market, where executive compensation was closely tied to firm profitability, size, and stock options (Zheng and Choi, 2004). Then, entering the new millennium, the French market witnessed an increasing trend toward performance-based compensation (Hameed, 2018). Indeed, stock options, long-term incentive plans (LTIPs), and performance bonuses became predominant. This shift was not unique to France, but it was rather part of a broader global trend where firms increasingly adopted this model to align executive interests with those of shareholders (Hameed, 2018).

Currently, corporations face ongoing challenges regarding corporate governance. For example, since 2020 organizations in the CAC40 needed to disclose the "CEO to worker pay ratio" for the first time (Multinationals Observatory, 2020). In 2021, the average remuneration of the CEOs of CAC40 companies was 6.6 million euros, which is 2.2 million euros more than the previous year, representing an increase of more than fifty percent (Ibid). This strongly affected French citizens that suffered a lot from the Covid-19 pandemic.

In exploring CEO behaviors within the French market, a critical dimension to consider is the interplay between CEO compensation and their approaches to corporate tax strategies. Intriguingly, Jbir et al. (2021) uncovered a negative correlation between the two. Their findings suggest that CEOs with higher compensation packages may lean towards less aggressive tax strategies, possibly as a strategic move towards ensuring long-term financial stability and mitigating risk (Jbir et al., 2021). This insight opens a broader discussion about the motivations driving CEO decision-making in the context of financial planning.

The study also reveals how specific CEO attributes, including nationality and accounting expertise, critically influence their tax planning decisions (Jbir et al., 2021). Interestingly, the study found that foreign CEOs in French firms seem predisposed to more aggressive tax practices. This could potentially reflect varying managerial styles or a less expertise regarding the understanding of the local regulatory environment (Ibid). This separation helps us understand the nuanced impact of personal and professional backgrounds on executive decision-making (Ibid).

Another significant aspect highlighted by the study is the role of CEO age in shaping tax policies (Jbir et al. 2021). It indicates that older CEOs in French firms generally adopt a less aggressive stance in tax planning (Ibid). This trend aligns with the hypothesis that increased age and experience infer more cautious and risk-averse strategies, keeping corporations away of potentially contentious tax strategies (Ibid). This observation contributes to our understanding of how personal factors, like age, can strongly impact the compensation package level that a firm is willing to give to an executive (Ibid).

Moving on to another aspect of corporate of subject, empirical evidence demonstrates that corporate governance structure is a significant factor for CEO turnover (Dardour et al. 2018; Nguyen 2023). This phenomenon is accentuated in the French context, where the corporate governance structures diverge from the conventional Anglo-Saxon model (Ibid). Indeed, some boards' structures can grant more or less power to an executive. Hence, a CEO being a chairman could choose his own compensation structure and level. Some firms decide to give less power to the CEO to ensure that his decisions are not for personal interests but rather to help the corporation perform (Ibid).

Another crucial aspect of corporate governance is ownership structure, its influence on CEO turnover manifests in different forms dependent on the nature of the principal shareholders

(Dardour et al. 2018; Nguyen 2023). Particularly in French firms, where family ownership is present, this contrast can result in rigorous supervision of CEOs, thereby impacting turnover rates disparately. In scenarios involving family-owned entities, there's often a hesitancy to supplant CEOs who are family members, overcoming their underperformance. In contrast, institutional shareholders or block holders typically do not hesitate to replace CEOs who fail to meet performance benchmarks (Ibid).

Furthermore, the composition of a company’s board, specifically the proportion of external directors, is another important determinant in the dynamics of CEO turnover (Dardour et al. 2018; Nguyen 2023). Boards with a greater share of outside directors are usually more adept at overseeing and substituting underperforming CEOs (Ibid). This trend gains visibility in the augmented presence of external directors in French firms, a reform that can be traced back to the initiatives of the Viénot Reports, reinforcing the idea that the inclusion of independent directors improves the board's ability to better navigate decisions regarding CEO turnover (Ibid).

While CEO compensation adjustments serve as a tool to steer performance, their impact on turnover decisions is limited (Nguyen 2023). Substantial salary reductions after a poor performance period might be a replacement to the replacement of the CEO, particularly in firms with robust governance frameworks (Ibid). Sometimes, corporations do not let CEOs adapt to the current company situation, replacing them with CEOs with better flexibility skills (Ibid). Hence, some companies have very high executive turnover rates, while some companies favor loyalty and long-term commitment. However, most of the companies in the CAC40 now adopted the first choice which is to replace a CEO who fails to satisfy shareholders’ needs fast enough (Ibid).

In summary, CEO turnover in French corporations is governed by a composition of different ownership structures, board characteristics, and the prevailing governance model. The presence of block holders and government ownership tends to mitigate the link between CEO turnover and firm performance. Conversely, the efficiency and composition of the board, especially in terms of size and independence, are essential to CEO turnover events. This is directly related to the unique nature of corporate governance in the French context, shaped by its unique legal and cultural environment.

2.5 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).

5. Quantitative analysis of CEO successor compensation determinants in the cac40 market

5.1 Specific Research Questions

Now that we have studied existing qualitative data, we can move towards a quantitative analysis. This analysis will try to quantify the impact of turnover events on CEOs' compensation packages in the French market. Looking at existing studies on the subject, the CAC40 results may be like those of the US market. This is because the French market has been following the American path regarding boards' management and structure. French corporations are granting executives performance-based compensation packages. Hence, variables related to the firms' performance may be responsible for compensation variability.

To guide us through this analysis, we will follow these specific research questions. The first question that will be explored is how new CEOs' pay differs from the outgoing CEOs. The investigation focuses on the use of executive substitutions by companies as an opportunity to revise their compensation strategies. This aspect is key to understand because it explains how turnover events and compensation packages levels affect corporations. This then helps us to understand why these choices are important strategies for corporations. The main research questions are about the factors that impact the compensation levels of CEOs in the French market. This includes, whether macroeconomic factors, such as GDP growth, influence CEO compensation. Then, we will try to understand if the source of executive hiring (internal vs. external) correlates with changes in company performance in the CAC40 market. Another crucial aspect of this analysis is if the outgoing CEO situation influences incoming CEO compensation. Finally, we will look to see if the CEOs' age influences its compensation. To structure this analysis, these hypotheses are proposed:

H1: Incoming CEOs hired externally are likely to observe higher compensation packages levels than internally promoted ones.

H2: Incoming CEOs that were already CEOs before can observe higher compensation packages compared to ones without prior CEO experience.

H3: Incoming CEOs in smaller companies get higher compensation than their predecessors.

H4: New CEOs hired during periods of good economic growth get larger compensation levels than the previous CEOs.

The proposed hypotheses come from the understanding of existing literature and empirical substance, that can let us think that results in the French market will similar due to global economic trends. Hence, these hypotheses aim to guide through the analysis to better understand results. By addressing these hypotheses, this chapter aims to understand executive compensation fluctuations related to turnover events in the French financial markets, and to understand how these fluctuations affect corporations.

5.2 Sample selection

The primary data for this study is derived from Bloomberg's database, which offers extensive information on publicly traded companies worldwide. Specifically, the research focuses on the CAC40 index, encompassing France's 40 largest publicly traded companies by market capitalization and liquidity.

This dataset provides detailed information on CEO compensation, capturing elements like salaries, bonuses, stock options, and other forms of remuneration. Additionally, it includes data on the tenure of the outgoing CEO, the source of the incoming CEO's appointment (internal or external), and their experience as a CEO. Bloomberg's data tracks the tenure of executives, noting the beginning and conclusion of their CEO roles. The transition between CEOs is identified by the year the incoming CEO starts and the year the outgoing CEO leaves. The study specifically looks at CEO turnovers, linking incoming and outgoing CEOs by the company and the year. Only cases where complete data on salary, bonus, and total compensation for the last full year of service for the outgoing CEO and the first full year for the incoming CEO are included. Of the 40 companies in the index analyzed, 33 experienced CEO transitions during the available data period.

The background information on CEOs comes from Bloomberg People Search. This tool provides in-depth profiles, including educational and career histories and board memberships. A CEO is considered an internal hire if they have served in various capacities within the company prior to becoming CEO, as shown by Bloomberg People Search’s career history. If someone has been with the company for under three years and joined in a senior role, they are labeled as a "recent internal hire." All other instances are categorized as external hires.

The variables used in the analysis were selected based on existing literature and a filtering process. It's important to note that there might be other variables influencing the dependent variable that are not included in this study.

5.3 Results

The parameters are estimated using the least squares method, also known as the OLS method and our significance level (α) is 0.05.

A multiple regression analysis was conducted to understand the combined effect of the independent variables on the dependent variable. The equation is as follows:

$$y_i = \beta_0 + \beta_1 \cdot x_{i1} + \beta_2 \cdot x_{i2} + \beta 3 \cdot x_i 3 + \ldots + \beta_k \cdot x_{ik} + e_i$$

The parameters are estimated using the least squares method, also known as the OLS method and our significance level (α) is 0.05.

Our model can be represented as:

New CEO total compensation = β0 + β1 external hire + β2 CEO before + β3 dummy financial + β4 dummy transport + β5 dummy tech + β6 Ebit + β7 total return + β8 GDP growth + β9 Dummy>100,000 + β10 Dummy <20,000 + β11 Dummy tenure > 11 + β12 Dummy chairman + β13 dummy financial distress + β14 log assets + β15 sector energy + β16 New CEO age.

Table 1: Regression Results of CAC40 incoming CEOs compensation levels,with t values.

	Total Compensation
	1) Full sample
External hire:	-974170
	(-0.61)
EBIT	558
	3.72
Dummy <20,000:	4370000
	2.30
New CEO Age	276057
	2.85
GDP growth	30900000
	2.06
Industry Dummies	Yes
Year Dummies	Yes
rsquared	0.767
N	33

Table 3 is a summary of the regression model results. The complete results can be found in the appendix through table... The model demonstrated a good fit, as demonstrated by the correlation coefficient (R) of 0.876. This indicates a strong positive correlation between the independent variables and the dependent variable. Furthermore, the high coefficient of determination (R^2) is equal to 0.767, suggesting that approximately 76.7% of the variability in the dependent variable is explained by the model. This value indicates a substantial explanatory power of the model regarding the dependent variable.

In this analysis, the primary focus is the first full year total compensation of newly appointed CEOs, designated as the dependent variable (Y). The study incorporates several independent variables to understand the determinants of this compensation. These include: 'External Hire', a binary indicator that is assigned a value of 1 for CEOs hired from outside the company; 'CEO Before', a dummy variable signifying whether the CEO held a similar position previously (1 indicating 'yes'); Industry-specific variables such as 'Dummy Financial', 'Dummy Transport', and 'Dummy Tech', and 'Dummy Energy' each a binary variable indicating if the company belongs to the financial, transportation, or technology sector respectively; 'Ebit', representing the earnings before interest and taxes; 'Total Return', which is the total shareholders' return; 'GDP Growth', reflecting the gross domestic product growth rate in France corresponding to the CEO's first full year; Asset-related dummies like '>100,000' and '<20,000', indicating whether the company's total assets are above €100,000 or below €20,000, respectively; 'Tenure >11', a variable for whether the outgoing CEO held the position for more than 11 years; 'Chairman', indicating if the new CEO also serves as the chairman of the board; 'Financial Distress', a dummy for whether the CEO's appointment coincided with a financial distress event; and finally, 'Log Assets', the logarithm of total assets, along with 'New CEO age' which is the age that the New CEO had for its first full year of compensation.

Ebit is positive and the most significant variable of the regression, indicating that the corporate performance has a strong impact on executive compensation. Dummy < 20,000 is positive and significant, which indicates that smaller companies are willing to pay their CEO more. New

CEO age is positive and significant, indicating that incoming CEOs arriving after CEOs that kept their positions for a long time are getting less paid. It is possible to observe that GDP growth is positive and nearly significant. The significance is close enough to infer that the country's performance impacts CEOs compensation positively.

Additionally, we can observe that external hire is not significant. This can be explained by the fact that the hiring choice alone is not the most important factor for the compensation package level. Looking at the results of the analysis, the factors that lead to the substitution event, and to the decision to hire external CEOs are essential to set the executive compensation packages.

5.3.1 Descriptive Statistics

Table 2: Descriptive statistics summary for CAC4O CEO compensation levels.

Descriptive statistics

	Mean	Median	Standard Deviation	Number of Observations
Panel A: All Incoming CEOs				
Salaries	€ 1 110 000	€ 1 000 000	€ 411 810	33
Bonus	€ 1 680 000	€ 1 400 000	€ 1 320 000	33
All other compensation	€ 2 160 000	€ 1 208 658	€ 2 820 000	33
Total Compensation	€ 4 790 000	€ 4 122 211	€ 3 810 000	33
Panel B: Internal Hires				
Salaries	€ 1 080 000	€ 975 000	414 157	24
Bonus	€ 1 370 000	€ 1 310 000	671 471	24
All other compensation	€ 1 690 000	€ 1 130 000	1 940 000	24
Total Compensation	€ 4 110 000	€ 3 650 000	2 780 000	24
Panel C: External Hires				
Salaries	€ 1 200 000	€ 1 300 000	415 979	9
Bonus	€ 2 500 000	€ 1 885 000	2 150 000	9
All other compensation	€ 1 410 000	€ 1 561 967	4 310 000	9
Total Compensation	€ 6 600 000	€ 4 746 967	5 540 000	9

Table 4 represents three different panels representing the descriptive statistics for the 'Total compensation of the new CEOs' under three scopes. Here we analyze the total compensation of the incoming CEOs in detail, looking at their salaries, bonuses and the total sum of all other compensation included in the package.

First, panel A describes the compensation details of all incoming CEOs. We can observe that for the sample of 33 companies, the mean salary is 1,110,000€. The median salary is 1,000,000€ and the standard deviation is 411,810. For the bonus, the mean was 1,680,000€, the median is 1,400,000€ and the standard deviation is 1,320,000. All other compensation means is 2,160,000€, the median is 1,208,658€ and the standard deviation is 2,820,000. Finally, the mean total compensation for all CEOs is 4,790,000€, the median is 4,122,211€ and the standard deviation is 3,810,000. Now that we have our company references together, we can move to a more precise analysis.

Then, panel B represents the compensation details of CEOs hired internally. It is obvious that the numbers for internally promoted CEOs are smaller. First, the mean salary is 1,080,000€ and the median salary is 975,000€. Then, the bonus mean is 1,370,000€ and the median is 1,310,000€. All other compensation was also smaller with the mean being equal to 1,690,000€ and the median being 1,130,000€. Indeed, the total compensation for internally promoted CEOs is smaller than for the general sample. This indicates that we will observe higher numbers for externally recruited CEOs, which supports our first hypothesis.

Moving on to panel C, we expect to observe numbers above the general analysis. This is the case, since we can see that the mean salary for externally recruited CEOs is 1,200,000€. The mean bonus is 2,500,000€ and the mean total compensation is 6,600,000€. The only variable smaller for externally recruited CEOs than for internally promoted ones is the other compensation mean being 1,410,000€. This can be explained by the fact that corporations tend to offer high bonuses to convince external CEOs, which already boost compensation high enough.

These results also coincide with existing observations arguing that the French financial market has been shifting toward the American model. This is consistent with the literature that observed that externally hired CEOs in the S&P500 market receive larger compensation packages (Graefe-Anderson, 2014).

Furthermore, the standard deviation is also larger for the external sample. This is explained by the small sample size and three outliers for externally hired CEOs with total compensation above 10,000,000 €.

Indeed, these descriptive statistics help to explain some of the results we observed earlier with the multiple linear regression analysis. External hire was not a significant variable, but here we are able to infer that executives' compensation packages are correlated with the hiring choice. However, the external factors around the decision are explaining the amount of the compensation.

5.3.2 Main results

First, an important result is the R^2 equal to 0.767. This high R^2 value indicates a substantial explanatory power of the model with respect to the dependent variable.

The overall model shows a strong correlation and explanatory power, as indicated by the R and R^2 values. In exploring the dynamics of executive compensation in the context of executive substitution within the CAC40 market, the regression analysis reveals several significant factors. Most notably, the positive and significant influence of Ebit highlights a direct correlation between corporate performance and executive pay, demonstrating a performance-oriented compensation structure. This is consistent with the literature which supports that the French financial market has been following the US paradigm.

Furthermore, the analysis demonstrated that company size as a determinant of CEO compensation, with the positive significance of the 'Dummy < 20,000' variable indicating that smaller companies tend to offer higher pay to their CEOs, possibly to compete with larger corporations in attracting executive talent. This is understandable because the small firms need to attract talent in order to catch up with the larger firm in the market. Indeed, experienced executives might be tempted to join a large firm for the prestige. Hence, smaller firms need to propose compensation packages above the market price to attract these executives.

Additionally, the age of incoming CEOs is positively correlated with their compensation, suggesting a trend of lower pay for less experienced CEOs, particularly those succeeding long-tenured predecessors. This could reflect a strategic approach by companies, tying compensation more closely to proven performance over time. This could also be related to the fact that more experienced CEOs tend to provide the expected performance to shareholders faster than less experienced ones.

Interestingly, the analysis also points to a near-significant positive impact of GDP growth on executive pay, hinting at the broader economic context influencing CEO compensation. This macroeconomic aspect helps us understand how factors surrounding corporate performance as a broader scope, impacts executive compensation packages and turnover events.

These findings enrich the understanding of executive pay dynamics within the CAC40 market, demonstrating that factors like corporate performance, company size, CEO tenure, and economic conditions play substantial roles in shaping executive compensation, alongside the internal versus external hiring.

Now, we can reject or accept the hypothesis we made previously for the CAC40 market. As previously demonstrated in the descriptive analysis part, we can accept hypothesis number one: “Incoming CEOs hired externally are likely to observe higher compensation package levels than internally promoted ones.”

Then, for the second hypothesis: “Incoming CEOs that were already CEOs can observe higher compensation packages compared to ones without prior CEO experience.” We can also accept the hypothesis because our empirical analysis showed that CEOs with the most experience will tend to earn larger compensation packages. Furthermore, we also learned that external CEOs earn more than internally promoted ones, which means that only external CEOs can have prior CEO experience.

Moving on to our third hypothesis: “Incoming CEOs in smaller companies get larger compensation than their predecessors.” We can accept the hypothesis because we observed in our multiple linear regression analysis that smaller companies tend to grant their CEOs with larger compensation packages.

Finally, our last hypothesis was: “New CEOs hired during periods of good economic growth get larger compensation levels than the previous CEOs.” Regarding our results and the literature reviewed throughout this paper, it is possible to infer that during periods of good economic growth, corporations are more inclined to give CEOs larger compensation packages.

5.3.3 Robustness check

This table is a sample of the robustness checks for the CAC40 market. The other checks can be found in the appendix under robustness checks. The model must pass these checks to ensure the results analyzed above are significant and reliable. Hence, we used the Autocorrelation test, collinearity statistics, normality test, Q-Q plot of residuals, residual plots and Cook’s distance for this model.

In assessing the robustness of the regression model used to evaluate the impact of executive substitution on executive pay in the CAC40 market, several key diagnostics were performed. The Durbin-Watson statistic of 1.85 with a p-value of 0.688 indicates a lack of autocorrelation in the residuals, affirming the independence of errors which is a crucial assumption for the regression's validity.

Furthermore, the collinearity diagnostics, particularly the Variance Inflation Factor and Tolerance results reveal moderate to low multicollinearity among the variables. This is significant as it ensures that the model's coefficients are not unduly influenced by multicollinearity, with most variables displaying VIF values well below the threshold of concern which is normally 5.

Additionally, the Shapiro-Wilk test result of 0.959 with a p-value of 0.247 confirms the normal distribution of residuals, satisfying another key assumption of linear regression.

The heteroskedasticity test provides evidence supporting that our model is normally distributed. Finally, the Q-Q plot confirms that the model is normally distributed since most dots are close to the line.

These robustness checks underscore the reliability of the regression analysis, providing confidence in the conclusions drawn about the relationship between executive substitution and executive pay in the CAC40 market.

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 3: Multiple linear regression analysis results for the CAC40 market.

Model Fit measures

Model	R	R^2	Adjusted R^2	Overall Model Test			
				F	df1	df2	p
1	0.876	0.767	0.533	3.28	16	16	0.011

Model Coefficients - Y=Total Compensation

Predictor	Estimate	SE	t	p
Intercept	-0.000000113	6680000.00	-1.69	0.11
External hire:				
1 – 0	-974170	1600000.00	-0.61	0.55
CEO before:				
1 – 0	1750000	1490000.00	1.17	0.26
Dummy finance:				
1 – 0	-0.00000298	1880000.00	-1.58	0.13
Dummy energy:				
1 – 0	-0.00000224	1650000.00	-1.36	0.19
Dummy transport:				
1 – 0	95251	2050000.00	0.05	0.96
Dummy tech:				
1 – 0	-630850	1540000.00	-0.41	0.69
Log assets	-175570	912915.00	-0.19	0.85
EBIT	558	150.00	3.72	0.002
Dummy>100,000:				
1 – 0	1290000	2000000.00	0.64	0.53
Dummy <20,000:				
1 – 0	4370000	1900000.00	2.30	0.04
Total return	-0.00000355	1990000.00	-1.79	0.09
Dummy tenure >11:				
1 – 0	-0.0000016	1260000.00	-1.27	0.22
Dummy chairman:				
1 – 0	1700000	1300000.00	1.30	0.21
Dummy financial distress:				
1 – 0	-250742	1320000.00	-0.19	0.85
Age New CEO	276057	96823.00	2.85	0.01
GDP growth	30900000	15000000.00	2.06	0.06

Table 4: Robustness Check for the CAC40 analysis.

Assumption Checks

Durbin–Watson Test for Autocorrelation

Autocorrelation	DW Statistic	p
0.0409	1.85	0.688

Collinearity Statistics

	VIF	Tolerance
Internal vs external	2.49	0.401
CEO before	2.31	0.433
Dummy finance	2.58	0.388
Dummy energy	1.43	0.701
Dummy transport	2.19	0.456
Dummy tech	1.95	0.512
Log assets	1.4	0.714
GDP growth	2.22	0.45
EBIT	2.39	0.418
Dummy > 100,000	4.38	0.228
Dummy <20,000	2.28	0.439
Total return	1.97	0.508
Dummy tenure >11	1.91	0.523
Dummy chairman	1.86	0.539
Dummy financial distress	2.14	0.468
New CEO age	1.67	0.6

Normality Test (Shapiro-Wilk)

Statistic	p
0.959	0.247

Table 5: Assumption Checks for the CAC40 analysis.

Assumption Checks

Normality Tests

	Statistic	p
Shapiro-Wilk	0.959	0.247
Kolmogorov-Smirnov	0.101	0.854
Anderson-Darling	0.362	0.424

Note. Additional results provided by *moretests*

Heteroskedasticity Tests

	Statistic	p
Breusch-Pagan	12.4	0.715
Goldfeld-Quandt	NaN	
Harrison-McCabe	NaN	

Note. Additional results provided by *moretests*

Durbin–Watson Test for Autocorrelation

Autocorrelation	DW Statistic	p
0.0325	1.87	0.746

[3]

Table 6: VIF tests for the CAC40 analysis.

Collinearity Statistics

	VIF	Tolerance
External hire	2.49	0.401
CEO before	2.31	0.433
Dummy finance	2.58	0.387
Dummy energy	1.43	0.701
Dummy transport	2.21	0.453
Dummy tech	1.95	0.512
Log assets	1.46	0.686
GDP growth	2.22	0.451
EBIT	2.46	0.407
Dummy > 100,000	4.38	0.228
Dummy < 20,000	2.28	0.438
Total return	1.97	0.509
Dummy tenure > 11	1.91	0.523
Dummy chairman	1.86	0.538
Dummy financial distress	2.13	0.469
Age	1.67	0.599

[3]

Table 7: Cook's Distance for the CAC40 analysis.

Data Summary

Cook's Distance

			Range	
Mean	Median	SD	Min	Max
0.0628	0.0465	0.0697	0.00126	0.330

Table 8: Q-Q Plot for the CAC40 analysis.

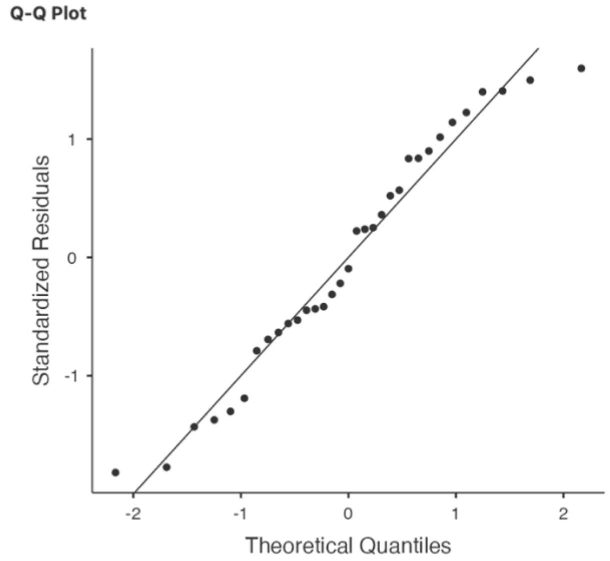
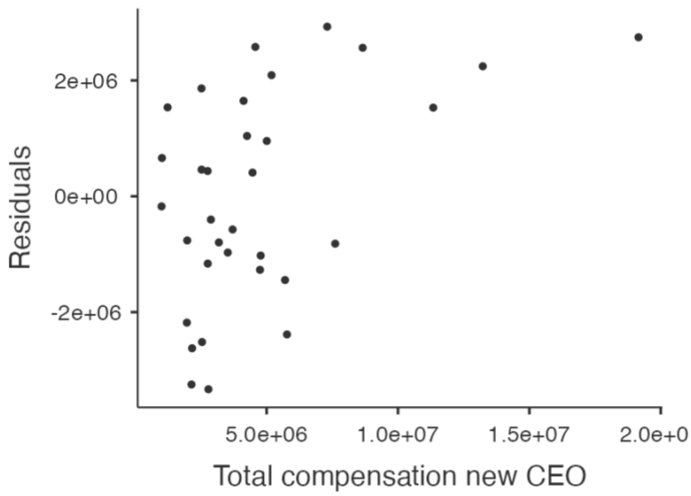


Table 9: Residual Plot for the CAC40 analysis.



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