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The reaction of stock investors to the CFO skills

Dimitrios Kakonas

Student Number: 1827871

d.kakonas@students.uu.nl

Supervisor 1: Frank Verbeeten f.h.m.verbeeten@uu.nl

Supervisor 2: Thomas Walther, t.walther@uu.nl

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Abstract

This study investigates the effects on stock returns of appointing Chief Financial Officers (CFOs) with more experience than their predecessors. A look is taken to the market reactions to the appointments of both previous and current CFOs and their skill levels through the use of event studies and cross-sectional data. The examined sample covers 100 US companies from the S&P 500 index. Within separate tests on the average CARs for each appointment type, it was found that the two average CARs during the event windows were significant, despite the statistical insignificance found on the average of the differences in the two mean CARs. At a 33.9% confidence level, an OLS model that controlled for firm financial indicators, the 3 Fama and French factors, and three firm governance variables discovered a statistically insignificant but positive association between the differences in stock reactions and CFO qualifications between the two points of time of hiring. At an 8.8% confidence level, the results also show a strong positive market response for successors who hold board director positions and appear a growing dominance in skill sets over their predecessors. Overall, this research advances our knowledge of senior roles in corporate finance by indicating that strategic CFO appointments have an impact on stock performance and business valuation.

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Keywords

CFO skills; Leadership; Management; Abnormal Stock Returns; Directors; Firm Controls; Corporate Governance; Market Reaction

List of abbreviations

G34 Corporate Governance

G11 Investment Decisions

G14 Event Studies

G21 Cross-Sectional Models

1. Introduction

1.1. Background

This paper investigates the relationship between the increasing qualification of chief financial officers (CFOs) in contemporary businesses and the impact of their appointment on abnormal stock returns. Over the last years, it has been observed that the CFOs' broader duties go beyond typical financial management to encompass operational leadership and strategic decision-making.

Currently, a CFO is the mastermind of the financial planning and decision making of a company. However, this evolving role in organizations comes because of a major movement away from traditional financial control and toward more extensive strategic participation (Zorn, 2004). Although the roots of the CFO position start by the early 1900s, the scope of the CFO role has dramatically expanded from a traditional financial manager to a strategic business partner only over the last 5 decades. Starting with a support function, the CFOs were assigned with duties exclusively concerning the Financial Accounting and Reporting sector until the end of 1970s. By the 1980s, the CFOs started playing a more strategic role in driving business growth.

Further on, following the global financial meltdown of 2007-2008, markets have developed a greater ability to withstand financial risks. However, this has given rise to new difficulties, including geopolitical developments and changes in public policy. Consequently, complex financial risks have arisen that are linked to non-financial elements (PWC, 2024). Challenges such as pandemics, climate change, and armed conflicts have a significant impact on global economic growth and the well-being of businesses. Businesses are subject to heightened regulatory scrutiny, particularly those that have adverse environmental and social effects. To mitigate physical and transition risks and ensure financial growth, firms require Chief Financial Officers (CFOs) that possess a wealth of knowledge and abilities that go beyond finance. These skills include strategic thinking, leadership, and competence in technology. The function of CFOs is vital in formulating adaptable company strategies that are informed by risk analysis and profitability assessments. This enhances financial leadership, so increasing the ability of firms to withstand and adapt to both physical and transitional hazards. Amidst the fast-paced and ever-evolving landscape of today's world, companies place a high value on Chief Financial Officers (CFOs) who possess the capacity to instill confidence and ensure a sense of steadiness among those with a vested interest in the organization.

Overall, in the contemporary world of vast and highly influential changes, it is more crucial than ever for firms to appoint as CFOs individuals looking like charismatic leaders who can inspire trust and positive stability to its staff, shareholders and stakeholders.

This expansion is explained by the significant growth of businesses in their size and complexity, as well as other factors like technological advances, globalization, and increased competition (ROARK, 2023). Thereby, in the 21st century, the CFO position has become broader with most CFOs undertaking roles derived from sectors that serve to accomplish more of the stakeholders' needs. Further to communication with stakeholders, which is a crucial feature of a CFO for the satisfaction of their needs, CFOs of the contemporary business world should also possess skills in planning of investments strategies, risk management, technology and ESG initiatives (McKinsey & Company, 2023).

So far, existing literature provides useful insights into the dynamics of CFO appointments and their impact on corporate results. The significance of CFO traits in influencing financial management strategies and fostering favorable company performance is emphasized in research conducted by Larcker, Richardson, & Tuna, (2007). In addition, Hommel, et al., (2011) refer to the need of CFOs possessing a wide range of skills, such as strategic and operational capacities, that beyond their knowledge in finance have an impact on the strategic leadership of enterprises.

Despite the knowledge included in the forementioned features, little information is so far available about the effect of CFO appointments of more experienced business professionals on the abnormal stock returns, which leave a signal of the over- or under- reaction of stock investors upon corporate events of this kind. This paper endeavors to address this void, to shed light about the plain of investors who trade stocks in firms which follow the tactic of the CFO role duality.

The main goal of this study is to determine whether firms' announcements around CFO appointments in which successors are more, or less experienced than their predecessors affect the unusual movements of stock returns launched by these companies. The relationship between announcements of those events, and abnormal stock returns is paramount for academic literature. The limited provision of literature regarding this topic might be justified by the difficulty of accurately evaluating the experience of CFO's. The reflection of this experience on the CFO's reputation -which is an intangible asset- makes the valuation of this CFO characteristic more complicated. Generally, the valuation of intangibles is considered complicated, because due to information asymmetry, which removes the robustness of traditional metrics for assets valuations. Therefore, stock investors do not accurately value intangibles, even when they have been independently verified by highly public surveys on large firms (Edmans, 2011). As the role of CFOs is earning ever-growing consideration over the last decades, it is crucial to shed light on the extent that stock markets perceive the value created by the intangible reflected on the improved CFO experience.

1.2. Research question

Given the previous lack of evidence on how the stock market evaluates the skills of CFOs, this paper will investigate the forementioned topic under a composite research question imprinted as follows.

How do stock investors react to the appointment of CFO with broader duties compared to their predecessors? Is this difference in reactions explained by the difference in the skill sets of the CFOs? How do the interactions between the differences in the CFO skill sets and the differences in dual board engagement (inside and outside) impact the differences in market reactions to CFO appointments, as measured by CARs?

The previous research questions are of utmost importance for understanding the elements that affect stock performance based on what is expected by investors. This research makes a valuable contribution by conducting an empirical study in a little explored field of corporate finance. This study aims to address a vacuum in the existing literature by examining the correlation between the experience of Chief Financial Officers (CFOs) and abnormal stock returns. The objective of this study, which is to provide a detailed comprehension of how Chief Financial Officer (CFO) succession strategies influence market dynamics is catalytic for offering practical insights that can be utilized by investors and decision-makers.

Before addressing the gap that this study is going to bridge, a brief description of the historical development of the CFO role expansion will be given. By measuring the impact of CFOs with expanded experience profiles on abnormal stock returns, this study closes a gap in the literature. The insights of this study are especially useful for understanding how investors react to executive appointments. The findings provide a detailed view of how CFOs' credentials and strategic decisions affect corporate valuation, highlighting the crucial role that CFOs play in influencing investor perceptions and stock market dynamics. The research answers to the question whether the strength and direction of market reactions to CFO appointments are influenced by the relative experiences of incoming and departing CFOs, despite the potential of the appointments to cause reactions among stock investors. This is achieved by utilizing event study methods and cross-sectional analysis. In addition to adding to the body of knowledge in academic circles about market efficiency and corporate governance, this study provides investors and businesses with useful information about the expectations and strategic positioning of financial leaders.

1.3. Reading guide

The remainder paper is organized in the following manner. Section 2 reviews the literature on CFOs and stock market responses, as well as the logic fluency within which the hypotheses are constructed and connect with the research questions. Following the construction of hypotheses,

Section 3 delineates the processes of data and methodology. Section 4 provides the summary statistics of the sample data, as well as the findings occurred during the research conduction. After the mentioning of the results, a discussion of the study limitations and the logical interpretations of the results is conducted in Section 5. Finally, Section 6 brings upon the conclusion in which this paper ends up.

2. Literature Review and hypotheses

2.1. Role of the CFO

Upon the challenging and competitive business world of the 21st century, financial planning is no more the unique human asset of a CFO. Faravo (2001) describes the new CFO role as an expansion to the skills of strategist, information specialist, communicator, and leader. In his study, he illustrated the emergence which was caused by the complication of business functions over the last decades and enables CFOs to tackle the contemporary business challenges by practicing in business departments further to Accounting and Finance. It is implied that due to the technological automation of plentiful accounting and financial processes, CFOs need to leverage more capabilities, including soft skills, such as persuasiveness and critical thinking to expand and improve the investor relations. Moreover, in industrial companies it is crucial for CFOs to possess knowledge in blockchain technology to better correspond to their role-specific responsibilities. Sandner, et al., (2020) argue that CFOs with knowledge in blockchain technology can improve the business processes, by offering efficiency and automation, and develop better Key Performance Indicators (KPIs), due to which they obtain facilitation of inter-organizational collaboration. Moreover, Schmid & Altfeld, (2018) contribute to the literature indicating the international career of CFOs as a crucial factor of improvement in their skills and expansion of their knowledge, which can help them conduct a more efficient decision-making.

Based on all this literature, it is apparent that organizations who hire CFOs with distinct experience profiles might experience abnormal stock returns in different levels. In a hypothetical scenario, if companies were to hire Chief Financial Officers (CFOs) who have significant expertise in finance, it might potentially indicate lower risk to investors. This, in turn, could lead to more favorable reactions in the market and lower than expected returns on stocks, as compared to companies who hire CFOs with mainly non-financial backgrounds. Likewise, companies that hire CFOs with a well-rounded combination of financial and non-financial expertise may receive more measured responses from the market, indicating a nuanced evaluation of the CFO's potential influence on the company's performance.

Recognizing the significancy of the role that CFOs play in the corporate governance and strategic decision-making of firms, market investors rely their decisions about stock investments on

the professional background of the financial executives. They regard the CFO's expertise, as measured in years of working experience and the range of the business activities in which they have so far engaged, as a mirror of their potential contribution to plenty of factors that determine the firm performance. Overall, the proposed theory of the market perceptions on the CFOs' experience profiles implies the distinct implications that the difference between the experience profiles of two consecutive CFOs might attribute to the market evaluation of firms.

2.2. Literature about the benefits of the growing skill sets of CFOs

Drawing upon the available literature, several key theoretical concepts illustrate that Chief Financial Officers (CFOs) with extensive and competitive experience make a substantial impact on enhancing a company's success through multiple elements.

Datta et al (2022) utilized event-study and other empirical methods to investigate how CFOs who hold an elite MBA affect the stock market reaction to CFO hiring announcements and the firm performance after the beginning of their tenure. They find that the appointment of CFOs with certified strategic and managerial background is positively viewed by stock market investors and contributes to a spectacular improvement in firm performance. Another conclusion occurring from this research is that the positive influence of elite CFOs on firm performance is more intensive in corporations with greater managerial discretion. These results are consistent with the idea that efficient financial leaders are no longer defined exclusively by their financial knowledge. They should also possess sufficient strategic knowledge to conduct successful decision-making. This idea aligns with the positive reaction of stock investors to hiring announcements concerning CFOs with both financial and strategic certified capabilities, enabling their satisfaction about the financial welfare of the company due to its efficient financial leadership.

Another important benefit derived from the appointment of a CFO with extensive experience background is disclosed by the paper of Sun & Rakhman, (2013). In this study, the authors investigate the empirical relationship between the CFOs financial expertise with the extent of their engagement in corporate social responsibility (CSR) activities. After conducting empirical analysis over a sample of 258 S&P firms, they conclude that there is statistically significant and positive relationship between the CFOs' experience – as measured in terms of tenure and certified skills in management and accounting. They also suggest that CFOs with more experience beneficially contribute to the CSR performance of the companies in which they serve. This finding is indicative of the multifarious benefits that the widened experience of a CFO can offer.

The CFOs' expertise can be translated not only in terms of qualified skills, but also in terms of qualities reflected in the professional behaviors of these executives. In the study of Ferris & Sainani, (2021), it is inferred that CFOs can positively affect the firm performance from the

perspective of its strategic design during M&A activities. Considering the high reliance of the UK firms on the CFOs' influence on long-term strategies of the firm, the authors construct an index to quantify the influence of CFOs and assess its dynamic towards the evolvement of M&A transactions. This influence is measured based on plentiful criteria, including the set of hard skills in technology and M&A, as well as some soft skills, such as communication, coordination, and negotiation. Consequently, compared to the low CFO-influential companies, highly CFO-influential firms achieve acquisitions of other corporations in shorter time periods and with higher possibility to come across cash financed transactions usually related with small firms from the domestic market. According to the same paper, all these achievements are attributed to their greater efficiency in screening a target for profitability and potential synergies. The benefits offered by the distinct influence of a CFO are reflected further in the post-acquisition period, with the highly influencing financial executives significantly contributing to the growth of the operational firm's performance. Overall, this research conducted aligns with the idea that not only the financial acknowledgment, but also the extent of skills diversification and the length of tenure are crucial determinants that make a CFO assure the accomplishment of an M&A transaction, approving the strategic capacity of the firms that attempt to expand their corporate network.

Moreover, there is some limited literature shedding light on the impact of CFO expertise on the quality of financial reporting and disclosure. The highly qualified experience of the CFOs assures the efficient financial disclosure of the firms in which they serve. Aier, et al., (2005) find negative relationships between the accounting restatements of earnings and financial expertise of CFOs. This research suggests that CFOs holding certifications in MBA and CPA – certifying knowledge possession in management and accounting- are less likely to lead their companies in earnings restatement. Thus, they manage to assure their shareholders' faith and security about the accuracy of the firms' accounting information.

Despite the disclosure of significant benefits generated in the firms' operational and financial performance due to the completed financial experience of CFOs, there is still little information about the broadened and beyond financial experience of CFOs to the market perceptions towards stock exchanges. The paper authored by Datta et al., (2022) indeed provides some evidence on the market reaction to the fulfilling financial expertise of CFOs holding MBA and CPA certificates.

However, we still do not possess any information on how the stock investors perceive the capacity of CFOs with engagement in activities like marketing, information technology, academic and manufacturing. These skills correspond to activities derived from areas that are not highly related to the financial sector but are still part of the core business activities. This is the gap that this paper will attempt to cover. Once the forementioned skills are captured by a CFO, the leaderships of high-CFO expertise firms are more likely to efficiently mitigate environmental, social and other non-

financial risks affecting their operational and financial performance and shareholders might express additional positive reaction within their stock investing moves.

2.3. Difference between the market reactions to the appointments of the previous and the current CFO

Formulating hypotheses based on the theoretical underpinnings mentioned in Section 2, the theory anticipates that firms appointing CFOs with diverse experience profiles may experience varying levels of abnormal stock returns. Hypothetically, firms appointing CFOs with extensive financial experience may signal lower risk to investors, resulting in more positive market reactions and lower abnormal stock returns compared to firms appointing CFOs with primarily non-financial backgrounds. This scenario holds in the case that firms appoint CFOs with a balanced mix of financial and non-financial experience too. The scenario of a negative stock market reaction is supported by Mian, (2001), who finds negative excess return after successions of CFOs, and he attributes the generation of negative excess returns to an excessive concern of investors around the dismissal or retirement of CFOs.

Nevertheless, some studies give outcomes of positive abnormal returns among the few days around the event of CFO appointments. Demonstrably, firms that appoint as CFOs individuals with more accomplished and better certified managerial experience than their predecessors, improve their firm performance -as measured by the increased amount of the free cash flows- after the CFO substitution (Datta et al., 2022). Under the assumption that stock investors are informed about the benefits of broader and more accomplished CFO experience to corporate performance, it is expected abnormal returns will earn positive values in average. The previous discussion results in the first hypothesis:

H1: Stock market investors react positively around announcements of the most recent CFO appointments than around the appointment announcements of their predecessors in case the successors are more experienced.

2.4. Is the difference in the market reactions to CFO announcements explained by the difference of experience between the two CFOs?

The second research question regards whether the market reaction to this corporate event is attributed to the fact that at the points of time of the two hiring announcements the successor possessed more skills than the predecessor had in the moment of his or her appointment. After the realization of an event study, Datta et al., (2022) find significantly positive relationship between the abnormal returns and the independent variable stating whether the candidate CFO possesses an MBA certificate. This finding implies that the market reacts favorably to appointments of CFOs that possess efficient and certified management skills. Moreover, in the same paper, the researchers control for plentiful variables, one

kind of which consists of regressors that describe firm-specific characteristics of governance. This paper is going to use this technique too, because it is important. Aligned with the forementioned literature, and since most companies are activated in international markets and have to comply with the interest of all of their stakeholders, it would be expected that the stock market reacts more favorably around the appointment of a more skilled CFO than around the appointment of a CFO with knowledge exclusively in Accounting and Finance. For example, if the successor has already accomplished an international career, and possesses leadership experience, management skills and knowledge in the industry of the company, then it is expected that the market will react positively and with higher abnormal returns than they had react around the appointment of the predecessor, in case he or she had only financial skills, or fewer extra skills than the successor. Therefore, this paper expects a significantly positive relationship between the differences in abnormal returns around the two consecutive events in each company and the differences in the skill sets possessed by the previous and the current CFO.

H2: There is a positive relationship between the difference in CFO experience and the difference in cumulative abnormal returns obtained during the event windows.

2.5. How do the differences in CFO skill sets interact with each CFO's independence and how the interaction impacts the difference in the market reactions?

In their research, Datta et al., (2022) control for firm-specific characteristics related to the governance of each company. Among the variables they use, the one that is included and would both attract interest and play important explanatory role is the CFOs genders. This paper also intends to control for this characteristic, as it is important to investigate on the market's perception to the participation of female individuals in the financial leadership of businesses. However, in the forementioned paper does not control for characteristics that concern the firms' independence as seemed in their public announcements. Hence, one initiative that this paper is taking, is to reflect to the empirical model information about the hiring of the candidates exclusively as CFOs or as both CFOs and outside directors. The duality of this role can give a lot of information about the agencies' perceptions about independence of governance.

On the one hand, in US markets, shareholders are expected to react negatively to the reception of a dual managerial role by a candidate, unlike the predecessor who was exclusively CFO, due to the general trend that exists in the USA about board (Gould, 2014). More particularly, the number of US firms that appoint a candidate as both CFO and Board director is decreasing, implying that a firm with efficient and independent governance is expected to bring upon a long-term profitability and higher transparency in their financial reporting. In case the interests of a CFO conflict with those of the shareholders, there is highly limited space for the shareholders to support their ideas towards the

reception of a decision, due to the high jurisdiction of CFOs both in inside and in outside boards.

On the other hand, CFOs' engagement in the Board of Directors can offer the firm significant benefits that influence its performance and transparency, which make the market's perceptions of the firm's image more favorable. CFOs who are simultaneously Board Directors tend to establish more accounting conservatism and motivate the agency to check the financial statements more thoroughly, avoiding mistakes that might deteriorate firm performance (Muttakin, et al., 2019). If the CFOs align their interests with the optimization of firm and share value, it is expected that shareholders would react more positively around appointments of CFOs who are both outside directors and more skilled than their predecessors. These reactions imply that investors recognize the advantage that occurs by the high experience of CFOs in preparations of financial statements and their leadership instinct that improves their efficiency in the supervision of financial statements' preparation. Because sometimes the directors might omit some important errors in the statements, it is important that at least one of the directors possesses significant knowledge in Accounting and Finance, and this is the reason why a skilled CFO is expected to positively influence the future of the firm (UpCounsel, 2023). Under these assumptions, it is expected that CFOs who are more skilled than their predecessors were at the moment of the hiring announcement, will significantly positively affect the difference between the two abnormal returns when unlike their predecessors, they were announced as board directors too.

H3: As the difference in the skill sets of the two financial leaders expands, the stock market reacts more favorably when the successor is also hired as a member in the Board of Directors, compared to the predecessor, who did not receive this proposition.

3. Data and Methodology

3.1. Data

3.1.1. Data Selection

This empirical study covers a sample of 100 companies, investigating events concerning 200 announcements of CFO appointments. Each firm will be matched with two appointments. The first announcement concerned the hiring of the previous CFO of the company and the other one was related to the intake of the current CFO. The two appointments related to each firm are compared to each other to obtain the differences of the stock market reactions to the CFO recruitments. The EDGAR database owned by the U.S. Securities and Exchange Commission will be used for definition of the years that the companies appointed their previous and current CFOs. Looks will be taken at the Annual Reports, and after the definition of the appointment years, information about the CVs of the CFO candidates so far will be collected from press releases of the sampling firms.

After the collection of information about the experience of the two consecutive CFOs,

comparisons between their career paths will be conducted. The conclusion on whether the successors are more experienced than the predecessors were at the time of their appointments, will be derived by the range of the activities that both individuals had accomplished in their so far career path before their appointments as CFOs by the examined firms. In the part of the comparison related to the activities range, only some parts of the information about the individuals' activities depicted on the press releases will be used as benchmark for qualitative assessment of experience. Adams et al, (2018) mapped the skills sets of directors, using samples of US firms and they finally constructed a table including the top 20 most significant departments for previous engagement of candidate CFOs. This paper will use this table to decide about the individual with the highest CFO experience.

After the quantification of working experience, comparisons between the performances of the individuals in the benchmark will be conducted for the definition of whether the event relates to expansion or shrinkage of the CFO experience. There are more complicated versions, some of which predict equality between the range of the different departments during the careers of the compared individuals and in some the equality concerns the numbers of years of working experience. The judgement is apparent for the former case. The real challenge towards the decision about comparative dominance in working experience derives from the difficulty of qualitatively assessing the importance of individuals' engagement in each department of business. However, this practical issue will be solved within the advice from the mapping of CFO working experience included in the study of Adams et al, (2018).

Financial information and stock return data were obtained from Eikon Refinitiv. The final sample is composed of 200 CFO appointments occurring in the 100 US firms.

3.1.2. Sample construction

After the collection of information about the two candidates, the counting of the skill sets is realized within the matching of their skills to the skills mentioned in the map of Adams et al., (2018) and after the measuring process, the paper constructs the variable about the difference in the skill sets after subtracting the number of the successors' skills from the skill sets of the predecessors. The background that will be considered for the predecessors will reflect only their career path before their appointment as CFOs. To let the experiences of the current CFOs and their predecessors play by the same set of rules, the definition of the predecessors' experience will be realized with referrals back to the press releases related to their hiring as CFOs. Thereby, the main independent variable is constructed.

The differences in cumulative abnormal returns (CARs) estimate the difference between the CARs around the appointments of the successors and the CARs around the appointments of their predecessors. Each CAR is the average of the abnormal returns one day prior to and in the day of the events and the CARs two days after the events. The accurate method of calculation of the abnormal

returns is explained in section 3.2.1, where the steps of the event study method are analyzed too.

This paper collected data about the market returns for both the estimation and the event windows observing the S&P500 index from Eikon Refinitiv. To collect data about the other two factors of the model of Fama and French, namely SMB and HML, the WRDS platform was used. The data refers to daily basis, to align it with the time basis of the cumulative abnormal returns. For this purpose, the daily figures of the two factors in the days of the event window are obtained and each observation shows the average SMB and HML over the days of the event window. The utility of the three factors of the extended CAPM model as regressors is crucial, because they demonstrably affect the return of a financial product, as estimated by empirical models. Because the estimated returns constitute a linear function of the abnormal returns, these factors can consistently generate significant effect to the regressed variable.

The platform Eikon Refinitiv was also used to collect data for firm-specific financial indicators, which were the gross profit margin, the performance ratio and the leverage ratio. The gross profit margin is selected to check the level of the revenues' contribution to the creation of profits. Performance is obtained as the indicator of the Free Cash Flow over the Total Assets of the firms and leverage expresses the percentage of Total Debt to Total Equity. These variables are important for the evaluation of the performance, credibility, and financial flexibility of firms. These three financial indicators affect the financial performance of firms and thus they can also influence the abnormal stock returns (Sincharoonsak, 2023), (Perinpanathan, 2014). Therefore, their inclusion in the model as control variables is crucial. To avoid high variations between the figures of the financial indicators among the quarters of the year, the observations of the firm controls were realized on annual basis, and each one refers to one year prior to the year that the event was realized.

After calculating the differences between the 3 factors at the point of time of the successors' appointments and the figures matched to the same variables at the point of time of the predecessors' recruitments, the variables of the three factors from the model of Fama and French are constructed.

For the three variables describing governance characteristics, the press releases from each company were used to identify the individuals' gender and whether they were hired also as members in the Board of Directors, to construct the two dummy variables about male or female and outside director or not, as well as the interaction between the latter binary variable and the numbers of the candidates' skills. According to previous literature as described in section 2, all these governance control variables play important roles in the investing decisions of the market. The two dummy variables can constitute alternative factors to the main independent variable for the testing of Hypothesis 3 and they are used as control variables.

After the selection of the forementioned information and data, this study brings upon eleven variables, each one of which shows the differences in CARs, skill sets, market returns, SMB and HML

factors, gross profit margin, performance, leverage, gender, outside or not outside – based on whether they were hired also as outside directors, and interactions between CFO skills and outside. Each difference occurs by the subtraction of the figures at the point of time of the predecessors' appointments from the figures related to the moments that the successors were hired. Table 1 provides an overall description of the variables that are included in the cross-sectional model to solve the Hypotheses 2 and 3.

3.2. Methodology

3.2.1. Event Study

When the research discussion stretches on the experience of CFOs, this term expands in plentiful substances. However, the only metric used to measure the CFO experience is the number of the different departments within which these financial professionals have built their career so far. The specific preference of this metric as benchmark for the assessment of CFO experience derives from the deeper consideration given to the range of their activities, which stresses their broadened role.

To test the impact of a more experienced CFO appointment on stock market response, this paper will follow event study methods and calculate the cumulative abnormal returns (CARs) around the CFO appointments. The CARs are calculated within the following specifications.

$$AR_t = r_{act,t} - r_{pred,t} \quad (1)$$

$$r_{pred} = \alpha + \beta_M R_M \quad (2)$$

The estimation of the CARs is based on the simple CAPM for 200 trading days from day - 250 to day -51. The metric for the stock market reaction to the event under examination corresponds to the four-day ARs (-1, +2) for each firm by cumulating the daily abnormal returns around the CFO hiring announcement day (Datta, Trang, Abhijit, Mai, & Min-Jeong, 2022). The CARs of each company will be consolidated to derive the cumulative average abnormal return (CAAR), which is estimated as follows.

$$CAAR = \frac{1}{n} \sum_{i=1}^n CAR_i \quad (3)$$

To test the statistical significance of the abnormal returns, statistical tests will be conducted. Because the purpose of this paper is to test for positive relationship between the CAR and the CFO appointment, the hypothesis testing will be one-sided and aligned with the following structure.

$$H_0: t = 0$$

$$H_1: t > 0$$

The alternative hypothesis is true if the t-statistic earns a value higher than its critical value (c). Therefore, H₁ is true under the inequality $t > c$. The t-statistic is based on the following formula about SCAR, it is assumed that SCAR and t-statistic are equal.

$$SCAR_i(T_1, T_2) = \frac{CAR_i(T_1, T_2)}{[\sigma^2 (CAR_i(T_1, T_2))]^{1/2}} \sim N(0,1) \quad (4)$$

3.2.2. Cross-sectional Analysis

Further to the stock market reaction to CFO appointments of more experienced workers, this paper examines whether there is correlation between the appointments of more experienced CFOs compared to their predecessors, and the abnormal stock returns. The two CARs around the appointments of previous and current CFO respectively and which are matched with each firm are compared to each other and the difference in CARs is obtained. Afterwards, this difference is taken as the dependent variable of the regression equation, and it compares the two market reactions to the appointments of two consecutive CFOs for every firm. Moreover, the independent variable that reflects the skills of the CFOs counts the values of the differences between the skill numbers of the current and the previous financial leader. Consequently, the cross-sectional analysis is used in this paper to test for the correlation between the difference in the market reactions to two consecutive CFO hirings of the sampling companies and the gap between the set of skills that each one of the compared CFOs possesses. The specification used for this purpose is depicted as follows.

$$Diff_CAR_i = \beta_0 + \beta_1 Diff_CFO_Experience_i + \beta_2 Diff_RM_i + \beta_3 Diff_SMB_i + \beta_4 Diff_HML_i + \beta_{5-8} Diff_Firm_Controls_i + \beta_{9-11} Diff_Governance_Controls_i + e_i \quad (5)$$

The variable $Diff_CAR_i$ refers to the average abnormal returns over a period of 250 days, starting one day after the end of the event window (Datta et al., 2022). The regressor is the $Diff_CFO_Experience_i$, and it describes the numerical difference between the skill sets of the previous and the current CFO. The β_1 coefficient indicates the effect that the supersession or of a current CFO with a more experienced worker will attribute to the annual abnormal returns. The sign of β_1 is expected to be positive, due to the expectation concerning the Hypothesis 2.

The regression model controls for other characteristics described in the three-factor model of Fama and French. These are the market returns, and the company sizes and values, as represented by the differences in RM , SMB , and HML respectively.

Moreover, attempting to further reduce the problem occurring by the omitted variables, this study will incorporate some additional regressors that will regard some firm features. The company controls include the indicators of gross profit margin, performance and leverage (Datta et al., 2022).

Finally, the model is completed with the inclusion of governance controls, which are linked to the CARs' differences within the coefficients β_{9-11} . These controls are represented by the variables $gender_diff$, $outside_diff$, and $int_cfoskills_outside$. They describe the differences between the genders, the dual participation in corporate agency as executive and board director and the interaction between

the differences in the CFO skills and the differences between the previous and current CFO's duality or lack of duality. The first two variables are binary, and each one takes the value 1 if compared to the predecessor, the current CFO is male and appointed as Board Director, 0 if both predecessor and successor are males and outside directors, and -1 if compared to the successor, her predecessor is male and was appointed as Board Director. Their role as regressors is important, because they contribute to the definition of the market perceptions concerning the compliance of conflict of firms' agencies with the G initiatives out of the total ESG principles. One of the ESG scores concern the acquisition of financial leadership positions by women. Moreover, the variable *outsidediff* can sufficiently reflect information about each company's intention towards the implementation or ignorance of corporate independence and it is included to the model to define the relationship between initiatives related to independence and market perceptions of this issue. The last variable is the main independent variable for the testing of Hypothesis 3, the coefficient of which will justify the outcome of the related research question.

The β_9 coefficient explains the relationship between the differences in CARs and the CFOs genders, and coefficients β_{10-11} show the impacts of the qualitative difference between the two CFOs' engagements in, or abstentions from the Board of Directors and the interaction of this variable with the difference in skill sets to the regressed variable. According to the expectation for the Hypothesis 3, as well as the forementioned literature, the coefficients β_{10} and β_{11} are expected to be negative and positive respectively. As for the coefficient β_9 , it is expected to be negative, considering the findings by Brinkhuis & Scholtens, (2018). However, the relationship found in that paper was statistically insignificant, showing that investors do not seriously consider the factor related to the CFO's gender. Hence, this paper expects the β_9 coefficient to be insignificantly negative.

4. Results

4.1. Summary Statistics

Table 1 provides information about the summary statistics of the sample. As can be observed, all variables form their means close to zero, and in all variables, it is observed that their standard deviations are higher than their means. The range of the observations of all variables fluctuates from negative to positive variables, implying that both the dependent and the independent variables are statistically insignificant on average.

Table 1
Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max	Variable Definitions
ICARs	100	-0.005	0.04	-0.102	0.114	Firm's logarithm of difference in the two CARs
CFOSkills	100	0.65	1.783	-5	5	Difference in the two CFOs' skill sets
IRm	100	0.002	0.018	-0.038	0.051	Logarithm of the difference in the market returns at the points of time of the two announcements
ISMB	100	0	0.007	-0.027	0.019	Logarithm of the difference in the mean SMB factor around the days of the events
IHML	100	0	0.008	-0.03	0.024	Logarithm of the difference in the mean HML factor around the days of the events
IGr_Prof_Margin	100	-0.001	0.07	-0.302	0.283	Logarithm of the difference in the gross profit margin one year before those of the events
IPerformance	100	0.031	0.095	-0.2	0.615	Logarithm of the difference in the firm performances one year before those of the events
ILeverage	100	0.058	0.533	-2.656	1.923	Logarithm of the difference in the leverage of the firms one year before those of the events
genderdiff	100	-0.75	0.479	-1	1	Candidates' comparisons in genders (dummy; 1 = current male, previous female, 0 = same gender for both, -1 = current female, previous male)
outsidediff	100	-0.72	0.451	-1	0	Candidates' comparisons in dual engagement in inside and outside board (dummy; 1 = current director, previous not director, 0 = both directors / not-directors, -1 current not director, previous director)
intcfoskills outside	100	-0.28	1.408	-5	5	Candidates' comparisons in dual engagement in inside and outside board for the varied differences in skill sets

4.2. Correlation Matrix

The correlation matrix presented in Table 2 depicts the associations among the factors examined in our investigation. The most significant link is observed between the capabilities of the Chief Financial Officer (CFO) and the cumulative abnormal returns (CARs), with a value of -0.066. This implies a little adverse correlation, indicating that an augmentation in CFO expertise is linked to a minor decline in CARs. The correlations between cumulative abnormal returns (CARs) and the three parameters in the Fama and French model - market return, size, and value - are 0.083, 0.004, and 0.078, respectively. This demonstrates a combination of mildly favorable and unfavorable associations.

Gross Profit Margin and Performance are inversely correlated with CARs, with correlation coefficients of -0.065 and -0.109, respectively. This means that higher profitability and performance are

linked to lower CARs. The correlation between leverage and CARs is modest, with a coefficient of 0.010, indicating an insignificant association.

The variables pertaining to governance characteristics, gender difference, and outside difference have correlations of 0.086 and 0.04 with CARs, respectively, indicating a weak positive association. The correlation coefficient between the interaction term and CARs is 0.154, indicating a significantly stronger positive association when compared to the other governance factors.

These correlations offer valuable understanding of the intricate connections between CFO qualities, corporate attributes, and market reactions, which will be further explored in following sections.

Table 2

Matrix of correlations

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
(1) ICARs	1.000										
(2) CFOSkills	-0.066	1.000									
(3) IRm	0.083	-0.258	1.000								
(4) ISMB	0.004	-0.053	0.138	1.000							
(5) IHML	0.078	-0.002	0.111	0.008	1.000						
(6) IGr_Prof_Mar	-0.065	-0.032	0.065	0.026	0.068	1.000					
(7) IPerformance	-0.109	-0.027	0.089	-0.061	0.014	0.236	1.000				
(8) ILeverage	0.001	0.012	0.095	-0.049	0.014	0.126	0.044	1.000			
(9) genderdiff	0.086	0.068	-0.011	0.178	0.021	-0.024	-0.019	0.111	1.000		
(10) outsidersdiff	0.040	0.236	-0.233	0.131	-0.169	0.111	-0.144	0.052	0.047	1.000	
(11) intcfoskills_~e	0.154	-0.748	0.164	-0.038	-0.065	0.079	-0.104	-0.044	-0.120	0.125	1.000

4.3. Event Study Results

After the conduction of event studies for all announcements of each company, this study comes up with the following results. In Table 2, the figures about the CARs, as well as the statistics indicating the statistical significance or insignificance for each abnormal return are provided.

Table 3
Matrix of CAR movements among the days of the event window

	Previous CFO Announcements	Current CFO Announcements	Difference between the announcements
T-1			
AR	0,000667 ¹	0,000283324	-0,00038329
σ^2 (AR)	0,00000063	0,00000000318	0,000562
Test			
statistic	11,92	5,0234	-0,0162
p-value	0,00	0	0,5
T			
AR	0,000667	0,0004242	0,000332738
σ^2 (AR)	11,915	7,5219330	0,01070305
Test			
statistic	0,000000	0,0000000	0,499867588
p-value			
T+1, T+2			
CAR	0,0000915	-0,0023286	-0,005032087
σ^2 (CAR)	0,0000000	0,0000000	0,001511174
Test			
statistic	1,6355254	-29,1942784	-0,12944668
p-value	0,0512804	0,0000000	0,502002491

¹ All numbers are referred to units and not in percentages. In the text, the changes are referred in percentages, and for this purpose all figures from Table 3 are multiplied with 100.

According to Table 3, among the days of the event windows, the average cumulative abnormal returns linked to the CFO announcements of the first CFOs amounts to 0.0667%, which indicates an average slight stock movement one day prior to the first event. Despite the economic insignificance of this reaction, the mean cumulative abnormal return is statistically significant at a confidence level lower than 1%, with its p-value approaching 0. The results for all the event studies are shown in Table 3.

On the days of the announcements of CFO hirings, the average cumulative abnormal return goes down compared to the day prior to the events and it amounts to 0.00915%, indicating that the actual changes in the stock price movements are almost aligned with the predictions of changes based on the CAPM model. This figure is again statistically significant at a confidence level of 5.13% with its t-statistic accounting for 1.63 and the p-value equaling 0.05128.

Among the two days after the CFO announcements, the mean CAR shows an apparent ascent, going upward to 0.27%. Despite the spectacular increase of stock market reaction on average, the stock investors appear to keep showing slight reaction to the announcement of changes in corporate leaderships, with the percentage difference between actual and predicted returns remaining lower than 1%. The figure of the mean abnormal return retains its statistical significance even two days after the events at a confidence level lower than 0.5%, the t-statistic is 34.17 and the p-value is close to 0.

The stock market reaction to the appointments of the predecessors of the current CFOs is not as intensive as it is during events that concern announcements of mergers and acquisitions or distributions of dividends. The maximum value of the CARs in the event window [-1,+2] amounted to 0.27%, which equals the CARs among the two days after the events. This indicates that the highest anomaly in stock investors' trading behavior is quantified within a percentage lower than 0.5%.

As for the outcomes of the event study of the hiring announcement about the current CFOs, the movements of CARs fluctuated in a similar way in which the anomaly extent around the appointments of the predecessors moved. However, there is one striking difference compared to the market reaction to the first sort of appointment. More particularly, among the days after the announcement, the market reaction to the appointments of the successors is negative, unlike the market reaction to the appointment of the predecessors, which is positive.

In further detail, the average abnormal returns one day before the announcements fluctuated to 0.0283%, which is 0.0383% lower than the reaction to the appointments of the previous CFOs in the same point in time. Like its counterfactual occurring by the first event study, this movement in the abnormal returns is statistically significant. Its t-statistic amounts to 5.0234, which renders the statistical significance of CARs robust even at confidence levels lower than 0.5%.

On the days of the announcements, the abnormal returns go up to 0.0424% on average. This reaction is significantly more intensive than the one observed in the hirings of the previous CFOs,

meaning that in case of existence of correlation between CARs and CFO experience, the stock investors were overall more excited with the appointments of the current CFOs, rather than with the recruitments of previous leaders. The statistical significance keeps holding for this figure too, with almost all the sampling companies following a trend described by the average CARs holding on the day zero.

On the first two days after the announcements, the trend of the returns' anomaly changes sign, which turns into negative. Due to the market reactions, the stock prices fluctuated to a level 0.232% lower than that predicted within the CAPM model. With its t-statistic equaling to -29.19, the percentage change in the CARs after the event linked to the current CFOs is statistically significant, with its p-value approaching zero and illustrating the holding of this significance even at a level lower than 1%. Compared to the other two CARs recorded for the second event, the mean abnormal returns after the announcement were the most economically significant, with the negative reaction of the stock market offsetting the total positive reaction prior to and during the events.

The actual figures for the differences in CARs one day prior to, the day during and two days after the event were -0.038%, 0.0333%, and -0.503% respectively. When the differences between the two CARs are obtained, they lose their statistical significance, with their t-statistics getting the values -0.0162, 0.0107 and -0.1294 respectively. Their p-values range from 0.499 to 0.502. This means that the difference between the market reactions to the appointments of the new and the old CFO is statistically insignificant at the confidence level of 10%, implying that the market reaction to the appointment of the current CFO does not significantly differ from the reaction to the appointment of his or her predecessor. While we could expect that the difference of the CARs would be statistically significant, following the same trend with each CAR taken alone, the statistical significance is lost due to the notable increase of the standard deviation of the difference. This can be explained by the subtraction between positive and negative returns, which leads to the addition of accrual extreme variables in the numeric sample.

Overall, the outcomes of the event studies indicate that the market reaction to the CFO hirings of the current CFOs is not higher than the market reactions to the appointments of the previous CFOs, at one day before each event and two dates afterwards. In contrast to the days around the event, on the days of the announcements, the stock investors reacted with higher positiveness to the appointments of the current CFOs, showing their probable enthusiasm to the pronouncement of hiring as CFOs individuals the majority of whom possesses wider sets of skills than their predecessors. This phenomenon, despite the statistical insignificance of the average difference in the two CARs, aligns with the expectation about Hypothesis 1.

4.4. Cross-sectional Results – Hypothesis 2

Towards the implementation of the OLS estimation method, this paper collected information from the 100 sampling companies about the skill sets of all candidates, as well as financial data for the control variables, namely the 3 factors from the Fama and French model, and gross profit margin, performance, and leverage. Each of the variables is used two times per company to include the figures linked to both dates of the announcements. Finally, each variable consisted of 100 observations, as in each firm the data linked to the announcements for the appointments of the current CFOs were subtracted by the numbers at the point of time linked to the announcements for the hirings of the previous candidates. The results derived via the OLS method are shown in Table 4. The first column depicts the coefficients with the p-values, while the second column depicts the results when the regression is checked for robustness.

Table 4

Panel A - Linear regression

ICARs	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
CFOSkills	0.003	0.004	0.73	0.469	-0.005	0.011	
IRm	0.181	0.25	0.72	0.472	-0.317	0.678	
ISMB	-0.065	0.606	-0.11	0.915	-1.27	1.14	
IHML	0.451	0.52	0.87	0.388	-0.582	1.484	
IGr_Prof_Margin	-0.042	0.061	-0.69	0.494	-0.164	0.08	
IPerformance	-0.028	0.045	-0.62	0.539	-0.118	0.062	
ILeverage	0.00015	0.008	0.02	0.985	-0.015	0.016	
genderdiff	0.009	0.009	0.99	0.324	-0.009	0.026	
outsidediff	0.00046	0.011	0.04	0.967	-0.022	0.023	
intcfoskills_outsid	0.0072	0.005	1.40	0.165	-0.003	0.017	
e							
Constant	0.003	0.012	0.23	0.822	-0.02	0.026	
Mean dependent var		-0.005	SD dependent var			0.040	
R-squared		0.066	Number of obs			100	
F-test		0.629	Prob > F			0.786	
Akaike crit. (AIC)		-348.316	Bayesian crit. (BIC)			-319.659	

*** $p < .01$, ** $p < .05$, * $p < .1$

Panel B - Linear regression – Robustness Check

ICARs	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
CFOSkills	0.003	0.003	0.96	0.342	-0.003	0.009	
IRm	0.181	0.284	0.64	0.527	-0.384	0.746	
ISMB	-0.065	0.52	-0.13	0.9	-1.099	0.968	
IHML	0.451	0.611	0.74	0.463	-0.763	1.665	
IGr_Prof_Margin	-0.042	0.048	-0.87	0.385	-0.138	0.054	
IPerformance	-0.028	0.022	-1.30	0.197	-0.071	0.015	
ILeverage	0.00015	0.007	0.02	0.983	-0.014	0.014	
genderdiff	0.009	0.007	1.33	0.187	-0.004	0.022	
outsidediff	0.00046	0.01	0.04	0.965	-0.02	0.021	
intcfoskills_outside	0.0072	0.004	1.69	0.095	-0.001	0.016	*
Constant	0.0026	0.01	0.27	0.791	-0.017	0.022	

Mean dependent var	-0.005	SD dependent var	0.040
R-squared	0.066	Number of obs	100
F-test	0.904	Prob > F	0.533
Akaike crit. (AIC)	-348.316	Bayesian crit. (BIC)	-319.659

*** $p < .01$, ** $p < .05$, * $p < .1$

Table 4 shows the coefficients between the dependent and each one of the independent variables and the p-values of the coefficients. Panel A shows the results from the OLS regression and Panel B shows the results after testing for robustness. As can be seen by the tables, most of the p-values remain in high levels even with robustness test. However, the coefficients of the percentages of gross profit margin and performance are statistically significant and negative at the confidence levels of 38.5% and 19.7% respectively. When the model controls for the difference of the two CFOs' genders, this variable invokes a significantly positive influence to CARs at the confidence level of 34.2%. Additionally, CARs appear significantly positive relationship with the interaction of the CFO's skill sets and their differences regarding their dual role as CFOs and members of the Board at the confidence level of 9.5%.

Despite the statistical insignificance between almost all variables at the confidence level of 10%, both with and without check for robustness, it is important to analyze the kinds of these relationships that still hold even in minorities of the sampling firms.

Table 4 shows that compared to the previous CFO, any additional skill that his or her successor possesses leads to an increase in the mean cumulative abnormal returns by 0.313%². This change is statistically insignificant with its p-value standing at 0.469. After the robust check, the coefficient between CARs in percentages and CFO skills remains at the level of 0.00313 and although the p-value decreases at 0.342, this coefficient is again statistically insignificant at the confidence level of 34%. Consequently, the relationship between the differences of the abnormal returns and the skill sets of the CFOs is both economically and statistically insignificant. However, the resulting coefficient aligns with the expectation made in Hypothesis 2. Companies hiring CFOs with more apparent dominance of their skills against their predecessors, experience higher abnormal returns during the days around the recruiting announcement.

Moreover, despite the statistical insignificance of its influence, the market return affects the abnormal returns positively, indicating that the appearance of systematic risk makes stock anomalies go up. The market return affects the abnormal returns insignificantly positively, with the coefficient fluctuating at 0.181 and its p-value equaling to 0.527 after testing for robustness. The percentages of the coefficients for the factors SMB and HML fluctuated to -0.65% and 0.451% respectively. The

² While the coefficient shown in Table 4 is 0.00313, this figure is expressed in units, and since the changes in CARs are expressed in percentages, this modification occurred by multiplying with 100.

coefficient of SMB is highly insignificant with its p-value being equal to 0.90, while the relationship between the HML factor and CARs is statistically significant at the confidence level of 46.3%. The forementioned levels in p-values occur when the model is tested for robustness.

Regarding the firm-control variables, firm characteristics affect the abnormal returns differently, with the increase of performance and leverage leading to decreases of abnormal returns, in contrast to the influence of profit margin, which is positive. More precisely, when the difference in profit margin and performance increase by 1%, the CARs are decreased by 0.0733% and 0.033% respectively, and when the difference in leverage increases by 1%, the difference between the abnormal returns decreases by 0.00185%. Like the other three variables, these regressors create statistically insignificant relationships with the CARs. The p-value of the coefficient Leverage fluctuates to 0.983, which renders its influence to the abnormal returns as totally insignificant. This coefficient is characterized by total economic insignificance too, with the coefficient accounting for a value close to zero.

4.5. Cross-sectional Results – Hypothesis 3

Finally, the role of the three governance variables is investigated. More precisely, Table 4 shows that the difference between the genders of the two CFOs in each company impact the abnormal returns significantly positively at a confidence level of 18.7% and with its coefficient amounting to 0.009. When the successor is male, while the predecessor was female, the abnormal returns of the company increase by 0.9%. According to the same table, the difference regarding the duality of current and previous CFOs negatively affects CARs, which decrease by 0.046% in case the successor, unlike his or her predecessor was also appointed as director. Finally, the relationship between the main dependent variable used to test Hypothesis 3 and the difference in CARs is significantly positive at the confidence level of 9.65% after testing for robustness. This finding aligns with the expectation for Hypothesis 3, shedding light about the market perceptions of CFOs' qualification when interacting with their independence. The difference between the CFOs' dualities interacts with each other's skills, it is inferred that out of the companies where unlike their previous CFO, their current CFO is a Board Member, these that appoint a CFO who presents higher difference in his or her skills from his or her predecessor, experience an abnormal return higher by 0.7%.

Overall, the model indicates that there is no statistically significant relationship between no one of the regressors and the regressed variable. Moreover, CARs and CFO skills are described by insignificantly positive relationship. Despite the alignment of the result with the expectation of this paper about Hypothesis 2, the found relationship is not significant even at the confidence level of 10%. The problem of statistical insignificance is not removed for any variable even when the model is checked for robustness. The R-squared is 0.066, meaning that all explanatory variables affect only 6.6% of the changes in the cumulative abnormal returns. Both independent variables which were used to

check the second and third hypotheses, as well as the control variables, smoothly affect the dependent variable, as a large part of the changes in the percentages of CARs is not explained by none of the regressors of the model.

5. Discussion and Conclusion

5.1 Discussion and Limitations

The main objective of this study was to investigate the effect on abnormal stock returns of appointments of CFOs who possess wider skill sets compared to the abnormal returns at the point of time of their predecessors' appointments. Moreover, this study researched the empirical relationships between the difference in the CARs around the two sorts of appointments and the difference in the CFO skill sets and between the difference in CARs and the difference between the duality and lack of duality of the two candidates for the varying levels of their difference in skill sets. Based on previous literature, it was expected that the market would record more intensively positive reaction to the hiring announcements of the current CFOs, and that this relative enthusiasm would be attributed in cases that the successors were more skilled than their predecessors. Last, it was expected that the difference between the dual or single participation of the CFOs in inside and outside boards for the varying levels of difference in skill sets would significantly positively influence the difference in CARs. Within the conduction of event studies and the construction of an OLS model, this paper investigates the three research questions, which were represented by Hypotheses 1-3, this paper finds positive average difference in CARs during the event window $[-1,+2]$, and positive relationship between the difference in CARs and each of the two forementioned regressors. All the findings align with the expectations, but they are characterized by statistical insignificance at the confidence level of 10%.

The realization of event studies to a total of 200 CFO announcements derives statistically significant results for the announcements of appointment of both the previous and the current CFO of the sampling companies. However, the differences in the two stock market reactions to the appointment of the two CFOs are economically and statistically insignificant among all the days of the event window. The implementation of the OLS method towards the search of an empirical relationship between the CARs' difference and the disparity between the skills of the previous CFOs and the capabilities of their successors brings upon a statistically insignificant and negative coefficient between the forementioned variables. Moreover, the CARs' differences generated statistically insignificant relationships with the control variables describing the size and the extents of misevaluation, profitability, performance and leverage. The situation is similar when a robustness test is implemented, but the only striking change is that Performance becomes the only variable that affects statistically significantly the CARs.

Despite the statistical insignificance observed over all the variables, this paper contributes additional insights to the scholar community about the different factors that investors consider, as well

as the speculations made towards the announcement of a CFO appointment when all the other factors are in the same pitch. Because the relationships described by the resulting coefficients still are experienced by some of the sampling firms, it is worth discussing the logic lines behind the existence of every single interaction. Before the provision of any explanation, it is useful to notify several limitations under which this study was conducted.

The event study and the OLS method covered 100 US firms derived from the S&P 500 index. The statistical insignificance of the average differences in CARs, as well as the coefficients between the model variables, is attributed to their high variations, compared to their means. Therefore, the t-statistics were lower than the critical value and the derived coefficients could not hold for most of the sample firms. Future studies can easily overcome this problem within the extension of the sample size, which would contribute to the shrinkage of the standard deviation of the sample and the improvement of the mean's robustness against extremely values which dropped the variables and coefficients. Moreover, the R-squared leveled to 0.036. The model included the dummy variable Diff_Outside, to define the impact to CARs when the model also controls for duality of the CFO. As discussed in Section 3.2, this factor plays an important role, because the simultaneous participation of the CFO to the inside and outside board can harass the governmental independency and negatively affect the shareholders' perceptions about the management efficiency of the firm. However, it is crucial for all variables that describe governance characteristics, both Diff_Gender and Diff_Outside to be checked if they are related with any omitted variable that also affects CARs. These variables concern other information for the firms' governance and is hard to be found, as a part of it might not belong to the sort of public information. However, when the two variables for governance characteristics are omitted, the model becomes less robust to the problem of omitted variables and their inclusion is crucial. Hence, the suggestion for the solution of this problem is again extend the sample size. However, future studies could also include some variables that reflect some information about the role of CEOs towards the recruitments of CFOs.

Last, but not least, as mentioned in the section 3.2.2 the selection of the skills of the CFOs was realized by looking at announcements published in press releases by the sample companies. In addition, the measurement of the skills was guided by the skills map made by Adams et al., (2018), who categorized the skills of directors based on the corporate working departments and the corporate levels that they possessed in the past. In many cases, in the CV of an individual it was stated that he or she possessed only skills in Accounting & Finance, and they had also served in executive and outside board position. They were also said to have provided consultancy services and that they were forming relationships with investors. Although these skills are something different and further to the Accounting sector, they were not included in the forementioned map and they were considered as a part of skills in Accounting & Finance. This contradicts to the knowledge offered by Faravo, (2001), who includes the

skill of effective communication with investors as a feature of broadening of the CFO role. Future studies can better bridge the gap by first constructing a bigger map to categorize the skill sets of executives and directors, because the accuracy of evaluation of the qualifications of executives and directors is crucial to the quantification of their capabilities and it assures the consistency of sampling. As for the interpretation of the results, the paper provides some thoughts describing the causes of the figures of abnormal returns, as well as their relationships with the variable of the CFOs' skill sets and the control variables.

To begin with, the differences between the CARs linked to the two announcements one day before the events, on the days of the events and two days afterwards are equal to -0.038%, 0.0333%, and -0.503% respectively and the p-value of all these abnormal returns fluctuate near to 0.5. The negative signs of the abnormal returns prior to and after the event days are consistent with an argument stated by Mian, (2001), who suggests negative market reactions to CFO turnovers. Therefore, one interpretation of the negative reactions to the appointments of the current CFOs compared to the returns around the recruitments of the previous executives, could be related to the condemnation of change in the positions of CFOs by investors, who might indicate some extent of insecurity towards potential changes in the internal environment of corporate administration systems. However, the positive change of the stock anomalies on the days of the events could justify the positive enthusiasm of stock investors when they hear that the financial leadership of a company will be continued by a more experienced CFO. The switching between negative and positive market reactions each passing day shows that stock investors are initially suspicious to rumors transmitting that the CFO of a company is going to be succeeded, because the bad performance of a financial leader is always a probable reason for a CFO turnover. Their negative reaction is overturned when the name of the new CFO is announced and when it is realized by the investors that the potential successor possesses a wider skill set, they react positively, invoking an increase in the firm's stock. On the next two days, the negative reaction returns, but it might not be attributed to concerns of the investors about the future financial performance of a company the successor of which is more skilled. The new negative sign in the CARs during two days after events on average occurs probably as an indication of concession of the investors' initial enthusiasm.

Another speculation that might hold is that in large and international firms, the hiring process is seriously considered by both the board and the shareholders of the company. Large firms with high extents of profits and market capitalization can attract highly qualified and charismatic financial leaders promising high stock stakes and alluring amounts of salaries. On the other hand, individuals that are going to sign contracts as CFOs possess some extent of hybris, which leads them believe that their working quality and experience is worth of financially high compensations, and in their attempt to achieve this benefit, they might strongly strive for financially attractive agreements towards their negotiations with candidate firms. Hard negotiations between management and candidates might

generate high concerns among the stock market due to the uncertainty of hiring a candidate who is highly qualified. This development is enough to justify the occurrence of negative abnormal returns in a period prior to the event, with plentiful rumors making the feeling of uncertainty more stressful.

Another striking point observed in the two event studies concerns the low economic significance of the abnormal returns recorded in both event studies among all the days of the event windows. This trend could be translated under two scenarios. The first one supports a fully efficient financial market, where all sorts of information is learnt on time by all investors, resulting to the fluctuation of the abnormal returns in spectacularly low levels. The second scenario is related to an overall apathy of the investors to the changes in financial leaderships of companies, because they might ignore, or fail to recognize the influence of the CFOs' experience and skills to the financial development of firms. This trend contradicts the context of the large-sized firms, like the majority of the sampling companies. The sample used in this study derives from the index S&P 500 in which the 500 largest firms in the US market are included. Large firms consider the process of a CFO appointment seriously, due to the large scale of activities in which they engage and the wide range of partnerships that they have developed and keep developing with other large enterprises. In these cases, they need a financial leader who is skilled not only in Finance, but also in strategy, leadership and communication. Therefore, an apparent argument is that the slight movements of the abnormal returns occur in companies with high and permanent profitability and size. Hence, the addition of a new more skilled financial leader leads to more intensive shocks in the stock market, because the shareholders' engagement is bigger, and investments in stocks of big companies can offer economically significant benefits to portfolios. All these facts explain why an increase in CARs is more rational and thus more expected. Nevertheless, in case that a CFO is less skilled or approved less qualified than his predecessor, the shareholders might trust the efficiency of the firm's management and they would expect direct action of the board members, to tackle the problem of the mismanagement occurring by the financial leadership. Therefore, the negative change in stock anomalies is justified by the lack of panic by the shareholders who keep trusting the future of the company in its management.

As for the results occurring within the cross-sectional analysis, the dominance of the successors' skill set over their predecessors' total qualities leads to a decrease in the difference between the cumulative abnormal returns recorded during the events of the two consecutive announcements about CFO appointments that the companies realized on average. Since the CARs around the event for the recruitment of the current CFOs occurred later than the stock changes around the appointments of every previous candidate who was matched to the present financial leaders, the only scenario that can have led to the shrinkage of the gap between the two sorts of stock anomalies is the decrease of the CARs related to the hirings of the most recent CFOs.

The relationship between the difference in CARs and the difference in skill sets is positive, yet

insignificant at the confidence level of 10% (p-value 0.342). The occurring kind of relationship aligns with the expected hypothesis that was predicting positive relationship between stock anomalies and CFO qualification and agrees with the suggestion by Datta, et al., (2022) for positive relationship between CFOs' managerial qualification and abnormal stock returns. The positive relationship between CFO skills and CARs shows the investors' positive perceptions of hiring as CFO a candidate with skills and knowledge further to Accounting and Finance, which lead the stock prices to spectacular rises. The resulting increase in CARs, is followed by the dominance of the most recent CARs over the older ones. When the market return increases, the differences in CARs are widened by 0.181%. Despite the statistical insignificance of this relationship (p-value 0.284), there are still some companies out of the sample the returns of which follow the market trend. The positive relationship is something that gives a signal of market sensitivity, because a stock is sensitive to overall market movements, due to business specific characteristics, seen by financial data depicted in the financial statements. Additionally, the positive coefficient of the market return reflects the systematic risk absorbed by the firm's stock, which makes the investors' need for compensation against the risk higher. Hence, when the performance of the market and the firm follow the same trend. As the market return increases from the time of the first CFO's appointment until the second CFO's appointment, the CARs become higher too. Moreover, the abnormal returns could increase due to increases in the market return after releases of positive news for the firm performance, or periods of market growth.

The interpretation of the results about the coefficients of the three factors of the Fama and French model is another interesting issue that is worth of being discussed. The rise of SMB by 1% leads to the decrease of the abnormal returns by 0.065%. In other words, larger firms, which attribute higher returns than the small companies, experience more favorable abnormal returns compared to the firms with lower market value in their stocks. This finding aligns with the implication occurring by the findings of Rajan & Servaes, (1997), who argue that large firms attract more analyst coverage, resulting to the investors' better informing about the performance and evolution of big companies compared to the information they receive for small firms. This finding implies that since the investors interest is attracted more by large firms, they tend to react more favorably to positive announcements, like the hiring of a CFO who is better skilled than the predecessor at the moment of his or her appointment.

Unlike the SMB factor, HML positively affects the abnormal returns around the hiring announcements of CFOs. Firms with higher book to market ratio experience higher cumulative abnormal returns than firms with low counterfactual. This trend is normal, because firms with high book to market ratio are more undervalued by the market than the firms with low book to market ratio are. Consequently, undervalued firms have more space for financial improvement, which demands a more efficient management. Therefore, stock investors react with higher enthusiasm in the pronouncements of appointments of more experienced CFOs in more undervalued firms. Better CFOs improve the

financial functionality of a firm and its strategic power, and these benefits are more appreciated in firms with less efficient financial flexibility and credibility, which might be attributed to corporate mismanagement.

The variables describing the profitability, performance and financial flexibility of the firms bring upon economically significant changes in the abnormal returns, despite the lack of dominance of this trend in a majority of the sample. The increase of each of the gross profit margin and performance ratio by 1% leads to a 0.042% and 0.028% decrease of CARs, whereas the 1% level-up of the leverage ratio increases the abnormal returns by 0.00015%. Profit margin and performance are statistically significant at levels 38,5% and 19.7% respectively, while leverage is totally insignificant with p-value 0.983. For all these variables, a significant majority of the sample firms experience drop in their CARs within the increase of the gross profit margin and the FCFs to Total Assets ratio, while the increase of leverage leads CARs to growth. The simplest assumption behind this trend is that in companies with low financial strength and flexibility, a CFO with wider skill set is considered to impact the firm more remarkably, due to a greater space given for growth in profits and earn of cash. These firms have higher need of restaffing financial leaders who can form effective financial strategies and develop useful investor relationships to accomplish the demanded financial goals. Similarly, firms with lower financial self-sufficiency, which is equivalent to high level in leverage, experience higher market shocks, because shareholders entrust a skilled CFO with higher enthusiasm to companies with higher amounts of debts, and thus higher probability of defaulting. With the strategic planning and leadership, as well as the expansion of investor relations being more difficult for firms with high leverage, an experienced CFO, can offer a more sensed impact, thanks to their past engagements in plentiful corporate departments.

Another important remark is that the negative relationship between CARs and performance aligns with the arguments stated by Jensen, (1986), who claims that firms with high free cash flows (FCFs) are exposed to high costs of agency costs of FCFs, overinvestment risks, and weakness in agreement between shareholders and agency about the management of the additional cash earned by the company. In a lot of cases of creation of excess cash, when the free cash flows are positive, they are usually endangered of getting squandered (Richardson, 2006). The negative relationship observed in this study aligns with the investors' tension to avoid the investment in companies the assets of which contribute to the creation of excess cash. The logic between this strategy relates to their desire to avoid consuming precious time by their engagement in disputes with the companies' agencies. All these facts can sufficiently explain the trend between CARs and performance. While investors feel security upon the announcements of appointments of highly qualified CFOs, even in firms with deficient cash, they also intend to adverse the risk occurring by their potential disputes with the agencies of firms that present high excess cash and overinvestment risk. In contrast, investors seem to entrust efficient CFO transfers in companies with lower ratio of FCFs to Total Assets. These companies possess lower amounts of cash,

and they are not significantly exposed to the overinvestment risk and high agency costs of FCFs. Thus, the low performance of a company seems to constitute a positive criterion for investors upon the announcement of the appointment of a good CFO.

Finally, the relationships between the three explanators that describe governance characteristics of firms and the abnormal returns tell us a lot about the market perceptions about the extent of a company's compliance with rules and initiatives related to G (governance) from ESG. Regarding the genders of the CFOs, it seems that when the previous CFO of a company was female, while her predecessor is male, the abnormal returns of this company increase by 0.9%. This trend is statistically significant at the confidence level of 18.7%. Gillan, Koch, & Starks, (2021) notify that firms with several leadership characteristics, one of which relates to the acquisition of financial leadership positions by women, improve their ESG scores. Investors who show sensitivity to ESG initiatives intend to form portfolios including companies that are both financially profitable and ESG responsible. However, the trend occurring by the findings of this paper, reflects a higher trust of investors to male financial leaders. This relationship reflects a stock market consisting of traditional stock investors, who limitate their investing criteria only in the return to risk optimization. They might also consider that male CFOs have more efficient leadership characteristics and thus they react more positively around announcements of hiring male individuals as CFOs.

Stock investors show a similar disregard towards the characteristic of independency. The variable `Diff_Outside` shows how the abnormal returns move when it is announced that unlike the previous, the current CFO is also hired as Board Member. In this case, the market responds positively too, with the CARs increasing by 0.046%. However, this relationship is statistically insignificant with p-value equal to 0.965. A reasonable explanation of this result is attributed to the market considerations of the benefits that a CFO and director of a company can offer to the financial performance and trasparency of a firm due to his or her increased power in the management. Stock investors seem not to priotitize in independence in the governance of firms, believing that in several cases, it is crucial to avoid retaining this principle to obtain better financial efficiency. This connotation justifies the positive relationship between CFO duality and CARs.

Finally, the interaction of CFO skills with the duality of the CFOs -the main independent variable for the Hypothesis 3- significantly positively affects abnormal returns at the confidence level of 9.65% and making them go up by 0.7%. This finding aligns with the expectation for Hypothesis 3, as it is implied that the difference in stock market reactions is more favorable to announcements of individuals as both CFOs and Board Directors when the difference between the skills of previous and current CFO is widened. It can be assumed that investors feel more secure with highly experienced CFOs that are promoted for both inside and outside board leaders. Their expertise in strategic planning and their better developed leading spirit can infer good results in the governance of a company.

5.2 Conclusions

This study used cross-sectional analysis and event study techniques to examine the effect of CFO appointments on stock returns. The Capital Asset Pricing Model (CAPM) was utilized to estimate expected returns, and the event research computed cumulative abnormal returns (CARs) surrounding the announcement dates. The association between CARs and CFO skill sets was evaluated by a cross-sectional analysis that accounted for several financial and firm-specific variables, including market returns, firm size, value, profitability, performance, and leverage.

The findings of the event analysis showed that the market responded significantly to CFO pronouncements of the successors. The day prior to, the day of, and the two days following the announcements all saw notable CARs. Compared to their predecessors, the market responded more favorably to the current CFO appointments, particularly on the day of the announcement, suggesting that the market was more enthusiastic about the new appointments. The changes in CARs between the two sets of announcements were not statistically significant because of substantial variability, even if these reactions were statistically significant when observed separately.

A positive but statistically insignificant connection between CFO skill sets and CARs was found by cross-sectional research. Although there was a trend showing that more experienced CFOs received better market reactions, the link was not statistically significant for the entire sample. The intricacy of forecasting market reactions based purely on control variables is highlighted by the lack of significant impact that control variables including market returns, company size, value, profitability, performance, and leverage showed on CARs.

The study has many limitations that were noted. The complexity of market conditions and firm characteristics may not have been adequately captured by the sample size of 100 S&P 500 firms, and the considerable variability in CARs relative to their means may have contributed to statistically inconsequential results. The qualitative nature of skills and the reliance on publicly available information, which did not fully capture all pertinent parts of a CFO's qualifications, made it difficult to appropriately evaluate CFO expertise. By increasing the sample size, adding more thorough assessments of CFO competencies, considering additional governance factors, and examining the impact of CEOs on CFO hires, future study may increase robustness.

The study has some significant ramifications for comprehending how the stock market responds to CFO hires and how investor opinions are influenced by CFO expertise. Investors appear to respect the additional knowledge and leadership that more seasoned CFOs bring to their positions, based on the market's positive response to their hiring. The statistically negligible correlation between CARs and CFO abilities, however, raises the possibility that the market is unaware of or undervalues the contribution that highly experienced CFOs can make. This result emphasizes the need for more study

using a bigger sample size and more thorough metrics to fully comprehend the complex relationship between CFO appointments and stock performance.

Both separate CARs and the difference between the abnormal returns of the two sorts of announcements are not economically high. This implies that although stock investors have preferences over the successor or the predecessor, based on their dominance in skill sets, they do not express this preference intensively and they let the abnormal returns move slightly. The slight changes in CARs hold in the OLS model too, where the regressors do not affect them intensively. The slight movements of CARs are justified by both the small sample, and the origin of the companies, as all of them belong to the 500 best S&P companies in the US market. Future literature can overcome this problem by expanding the sample size and obtaining firms with smaller sizes to test if the CFO's skills attribute more intense impact in the CARs.

In conclusion, this study highlights the extent of significance of CFO expertise in influencing investor opinions and offers insightful information about how the stock market responds to CFO hires. Although the data show a tendency for slightly favorable market responses for CFOs with greater experience, care should be taken in interpreting these results due to the lack of statistical significance. To give a more thorough knowledge of how CFO hires affect stock performance, future research should try to address the limitations found in this study and build on its conclusions. By doing this, scholars will be able to provide more thorough and useful information on the strategic significance of CFO appointments in corporate governance and market dynamics to investors, businesses, and policymakers.

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