

A PROFESSION IN CHANGE: CHIEF FINANCIAL OFFICERS' CHARACTERISTICS AND BACKGROUNDS IN LARGE GERMAN COMPANIES

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Abstract

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Growing competition, increasing uncertainty, globalization, and deregulation made the nature of what companies do increasingly complex, and especially corporate accounting has become more and more important. This has put chief financial officers (CFOs) on the spot and into a key leading position. This paper commences by briefly reviewing extant empirical findings on CFO characteristics and their effects on firm processes and outcomes. Then, it investigates how the profession of the CFO has changed over time by analyzing changes in demographic characteristics and professional backgrounds of CFOs of German DAX companies over the past 20 years. The findings show changes in the CFO profession specifically with regard to CFO appointment age, professional experience (i.e., breadth of non-company and non-industry lifers, hiring of company and industry outsiders), and educational background (i.e., the role of educational level). Furthermore, the results for DAX CFOs are compared to data pertaining to the CFOs of midcap companies (i.e., MDAX). The respective analyses indicate a noticeable difference with regard to appointment age, professional experience (i.e., work experience, percentage of company-lifers, international experience), and educational level.

Keywords: Chief Financial Officer, Professional Background, Demographic Characteristics, Upper Echelons

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1. INTRODUCTION

For several years now, the profession of the chief financial officer (CFO) is gaining more and more importance as highlighted for instance by the latest

survey by the Hays Group on the development of executive and top management positions (FINANCE, 2018). Growing competition, increasing uncertainty, globalization, and deregulation make corporate actions and especially corporate

accounting more complex, which has put CFOs on the spot and into a key leading position (Aier, Comrix, Gunlock, & Lee, 2005; Liesman, 2002). Along these lines, the roles of CFOs have changed “[...] from bean counters to spin doctors” (Zorn, 2004, p. 345) and nowadays CFO’s duties are not limited to functional aspects of accounting and financial reporting but increasingly include planning, designing and implementing of company strategies (Zorn, 2004). Moreover, CFOs are now essential members of senior executive teams and are besides the CEO the next most important and powerful actor within companies (Caglio, Dossi, & Van der Stede, 2018; Datta & Iskandar-Datta, 2014; Hoitash, Hoitash, & Kurt, 2016). In addition, CFOs are the company’s conscience and the public face to the investors (Cunningham, 2005; Krishnan, Visvanathan, & Su, 2009). While CFOs – due to their functional expertise – often still act as gatekeepers or watchdogs, besides this they are increasingly involved in strategy and managerial decision-making and act as business partners of the CEO (Doron, Baker, & Zucker, 2019; Caglio et al., 2018; Hoitash et al., 2016). Sandy Cockrell, Global Leader of the CFO Program of Deloitte refers to the changed role of CFOs as follows:

“If you think about the CFO’s role in the last five to 10 years, more and more responsibility has been put on their plate. [...] The CFO is in a position where they have to make choices, and articulate their rationale to the CEO and the board as to how they arrived at their recommendations” (Teampay, 2019).

The changing role of the CFO has also induced increasing scholarly interest on CFOs as powerful and important actors in companies and on their effects on firm processes and outcomes. For example, management accounting scholars investigate whether and how CFO characteristics such as age, tenure, or educational background determine an organization’s propensity to use innovative management accounting systems (Naranjo-Gil, Maas, & Hartmann, 2009), the extent of use of cost management systems for decision-making, control and performance evaluation (Pavlatos, 2012), the sophistication of value-based management (Burkert & Lueg, 2013), the likelihood of accounting restatements (Aier et al., 2005), managerial succession (Büttner, Schäffer, Strauß, & Zander, 2013), accounting conservatism (Francis, Hasan, Park, & Wu, 2015), the quality of accruals (Barua, Davidson, Rama, & Thiruvadi, 2010), earnings management (Dauth, Pronobis, & Schmid, 2017; Ge, Matsumoto, & Zhang, 2011; Liu, Wei, & Xie, 2016; Peni & Vähämaa, 2010; Qi, Lin, Tian, & Lewis, 2018), investment and finance decisions (Hoitash et al., 2016), a firm’s debt structure (Fogel, Jandik, & McCumber, 2018), acquisition likelihood and acquisition outcomes (Huang & Kisgen, 2013), or CSR activities (Sun & Rakhman, 2013).

Literature provides various theoretical explanations for why focusing on the individual characteristics of executives constitutes a meaningful endeavor. In particular, upper echelons theory (UET) proposes that executives’ individual characteristics determine how they assess or interpret certain situations and, therefore, affect their decisions and behaviors and thus ultimately organizational

outcomes (Hambrick, 2007; Hambrick & Mason, 1984). In addition, alternative theoretical perspectives such as resource dependence theory (RDT), human capital theory (HCT), or social capital theory (SCT) suggest that a closer look at individual characteristics of executives may yield important insights regarding organizational behavior and organizational outcomes.

The current paper investigates the individual characteristics (i.e., demographic characteristics and professional background) of CFOs of large German companies (i.e., DAX companies) for the year 2018 and relates the findings to those provided by Schäffer, Büttner, and Zander (2008) for the years 1998 and 2008. In an additional analysis, we explore (for the year 2018) potential differences between CFOs of DAX and CFOs of MDAX companies. Specifically, we seek to answer the following research questions:

RQ 1: How did the patterns of demographic characteristics and professional backgrounds of CFOs of DAX companies change over time?

RQ 2: Are there remarkable differences regarding the demographic characteristics and professional backgrounds between CFOs of DAX companies in comparison to CFOs of MDAX companies?

Our paper makes three contributions. First, we briefly outline the most important theories management accounting and control scholars draw upon when investigating the various CFO characteristics and their effects on firm processes and outcomes. Second, we review the available empirical findings relating thereto. Third, and most important, the paper builds on the investigation of Schäffer et al. (2008), providing comparable data on DAX CFOs for the years 2008 and 1998 and extends it to the year 2018. In doing so, the current paper does not only draw a picture of the current status quo of demographic characteristics and professional backgrounds of DAX CFOs but also allows an examination of changes over a 20-year time horizon. Additionally, we explore potential differences between CFOs from DAX companies and those from MDAX companies for the year 2018.

The paper proceeds as follows. In Section 2, we briefly discuss relevant theories, outline why focusing on demographic characteristics and professional backgrounds of CFOs seems meaningful, and review prior studies on CFO characteristics and their influence on firm outcomes. Then, we explain the underlying methodology and the characteristics that we investigate. We present our findings in Section 4 and discuss them in Section 5. We end up with a brief conclusion in Section 6.

2. THEORETICAL BACKGROUND AND LITERATURE REVIEW: THE ROLE OF CFOs AND THEIR INFLUENCES ON ORGANIZATIONAL OUTCOMES

In the strategic management literature, research concerned with firms’ top executives (i.e., upper echelons) received considerable and continuously growing attention (e.g., Carpenter, Geletkanycz, & Sanders, 2004; Hambrick, 2007). In this research, the most often investigated executive by far is

the CEO. The accounting literature, however, has only recently commenced to focus on individual top-level executives (Burkert & Lueg, 2013; Büttner et al., 2013; Ge et al., 2011; Huang & Kisgen, 2013; Naranjo-Gil et al., 2009). Consequently, research on CFOs and their role with regard to firm processes and outcomes is – compared to CEO-focused research – in a rather early stage but is evolving. The change in the profession and the rise of the CFO position to the most influential one next to the CEO (Caglio et al., 2018; Datta & Iskandar-Datta, 2014; Hoitash et al., 2016) calls for an expansion of research attention onto the influence and role of CFOs in determining firm processes and outcomes. Hoitash et al. (2016) set out that, although the popular press discusses the new CFO role extensively, empirical research is lagging behind. As the CFO is the top-level executive that is responsible for companies' accounting and finance functions, focusing on CFOs for instance, allows more direct examinations of the relationship between CFO characteristics and accounting choices (Ge et al., 2011). Moreover, due to increased shareholder activism, higher shareholder expectations, more active M&A activities, and a more complex accounting environment, CFOs are nowadays more accountable for general organizational performance (Chahyadi & Abusalim, 2011) and are directly responsible for firms' accounting and reporting policies. Finally, as CFOs are increasingly involved in strategy development and strategic decision-making (Caglio et al., 2018; Datta & Iskandar-Datta, 2014), investigating CFO characteristics may also yield important insights regarding strategic management processes and outcomes.

In the following, we briefly outline the theoretical underpinnings of empirical research on CFOs' characteristics. Then, we review existing empirical studies concerned with the relationship between specific CFO characteristics and firm processes and outcomes in more detail.

2.1. Theories relevant to individual characteristics of CFOs

Existing research draws on several theories to explain the role of top managers' – and CFOs in particular – and their characteristics and experiences in determining corporate outcomes. These theories include upper echelon theory (UET), resource dependence theory (RDT), human capital theory (HCT), or social capital theory (SCT).

UET postulates that executive's characteristics, experiences, and values influence their interpretations of situations and contexts and thus affect their strategic choices and behaviors – and ultimately organizational outcomes (Hambrick, 2007; Hambrick & Mason, 1984). It builds on the theoretical premises of early Carnegie School scholars (i.e., Cyert & March, 1963; March & Simon, 1958) that complex decisions are decisively influenced by bounded rationality and that complex, uncertain situations are not objectively "knowable" but merely interpretable (Mischel, 1977). Consequently, in order to understand organizational behavior and outcomes, the research shall focus on the most powerful actors in organizations (Hambrick, 2007).

UET further holds that demographic characteristics such as age, organizational tenure, educational and functional background or affiliations are meaningful proxies for executives' cognitive base and values and thus can be studied as explanations of organizational outcomes (Hambrick, 2007). Decision-making and changes in strategic orientation are a result of information processing and the cognitive base of the executive determines the lens through which information are processed (Wiersema & Bantel, 1992). Management accounting and control systems are an aspect of organizational structure and an important dimension of strategic decisions and because CFOs are directly involved in the design and use of those systems, influences of CFO characteristics on management accounting and control systems can be assumed (Ge et al., 2011). Moreover, other firm outcomes might be explained by the CFOs' cognitive base and style since CFOs regularly collect and analyze financial and non-financial data and derive recommendations needed for the CEOs and boards' decision-making (Hoitash et al., 2016). Empirical accounting studies are drawing on the UET to explain, for instance, the effects of CFOs demographic characteristics on the application of management systems (Burkert & Lueg, 2013; Pavlatos, 2012), management accounting innovation (Naranjo-Gil et al., 2009), or accounting decisions (Francis et al., 2015; Ge et al., 2011; Huang & Kisgen, 2013). Overall, the available empirical evidence suggests that individual characteristics of CFOs matter significantly in both high-profile strategic decisions (e.g., acquisitions) and second-order decisions (e.g., details of firms' voluntary disclosure decisions) (Bamber, Jiang, & Wang, 2010).

Understanding the "ecology" of an organization enables important insights into organizational behavior (Hillman, Withers, & Collins, 2009). Based on this idea, the RDT posits that organizations are open systems that depend on the contingencies in the external environment (Pfeffer & Salancik, 1978). External dependencies stem from various factors such as increased competition due to globalization, limited credit supply, or raw material shortages forcing companies to establish some degree of control over those resource dependencies (Drees & Heugens, 2013). Thus, RDT takes a different perspective on explaining organizational behavior than UET. Recent advancements of RDT include a stronger focus on specific individual actors (Hillman et al., 2009). Board directors, for example, are studied as they provide and ensure access to important resources such as networks, knowledge and insight, advice and counsel, legitimacy, and communication channels between the firm and external organizations and parties (Hillman & Dalziel, 2003). Drawing on RDT, accounting research has studied individual executives – in most cases CEOs – as key resource providers – for example, CEOs using informal ties for managing resource dependencies strategically (Westphal, Boivie, & Ming Chng, 2006) or outside directors bringing in fresh resources and supporting exploratory innovation (Kim & Kim, 2015). Based on RDT logic firms can acquire and expand necessary resources by hiring the right executives with a fitting

educational background and financial expertise (Hoitash et al., 2016). Hence, focusing on CFOs, based on the RDT logic, is further promising as CFOs play an important role in providing and collecting necessary resources to reduce external contingencies (Aier et al., 2005), significantly affect capital structure and acquisition policy (Huang & Kisgen, 2013), and influence firms' general decision-making and, ultimately, firm performance.

The fundamental premise of HCT is that the capacity of individuals to learn and improve their skills is of comparable value to other resources that are involved in the production of goods and services and thus constitute a form of capital (human capital) (Nafukho, Hairston, & Brooks, 2004). Human capital includes individual capabilities, skills, and experiences that are acquired through investing in training and education. Recently, HCT has been applied to the individual level of board of directors or top management teams (e.g., Bailey & Helfat, 2003; Buchholtz, Ribbens, & Houle, 2003) and also to CFOs (Büttner et al., 2013; Dauth et al., 2017). Based on HCT, empirical literature explains, for example, variations in executive succession through the distinction between specific and general human capital (Becker, 1993) and the degree of transferability of managerial skills across firms and industries (Bailey & Helfat, 2003; Büttner et al., 2013). Specific human capital relates to practical knowledge such as, in the case of the CFO, technical accounting knowledge (Baxter & Chua, 2008) or firm-specific trainings (Preisendörfer & Voss, 1990), while general human capital refers to broad knowledge and skills transferable to other companies or industries. Literature here suggest, based on HCT, differences for CEOs and CFOs

insofar that CFOs possess more transferable skills than CEOs who develop rather firm- and industry-specific skills (Büttner et al., 2013).

Core to SCT is the idea that goodwill others have towards an individual is a valuable resource (Adler & Kwon, 2002). Similar to physical and human capital, social capital facilitates productive activity through the relations among persons (Coleman, 1990). Thereby, the effects of goodwill flow from information, influence, and solidarity (Adler & Kwon, 2002). In empirical studies, SCT is applied, for example, to linkages of the executive's social capital to executive compensation (Adler & Kwon, 2002), debt contracting (Fogel et al., 2018), or career advancement (Schmid & Wurster, 2017). Dauth et al. (2017) argue that international connectedness - achieved through, e.g., international work experiences - positively relates to accounting quality although they find no evidence for that in their study.

2.2. CFO demographic characteristics and professional backgrounds in empirical studies

Table 1 summarizes available empirical research on CFO characteristics and their relationships with firm processes and outcomes and depicts the applied theoretical approaches and the examined CFO characteristics. The UET is the most prevalent theory used to explain the relationship between CFO characteristics and organizational behavior and outcomes.

Subsequently, we introduce the characteristics of CFOs that we examine later on in the empirical part of our paper and briefly discuss the corresponding empirical results of prior studies.

Table 1. Empirical studies on CFO characteristics, applied theories, and examined characteristics (own compilation) (Part 1)

Author(s)	Study focus	Sample	Theory				Characteristics				
			UET	RDT	HCT	SCT	Gender	Age	Education	Professional experience	Functional skills/orientation
Aier et al. (2005)	Effects of CFO characteristics on accounting restatements/errors	the US, n = 456 NYSE based companies, 1997-2002	✓*						✓		✓
Naranjo-Gil et al. (2009)	Direct effects of CFO characteristics on innovation and indirect effects on the impact of strategy and performance	Spain, n = 98 public hospitals, 1999	✓					✓	✓	✓	
Higgins and Gulati (2006)	Effects of CEO/CFO backgrounds on the number of institutional investors who came on-board for IPO	the US, n = 858 firms (Biotechnology), IPOs in 1979-1996	✓	✓		✓*				✓	
Krishnan et al. (2009)	Effects of CEO/CFO experiences on earnings management	the US, n = 354 companies (S&P 500), 2001-2005	✓*								✓
Bamber et al. (2010)	Effects of CEO/CFO characteristics on disclosure styles	the US, n = 303 managers	✓					✓	✓		✓
Barua et al. (2010)	Effect of CFO gender on accruals quality	the US, n = 2,622 observations, 2004-2005	✓*				✓				
Dyreg, Hanlon, and Maydew (2010)	Effects of CEO/CFO characteristics on firms' tax avoidance	the US, n = 1,138 firms, 1992-2006	✓*				✓	✓	✓	✓	✓
Li et al. (2010)	Effects of CFO qualification on the receipt of adverse SOX 404 opinions	the US, n = 2,937 firms	✓*							✓	✓
Feng, Ge, Luo, and Shevlin (2011)	CFOs and involvement in accounting manipulations (characteristics as one factor)	the US, n = 130 firm years, 1982-2005	✓*					✓		✓	✓
Peni and Vähämaa (2010)	Effects of CEO/CFO gender on earnings management	the US, n = 1,955 observations in 391 companies (S&P 500), 2003-2007	✓*				✓				
Ye, Zhang, and Rezaee (2010)	Effects of CEO/CFO gender on earnings quality	China, n = 5,216 firm observations, 2001-2006	✓*				✓				
Ge et al. (2011)	Effects of CFO characteristics on accounting choices through differences in risk attitude and confidence	the US, n = 2,565 firm years, 705 companies and 259 CFOs, 1999-2003	✓				✓	✓	✓		✓
Brochet and Welch (2011)	Effects of CEO/CFO experiences on financial reporting discretion	the US, n = 2,168 1990-2009	✓							✓	
Pavlatos (2012)	Effects of CFO characteristic on the scope of use of cost management systems in decision-making	Greece, n = 100 companies, the hotel sector, 2003-2004	✓					✓	✓	✓	
Burkert and Lueg (2013)	Effects of CEO/CFO characteristics on value-based management sophistication	Germany, n = 52 companies (HDAX)	✓						✓	✓	
Huang and Kisgen (2013)	Effect of CEO/CFO gender on corporate financial and investment decisions	the US, n = 1,750 male-male transitions, n = 116 male-female transitions, 1993-2005	✓*				✓				

Note: * implicit, theory not directly mentioned but theoretical logic reflected in study design.

Table 1. Empirical studies on CFO characteristics, applied theories, and examined characteristics (own compilation) (Part 2)

Author(s)	Study focus	Sample	Theory				Characteristics				
			UET	RDT	HCT	SCT	Gender	Age	Education	Professional experience	Functional skills/orientation
Sun and Rakhman (2013)	Effect of CFOs financial expertise on CSR activities	the US, n = 258 companies, (S&P 500), 2005	✓*						✓	✓	✓
Francis, Hasan, Wu, and Yan (2014)	Effect of CFOs gender on tax aggressiveness in pre- and post-transition periods	the US, n = 5,634 firm observations, (S&P 1000), 1988-2007	✓*				✓				
Francis et al. (2015)	Effect of CFO gender on accounting conservatism (in terms of financial reporting)	the US, n = 5,634 firm observations, (S&P 1000), 1988-2007	✓				✓				
Hoitash et al. (2016)	Effects of CFOs accountant background and experience (CPA credentials) on conservatism in investment and financial decisions	the US*, n = 2,524 firm observations low-growth industries, n = 2,546 firm observations high-growth industries, 2000-2010	✓*	✓						✓	
Liu et al. (2016)	Effect of CFO gender on earnings management and the relation between gender and EM in CFO transitions	China, n = 11,644 firm-year observations, publicly listed, 1999-2011	✓*				✓				
Dauth et al. (2017)	Effect of CEO/CFOs international experience on accounting quality	Germany, n = 109 observations, (DAX), 596 executives, 2005-2010	✓		✓	✓*				✓	
Fogel et al. (2018)	Effect of CFOs social capital on cost and terms of private debt of the borrowing firm	the US, n = 588 firms, 857 credit/loan businesses, 1988-2010				✓					
Caglio et al. (2018)	Effect of CFOs' financial expertise on reporting quality	Europe, n = 450 observations, (FTE 500), 2005-2009			✓	✓			✓	✓	✓
Qi et al. (2018)	Effect of demographic characteristics on the use of EM (accrual-based (AM) or real-activities-based (RM)) and differences between "CEO/CFO" and TMT members	China, n = 16,841 firm-year observations, (A-share listed companies), 2000-2015	✓				✓	✓	✓	✓	
Mishra, Talukdar, and Upadhyay (2019)	Effect of CFO background (insider vs. outsider) on firms' capital structure decisions	the US, n = 1,045 firm-year observations, 1992-2014	✓*		✓*					✓	
Chen, Chang, and Lee (2020)	Effect of accounting expertise on corporate tax avoidance	the US, n = 969 firm-year observations (S&P listed firms), 2010-2012	✓				✓	✓	✓	✓	✓
Doan & Iskandar-Datta (2020)	Effect of gender on cash holdings policies	the US, n = 1336 CFO appointments (S&P 1500), 1994-2016	✓				✓	✓	✓	✓	
Gupta, Mortal, Chakrabarty, Guo, and Turban (2020)	Effect of CFO gender on financial misreporting	the US, n = 18,659 firm-year observations, 1996-2016	✓				✓				

Note: * implicit, theory not directly mentioned but theoretical logic reflected in study design.

2.2.1. General demographic characteristics

General demographic characteristics include *age* and *gender*. Prior studies that investigate *age* as a meaningful influencing factor on organizational outcomes argue, for instance, that with age, receptivity to change and flexibility decreases (Wiersema & Bantel, 1992; Young, Charns, & Shortell, 2001). This influences the preference for security and maintenance of the status quo, which older managers tend to preserve, while younger managers are characterized by higher flexibility, tend to be less averse to risk, and are more likely to be open for new ideas and innovations (Hambrick & Mason, 1984; Naranjo-Gil et al., 2009; Wiersema & Bantel, 1992). Executives' age can also be considered as a proxy for experience (Johnson, Schnatterly, & Hill, 2013) - a valuable intangible resource for firms.

Empirical studies find that CFO age has a negative effect on the adoption of new and innovative management accounting systems - that is the older the manager, the less innovations are adopted (Naranjo-Gil et al., 2009). This is supported by Pavlatos (2012) who finds that older managers make less usage of cost management systems as sophisticated management control systems. In a study on earnings management, Qi et al. (2018) find that age influences whether CFOs use their judgement to influence financial reporting either through discretionary accounting accruals or real-activities manipulations. They provide evidence that older managers tend to manipulate financial reporting less than younger managers (Qi et al., 2018). Dyreng et al. (2010) investigate the potential effects of CFO gender on firms' tax avoidance but do not find significant results.

Literature that investigates the influence of *gender* in corporate decision-making and organizational outcomes relies on findings of psychology and economics that evidence gender differences in the general population (Francis et al., 2014). In particular, research suggests that risk aversion is more prevalent in women than in men (Byrnes, Miller, & Schafer, 1999). This manifests in less aggressive and more cautious financial decisions (Barua et al., 2010) such as, for example, less risky investment portfolios (Francis et al., 2014; Jianakoplos & Bernasek, 1998). Furthermore, women are more likely to comply with rules and regulations (Francis et al., 2014) and are less likely to behave unethically (Qi et al., 2018). Besides risk behavior, women have different moral codes and bring "unique caches of knowledge" (Jeong & Harrison, 2017, p. 1221) that lead to less risky firm decision (Gupta et al., 2020). Doan and Iskandar-Datta (2020), for example, discuss that because women are more ethically motivated than men, they will not use their discretion to accumulate excess cash at the expense of shareholders' interest. Thus, gender may affect the cash holdings policy.

Following Huang and Kisgen (2013), gender influences investment and financial policy due to differences in confidence and risk-taking behavior of male and female executives. They posit that men are overly confident in relation to women and find that male executives provide narrower earnings forecasts, are less likely to exercise options early, and are more likely to undertake value-destroying

acquisitions (Huang & Kisgen, 2013, p. 27). On the other hand, female executives tend to be more risk-averse than men, therefore making less significant corporate decisions which result in slower company growth (Huang & Kisgen, 2013). The role of risk aversion as an essential gender difference is further investigated by Francis et al. (2014) who find that female CFOs - compared to their male counterparts - are less tax aggressive. However, for cash holdings policies, Doan and Iskandar-Datta (2020) do not find evidence that female CFOs are more risk-averse than men. In another study on gender effects, Francis et al. (2015) find that subsequent to a male to female CFO transition conservatism of accounting practices increases. Based on a similar line of reasoning, Liu et al. (2016) provide further evidence for gender-related effects and find that female CFOs engage less in earnings management and are more conservative in financial reporting. Further evidence by a study by Gupta et al. (2020) shows that the prevalence of financial misreporting is lower in firms with female CFOs. Similarly, Qi et al. (2018) find that female CFOs appear to be more conservative or ethical and exhibit less real-activities-based earnings management. Barua et al. (2010) show that companies with female CFOs have a higher quality of accruals.

2.2.2. Professional experience

Professional experience is an important aspect that shapes executives' knowledge base, cognitive style, and mental models, which reflects in decision-making and firm outcomes. Professional experience manifests in various aspects. For example, the years of experience as CFO and work experience in other companies is an essential influencing factor (Aier et al., 2005). The longer the CFO is working in that position within the company - sometimes referred to as tenure in empirical studies - the more familiar the CFO is with the internal structures and the stronger is its internal network (Lin, 2001; Timberlake, 2005). The longer managers spent time in an organization, the more likely they have developed a power basis, social networks, and work routines, which they want to sustain; therefore, change in these routines and adoption of more innovative practices are less likely (Finkelstein & Hambrick, 1996; Naranjo-Gil et al., 2009; Young et al., 2001). In addition, the more they know about the idiosyncrasies of the firm, the more supportive of the status quo they are (Büttner et al., 2013).

Naranjo-Gil et al. (2009) find that CFO tenure negatively affects the adoption of innovative practices. In a similar vein, Burkert and Lueg (2013) show that short-tenured CFOs are associated with high sophistication of value-based management while long tenure negatively affects it. Hoitash et al. (2016) study how accounting experience (i.e., tenure in accounting and accounting background) influences organizational outcomes. They find, for example, that accountant CFOs invest less in R&D and capital expenditures and are less likely to engage in external financing in high-growth industries (Hoitash et al., 2016). For low-growth industries, they find that accountant CFOs exhibit greater cost efficiency (Hoitash et al., 2016).

In addition, experience at a different company represents another influencing characteristic (Aier et al., 2005; Büttner et al., 2013). For example, in the case of accounting restatements, Aier et al. (2005) argue that CFOs with experience at another company can make use of that experience to determine whether the employed accounting treatments are appropriate. Moreover, executives with outside experience provide fresh perspectives, new knowledge, and skills, and demonstrate less commitment to the status quo (Büttner et al., 2013; Karaevli, 2007) and, thus, tend to question the status quo and to facilitate changes in practices or strategies (Shen & Cannella, 2002). In particular, outsiders from another industry may bring novel strategies or practices from outside the company's industry boundaries (Büttner et al., 2013). On the other hand, outsiders may lack firm-specific knowledge related to a firm's history, culture, or routines (Zhang & Rajagopalan, 2004), which makes them more likely to make premature decisions and to initiate inappropriate changes (Büttner et al., 2013; Karaevli, 2007). Thus, empirical studies also show the advantages of hiring CFOs from within the company or industry. For example, industry-specific experience as CFO positively affects the number of investors on board for a young firm IPO (Higgins & Gulati, 2006). Mishra et al. (2019) find that firms with internal CFO hires issue more equity than firms with outside CFO hires issue and significantly reduce information asymmetry that results in lower market risk and the cost of financing through equity issues.

Another aspect, following Dauth et al. (2017), is the effect of international work experience on firm outcomes. CFO internationalization enhances a managers' understanding of foreign markets including customers, competitors, and employees, and foreign regulations and positively affect accounting quality (Dauth et al., 2017).

2.2.3. Functional skills and orientation

Although functional skills and orientation are part of professional experience, they are worth to be discussed separately. Literature specifically discusses the accounting background of CFOs and their influence on corporate outcomes (Aier et al., 2005; Ge et al., 2011; Hoitash et al., 2016; Krishnan et al., 2009; Sun & Rakhman, 2013). An accounting background is useful, for instance, in the context of potential earnings manipulation as it helps CFOs to identify and resist inappropriate reporting because it equips them with a better knowledge of professional ethics (Ge et al., 2011; Sun & Rakhman, 2013). However, Krishnan et al. (2009) find that accounting and financial expertise may also lead to the opposite effect (i.e., greater earnings management). Moreover, an accounting background is likely to influence the CFOs attitude towards risk and how the CFO deals with uncertainty (Hoitash et al., 2016). Supposedly, CFOs with an accounting background are more risk-averse than other CFOs, which reflects also in decision-making contexts outside of accounting (Hoitash et al., 2016). The accounting expertise further enables the CFOs to deal with the complex issue of tax compliance and to explore tax planning opportunities (Chen et al., 2020).

Empirical studies find that an accounting background is positively related to higher financial

reporting quality (Aier et al., 2005), less aggressive accounting choices (Ge et al., 2011), and the level of tax avoidance (Chen et al., 2020). It is further related to investment behavior and affects the likelihood of external financing (Hoitash et al., 2016). Besides accounting outcomes, Sun and Rakhman (2013) investigate the relationship between CFOs' accounting experience and the extent of CSR activities but find no supporting evidence.

2.2.4. Educational background

Executives' educational background affects decision-making processes, as education is directly linked to managers' cognitive abilities (Finkelstein & Hambrick, 1996; Ge et al., 2011; Naranjo-Gil et al., 2009). The selection of a curriculum of study reflects an individual's cognitive style and personality and shapes future outlooks as certain fields of study are more concerned with skills relevant for strategic decision-making than others (Wiersema & Bantel, 1992). In the case of CFOs, a business administration-oriented education is more likely to provide CFOs with the "mental models" and "cognitive preferences" (Burkert & Lueg, 2013) that are useful and valuable for their specific tasks and duties. Moreover, advanced degrees such as an MBA degree allows CFOs to build a better understanding of the company thus providing the CFO with more general applicable knowledge relevant for strategic as well as operational management of the company (Aier et al., 2005).

Naranjo-Gil et al. (2009) find a positive relationship between CFOs' educational background (business-administration-oriented) and the adoption of innovative management accounting systems. With regard to the application of cost management systems, Pavlatos (2012) find a positive link between CFOs' educational background (business administration-oriented) and the usage of this kind of management systems. Focusing on CFOs and CEOs, Burkert and Lueg (2013) show that an educational background in business determines the sophistication of value-based management approaches. Aier et al. (2005) find that companies with CFOs having an MBA are less likely to restate their earnings. Also, the application of accruals-based earnings management has been shown to be related to the level of education (Qi et al., 2018). With regard to accounting choices, Ge et al. (2011) find overall mixed results for the effects of MBA CFOs on aggressiveness of accounting choices. For operating leases and pension assumptions, however, they find some evidence that CFOs with MBA tend to be a bit more aggressive than non-MBA CFOs (Ge et al., 2011).

3. RESEARCH METHODOLOGY

We answer our research questions by investigating CFOs from companies within the DAX. First, we replicate the study of Schäffer et al. (2008) and use data for the year 2018.¹ Then, we compare

¹ In their study, Schäffer et al. (2008) compare the development of CFO characteristics and CFOs' professional background between the years 1998 and 2008 for DAX companies only. The used data was gathered mainly from annual reports and websites of the companies and partially from media articles and the LexisNexis database. They describe observable differences for 16 variables that reflect CFOs characteristics and professional background between the two years and provide reasons for those changes. We use this data and add the data for the year 2018 on the same variables. We extend their study by investigating additional aspects and also compare DAX (large cap companies) to MDAX companies (mid-cap companies).

the findings pertaining to the years 1998 and 2008 with our new data. In an additional analysis, we use data from CFOs within the MDAX to identify potential differences between CFOs employed in DAX and MDAX companies.

3.1. Sample and data collection

The DAX as blue-chip stock market index consists of the 30 largest German companies listed at the Frankfurt Stock Exchange. Based on the company reports and websites, we identified the CFO in charge on 31 December 2018. We searched for the CVs of the CFOs in company reports and websites. Social media such as LinkedIn and Xing were used to gather further information. We completed our data collection with searches in the Lexis-Nexis database, which provides interviews and proclamations within the commercial register.² However, as the needed information on the CFO characteristics under study was not available in some cases, the sample is further reduced for certain analyses.

3.2. Demographic characteristics and professional background

For the main parts of our analysis, we replicate the study of Schäffer et al. (2008) and focus on the same demographic characteristics and professional background data. However, we also include additional aspects such as gender, age, and international background.

3.2.1. General characteristics

As general characteristics, we analyze *gender* and *age* represented as the general age of the CFO in the year of our observation. Furthermore, *CFO appointment age* measures the age of the person when first being appointed as CFO (in years and months).

3.2.2. Professional experience

In terms of professional experience, we analyze ten indicators. *Work experience* is measured as an absolute number of work years prior to reaching the CFO position. The *number of employers* measures the average number of employers the person worked for before being appointed as CFO. The *number of industries* represents the average number of industries in which a CFO gathered work experience. The variable *company lifers* measures the percentage of CFOs that were employed within only one company during their entire work life. In case the person has changed to a subsidiary, we counted it as one company; therefore, the change of employers only refers to cases in which the person moved to another company. The *breadth of non-company lifers* indicates the average number of employers in the case that the CFO has previously worked for different companies. *Industry lifers* measures the percentage of CFOs that have worked within

a single industry during their entire work life. The *breadth of non-industry lifers* indicates the average number of industries CFOs have worked in if they gathered experience in different industries. *Company outsiders* represents the percentage of CFOs that were employed with a different company before taking the current CFO position. Similarly, *industry outsiders* represents the share of CFOs that were employed within a different industry before taking the current CFO position. *International experience* is measured as a percentage of CFOs that studied abroad and the percentage of CFOs with international work experience.

3.2.3. Functional skills and orientation

Functional skills indicates the amount of time the CFOs spent in the respective functional areas in the percentage of their overall amount of work experience. We apply the same classification for the functional areas as Schäffer et al. (2008). Functional areas include finance (that include accounting, auditing, treasury, and other financial areas), general management, sales & marketing, and law/HR/ops. *Functional orientation at career start* refers to the functional areas in which the CFOs have started their career. *Functional orientation prior to CFO appointment* refers to the functional areas in which the CFOs had worked one year prior to becoming a CFO.

3.2.4. Educational background

Educational level as a categorical variable represents the percentage of CFOs with the respective degree and includes university degree, Ph.D., Master of Business Administration. The *field of study* is the percentage of CFOs with a background in the specific studies. Categories for this variable include business and economics, MINT studies, law, and other studies. *Institutional background* indicates the universities the CFOs have received their degree from and is measured 1) as an absolute number of CFOs with a university degree and 2) the absolute number of different universities at which CFOs have studied.

4. RESEARCH RESULTS

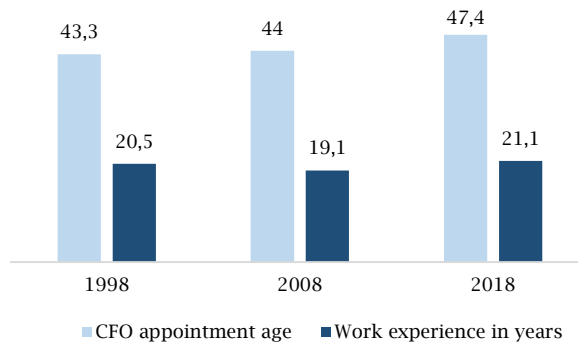
In the following, we present the results of our analyses and compare the data gathered for the year 2018 with the findings of Schäffer et al. (2008) for the years 1998 and 2008. In doing so, we are able to shed light on potential changes in the profession over a 20-year period.

4.1. General demographic characteristics

Figure 1 shows that the CFO appointment age has increased from 43.3 years on average in 1998 to 47.4 years on average in 2018. Relating thereto, at the time of appointment, CFOs also have slightly more years of general work experience in 2018 compared to 2008 and 1998.

² Most of the data (approximately 70%) stems from company reports and websites. Approximately 20% of the data was collected from the Lexis-Nexis database. Approximately 10% of the data stems from inquiries in LinkedIn and Xing.

Figure 1. CFO appointment age and work experience in years

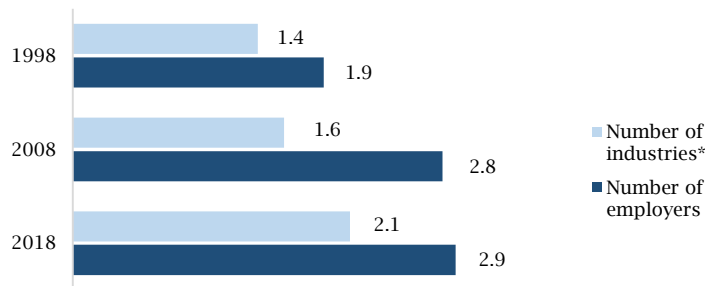


In 2018, only four DAX companies (13%) have a female CFO. Although this is an increase compared to the years 2008 and 1998 – as none of the DAX companies had a female CFO (Simone Menne, the first female CFO in a DAX company, was appointed as CFO at Lufthansa AG in 2012) – this progress might represent the first changes due to the resolution of a female quota of 30 percent within top management positions issued in 2015 and is likely to increase in the future.

4.2. Professional experience

In 2018, CFOs, on average, gained more experience in terms of the *number of employers* and the *number of industries* (Figure 2) compared to 1998 and 2008. While the number of employers, CFOs have worked for, did only increase marginally from 2008 to 2018, the number of industries increased more substantially. This indicates that 2018 CFOs more often switched between industries when changing their employer.

Figure 2. Professional experience in terms of the average number of employers and industries

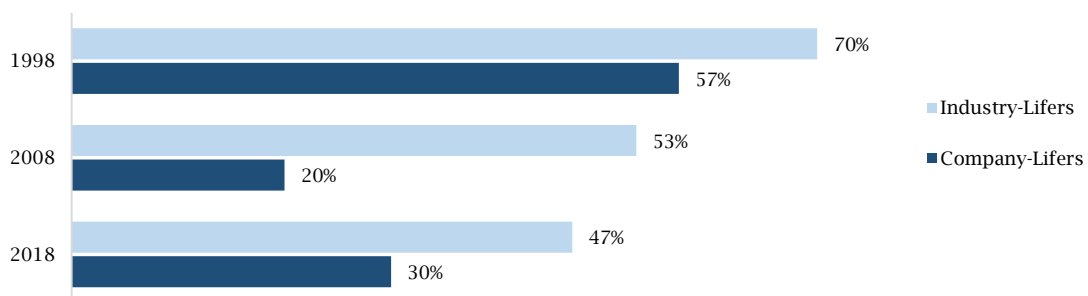


Note: *Industries assigned based on first initials of the NACE Code.

A comparison of *lifers* versus *non-lifers* is important to get a deeper insight into the degree of mobility of CFOs (Schäffer et al., 2008). Figure 3 shows that mobility has increased significantly over the last 20 years. In 1998, almost 70% of the CFOs have remained in one industry, thus, they started their career in the same industry in which they

became CFO (*industry-lifers*). While in 2008, every second CFO has remained in the industry that they started in (53%) this percentage is even smaller in 2018 (47%). Hence, mobility of CFOs has increased over time. The percentage of *company-lifers* shows a similar pattern although the percentage of company-lifers increased again from 2008 to 2018.

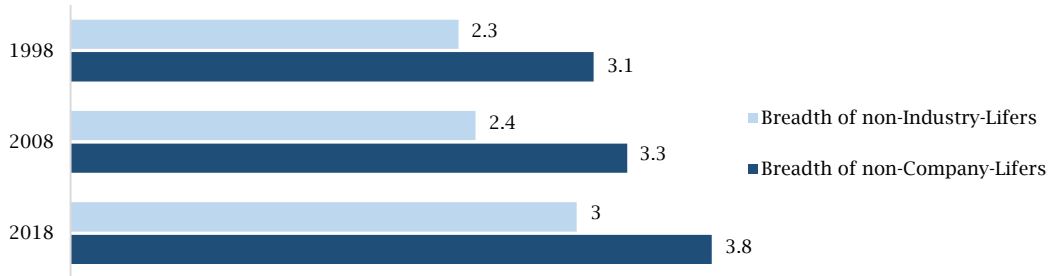
Figure 3. Percentage of company and industry-lifers



Breadth of non-company lifers indicates the average number of employers if CFOs changed the company at least once, while *breadth of non-industry lifers* indicates the average number of industries CFOs have worked in if they have worked

in different industries. Figure 4 shows that CFOs that changed company or industry have gained, on average, more experience in different industries and companies in 2018 than in 2008 and in 1998.

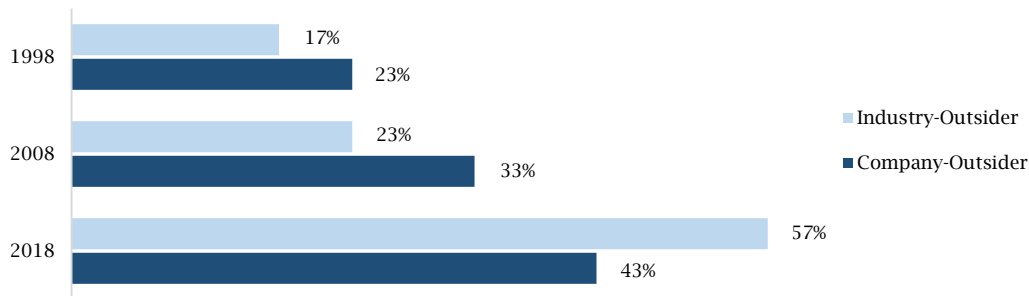
Figure 4. Average experience of CFOs that changed company and industry



Another change over time, shown in Figure 5, indicates that CFOs to an increasing extent are industry outsiders as well as company outsiders. While only every fifth of the CFOs in 1998 was a company outsider at the time of CFO appointment,

in 2018 almost every second CFO is a company outsider. Furthermore, over time, the percentage of CFOs that are industry outsider has tripled from 1998 to 2018.

Figure 5. Percentage of industry-outsider and company-outsider

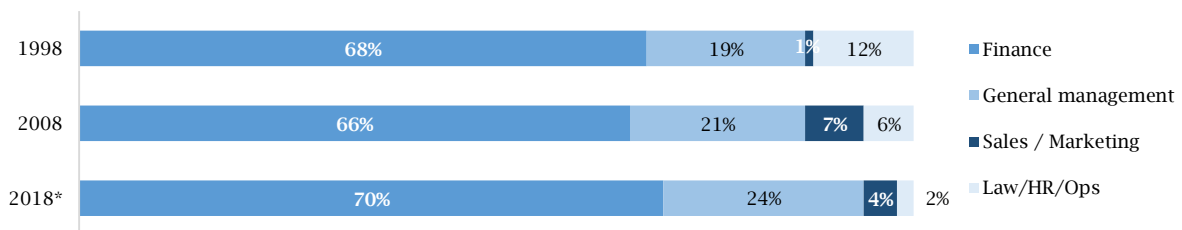


4.3. Functional skills and orientation

As regards *functional skills*, the general pattern – the majority of CFOs gained experience in the functional areas of finance and general management – remained constant. However, in comparison to 1998, CFOs in 2008 and 2018 have gained an increased amount of their work

experience in general management and a less amount in other areas such as law/HR/ops (Figure 6). The average experience gained in a finance function slightly increased. However, this might be due the general increase in age when being appointed as CFO – that is, CFOs have more work experience in general (see 4.1.1).

Figure 6. Functional skills of CFOs

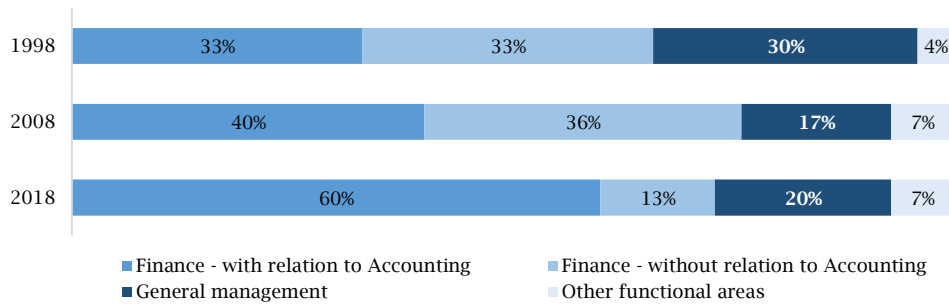


Note: * n = 27; for three CFOs detailed information was not available.

As regards *functional orientation prior to CFO appointment* (Figure 7), results show that while in 1998 every third CFO made the leap from general management to the CFO position, in 2008 and 2018 only every fifth CFO did so. In general, the majority of CFOs worked in a finance position before their

appointment, which slightly increased over time from 66% in 1998 to 76% in 2008 and 73% in 2018. In terms of *functional orientation at career start* (untabulated), 57% of the CFOs started their career in a finance position. This equals the proportion for 2008 as provided by Schäffer et al. (2008).

Figure 7. Functional orientation prior to CFO appointment

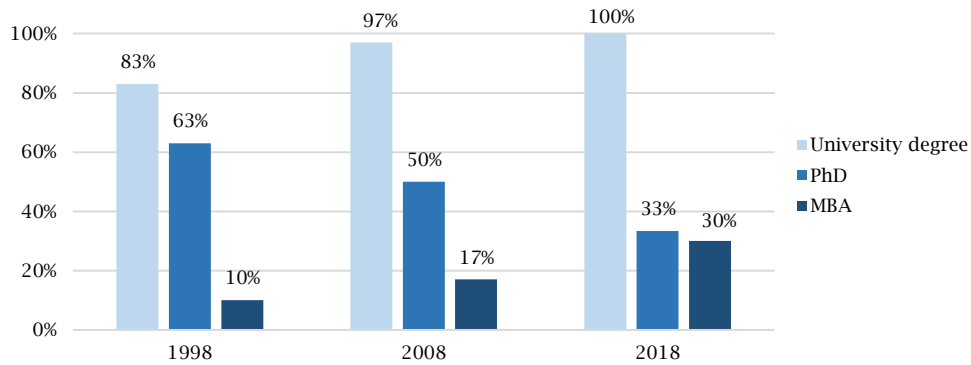


4.4. Educational background

While only 83% of the CFOs had a university degree in 1998, in 2018 there is no CFO without a university degree. In addition, the percentage of CFOs with

an MBA has tripled from only one out of ten CFOs in 1998 to one out of three in 2018 (Figure 8). However, a Ph.D. seems to be less relevant nowadays. The percentage of CFOs with a Ph.D. dropped from 63% to only 33%.

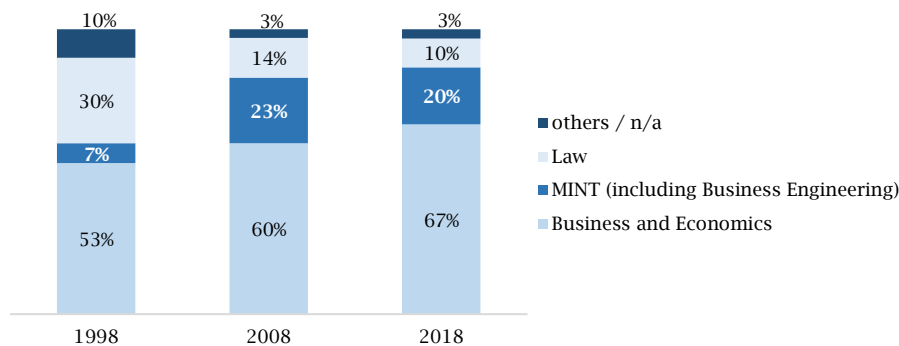
Figure 8. Educational level of CFOs



The percentage of CFOs with a degree in business and economics increased over the years from 53% to 67% (Figure 9). While in 1998 almost every second CFO had a study background other than business and economics, in 2018 only every

third CFO had a different study background. Also noteworthy is that the number of CFOs with a background in the studies of law decreased from 10% in 1998 to only 3% in 2018.

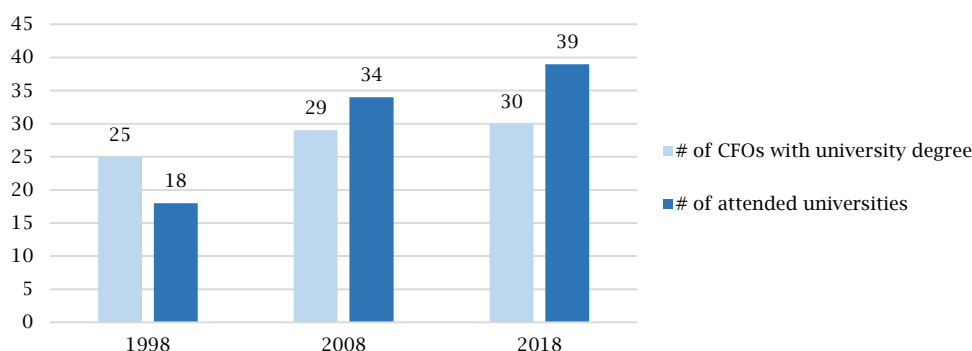
Figure 9. Field of study (first degree)



With regard to the *institutional background*, Figure 10 shows the amount of CFOs with university degree and the amount of universities the DAX CFOs have attended. The number of universities the CFOs have studied at increased strongly between 1998 and 2008 and slightly from 2008 to 2018. With regard to the particular universities that the CFOs

have attended, there are three that stand out, in the sense that more than one of all CFOs had studied there: that are the LMU Munich (n = 3), University of Regensburg (n = 3), the University of Oxford (n = 2), and the WHU Otto Beisheim School of Management (n = 2).

Figure 10. Institutional background of CFOs



4.5. Differences between CFOs in DAX and MDAX companies

In an additional analysis, we compared the characteristics of CFOs from the DAX companies to CFOs from the MDAX companies in 2018. We briefly outline noticeable differences in the respective findings.

CFOs of DAX companies are on average 1.6 years older at the time of appointment as CFO than their peers of MDAX companies are (47.4 years vs. 45.8 years)³ and thus have slightly more work experience than their peers in MDAX companies have (21.1 years vs. 19.4 years). With only three women (5%), the proportion of female CFOs is lower for MDAX companies compared to DAX companies.

In terms of externally or internally appointed CFOs, the share of *company outsiders* is lower for DAX companies - only 43% compared to 53% in MDAX. Moreover, in DAX companies 30% of the CFOs are *company-lifers* while in MDAX companies only 5% of the CFOs spent their entire work life in a particular company. There is little difference with regard to professional experience in terms of *numbers of employers* and the *number of industries* for DAX CFOs and for MDAX CFOs. As regards the *breadth of non-company lifers*, CFOs of DAX companies have worked on average for more companies and industries than their peers in MDAX companies. Furthermore, the percentage of CFOs with study and work experience abroad is higher for DAX CFOs (66% and 79%) than for MDAX CFOs (41% and 56%). While only 7% of the DAX CFOs did not gain any study or work experience abroad, this was the case for 37% of the MDAX CFOs.

With regard to functional skills and experience, one noticeable difference is that all of the MDAX CFOs worked in accounting or general management prior to their appointment, while in DAX companies 7% of the CFOs were appointed from other functional areas.

As regards the educational background, there are two evident differences between DAX and MDAX CFOs. First, within MDAX companies we have one CFO that reached the CFO position without a university degree. In addition, the percentage of CFOs with PhD or MBA is smaller for MDAX companies, which indicates that higher education is more important for DAX than for MDAX companies.

Second, the percentage of CFOs with an alternative study background (i.e., MINT, law, or other) is much higher for DAX companies (33%) than for MDAX companies (16%), where most of the CFOs have a business and economics background.

5. DISCUSSION OF THE RESULTS

Over the last decades, CFOs have become increasingly important and now are considered the second most important members of firms' top management besides the CEO (Datta & Iskandar-Datta, 2014; Hoitash et al., 2016). Related to this, their roles and responsibilities, and thus the expected requirements in terms of knowledge, skills, and experiences changed significantly. Consequently, accounting scholars have recently started to bring CFOs into the focus of research. In empirical investigations - briefly reviewed in Subsection 2.2 - researchers draw on the tenets of different theories such as UET (proposing that executives' individual characteristics determine organizational processes and outcomes), RDT (proposing that firms purposefully hire executives that provide them with the required resources), HCT (postulating that executives possess different kinds of human capital), and SCT (suggesting that social relationships foster the development and accumulation of human capital). This research shows that CFOs' individual characteristics in terms of demographic aspects or professional backgrounds can effectively influence firm processes and outcomes.

The primary objective of this paper was to investigate the demographic characteristics and professional backgrounds of CFOs of large German companies (i.e., DAX companies) and - by comparing the results with those of an earlier study provided by Schäffer et al. (2008) - to explore potential changes in the CFO profession over the past 20 years.

Our findings show that the average CFO appointment age has increased. Nevertheless, DAX CFOs are still rather young with an average entry age of 47 years compared to their US counterparts that are 53 years on average (Korn Ferry, 2017). In terms of interpretation, the implications of this finding are rather fuzzy. On the one hand, research has found that risk aversion and moral reasoning increases with age (e.g., Forte, 2004; Ge et al., 2011). On the other hand, younger CFOs are more likely to be open to new ideas and to bring greater flexibility (Naranjo-Gil et al., 2009; Wiersema & Bantel, 1992). Given that the current business environment is

³ The youngest CFO of DAX and MDAX companies in 2018 was Rubin Ritter (27 years) at Zalando SE. The oldest one was Helmut Schmale (62 years) at GEA Group.

characterized by increased competition, complexity, and relentless change (Barkema, Baum, & Mannix, 2002; Hamel, 2012) and thus demands for strategic and flexible leadership (Hitt, Keats, & DeMarie, 1998), relatively young CFOs might better cope with today's challenges.

With regard to gender, in 2018 only 13% of the DAX and 5% of the MDAX companies had women as CFOs. Despite the quota rule passed in 2015, this is a rather small share of women in top CFO positions. A similar picture can be drawn for the US Fortune 500 with only 13.8% female CFOs in 2016 (Zwirn, 2016). However, from accounting studies on gender differences, we know that women tend to be more cautious with financial decisions (Barua et al., 2010). They make less risky investment portfolios decisions (Francis et al., 2014; Jianakoplos & Bernasek, 1998), are more likely to comply with rules and regulations (Francis et al., 2014), and are less likely to behave unethically (Qi et al., 2018).

As regards professional experience, our analyses suggest that outside experience has become increasingly important. This manifests, for instance, in the increasing number of CFOs appointed from outside the company and from outside the industry. Studies highlight that outside CFOs may be able to draw from their strategic and practical experiences of other firms in their industry as well as from different industries and transfer their skills into their new position (Aier et al., 2005; Büttner et al., 2013). Outsiders might bring novel strategies or practices (Büttner et al., 2013) and, thus, fresh perspectives relevant to organizational changes and development (Hambrick & Mason, 1984). They may facilitate changes through a clear cut as they do not exhibit path dependencies regarding certain decisions or structures (Boeker & Goodstein, 1993) and are able to take a broader more generalist view. The latter aspect is of particular importance for the new CFO generation as their tasks and responsibilities have expanded substantially. Moreover, 2018 CFOs to a lesser extent have stayed in one company or industry compared to CFOs in 1998 and 2008 and the average number of companies and industries they have worked for constantly increased over the past 20 years. In sum, the results in this regard suggest that today's CFOs tend to possess more knowledge, experience, and social capital that they gained in other firms and different industries. Our comparison of DAX and MDAX CFOs shows that DAX companies still hire more CFOs from within. This raises the question of whether DAX companies rely more on firm-specific knowledge that is less transferable from other companies or industries.

In terms of functional skills and orientation, our results do not indicate substantial changes over time. There are three observable differences over the years. First, the average experience gained in a finance function slightly increased, which might be a result of the general increase in the age before CFO appointment – CFOs nowadays have more work experience in general. Second, fewer CFOs made the leap from general management to the CFO position in 2018 than before, while more made the leap from other functional areas. Third, over time, there is an increase in the percentage of CFOs that have worked in a finance position before their CFO appointment. The importance of experience in

finance manifests, for instance, in a better ability to identify and resist inappropriate reporting (Sun & Rakhman, 2013).

With regard to functional skills and orientation, one noticeable difference between DAX and MDAX is that all of the MDAX CFOs worked in accounting or general management prior to their appointment, while in DAX companies 7% of the CFOs were appointed from other functional areas. Moreover, MDAX companies have substantially less company-lifers than DAX companies. Thus, MDAX companies may prefer to hire CFOs with the specific accounting experience from outside the firm while DAX companies may, due to their larger size, have a broader pool of talented employees from which they can draw from.

Over the years, the number of DAX CFOs with a university degree and the number of DAX CFOs with an MBA increased. In 2018, there is no DAX CFO without a university degree. This observation is likely the result of the higher requirements due to the increased complexity of accounting and accounting regulations (Aier et al., 2005), the expanded oversight responsibilities, and the generally increased importance and hierarchical status of the CFO position (e.g., Caglio et al., 2018; Zorn, 2004). While 20 years ago, the CFO job used to be a back-office job involving bookkeeping and treasuring, CFOs today have evolved into the “second-in-command” besides the CEO (Zorn, 2004, p. 360), are as key leaders responsible for the companies' accounting and finance functions (Baxter & Chua, 2008), and also play an important role in the development and execution of a corporate strategy (Mian, 2001). Consequently, today's CFOs require skills that allow them to get actively involved in strategy development, strategic planning, and evaluation of strategic choices and alternatives (Caglio et al., 2018). The increase of the university and MBA degrees within the CFO profession corresponds with the enlarged range of necessary skills and competences. In addition, high levels of education reflect an individual's capacity for information processing and its ability to discriminate among a variety of stimuli, which is particularly important for decision-making in increased complexity and uncertainty (Wiersema & Bantel, 1992).

The changes regarding the fields of study are surprising. While in 1998 almost every second CFO had a study background other than Business and Economics, in 2018 only every third CFO has a different study background. Also noteworthy is that the number of CFOs with a background in the studies of Law decreased constantly. While the stronger involvement of CFOs in management and strategy issues may explain the increase of business and economics related education, the decreasing importance of a law background might be due to the fact that large companies increasingly tend to rely on separate legal departments.

6. CONCLUSION

This paper was motivated by the increasing importance and the changed role of CFOs and by the burgeoning research endeavors acknowledging the importance of individual characteristics of CFOs in determining firm processes and outcomes. After having provided an overview of the most important

theories used by management accounting and control researchers concerned with individual characteristics of CFOs, we briefly reviewed extant empirical findings. Then, we built upon the study of Schäffer et al. (2008) and extended their analysis of demographic characteristics and professional backgrounds of DAX CFOs to the year 2018 allowing us to present the current status quo and to demonstrate changes over the past 20 years.

We found that the average CFO appointment age has increased, which could be a result of increased complexity requiring longer education and greater experience. We also found that the share of women is still very low with only 13 % in the DAX and 5% in the MDAX companies. We found that outside experience has become increasingly important and that less CFOs stayed in one company or industry. However, flexibility is stronger in MDAX companies than in DAX companies who still prefer to hire from within the firm. MDAX companies have substantially fewer company-lifers than DAX companies. Thus, MDAX companies may prefer to hire CFOs with a specific accounting experience from outside the firm while DAX companies, due to their larger size, may have a broader pool of talented employees from which they can draw from. In terms of functional skills and orientation, our results indicate only minor changes over time. One of the important differences we observed that there is an increase in the percentage of CFOs that have worked in a finance position before their CFO appointment. The importance of experience in finance manifests, for instance, in a better ability to identify and resist inappropriate reporting (Sun & Rakhman, 2013). Over the years, the number of DAX CFOs with a university degree and the number of DAX CFOs with an MBA has increased.

However, there are also some limitations to this paper. The comparison between DAX and MDAX companies refers only to the year 2018. Therefore,

we cannot conclude whether similar changes could be observed for the MDAX companies over time. We provide empirical findings for differences we observed for CFOs between DAX and MDAX companies for the year 2018. Future research could investigate the changes of the CFO profession over time for MDAX companies and compare them to the development within DAX companies in order to explore if there are substantial generalizable changes in both types of companies and, thus, for the profession of the CFO in general. Also, we did not focus on potential changes of the CFO profession over time that might differ, for instance, by the sector or the complexity or dynamism of the business environment. Our sample is too small to identify those kinds of patterns. Future research could look into that.

In their paper on the historical development of the role of accounting and finances in American Corporate history, Doron et al. (2019) recently also point to the rising relevance of chief accounting officers (CAOs). While in the past, accounting work was mainly the task of the CFO position, today the CFO focuses more on investing, financing, and shareholder relations. Consequently, accounting decisions are more in the hands of senior accounting executives (Doron et al., 2019). Doron et al. (2019) further argue that the titles of CAOs, CFOs, or controllers are not used consistently, which could be a fruitful future research avenue. Therefore, in the light of the findings of our paper concerning CFOs, another promising future research area would be that of the chief accounting officer, including the distinction between CAO and CFO and the role and influence of the CAOs characteristics on organizational outcomes.

In sum, as we believe, that research on CFO characteristics will continue to gain momentum, our paper might be a good starting point for scholars interested in this topic.

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