

Labor productivity in family firms: Transition from founder CEO to non-family CEO

Author 1

Ali Amin

The University of Lahore, Pakistan

Email: ibneamin@yahoo.com

Author 2

Dr. Rizwan Ali

The University of Lahore, Pakistan

Email: rizwan.ali@lbs.uol.edu.pk

Author 3

Dr. Ramiz ur Rehman

¹TUIBS Finance, Performance & Marketing, Teesside University, UK

²Faculty of Business, Sohar University, Oman

Email: r.rehman@tees.ac.uk

Labor productivity in family firms: Transition from founder CEO to non-family CEO

Abstract

Purpose: This study examines the influence of family ownership and presence of founder Chief Executive Officer (CEO) on labor productivity. Moreover, the study also examines the effects of hiring of non-family CEO on labor productivity after the departure of founder CEO.

Design/methodology/approach: We employed 2,926 firm year observations of non-financial firms listed on Pakistan Stock Exchange over the period 2012-2022. We used ordinary least squares regression to test the hypotheses and confirmed the validity of results using generalized method of moments estimation, fixed effects analysis and difference in difference estimation.

Findings: Using the lens of social identity theory, we report that for the sake of family's affective needs, and due to their empathic attitude towards labor, the presence of family ownership is positively associated with labor productivity. In addition, the presence of founder CEO further strengthens this relationship, however, the appointment of non-family CEO after the departure of founder CEO results in negative effects on labor productivity.

Originality/value: The study extends the family business literature by examining the social behavior of family owners on labor productivity, and influence of founder CEO and non-family CEO on this relationship in context of an emerging economy.

Keywords: family ownership, labor productivity, founder CEO, non-family CEO, social identity theory.

1. Introduction

In today's highly competitive and dynamic world, the productivity of employees is an important factor that boosts the organization's performance and keeps the organization ahead of competition (Liu *et al.*, 2021). The productivity of employees, however, to a large extent depends on the overall working environment provided to the employees and effective supervision skills of the top management. In this context, multiple studies (e.g., Chrisman *et al.*, 2017; Hu *et al.*, 2018) highlighted that the ownership structure of the firm has a profound influence over the welfare of the workers working in their firm that ultimately affects the profitability of the firm. The involvement of the top management affects the motivation level of the employees due to frequent

social interactions with their subordinates and allocation of various strategic tasks on daily basis (Hu *et al.*, 2018). The influence of ownership structure on the labor productivity of the firm is therefore an important area of research that needs to be explored.

The corporate board of the listed firms comprises of multiple types of ownership such as family ownership, institutional ownership and state ownership, with each ownership structure having distinct social context that influence the strategic behavior of the firm in different manners (Federo *et al.*, 2020). Among other ownership structures, family ownership offers a distinct type of ownership structure due to overlap of management and control by a single individual or a family (Daspit *et al.*, 2021). The relevance of non-financial goals and fulfillment of family agenda in the strategic decision making are the key factors that differentiate family ownership from other types of ownerships. Moreover, in such firms the family's socio-emotional wealth considerations play an important role in strategic decision making (Amin *et al.*, 2023). Relatedly, Christensen-Salem *et al.* (2021) mentioned that family firms promote employee's welfare to avoid any reputation risk and to further strengthen the family image and preserve socio-emotional wealth. Consequently, harmful and disreputable managerial actions are avoided in family firms that could result in bringing bad reputation in the eyes of community and employees. On the other hand, some studies (e.g., Firfiray *et al.*, 2018) highlighted that the existence of nepotistic practices and family altruism may result in appointment of non-meritorious employees on key positions that may lead to resentment among the work force over the managerial decisions and negatively affect their productivity. Overall, these arguments suggest that family ownership has a profound influence on labor productivity and the contradictory empirical evidence reported in literature in this context calls for more research in this area.

Moving ahead, the strategic behavior of the firm to a large extent depends on the characteristics of the top management (Ali *et al.*, 2022). According to Upper Echelons Theory (UET), the organizational outcomes are the "reflections of the values and cognitive bases of powerful actors" and the firm's strategic decisions are, therefore, affected by the managerial capabilities and characteristics of the CEO (Hambrick and Mason, 1984). Being a powerful organizational actor and having a major role in decision making of the organization, multiple studies highlighted that CEO attributes and personality traits affects the strategic decisions that influence the

organizational outcomes such as labor productivity (Malik *et al.*, 2020). Relatedly, the governance literature is of the view that CEO of the firm has a significant influence over the human resource policies of the firm that affects the labor productivity. For instance, Breit *et al.* (2019) highlighted that powerful CEO is associated with better labor efficiency. In a similar vein, we shall argue that in family firms the better human resource policies and high labor productivity is mainly due to the presence of the founder CEO. Being a firm founder, the firm's reputation and image is of prime importance for the founder CEO that affects his investment choices and decision making (Deb and Wiklund, 2017). Later, the departure of founder CEO due to personal reasons, internal conflicts or death, may lead to appointment of family CEO or non-family CEO. While, from socio-emotional wealth perspective, we assume positive relationship between labor productivity and founder CEO, however, these emotions and considerations are not expected in case of non-family CEO. Thus, the appointment of a non-family CEO may exacerbate the principal-agent conflict due to non-involvement of family owners in the executive decisions of the firm (Amin *et al.*, 2023). In such cases, the appointment of a non-family CEO may result in non-fulfillment of the family agenda and adverse attitude towards the workforce.

The family business literature widely examines the behavior of family owners on various firm outcomes such as, among others, firm performance (e.g., Minh Ha *et al.*, 2022), dividend payout (e.g., Miller *et al.*, 2022), and corporate social responsibility (e.g., Alsaadi, 2022). In a similar vein, multiple studies highlighted the influence of family firms on labor productivity, however, the findings in this context are still inconclusive. For instance, using sample of Chilean firms, Creemers *et al.* (2023) found positive impact of family ownership on labor productivity. On the other hand, Hu *et al.* (2018) reported negative impact of family involvement on labor productivity in case of Chinese privately owned enterprises. Contextually, our motivation to participate in this polarized debate is for multiple reasons. First, utilizing insight from agency theory and social identity theory, we propose that in an emerging market context, the family firms act as an alternate governance mechanism and for the sake of firm's reputation and for the preservation of socio-emotional wealth, the presence of family owners is positively associated with the labor productivity. Moreover, we shall argue that in a less developed economy, the family firms can fill the institutional voids by building strong connections with the internal and external stakeholders. Second, we aim to extend the research work of Christensen-Salem *et al.* (2021). The authors

examined the employees perceived organizational caring in family businesses using survey and archival data of 180 family and non-family firms in Brazil. Utilizing the insight from the socio-emotional wealth theory, the authors claimed that employees working in family firms report higher organizational caring than the employees working for non-family firms. Our research borne similarity with the author's study as we also examine the productivity level of employees working in family and non-family firms. However, we depart from Christensen-Salem's study for at least the following reasons. First, while the authors examine the organizational caring 'perception of employees' working in family firms, we investigate the 'actual' effect of employee's satisfaction on firm's productivity level which truly reflects the employee's satisfaction towards their work (actions speak louder than words). Second, in addition to the overall effect of family ownership on labor productivity, our study provides empirical evidence of effects of founder CEO transition and selection of non-family CEO on the labor productivity of the firm. Third, as compared to survey methodology used by authors, this study used secondary data which is less prone to measurement errors and bias. Finally, the overall culture of Pakistan differs significantly from the Brazil due to various cultural and demographic characteristics. The results obtained in case of Brazilian setting, therefore cannot be generalized to the family businesses operating in Pakistan. Overall, we are of the view that there exists a significant gap in the family literature as to how the family ownership influence the labor productivity in family businesses and how the transition of founder CEO to non-family CEO affects the labor productivity in family firms.

In order to answer our research questions, we use sample of 2,926 firm-year observations of non-financial firms listed on Pakistan Stock Exchange over the period 2012-2022. To test the hypotheses, we employed the ordinary least squares regression method and checked for the robustness of our results through generalized method of moments estimation, fixed effects analysis and difference in difference estimation. Overall, we report the positive influence of family ownership on labor productivity in our sample firms. Moreover, we found the positive role of founder CEO in line with the family agenda, whereas, on the contrary, the presence of non-family CEO after departure of founder CEO is associated with negative labor productivity. We consider Pakistan an interesting research ground for the examination of this nexus for at least two reasons. First, Pakistan is an emerging economy and most of the non-financial firms (around 62%) listed on Pakistan Stock Exchange are family businesses (Amin *et al.*, 2023). Unlike developed

countries, the regulatory framework and governance regulations in Pakistan is relatively weak (Amin *et al.*, 2022). According to Armitage *et al.* (2017), the presence of poor regulations for the protection of investors and other stakeholders offer incentive to controlling shareholders to divert firms' resources to meet their family agenda. Moreover, the intense involvement of family in operations of the business also provides opportunity to family owners to influence firm's strategic decisions and formulate organizational policies in line with their personal interest and family agenda. According to Amin *et al.* (2023), in the absence of strong regulatory frameworks, the family owners serve as a shelter for the stakeholders for the sake of firm's reputation and family interest. The overall, dominance of family businesses and weak regulations make Pakistan an interesting institutional setting for the examination of family ownership behavior on labor productivity and influence of founder CEO and non-family CEO on this relationship. Second, the economic growth of a country, to a large extent, depends on the productivity of labor workforce (Ullah and Malik, 2019). Like other developing countries, the economy of Pakistan is constrained by the dearth of foreign exchange and adverse balance of payments (Amin *et al.*, 2022). In order to improve the economic growth of the country, it is imperative that the labor workforce be motivated to gain maximum output to increase the level of exports. While most of the non-financial firms listed on Pakistan Stock Exchange are family businesses, the behavior of family owners towards the labor productivity may significantly influence the motivation level of employees and their overall contribution towards the firm's profitability and economic growth of the country.

Our study makes several contributions to the extant literature. First, utilizing the insight from agency theory and social identity theory we enrich the family business literature by highlighting the positive role of family owners towards labor productivity in our sample firms. Using rigorous methodology such as ordinary least squares regression, generalized method of moments estimation and fixed effects analysis to test our hypotheses, we confirm the positive behavior of family owners towards the labor productivity. Second, we provide novel evidence of the effect of transition of founder CEO to non-family CEO on labor productivity. As such, we provide the positive effects of founder CEO on labor productivity and negative role of non-family CEO towards the workforce that reduces the labor productivity. Third, we respond to the research call made by Christensen-Salem *et al.* (2021) by examining the effects of family owners on labor productivity in context of an emerging market, Pakistan, to determine the generalizability of results. Moreover, in line with

the directions of the authors we examine the behavior of founder CEO on this relationship to further highlight the family dynamics of the family firms. In this way, we confirm the empirical evidence reported by authors by highlighting positive behavior of family owners towards labor in an emerging economy. Finally, we provide empirical support to social identity theory and socio-emotional wealth perspective in an emerging market context.

The rest of the study will proceed in the following manners. Literature review and hypotheses development will be described in Section 2. Research methodology will be presented in Section 3. Section 4 will provide the results. Section 5 will conclude the study.

2. Literature review and hypotheses development

2.1 *Social identity theory*

Social identity theory posits that people identify themselves with the social categories on the basis of various factors such as their working organization or social groups. This identification, later, shape their behavior and self-concept (Ashforth and Mael, 1989). In this context, firms are considered as a significant social group to which individuals identify themselves and belongs. According to Foreman and Whetten (2002), the strong identification leads to positive behavior and attitude of an individual towards the organization and increases his or her commitment towards the objectives of the enterprise. Relatedly, Gomez-Mejia *et al.* (2011) mentioned that the family identity and organizational identity urge the family owners to maintain control over the firm affairs and set the strategic objectives of the firm. In a similar vein, Miller *et al.* (2011) mentioned that the family owners in family firms strongly identify themselves with their family and due to their commitment and affiliation, significantly affect the objectives and performance of the firm. The strong identification and affiliation, therefore, urge the family owners to provide strategic directions, better governance and stringent management's monitoring (Gomez-Mejia *et al.*, 2011).

From the theory's point of view, the family owners strive for the fulfillment of social recognition needs of the controlling family. For family firms, family name recognition, family cohesiveness and goodwill in community are the key factors that are reflected in their strategic goals and decision making (Zellweger *et al.*, 2013). Accordingly, the family CEOs may enjoy positive relations with family owners and other stake holders such as employees that may lead to better

labor productivity in line with the family agenda (Bennedsen *et al.*, 2015). While the strong affiliation of family owners towards their family business may be associated with the overall culture of trust and motivation, nevertheless, the dominant ownership and emotional attachment of family owners with their family and business could be problematic in other ways (Purkayastha *et al.*, 2019). For instance, the controlling influence of the family owners may grant the owners opportunity to tunnel the firm's resources to increase family's wealth. Yang and Schwarz (2016) noted that firms may engage in tunneling if they intend to benefit their family. In this context, the appointment of ineffective family members at key posts to increase family wealth may lead to demotivation among the labor workforce (Martin *et al.*, 2016). Thus, the implementation of nepotistic practices and violation of human resource policies relating to meritorious appointments might negatively affect the labor productivity and overall profitability of the firm.

2.2 *Agency theory*

The agency theory posits that separation of ownership and control between the shareholders and managers gives rise to principal-agent conflict (Jensen and Meckling, 1976). In this scenario, due to higher information asymmetry the managers may take decisions that may not be aligned with the interest of shareholders (Amin *et al.*, 2022). For instance, managers may opt for short-term investments to gain quick profit instead of going for the long-term risky projects that may enhance the firm's value in the long run. Corporate governance considers the presence of large shareholders as an effective mechanism that mitigates this type of conflict (Purkayastha *et al.*, 2019). The intense involvement of controlling shareholders in management reduces the information asymmetry and their enhanced monitoring restricts the divergent behavior of managers. The presence of block holders, however, is associated with another kind of conflict: principal-principal conflict (Amin *et al.*, 2022). In this scenario, the controlling shareholders such as family owners may exploit the minority shareholders for the fulfillment of family agenda and divert the firm's resources to increase family wealth (Amin *et al.*, 2023). According to Armitage *et al.* (2017), the emerging markets are more prone to principal-principal conflict due to presence of block holders and dominant business groups. The weak formal institutions and poor regulatory framework poses specific governance challenges in developing and emerging economies.

Relatedly, family ownership may have profound influence over the labor productivity in family firms (Chrisman *et al.*, 2017). The active involvement of family members in the management of the firm reduces the information asymmetry and the strategic objectives of firm will be aligned with the personal interest of family. The intense monitoring of family owners may restrict the opportunistic behavior of managers resulting in managers opting for better human resource policies that may positively affect the labor productivity and ultimately firm value (Amin *et al.*, 2023). However, on the contrary, in pursuance of family agenda, the family owners may appoint ineffective family members at key positions that may create resentment among the labor leading to lower productivity. According to Jaskiewicz *et al.* (2013), family firms are prone to altruism and nepotism and placement of family members at the key management position is very common.

Interestingly, while the intense involvement of family owners through founder CEO and family CEO may be associated with the family oriented human resource policies, the appointment of non-family CEO may create a different situation. The presence of non-family CEO may result in principal-agent conflict due to non-involvement of family members in the management decisions (Amin *et al.*, 2023). The non-family CEO may not present the true picture of firm's operation to the family owners, and the demotivation of labor may not be apparent to the controlling family. Consequently, labor productivity may decrease in the presence of non-family CEO due to higher information asymmetry and principal-agent conflict. Overall, we consider agency theory as a basic framework to explain the distinct behavior of family CEO and non-family CEO towards the firms' labor productivity due to different levels of information asymmetry.

2.3 Upper echelons theory

The theory posits that firm outcomes, strategic choices and performance levels are affected by managerial traits and characteristics (Hambrick and Mason, 1984). According to the theory, the personality characteristics of decision makers are more relevant in case of complex decision making. Using framework of upper echelons theory, a large stream of literature confirmed that demographic characteristics such as age, tenure, gender, education and experience of the top executives affects his or her strategic decision making, that ultimately shapes the firm's behavior and affects the firm outcomes (e.g., Ali *et al.*, 2022). According to Sekiguchi *et al.* (2011), the top management team of organization acts on the basis of their personalized cognitive frames which

are a function of their experience, values, and personalities. Thus, the organizational outcome to a large extent depends on the demographic characteristics of the firm's executives. Consistently, from upper echelon's theory perspective, the characteristics of the firm's CEO has a profound influence over the human resource practices of the firm that ultimately affects labor productivity (Ali *et al.*, 2022). In this scenario, we consider upper echelon theory a suitable framework to discuss how the characteristics of the top management, such as CEO of the firm, affect the labor productivity of the organization.

2.4 Institutional theory

Institutional theory provides a framework to understand how institutional contexts influence firm activities and vice versa (North, 1990). According to the institutional theory, the organizations need the acceptability and legitimacy of the stakeholders to achieve growth and competition in the market (Bansal, 2005). The theory explains the mechanism through which social practices and institutional requirements emerge in the economy. It reflects that in order to gain legitimacy in the eyes of stakeholders, the corporations need to observe social behavior according to the desires of the society (Boiral and Gendron, 2011). Accordingly, the corporations have to shape the strategies according to the social pressures of the stakeholders to achieve a competitive edge in the market (Atupola and Gunarathne, 2023). In a similar context, Boiral *et al.* (2018) mentioned that non-adherence to the stakeholders' pressure will result in adverse impacts on firm's profitability, sustainability and may lead to business failure. The response of business towards the active stakeholders such as institutional investors is therefore an important strategic aspect that every business needs to address.

In a similar vein, utilizing insight from institutional theory, family business scholars have distinguished between formal and informal institutions and argued that both types of institutions have distinct influence on strategic behavior of family firms (Soleimanof *et al.*, 2017). According to North (1990), formal institutions are mainly society's written rules, regulations and supporting infrastructures that determine expectations of societal behaviors and outcomes. On the other hand, informal institutions include society's norms, values, and beliefs and provide a complementary set of prescriptions for what is appropriate. Liu *et al.* (2021) mentioned that in less developed economies characterized by weak formal institutions, hiring of family managers leads to lower

agency costs that may arise from inefficient labor markets and less effective monitoring mechanisms. Consequently, in emerging and developing markets like Pakistan, families provide “a level of trust, solidarity and available resources that is otherwise inefficient and risky to secure” (Webb *et al.*, 2015, p.120)”. On the opposite, the presence of effective formal institutions may increase the minority’s protection through effective governance regulations, however, these mechanisms may reduce the effectiveness of family firm’s internal governance system (Heugens *et al.*, 2009). In a similar context, Soleimanof *et al.* (2017) argued that the effects of informal institutions on family firms are also prominent for at least three reasons. First, the family owners are always challenged with the dilemma to prioritize between family norms and business values (Lansberg, 1983). Second, the desire of family owners to preserve socio-emotional wealth grants legitimacy to the family firms in the eyes of the stakeholders (Gomez-Mejia *et al.*, 2011). Finally, the historical and social ties of the family owners with the community and their commitment for the long-term relationship building provides more advantages to the family firms as compared to non-family businesses (Miller *et al.*, 2009).

Another strand of literature (e.g., Miller *et al.*, 2009) argues that close involvement of family owners with the employees and other external stakeholders enables the family businesses to fill the institutional voids related to capital, product and labor markets in the emerging economies. For instance, Miller *et al.* (2009) mentioned that family owners build a “community” with their employees that incorporate loyalty and caring for their employees and provide them secure and satisfying jobs. Thus, the close association with the employees helps the family owners to retain the talented employees for a longer term. Similarly, the family owners’ resort to better “connections” with the external stakeholders that facilitate continuous supply of knowledge, social and financial capital required to strengthen the business. Overall, these alliances and relationships result in mitigation of institutional voids in terms of capital, product, knowledge and supply markets.

Pakistan is an emerging economy and like other emerging and developing countries the economy of Pakistan is characterized by the presence of less developed formal institutions and weak regulatory framework that offers less protection to shareholders (Amin *et al.*, 2022). Moreover, most of the firms (around 62%) listed on Pakistan Stock Exchange are family firms, owned and

managed by families. According to Amin *et al.* (2023), in presence of weak formal institutions, the family firms in Pakistan serve as an alternate governance mechanism for the shareholders and as such their presence is associated with less principal-principal conflict. We shall argue that for the sake of firm's reputation and long-term continuity of the firm, the family businesses in Pakistan helps to fill the institutional voids by building close connections with internal and external stakeholders. More specifically, the close ties with the employees and their training and development results in a more contented and talented workforce that leads to better labor productivity.

2.5 *Family ownership and labor productivity*

Family ownership differs from other types of ownership due to intense involvement of family in the management and control of the firm (Daspit *et al.*, 2021). Empirical literature differentiates family firms from other types of ownerships for several reasons. First, the family firms held strong family identification with the business that shapes their behavior and organizational decisions (Miller *et al.*, 2011). Second, unlike other firms, the non-financial characteristics of family firms mainly affect the firm's endowment. Third, the family owners have strong connections with their families and take the strategic decision from socio-emotional wealth's perspective, derived from their identification and affiliation with the firm (Kabbach de Castro *et al.*, 2017). Finally, the family owners consider their business as a legacy to be transferred to the next generation (Purkayastha *et al.*, 2019). The distinct social values of the family owners, therefore, distinguish them from other owners in their strategic decisions and profit orientation.

Psychological literature argues that human capital of an organization plays an important role in achieving a firm's objective and is considered a main source of competitive advantage (Kim and Ployhart, 2014). The human resource practices of the firm influence the acquisition and development of employee's knowledge and significantly influence the motivation level of employees that affects the labor productivity of the firm (Jiang *et al.*, 2012). In a similar vein, family business literature (e.g., Amin *et al.*, 2023; Federo *et al.*, 2020) highlights that distinct social context and priorities of family owners has different implications for labor productivity as compared to other ownership structures. Under the framework of agency theory, Bennedsen *et al.* (2007) argued that extraction of firm's resources by the family owners results in impoverish human

resource practices in family firms such as training, socialization and compensation. Similarly, the family's desire for control leads to bureaucratic attitude and centralization of power in the hands of family owners that erode managerial initiatives and capabilities (Kets de Vries and Carlock, 2007). In this scenario, Neckebrouck *et al.* (2018) highlighted that due to familial altruism, nepotism and for the sake of preservation of transgenerational control, family ownership has a detrimental effect on labor productivity and their presence is associated with lower labor productivity. On the other hand, Allouche and Amann (1997) argued that as opposed to agency theory, the stewardship's attitude of family owners leads to cohesive organizational culture that results in building a community of talented and loyal staff leading to better labor productivity. The stewardship behavior of family owners urges them to spend more on training of labor workforce and establish a culture where employees can collaborate and work towards the common goals (Miller *et al.*, 2009). In this perspective, Pittino *et al.* (2016) mentioned that family owners are good employers, and their presence is associated with greater job security.

From social identity theory's point of view, family firms are primarily associated with the perseverance of socio-emotional wealth, pursuance of family agenda and increase of family's wealth (Miller *et al.*, 2022). On one side, the family owners may have extended priorities and willingness to appoint siblings at the prominent positions in the firm to boost their career. The non-meritorious appointment of family members in this scenario may result in resentment among the labor as they may consider it nepotism and injustice. Moreover, the reluctance of family managers to punish the inefficient workers due to their affiliation with the family may lead to negative influence of family ownership on labor productivity (Schulze *et al.*, 2003). On the other hand, the long-term orientation of family owners towards the business and sake of firm's reputation results in strong collaboration with workforce resulting in higher labor productivity (Hernández-Linares *et al.*, 2023). Furthermore, Christensen-Salem *et al.* (2021) mentioned that family owners avoid disreputable human resource decisions that may bring bad names to the firm.

Under the framework of upper echelon theory, Hu *et al.* (2018) highlighted that top executives in the family businesses have a profound influence over the human resource management of the firm. The authors mentioned that the power of owners to influence the evaluation and selection process in accordance with the family's objectives and their personal characteristics affects the motivation

level of employees. Thus, the personnel selection decision of the family owners and the effective participation of family members in strategic decision making affects the firm's internal decision-making process and has implications for human resource practices of the firm. Under the framework of agency theory, the presence of concentrated ownership such as family ownership is considered an effective mechanism to mitigate the principal agent conflict (Purkayastha *et al.*, 2019). The intense involvement of controlling owners in firm's strategic decisions and policy making restricts the divergent attitude of managers. Thus, the management is in a position to "direct attention, motivate and encourage individuals to act in ways that support the organizations' objectives" (Cardinal *et al.*, 2017). The close involvement of family owners with the employees grants the owners opportunity to formulate better human resource policies leading to better employee productivity (Hu *et al.*, 2018). In this scenario, we may assume positive labor productivity in family firms due to lesser principal-agent conflict in such firms. However, on the other hand, the concentration of power in hands of family owners may lead to appointment of controlling family members on the key managerial position that may cause resentment among labor workforce (Amin *et al.*, 2023). The nepotism and undue involvement of family owners towards the employment policies, therefore, may result in demotivation among the labor workforce and decrease labor productivity.

Overall, we are of the view that due to socio-emotional wealth perspective and for the sake of firm's reputation, the effective involvement of family owners positively influences the work force that leads to higher labor productivity. Thus, we hypothesize that:

H1: *Family ownership is positively associated with labor productivity*

2.6 Founder CEO and labor productivity

The corporate governance literature is of the view that founder CEO has a distinct influence over the firm's strategic behavior and organizational outcomes than family and non-family CEOs (Amin *et al.*, 2023). Contextually, Gao and Jain (2012) highlighted that the founder CEOs possess high intrinsic motivation, comprehensive business knowledge, and strong organizational identification, and their interests are aligned with that of the organization. In this scenario, we may assume higher labor productivity in the presence of founder CEO in line with the interests of the

organization. However, another stream of literature takes the opposite view and argues that beyond a certain point the founder CEOs may not possess necessary administrative skills to run the organization (Hall and Nordqvist, 2008). They may lack the required expertise or skill to deal with the rapidly expanding business. Thus, their presence may not result in better organizational policies and positive firm outcomes.

From social identity theory's perspective, prior research suggests that founder CEOs occupies the central position in determining the family's philosophy and fulfillment of family agenda (Brune *et al.*, 2019). In order to preserve socio-emotional wealth they avoid decisions that could endanger the family's reputation. In this scenario, family business literature provides both positive and negative effects of founder CEOs on firm outcomes. From one end, Le Breton-Miller and Miller (2008) argued that founders have considerable investment and attachment with the firm which results in development of strategies directed towards the firm growth. Similarly, Miller *et al.* (2022) mentioned that founder leaders have strong emotional ties and closer identification with the business which results in their active role in the business and close involvement with the stakeholders. Thus, we may assume better human resource policies and higher labor productivity for the sake of firm reputation in the presence of founder CEO. On the other hand, another stream of literature is of the view that family leaders are notorious for the appointment of their family members at the key position in firm. According to Miller *et al.* (2020), the emotional attachment among family members leads to altruism and nepotism in family firms that results in appointment of ineffective family members at the important managerial positions. This nepotism creates resentment among the employees resulting in negative labor productivity.

From agency theory's point of view, the separation of ownership and control between the shareholders and managers is associated with higher information asymmetry and gives rise to principal-agent conflict (Amin *et al.*, 2022). According to Purkayastha *et al.* (2019) this problem does not exist in family firms due to the continuous involvement of owners in the operations of the business that restricts the divergent behavior of managers leading to lower agency costs and better firm outcomes. In this scenario, Amin *et al.* (2023) mentioned that the presence of founder CEO is associated with better organizational decision making due to dominant control of founders over the affairs of the firm. The intense monitoring of the founders may lead to better human

resource policies in line with the firm's agenda resulting in higher employees' productivity. However, the increased involvement of founder CEOs along with their motivation to fulfill family agenda may lead to principal-principal conflict in such firms (Purkayastha *et al.*, 2019). The undue powers in the hands of CEOs may lead to increased nepotism and appointment of ineffective family members on managerial positions resulting in resentment among labor workforce and lower labor productivity (Schulze *et al.*, 2003). Utilizing the insight from upper echelon's theory, Hu *et al.* (2018) argue that when the CEO of the firm belongs to the same family, a direct supervisor-subordinate relationship is established which leads to better supervision of employees by CEO. In this scenario, the demographic background of a founder CEO and effective social interaction between the founder CEO and employee results in better labor productivity in such firms (Sekiguchi *et al.*, 2011).

The empirical evidence reported in this context is mixed. For instance, Lee (2006) reported higher employment growth in the presence of founding CEO in S&P 500 family firms. Similarly, Brune *et al.* (2019) mentioned that founder CEOs are more inclined towards the fulfillment of family objectives and therefore avoid any strategic decisions that could risk the firm's reputation. On the opposite, Bennedsen *et al.* (2007) found negative effects of founder CEO on firm performance in context of public and privately held firms in Denmark. Overall, we are of the view that due to emotional attachment and for the sake of preservation of socio-emotional wealth, the presence of founder CEO is associated with higher labor productivity. Thus, we hypothesize that:

H2: The presence of founder CEO is positively associated with labor productivity

2.7 Founder CEO transition

According to Ali *et al.* (2022), the strategic behavior of firm changes with the changes in the top management team of the organization. Accordingly, the departure of the founder CEO may lead to significant changes in the organizational policies and decision making (Amin *et al.*, 2023). Following the departure of the founder CEO the family members may opt for the CEO from within the family or may hire a CEO from outside (Khanin *et al.*, 2020). The family may consider hiring of outside CEO for several reasons. First, the family members may not be willing to get involved in the business due to social constraints. For instance, the family members may already be enjoying

a higher income as compared to the benefits expected from the family business (Amin *et al.*, 2023). Second, the family members may not have expertise to run the business due to complexity and innovativeness (Miller *et al.*, 2022). In this scenario, they may be willing to hire outside CEO with expertise in the relevant field. Finally, the absence of talented managers among family members or shortage of family members may result in non-availability of family members to lead the business (Le Breton-Miller and Miller, 2008).

Again, the extant literature highlights the distinct strategic behavior of both inside and outside CEO in context of family businesses. In context of labor productivity, we argue that presence of non-family CEO after the departure of founder CEO is associated with negative labor productivity as compared to hiring of family CEO. Our strand is based on the following reasons. First, from social identity theory's point of view, the presence of family CEO may further enhance the family image and continue to pursue family's agenda in line with his predecessor (Meier and Schier, 2021). Thus, the preservation of socio-emotional wealth and consideration of the firm as a legacy for the next generation may lead to continuation of employees' friendly policies that result in higher labor productivity. However, in the presence of non-family CEO the situation will be polar opposite. For non-family CEO the financial goals will take precedence as compared to non-financial goals such as consideration of socio-emotional wealth and family's legacy. Therefore, less employee friendly policies may be expected in the presence of a non-family CEO. Second, the newly hired non-family CEO may not have understanding of the expertise and behavior of workforce already employed at the key positions and working for the organization since long (Hernández-Linares *et al.*, 2023). The non-understanding of the expertise of such employees may result in the replacement of such workers with ineffective employees for the related jobs that may negatively influence the labor productivity. Third, the hiring of a non-family CEO will demoralize the employees as the managers who worked with founder CEO for long time got emotionally attached with the controlling family and are willing to continue their efforts in line with the family's objectives. The change in management may result in an adverse impact on such staff. Finally, consistent with agency theory, the hiring of non-family CEO may exacerbate the principal-agent conflict as his interests may not coincide with the preferences of family owners (Amin *et al.*, 2023). In such a case, the non-family CEO may not be willing to work with the existing management team as he considers the workforce loyal to the controlling family. On the opposite

side of continuum, some researchers are of the view that presence of non-family CEO may be advantageous for the firm. For instance, Werner *et al.* (2018) argued that hiring of non-family CEO may bring the innovation and better human resource policies that may lead to better labor productivity. Similarly, the newly appointed non-family CEO may reduce the nepotism culture resulting in appointment of professional workers at key positions instead of ineffective family members that may result in better working environment and ultimately result in higher profitability (Jaskiewicz *et al.*, 2013). Empirically, Minichilli *et al.* (2010) found that family CEOs are more beneficial than non-family CEOs. On the contrary, Miller *et al.* (2018) reported that under extreme levels of distinctiveness, non-family CEOs perform better than family CEOs.

Overall, we are of the view that presence of non-family CEO after the departure of founder CEO may result in negative labor productivity as their personal interest and organizational policies does not coincide with the preferences and strategies of their predecessors and with the other family members. The emotional attachment of the workforce with the family leadership results in resentment among the employees due to pursuance of non-family agenda by non-family CEO. Thus, we hypothesize that:

H3: The appointment of non-family CEO after the departure of Founder CEO is associated with the negative labor productivity

3. Research methodology

3.1 Sample selection

The data for the study was gathered from the annual reports of the firms available on website of Pakistan Stock Exchange and on the website of the respective firm. The sample was based on the non-financial listed firms over the period 2012-2022. We start our sample period from 2012, as the code of corporate governance 2012 set a minimum benchmark for listed firms in terms of governance standards and the code was made part of the listing regulations of the Stock Exchanges. The last year up to which data was available was 2022, therefore, it was considered as the last year of sample selection. We excluded the financial firms from our sample because these firms operate under separate regulatory frameworks and have different financial characteristics. Our sample initially comprised of 591 firms (5,681 firm-year observations), however, after exclusion of

financial firms and firms with missing observations, our unbalanced sample data for the first stage regression used to test hypothesis H1, comprised of 307 (2,926 firm-year observations) non-financial firms as depicted in panel A of table I. We further decompose the main sample into family firms and non-family firms as represented in panel B. Subsequently, to test our hypothesis H2, we excluded the firms where founder was not acting as a CEO of the firm from the family firm's sample. Finally, at the third stage, to test the hypothesis H3, we further excluded the firms where CEO transition was not observed throughout the sample period. Panel C shows the breakup of sample used to test the hypothesis H2 and H3.

{Insert table I around here}

3.2 Variable measurement

Labor productivity is considered a key indicator of the firms' efficiency that is used by firms to earn profits (Liu *et al.*, 2021). Moreover, this measure is also used by the firm for the comparison with other industries. Accordingly, following Liu *et al.* (2021) we divide the total sales of the firm in a particular year with the number of employees in that year, as it represents the efficiency of labor workforce towards the output that ultimately affects the profits. Another measure used in literature (e.g., Fields and Keys, 2003) for the measurement of labor productivity is the net income per employee. While the former is indicative of the efficiency of the workforce in creating the output, the later measure shows the motivation induced into the employee's behavior by the firm towards the creation of sales while controlling the costs (Wei *et al.*, 2002). In order to check for the robustness of our results, we used both measurement methods to measure labor productivity.

Regarding family ownership, according to Villalonga and Amit (2006), minimum ownership of 20% of equity capital is sufficient to consider the firm as family owned and controlled. However, following Purkayastha *et al.* (2019), we further strengthen the ownership criteria and considered the family-owned firm as a firm where at least any two out of the following three conditions are met: "1) the family had a minimum stake of 20%; 2) at least one member of the family was on the board; 3) a member of the family was also the chairperson of the board". Purposely, we created a dummy variable which represents '1' if the firm is a family firm and '0' otherwise.

At the next stage, in order to determine the presence of the founder CEO, we excluded the firms (from sample of family firms) where the founder CEO was not available. To meet the criteria set for hypothesis H2, it was essential that the founder CEO must be present as well as hold CEO position in the firm. Therefore, we did not consider the firms where the founder was available but not serving as CEO of the firm. At the last stage, to determine the founder CEO's transition, we further excluded the firms where the founder CEO remains in CEO position throughout our sample period. Following the exclusion, we were left with the family firms where founder CEO transition took place and resultantly, family CEO or non-family CEO were appointed. For measurement purposes, in the former case, we created dummy variable where '1' represents if the founder CEO is present, and '0' otherwise, and in the later scenario, dummy variable represents '1' if the founder CEO transition took place and reflects '0' otherwise.

According to Ullah *et al.* (2018) the regression results obtained through the regression analysis may be biased due to endogeneity problem. The endogeneity exists in the model if an independent variable in the model is correlated with the error term, and it is mainly due to omission of important variable from the model. Purposely, empirical literature (e.g., Lu *et al.*, 2018) considers inclusion of control variables, that are both theoretically and empirically relevant, in the regression model to address endogeneity. Hence, to control for the endogeneity, consistent with Nekhili *et al.* (2020) the study employed several governance and firm control variables. Contextually, board size (BD_SIZE), board independence (BD_IND), CEO duality (CEO_DUAL), board gender diversity (BD_GD), and audit committee independence (AUD_COMM) were used to control for the board characteristics and five proxies: Return on assets (ROA), Tobin's Q (TOBIN), leverage (LEV), firm age (F_AGE) and firm size (F_SIZE) were used to control for the firm characteristics. Table II presents the nature, symbol and measurement of all the variables used in the study.

{Insert table II around here}

3.3 *Econometric model*

In order to test the hypotheses, the following three regression models were developed. Model 1 was used to determine the direct effects of family ownership on labor productivity; model 2 was used to analyze the moderation effects of founder CEO on the relationship between family

ownership and labor productivity; and finally, model 3 was used to determine the effects of family CEO and non-family CEO on this relationship.

$$\begin{aligned} \text{Labor productivity}_{i,t} = & \alpha_{i,t} + \beta_1 \text{Family Ownership}_{i,t} + \beta_2 \text{Controls}_{i,t} + \sum_{u=1}^v \beta_3 \text{Region dummy}_{i,t} \\ & + \sum_{u=1}^v \beta_4 \text{Industry dummy}_{i,t} + \sum_{u=1}^v \beta_5 \text{year dummy}_{i,t} + \epsilon_{i,t} \end{aligned}$$

(Model 1)

$$\begin{aligned} \text{Labor productivity}_{i,t} = & \alpha_{i,t} + \beta_1 \text{Family Ownership}_{i,t} + \beta_2 \text{Founder CEO}_{i,t} + \beta_3 \text{Family Ownership} * \text{Founder CEO}_{i,t} \\ & + \beta_4 \text{Controls}_{i,t} + \sum_{u=1}^v \beta_4 \text{Region dummy}_{i,t} + \sum_{u=1}^v \beta_5 \text{Industry dummy}_{i,t} + \sum_{u=1}^v \beta_6 \text{year dummy}_{i,t} + \epsilon_{i,t} \end{aligned}$$

(Model 2)

$$\begin{aligned} \text{Labor productivity}_{i,t} = & \alpha_{i,t} + \beta_1 \text{Family Ownership}_{i,t} + \beta_2 \text{nonfamily CEO}_{i,t} + \beta_3 \text{Family Ownership} * \text{nonfamily CEO}_{i,t} \\ & + \beta_4 \text{Controls}_{i,t} + \sum_{u=1}^v \beta_5 \text{Region dummy}_{i,t} + \sum_{u=1}^v \beta_6 \text{Industry dummy}_{i,t} + \sum_{u=1}^v \beta_7 \text{year dummy}_{i,t} + \epsilon_{i,t} \end{aligned}$$

(Model 3)

Whereas labor productivity is our dependent variable measured using two proxies: sale per employee (LAB_PROD1), and income per employee (LAB_PROD2); $\alpha_{i,t}$ is the intercept of the model; Family ownership is the independent variable; Founder CEO and non-family CEO are our moderating variables; Family ownership*Founder CEO and Family ownership*Founder CEO are the interaction terms included to determine the moderating effects; control variables as mentioned in table II are included; to control for the unobserved heterogeneity across regions, we include *Region dummy_{i,t}* corresponding to four provinces of the country; *Industry dummy_{i,t}* represents industry dummy; *year dummy_{i,t}* represents year dummy; $\beta_1 - \beta_7$ represents regression coefficients of independent variable, control variables, moderator, interaction term, region dummy, industry dummy and year dummy; $\epsilon_{i,t}$ is the error term; and i represents firm at time t.

4. Results

4.1 Descriptive statistics

Table III reports the descriptive statistics of all the variables used in the study. The mean of LAB_PROD 1 and LAB_PROD is 3.702 and 4.217, respectively. The average of FAM_OWN is 0.618 which shows that around 62% of our sample firms comprises of family firms. This is consistent with Armitage *et al.* (2017) which mentioned that the emerging markets are mainly characterized by the presence of family businesses and controlling shareholders. Mean of FOUND_CEO is 0.451 which reflects that around 45% of our observations relates to presence of founder CEO in family firms. Mean of NFM_CEO is 0.221 which shows that 22% of our sample observations comprises of non-family CEOs. Regarding control variables, mean of BD_SIZE is 8.010 which shows that average board size is in compliance with the minimum requirement of 7 set by the Companies Act 2017. The board independence has a mean of 0.484 which again is in line with the minimum threshold of not less than 2 members or one third of the total board members, whichever is higher, set by the Listed Companies (Code of Corporate Governance) Regulations, 2019. Further, mean of CEO_DUAL is 0.137 which shows that in some firms a single individual occupies both chairman and CEO position. Mean of BD_GD is 0.141 which is also consistent with the minimum presence of one female director on the board of listed firms as mandated by listed Companies Code of Corporate Governance Regulations, 2017. Further, mean of AUD_COMM is 2.927 which shows presence of around 3 independent directors in the audit committee; mean of ROA is 6.553; mean of TOBIN is 0.546; mean of LEV is 0.217; mean F_AGE is 26 years; and mean F_SIZE is 22.751.

{Insert table III around here}

4.2 Pearson correlation

The Pearson correlation of all the variables is reported in table IV. Consistent with the hypotheses, a positive correlation was found between both measures of labor productivity (LAB_PROD1: 0.204**; LAB_PROD2: 0.281**) and family ownership. Similarly, a positive association was also found between both measures of labor productivity (LAB_PROD1: 0.139**; LAB_PROD2: 0.131**) and founder CEO. Finally, in line with our expectations, a negative association was found

between NFM_CEO and both measures of labor productivity (LAB_PROD1: -0.127**;
LAB_PROD2: -0.119**).

According to Gujarati (2016), if the correlation coefficient exceeds 0.8, then there is a threat of multicollinearity. In all the cases, the coefficient was well below 0.8 which shows that multicollinearity problem is not existent. Additionally, consistent with Caramanis and Spathis (2006), the absence of multicollinearity was further confirmed, as the reported values of VIF falls below the severity level of 5.

{Insert table IV around here}

4.3 *Mean difference test*

Table V presents the mean difference test and related t-statistics between family firms with founder CEO and family firms with non-family CEO. The results indicate that family firms with FOUND_CEO are, on average, more productive than family firms with NFM_CEO. Moreover, the firms with FOUND_CEO are comparatively higher in respect of board level control variables. Similarly, in terms of firm level controls such firms show higher means except in case of leverage which stands higher in case of firms with non-family CEO.

{Insert table V around here}

4.4 *Ordinary least squares regression*

In order to test the hypotheses, we run the ordinary least regression analysis using model 1-3. Under hypothesis H1, we hypothesize that family ownership is positively associated with labor productivity. Our hypothesis was based on the notion that family owners consider the business as a legacy to be transferred to the next generation. Moreover, from socio-emotional wealth's perspective, the family owners' resort to better human resource policies to attract the trust of employees and other stakeholders, which leads to better labor productivity. The regression results reported in table VI shows that our hypothesis H1 was supported as we found significant positive association between family ownership and both measures of labor productivity (LAB_PROD1:

0.235***; LAB_PROD2: 0.207***). In both cases our results were significant at the 1% level of significance. Empirically, our results were consistent with prior studies (e.g., Hernández-Linares *et al.*, 2023) in this context.

Under hypothesis H2, the study hypothesized that presence of founder CEO is positively associated with labor productivity. We argue that due to emotional attachment of founder CEO with the family business and their intention to grow the business for the next generations, the presence of founder CEO is associated with better human resource policies. Again, our hypothesis H2 and our argument was supported as we found significant positive coefficient of the interaction term in both cases (LAB_PROD1: 0.208**; LAB_PROD2: 0.101**). In this scenario, our results are consistent with Brune *et al.* (2019).

Figure I display the moderation effects of founder CEO on the relationship between family ownership and labor productivity¹, whereas figure II shows the moderation effects of founder CEO on the relationship between family ownership and labor productivity². Both the figures confirm the moderation effects of founder CEO as the lines of the graph are not parallel to each other. Thus, the graphs show that founder CEO moderates the relationship between family ownership and labor productivity.

Finally, in order to test our hypothesis H3, we run the regression using model 3. Under hypothesis H3, we hypothesized that transition of CEO from founder to non-family results in negative labor productivity. To test the model, we use the sample where the transition of CEO founder was observed. We argue that non-family CEO pursue the non-family agenda that leads to resentment among the employees previously following the family goals. Moreover, in this scenario, the socio-emotional wealth perspective is not prominent in the human resource policies of the firm that results in negative labor productivity. The results reported in table VI show that our hypothesis H3 was supported as we found negative coefficient of interaction term (LAB_PROD1: -0.119**; LAB_PROD2: -0.121**), significant at 5% level of significance. Empirically, our results were in line with the study of Minichilli *et al.* (2010) in this context. Figure III and figure IV confirm the negative moderation effects of non-family CEO on the relationship between family ownership and both proxies of labor productivity.

The purpose of the study was to examine the influence of family owners on labor productivity and the effects of founder CEO's transition to non-family CEO. First, we examine the direct influence of family ownership on labor productivity, and in line with our expectations, we found positive effects of family owners on labor productivity. Subsequently, we examine the effect of departure of founder CEO, and found that although the presence of founder CEO is associated with higher labor productivity, however, the appointment of non-family CEO results in negative impact on labor productivity. From the social identity theory's perspective, our results support the socio-emotional wealth considerations in our sample family firms. According to Purkayastha *et al.* (2019), the managerial behavior in the family firms is motivated by the trust and alignment of family goals. Moreover, the prominence of non-financial goals and perpetuation of the family's dynasty are reflected in the strategic behavior of family owners (Zellweger *et al.*, 2013). Our result in this context reflects the consideration of socio-emotional wealth and formulation of better human resource policies for the sake of firm's reputation that leads to higher labor productivity. Similarly, in line with our arguments we found that presence of founder CEO is positively associated with the labor productivity due to emotional attachment with the family business. Moreover, in order to avoid the risk of a bad reputation that may arise due to disputes over managerial actions, better human resource policies are formulated. However, the departure of founder CEO and hiring of non-family CEO discontinues the family-oriented behavior of the firm that creates resentment among employees resulting in negative productivity. Overall, our results provide empirical support to social identity theory and positive behavior of family owners towards the labor workforce.

The agency literature (e.g., Amin *et al.*, 2022) is of the view that principal-agent conflict is mainly dominant in case of dispersion of ownership, and presence of controlling shareholders provide the remedial measures to mitigate this conflict. The intense monitoring of management by the large shareholders restricts the divergent behavior of management. On the other hand, Solarino and Boyd (2020) mentioned that presence of controlling shareholders in family firms may result in principal-principal conflict as the family owners may exploit minority shareholders by tunneling the firm's resources to increase family's wealth. Our results in this context, provides existence of principal-agent conflict in family firms due to presence of non-family CEO. The

hiring of non-family CEO increases the information asymmetry in family firms due to non-involvement of family members in the management decision making. As such, our results report negative behavior of non-family CEO towards the labor productivity in contrast to positive role of family owners and founder CEO towards the employees. Overall, our results add to the agency literature in context of family firms' behavior towards the firm's strategic decision making and firm's outcomes.

According to Armitage *et al.* (2017), the emerging markets are characterized by the presence of large shareholders and dominant business groups that poses governance challenges for these economies due to weak regulatory framework and lesser shareholder's protection. Specifically, the family owners exploit the minority shareholders through tunneling of firm's resources to increase family's wealth. On the other hand, the alignment of family goals with the interests of the minority shareholders may reduce the agency cost and maximize shareholder's value. Our results in this context indicate the alignment of family centered goals with the labor workforce that leads to positive influence on labor productivity in presence of family leadership.

{Insert table VI around here}

4.5 Additional analysis

4.5.1 Generalized method of moment estimation

Although OLS regression results show support for our hypotheses, however, the results may be endogenous due to unobserved heterogeneity and simultaneity. According to Ullah *et al.* (2018), OLS regression is unable to capture complex and dynamic relationships and unable to solve the problem of unobserved heterogeneity and simultaneity, which may lead to biased results. In this scenario, the Generalized method of moments (GMM) model can control for the three major sources of endogeneity: unobserved heterogeneity; simultaneity; and, dynamic endogeneity. Therefore, we used GMM estimation for the robustness check as it is commonly used for endogeneity problems.

The GMM estimation of family ownership, founder CEO, non-family CEO and labor productivity are shown in table VII. Consistent with Roodman (2009), we use lagged value of dependent

variable (labor productivity) as instrument in our estimation process. As expected, the signs of coefficients were in conformity with our earlier obtained results which shows the conformance of results obtained from OLS regression method. It is notable that the p-value of Hansen j test and Arellano bond (AR) 2 test are insignificant which shows the validity of our model. Hansen j test ensures the validity of instruments whereas the Arellano bond test indicates that model does not suffer from second order autocorrelation.

{Insert table VII around here}

4.5.2 Fixed effects analysis

Another method used in the literature to deal with the problem of unobserved heterogeneity is the use of fixed effect analysis (Huang *et al.*, 2023). This method addresses the problem of endogeneity through incorporation of firm and year fixed effects in the model to control for the time invariant characteristics of the firm. In order to confirm the robustness of our earlier results, it is necessary that the results obtained through fixed effects analysis must be similar to the previous results. The results obtained by using this approach are reported in table VIII and are similar to our earlier results. As a robustness check, we further decomposed our independent variable, family ownership, using xtsum command in Stata and found that ‘within’ statistics of the variable varies between minimum -0.005 and maximum 1.013 values with a mean of 0.618 and standard deviation of 0.639.

{Insert table VIII around here}

4.5.3 Difference in difference analysis

To further establish our results, following Huang *et al.* (2023) we applied difference in difference (DID) estimation on the basis of change of ownership. Accordingly, we conduct DID estimation using following equation:

$$\text{Labor productivity}_{i,t} = \alpha_{i,t} + \beta_1 \text{TREAT}_i * \text{POST}_t + \beta_2 \text{BD_SIZE}_{i,t} + \beta_3 \text{BD_IND}_{i,t} + \beta_4 \text{CEO_DUAL}_{i,t} + \beta_5 \text{BD_GD}_{i,t} \\ + \beta_6 \text{AUD_COMM}_{i,t} + \beta_7 \text{ROA}_{i,t} + \beta_8 \text{TOBIN}_{i,t} + \beta_9 \text{LEV}_{i,t} + \beta_{10} \text{F_AGE}_{i,t} + \beta_{11} \text{F_SIZE}_{i,t} + \beta_{12} \text{firm dummy}_{i,t}$$

$$+ \beta_{13} \text{year dummy}_{i,t} + \varepsilon_{i,t}$$

(equation 1)

Whereas, TREAT equals 1 if the firm has experienced a change in ownership, and '0' otherwise; POST is a dummy variable that is indicative of post-ownership period; firm and year fixed effects are included; ε represents error term; i shows firm 'i' at time 't'.

Table IX shows the results of multivariate DID estimation obtained by using equation 1. Column 1 and column 2 depict the regression results obtained using LAB_PROD1 as a dependent variable, whereas column 3 and column 4 uses FAM_OWN as a dependent variable. The positive coefficient of the TREAT*POST in all cases shows that, in line with our hypothesis the treatment firms experience higher labor productivity as compared to the controlled firms after transition of ownership.

{Insert table IX around here}

4.5.4 Mediation analysis

The strategic human resource literature (e.g., Dal Maso et al., 2020) is of the view that training and development practices increases the advancement of employees' knowledge, skills, and abilities that ultimately leads to better labor productivity and higher firm performance. Ji *et al.* (2012) mentioned that employee training improves labor productivity as it develops a sense of responsibility and business ethics among the employees. Consistently, we re-run the model 1-3 using training and development as a mediating variable between family ownership and labor productivity. For the sake of brevity, we only use one measure of labor productivity (LAB_PROD1). We also examined the moderating role of family CEO and non-family CEO on the relationship between family ownership and training and development in this context. To confirm the mediation effect, the study followed the methodology of Wu *et al.* (2020). The results reported in table X indicates that: first, family ownership significantly affects the labor productivity; second, family ownership significantly affects the training development; and third training and development is significantly related to labor productivity. Finally, the partial mediation effect of training and development is confirmed as the effects of both family ownership

and training development on labor productivity were significant (for details on mediation steps, please see Wu *et al.*, 2020). Consistent with Ali *et al.* (2022), the mediation effect was further confirmed using the Sobel test. The unreported Sobel test results confirmed that training and development mediates this relationship. Moreover, the results reported in table X also indicate that family CEO and non-family CEO moderate the relationship between family ownership and training and development.

{Insert table X around here}

4.5.5 Robustness check

In order to mitigate the concerns for the reverse causality, we run the regression using one-year lagged values of the variables. Additionally, to test the robustness, we measure our control variable ‘firm size’ using log transformation of number of employees instead of log of total assets. The results reported in table XI show that reverse causality is not an issue, and our results remain same after using lagged values of the variables and alternate measure of firm size.

{Insert table XI around here}

Another widely used measure of labor productivity found in the literature (e.g., Amato *et al.*, 2023; Raspe and van Oort, 2011) is the natural log of value added per employee. The ‘value added’ is measured as the difference between the revenues of the firm and cost of intermediate goods and services needed in the production process. As a robustness check, we used value added as an alternate measure of labor productivity (LAB_PROD3) and the results reported in table XII extend conformance to our earlier obtained results.

{Insert table XII around here}

5. Summary and conclusions

5.1 Discussion

This study examines the impact of family ownership on labor productivity, and moderating role of founder CEO on this relationship. Our study also investigates the effects of founder CEO transition from family firm, and effects of non-family CEO on labor productivity after the departure of founder CEO. The results of this study complement the existing literature in different ways. First, our study adds to the family business literature by examining the influence of family owners on labor productivity in an emerging market context. As such, we provide the positive behavior of family owners towards the employees' welfare and better human resource policies that are associated with positive labor productivity. Second, we respond to the research call of Christensen-Salem *et al.* (2021) by examining the effects of family owners on labor productivity in context of an emerging market to determine the generalizability of results. Third, consistent with the family literature, our study highlights the family-oriented behavior of founder CEO and provides the positive influence of founder CEO on labor productivity. Fourth, our study provides novel evidence of the transition of founder CEO to non-family CEO. In this scenario, our study provides the negative effects of labor productivity in case of transition to non-family CEO. Finally, our results provide empirical support to social identity theory in our sample family firms.

The study used sample of non-financial firms listed on Pakistan Stock Exchange over the period 2012-2022. To test the hypotheses, the ordinary least squares regression method was used, and further, generalized method of moments estimation, fixed effects analysis and difference in difference estimation were applied to check for the robustness of the results. Under hypothesis H1, we hypothesized that family ownership is positively associated with labor productivity. We argue that family owners' resort to better human resource policies for the sake of firm's reputation that ultimately leads to positive labor productivity. Our hypothesis H1 and our argument was supported as we found significant positive association between family ownership and both measures of labor productivity. Similarly, under hypothesis H2, we hypothesized that the presence of founder CEO is also positively associated with labor productivity. We argue that due to consideration of socio-emotional wealth and emotional attachment of owners with the labor, the presence of founder CEO is positively associated with labor productivity. Our hypothesis H2 and our argument were supported as we found significant positive association between founder CEO and both measures of labor productivity. Finally, under hypothesis H3, we hypothesized that after the transition of founder CEO, the hiring of non-family CEO is associated with the negative labor productivity.

Our argument was based on the notion that non-family CEO does not continue the family legacy and consequently, their presence results in resentment among the labor. Again, our hypothesis H3 was accepted as we found significant negative association between the non-family CEO and both measures of labor productivity. Overall, our results were consistent with the prior studies in this context.

5.2 Contributions

Our results have several theoretical and practical contributions. Theoretically, our results add to the family business literature by highlighting the positive behavior of family owners towards the labor workforce. Using the framework of social identity theory, our results show the transgenerational sustainability intentions of the family owners which are reflected in their attitude towards the labor work force. As such, our results show favorable employee practices in the family firms. Second, the proponents of the agency theory claim that family firms are plagued with the issues of family altruism and nepotism that restricts the entry of talented workforce in such firms leading to lower productivity. In contrast, our results suggest that for the sake of the firm's reputation and for the long-term survival of the business, the family owners focus on building a community of talented and loyal staff. Our results also indicate that family owners spend more on training of workforce to get maximum advantage of the skilled workforce. In addition, the corporate governance literature (e.g., Solarino and Boyd, 2020) mainly highlight the existence of principal-principal conflict in family-owned firms due to presence of controlling shareholders, and absence of principal-agent conflict due to intense involvement of owners in the management decision making. Our result in this context indicates the existence of principal agent conflict in family firms in case of non-family CEO due to non-involvement of family owners in the management of the firm.

Our results also have practical implications for managers, investors and policy makers. For managers, our results provide insight into the behavior of family owners towards their employees and show better human resource policies of family owners for the enhancement of firm's reputation. Moreover, our results imply the distinct behavior of CEO founder and non-family CEO towards labor productivity. Our results suggest the labor-oriented attitude of founder CEO as compared to non-family CEO. For investors, our results provide a positive role of family owners

and CEO founders towards the labor productivity and profitability of the firm. Our findings provide insight into the firm owner's behavior and their influence towards effective human resource management policies and strategic decision making that is necessarily required for making the investment decisions due to their significant impact on profitability and overall firm value. Like other emerging markets, the non-financial firms listed on Pakistan Stock Exchange are mainly family firms owned and operated by families. The presence of dominant ownership and weak formal institutions in emerging and developing economies possess specific corporate governance challenges for the regulators for the protection of investors. In this scenario, our results provide insight to the regulators regarding the positive behavior of family owners towards the labor workforce in less regulated markets.

5.3 Future research avenues

Like other studies, the study suffers from some limitations that may serve as guidelines for future research. According to Federo *et al.* (2020), the corporate boards of listed firms are composed of different types of owners, such as lone founder, state owners and institutional owners, with each owner having distinct social context and strategic behavior. While this study only considers one kind of ownership type, family ownership, we urge the future researchers to examine the influence of other ownership types on labor productivity. Second, multiple studies (e.g., Aiello and Ricotta, 2016) while examining the firm's productivity used the model of Levinsohn and Petrin (2003). Future studies may consider using this model for examining the productivity under different kinds of ownership structures. Finally, our study used secondary data to examine the role of family owners and their influence on labor productivity. Future studies can improve our findings by using interviews or case studies to gain more insight into family owners' behavior and their influence on labor productivity.

References

- Aiello, F. and Ricotta, F. (2016), "Firm heterogeneity in productivity across Europe: evidence from multilevel models", *Economics of Innovation and New Technology*, Vol. 25 No. 1, pp. 57-89.
- Ali, R., Rehman, R. U., Suleman, S. and Ntim, C. G. (2022), "CEO attributes, investment decisions, and firm performance: New insights from upper echelons theory", *Managerial and Decision Economics*, Vol. 43 No. 2, pp. 398-417.

- Allouche, J. and Amann, B. (1997), “Le retour du capitalisme familial. L’expansion”, *Management Review*, Vol. 85, pp. 92–99.
- Alsaadi, A. (2022), “Family ownership and corporate social responsibility disclosure”, *Spanish Journal of Finance and Accounting/Revista Española de Financiación y Contabilidad*, Vol. 51 No. 2, pp. 160-182.
- Amato, S., Pieroni, V., Lattanzi, N. and Vitali, G. (2022), “Are family firms good neighbours? A spatial analysis of Italian technology-intensive firms”, *Journal of Small Business and Enterprise Development*, Vol. 29 No. 4, pp. 663-693.
- Amin, A., Ali, R. and Rehman, R. U. (2023), “Departure of giants: ownership transition in lone-founder owned firms”, *Management Decision*, Vol. ahead-of-print.
- Amin, A., Ur Rehman, R., Ali, R. and Ntim, C. G. (2022), “Does gender diversity on the board reduce agency cost? Evidence from Pakistan”, *Gender in Management: An International Journal*, Vol. 37 No. 2, pp.164-181.
- Armitage, S., Hou, W., Sarkar, S. and Talaulicar, T. (2017), “Corporate governance challenges in emerging economies”, *Corporate Governance: An International Review*, Vol. 25 No. 3, pp. 148-154.
- Ashforth, B. E. and Mael, F. (1989), “Social identity theory and the organization”, *Academy of management review*, Vol. 14 No. 1, pp. 20-39.
- Atupola, U. and Gunarathne, N. (2023), “Institutional pressures for corporate biodiversity management practices in the plantation sector: Evidence from the tea industry in Sri Lanka”, *Business Strategy and the Environment*, Vol. 32 No. 5, pp. 2615-2630.
- Bansal, P. (2005), “Evolving sustainably: A longitudinal study of corporate sustainable development”, *Strategic management journal*, Vol. 26 No. 3, pp. 197-218.
- Bennedsen, M., Fan, J. P., Jian, M. and Yeh, Y. H. (2015), “The family business map: Framework, selective survey, and evidence from Chinese family firm succession”, *Journal of Corporate Finance*, Vol. 33, pp. 212-226.
- Bennedsen, M., Nielsen, K. M., Pérez-González, F. and Wolfenzon, D. (2007), “Inside the family firm: The role of families in succession decisions and performance”, *The Quarterly Journal of Economics*, Vol. 122 No. 2, pp. 647-691.
- Boiral, O. and Gendron, Y. (2011), “Sustainable development and certification practices: Lessons learned and prospects”, *Business Strategy and the Environment*, Vol. 20 No. 5, pp. 331-347.

- Boiral, O., Heras-Saizarbitoria, I. and Brotherton, M. C. (2018), "Corporate biodiversity management through certifiable standards", *Business Strategy and the Environment*, Vol. 27 No. 3, pp. 389-402.
- Breit, E., Song, X., Sun, L. and Zhang, J. (2019), "CEO power and labor productivity", *Accounting Research Journal*, Vol. 32 No. 2, pp. 148-165.
- Brune, A., Thomsen, M. and Watrin, C. (2019), "Family firm heterogeneity and tax avoidance: The role of the founder", *Family Business Review*, Vol. 32 No. 3, pp. 296-317.
- Caramanis, C. and Spathis, C. (2006), "Auditee and audit firm characteristics as determinants of audit qualifications: Evidence from the Athens stock exchange", *Managerial Auditing Journal*, Vol. 21 No. 9, pp. 905-920.
- Cardinal, L. B., Kreutzer, M. and Miller, C. C. (2017), "An aspirational view of organizational control research: Re-invigorating empirical work to better meet the challenges of 21st century organizations", *Academy of Management Annals*, Vol. 11 No. 2, pp. 559-592.
- Chrisman, J. J., Devaraj, S. and Patel, P. C. (2017), "The impact of incentive compensation on labor productivity in family and nonfamily firms", *Family Business Review*, Vol. 30 No. 2, pp. 119-136.
- Christensen-Salem, A., Mesquita, L. F., Hashimoto, M., Hom, P. W. and Gomez-Mejia, L. R. (2021), "Family firms are indeed better places to work than non-family firms! Socioemotional wealth and employees' perceived organizational caring", *Journal of Family Business Strategy*, Vol. 12 No. 1, p. 100412.
- Creemers, S., Peeters, L., Castillo, J. L. Q., Vancauteran, M. and Voordeckers, W. (2023), "Family firms and the labor productivity controversy: A distributional analysis of varying labor productivity gaps", *Journal of Family Business Strategy*, Vol. 14 No. 2, p. 100515.
- Dal Maso, L., Basco, R., Bassetti, T. and Lattanzi, N. (2020), "Family ownership and environmental performance: The mediation effect of human resource practices", *Business Strategy and the Environment*, Vol. 29 No. 3, pp. 1548-1562.
- Daspit, J. J., Chrisman, J. J., Ashton, T. and Evangelopoulos, N. (2021), "Family firm heterogeneity: A definition, common themes, scholarly progress, and directions forward", *Family Business Review*, Vol. 34 No. 3, pp. 296-322.

- Deb, P. and Wiklund, J. (2017), "The effects of CEO founder status and stock ownership on entrepreneurial orientation in small firms", *Journal of Small Business Management*, Vol. 55 No. 1, pp. 32-55.
- Federo, R., Ponomareva, Y., Aguilera, R. V., Saz-Carranza, A. and Losada, C. (2020), "Bringing owners back on board: A review of the role of ownership type in board governance", *Corporate Governance: An International Review*, Vol. 28 No. 6, pp. 348-371.
- Fields, M. A. and Keys, P. Y. (2003), "The emergence of corporate governance from Wall St. to Main St.: Outside directors, board diversity, earnings management, and managerial incentives to bear risk", *Financial Review*, Vol. 38 No. 1, pp. 1-24.
- Firfiray, S., Cruz, C., Neacsu, I. and Gomez-Mejia, L. R. (2018), "Is nepotism so bad for family firms? A socioemotional wealth approach", *Human Resource Management Review*, Vol. 28 No. 1, pp. 83-97.
- Foreman, P. and Whetten, D. A. (2002), "Members' identification with multiple-identity organizations", *Organization science*, Vol. 13 No. 6, pp. 618-635.
- Gao, N. and Jain, B. A. (2012), "Founder management and the market for corporate control for IPO firms: The moderating effect of the power structure of the firm", *Journal of Business Venturing*, Vol. 27 No. 1, pp. 112-126.
- Gomez-Mejia, L. R., Cruz, C., Berrone, P. and De Castro, J. (2011), "The bind that ties: Socioemotional wealth preservation in family firms", *Academy of Management annals*, Vol. 5 No. 1, pp. 653-707.
- Gujarati, D. N. (2016), "Basic econometrics (UK ed.)", Boston, USA: McGraw-Hill Europe.
- Hall, A. and Nordqvist, M. (2008), "Professional management in family businesses: Toward an extended understanding", *Family business review*, Vol. 21 No. 1, pp. 51-69.
- Hambrick, D. C. and Mason, P. A. (1984), "Upper echelons: The organization as a reflection of its top managers", *Academy of management review*, Vol. 9 No. 2, pp. 193-206.
- Hernández-Linares, R., López-Fernández, M. C., Memili, E., Mullins, F. and Patel, P. C. (2023), "High-performance work practices, socioemotional wealth preservation, and family firm labor productivity", *BRQ Business Research Quarterly*, Vol. 26 No. 3, pp. 237-255.
- Heugens, P. P., Van Essen, M. and (Hans) van Oosterhout, J. (2009), "Meta-analyzing ownership concentration and firm performance in Asia: Towards a more fine-grained understanding", *Asia Pacific Journal of Management*, Vol. 26, pp. 481-512.

- Hu, Q., Zhang, Y. and Yao, J. (2018), "Family involvement in middle management and its impact on the labor productivity of family firms", *Management and Organization Review*, Vol. 14 No. 2, pp. 249-274.
- Huang, G., An, Z. and Li, D. (2023), "Foreign institutional ownership and corporate risk-taking: International evidence", *Corporate Governance: An International Review*, Vol. 31 No. 2, pp. 260-284.
- Jaskiewicz, P., Uhlenbruck, K., Balkin, D. B. and Reay, T. (2013), "Is nepotism good or bad? Types of nepotism and implications for knowledge management", *Family Business Review*, Vol. 26 No. 2, pp. 121-139.
- Jensen, M. C. and Meckling, W. (1976), "Theory of the firm: Managerial behavior, agency costs and ownership structure", *Journal of Financial Economics*, Vol. 3 No. 4, pp. 305-360.
- Ji, L., Huang, J., Liu, Z., Zhu, H. and Cai, Z. (2012), "The effects of employee training on the relationship between environmental attitude and firms' performance in sustainable development", *The International Journal of Human Resource Management*, Vol. 23 No. 14, pp. 2995-3008.
- Jiang, K., Lepak, D. P., Hu, J. and Baer, J. C. (2012), "How does human resource management influence organizational outcomes? A meta-analytic investigation of mediating mechanisms", *Academy of management Journal*, Vol. 55 No. 6, pp. 1264-1294.
- Kabbach de Castro, L. R., Aguilera, R. V. and Crespi-Cladera, R. (2017), "Family firms and compliance: Reconciling the conflicting predictions within the socioemotional wealth perspective", *Family Business Review*, Vol. 30 No. 2, pp. 137-159.
- Kets de Vries, M.F.R. and Carlock, R.S. (2007), "Family business on the couch: A psychological perspective", Chichester, U.K.: John Wiley and Sons.
- Khanin, D., Rakshit, A., Mahto, R. V. and McDowell, W. C. (2020), "An Ongoing race: family CEOs vs. non-family CEOs", *International Entrepreneurship and Management Journal*, Vol. 16, pp. 1043-1063.
- Kim, Y. and Ployhart, R. E. (2014), "The effects of staffing and training on firm productivity and profit growth before, during, and after the Great Recession", *Journal of Applied Psychology*, Vol. 99 No. 3, pp. 361-389.
- Lansberg, I. S. (1983), "Managing human resources in family firms: The problem of institutional overlap", *Organizational dynamics*, Vol. 12 No. 1, pp. 39-46.

- Le Breton-Miller, I. and Miller, D. (2008), "To grow or to harvest? Governance, strategy and performance in family and lone founder firms", *Journal of Strategy and Management*, Vol. 1 No. 1, pp. 41-56.
- Lee, J. (2006), "Family firm performance: Further evidence", *Family business review*, Vol. 19 No. 2, pp. 103-114.
- Levinsohn, J. and Petrin, A. (2003), "Estimating production functions using inputs to control for unobservables", *The review of economic studies*, Vol. 70 No. 2, pp. 317-341.
- Liu, F., Dutta, D. K. and Park, K. (2021), "From external knowledge to competitive advantage: absorptive capacity, firm performance, and the mediating role of labour productivity", *Technology Analysis and Strategic Management*, Vol. 33 No. 1, pp. 18-30.
- Lu, G., Ding, X. D., Peng, D. X. and Chuang, H. H. C. (2018), "Addressing endogeneity in operations management research: Recent developments, common problems, and directions for future research", *Journal of Operations Management*, Vol. 64, pp.53-64.
- Malik, F., Wang, F., Naseem, M. A., Ikram, A. and Ali, S. (2020), "Determinants of corporate social responsibility related to CEO attributes: An empirical study", *Sage Open*, Vol. 10 No. 1, p. 2158244019899093.
- Martin, G., Campbell, J. T. and Gomez-Mejia, L. (2016), "Family control, socioemotional wealth and earnings management in publicly traded firms", *Journal of Business Ethics*, Vol. 133, pp. 453-469.
- Meier, O. and Schier, G. (2021), "CSR and family CEO: The moderating role of CEO's age", *Journal of Business Ethics*, Vol. 174, pp. 595-612.
- Miller, D., Amore, M. D., Le Breton-Miller, I., Minichilli, A. and Quarato, F. (2018), "Strategic distinctiveness in family firms: Firm institutional heterogeneity and configurational multidimensionality", *Journal of Family Business Strategy*, Vol. 9 No. 1, pp. 16-26.
- Miller, D., Amore, M. D., Quarato, F. and Corbetta, G. (2022), "Family ownership dispersion and dividend payout in family firms", *Journal of Family Business Strategy*, Vol. 13 No. 3, pp. 100436.
- Miller, D., Le Breton-Miller, I. and Lester, R. H. (2011), "Family and lone founder ownership and strategic behaviour: Social context, identity, and institutional logics", *Journal of management studies*, Vol. 48 No. 1, pp. 1-25.

- Miller, D., Lee, J., Chang, S. and Le Breton-Miller, I. (2009), "Filling the institutional void: The social behavior and performance of family vs non-family technology firms in emerging markets", *Journal of International Business Studies*, Vol. 40, pp. 802-817.
- Miller, D., Wiklund, J. and Yu, W. (2020), "Mental health in the family business: A conceptual model and a research agenda", *Entrepreneurship Theory and Practice*, Vol. 44 No. 1, pp. 55-80.
- Minh Ha, N., Do, B. N. and Ngo, T. T. (2022), "The impact of family ownership on firm performance: A study on Vietnam", *Cogent Economics and Finance*, Vol. 10 No. 1, p. 2038417.
- Minichilli, A., Corbetta, G. and MacMillan, I. C. (2010), "Top management teams in family-controlled companies: 'familiness', 'faultlines', and their impact on financial performance", *Journal of Management studies*, Vol. 47 No. 2, pp. 205-222.
- Neckebrouck, J., Schulze, W. and Zellweger, T. (2018), "Are family firms good employers?", *Academy of Management Journal*, Vol. 61 No. 2, pp. 553-585.
- Nekhili, M., Gull, A. A., Chtioui, T. and Radhouane, I. (2020), "Gender-diverse boards and audit fees: What difference does gender quota legislation make?", *Journal of Business Finance and Accounting*, Vol. 47(1-2), pp. 52-99.
- North, D. C. (1990). *Institutions, institutional change and economic performance*. Cambridge, England: Cambridge University Press.
- Pittino, D., Visintin, F., Lenger, T. and Sternad, D. (2016), "Are high performance work practices really necessary in family SMEs? An analysis of the impact on employee retention", *Journal of Family Business Strategy*, Vol. 7 No. 2, pp. 75-89.
- Purkayastha, S., Veliyath, R. and George, R. (2019), "The roles of family ownership and family management in the governance of agency conflicts", *Journal of Business Research*, Vol. 98, pp. 50-64.
- Raspe, O. and van Oort, F. G. (2011), "Firm heterogeneity, productivity and spatially bounded knowledge externalities", *Socio-Economic Planning Sciences*, Vol. 45 No. 1, pp. 38-47.
- Roodman, D. (2009), "How to do xtabond2: An introduction to difference and system GMM in Stata", *The stata journal*, Vol. 9 No. 1, pp. 86-136.
- Schulze, W. S., Lubatkin, M. H. and Dino, R. N. (2003), "Toward a theory of agency and altruism in family firms", *Journal of business venturing*, Vol. 18 No. 4, pp. 473-490.
- Sekiguchi, T., Bebenroth, R. and Li, D. (2011), "Nationality background of MNC affiliates' top management and affiliate performance in Japan: knowledge-based and upper echelons

perspectives”, *The International Journal of Human Resource Management*, Vol. 22 No. 5, pp. 999-1016.

Solarino, A. M. and Boyd, B. K. (2020), “Are all forms of ownership prone to tunneling? A meta-analysis”, *Corporate Governance: An International Review*, Vol. 28 No. 6, pp. 488-501.

Soleimanof, S., Rutherford, M. W. and Webb, J. W. (2018), “The intersection of family firms and institutional contexts: A review and agenda for future research”, *Family Business Review*, Vol. 31 No. 1, pp. 32-53.

Ullah, S. and Malik, M. N. (2019), “Impact of health on labour productivity: empirical evidence from Pakistan”, *European Online Journal of Natural and Social Sciences*, Vol. 8 No. 1, pp. 139.

Ullah, S., Akhtar, P. and Zaefarian, G. (2018), “Dealing with endogeneity bias: The generalized method of moments (GMM) for panel data”, *Industrial Marketing Management*, Vol. 71, pp. 69-78.

Villalonga, B. and Amit, R. (2006), “How do family ownership, control and management affect firm value?”, *Journal of financial Economics*, Vol. 80 No. 2, pp. 385-417.

Webb, J. W., Pryor, C. G. and Kellermanns, F. W. (2015), “Household enterprise in base-of-the-pyramid markets: The influence of institutions and family embeddedness”, *Africa Journal of Management*, Vol. 1 No. 2, pp. 115-136.

Wei, Z., Varela, O. and Hassan, M. K. (2002), “Ownership and performance in Chinese manufacturing industry”, *Journal of Multinational Financial Management*, Vol. 12 No. 1, pp. 61-78.

Werner, A., Schröder, C. and Chlosta, S. (2018), “Driving factors of innovation in family and non-family SMEs”, *Small Business Economics*, Vol. 50 No. 1, pp. 201-218.

Wu, W., Peng, F., Shan, Y. G. and Zhang, L. (2020), “Litigation risk and firm performance: The effect of internal and external corporate governance”, *Corporate governance: an international review*, Vol. 28 No. 4, pp. 210-239.

Yang, K. P. and Schwarz, G. M. (2016), “A multilevel analysis of the performance implications of excess control in business groups”, *Organization Science*, Vol. 27 No. 5, pp. 1219-1236.

Zellweger, T. M., Nason, R. S., Nordqvist, M. and Brush, C. G. (2013), “Why do family firms strive for nonfinancial goals? An organizational identity perspective”, *Entrepreneurship Theory and practice*, Vol. 37 No. 2, pp. 229-248.

Table I: Sample description

Panel A: Sample selection procedure	Firm-year observations	Number of firms
Sample of all listed firms for the period 2012 to 2022	5,681	591
Less: Firm financial firms such as banks, insurance companies etc.	(1,604)	(165)
Sample before removing missing observations	4,077	426
Less: Missing observations	(1,151)	(119)
Initial sample used to test the hypothesis H1	2,926	307

Panel B: Ownership wise composition	Firm-year observations	Number of firms	Percentage
Family firms	1,811	191	61.89
Non-family firms	1,115	116	38.11
Total	2,926	307	100.00

Panel C: Sample used for second stage and third stage analysis			
Firm-year observations related to family firms			1,811
Less: firm-year observations where founder was not present as CEO of the firm			(494)
Sample used for second stage analysis (testing of hypothesis H2)			1,317
Less: firm-year observations where CEO founder transition was not observed			(298)
Sample used for third stage analysis (testing of hypothesis H3)			1,019

Note: The table reports the sample selection procedure used in the study. Panel A shows the sample excluding the financial firms and firms with missing observations, used to test hypothesis H1. Panel B shows the categorization of sample between family firms and non-family firms. Panel C shows the observations where founder CEO was found and where the founder CEO's transition was observed. The sample was used to test the hypotheses H2 and H3.

Table II: Variable measurement

Nature	Variable	Symbol	Measure
Dependent variable	Labour productivity	LAB_PROD1	Total sale for the year divided by number of employees
		LAB_PROD2	Net income divided by number of employees
Independent variable	Family ownership	FAM_OWEN	Dummy variable equal to '1' "if at least any two out of the following three conditions are met: 1) the family had a minimum stake of 20%; 2) at least one member of the family was on the board; 3) a member of the family was also the chairperson of the board, '0' otherwise"
Moderating variable	Founder CEO	FOUND_CEO	Dummy variable equal to '1' if the founder holds CEO office, '0' otherwise
	Non-Family CEO	NFM_CEO	Dummy variable equals to '1' if the CEO does not belongs to the controlling family, '0' otherwise
Control variables			
Board level controls	Board size	BD_SIZE	Total number of directors on the board
	Board independence	BD_IND	Number of independent directors on the board who does not have any relationship with the firm divided by total number of directors on the board
	CEO duality	CEO_DUAL	Dummy variable equals to '1' if chairman also serves as CEO, '0' otherwise.
	Gender diversity	BD_GD	Number of female directors on the board divided by total number of directors on the board
Firm level controls	Audit committee independence	AUD_COMM	Number of independent directors in the audit committee
	Return on assets	ROA	Net income divided by total assets
	Tobin's Q	TOBIN	Market value of assets divided by book value of assets
	Leverage	LEV	Total debt divided by total assets
	Firm age	F_AGE	Number of years since the firm is listed on stock exchange
	Firm size	F_SIZE	Log of total assets

Note: The table depicts nature, symbol and measurement of all the variables used in the study.

Table III: Descriptive statistics

Variable	N	Mean	SD	Min	Max
LAB_PROD1	2,926	3.702	0.054	0.104	6.087
LAB_PROD2	2,926	4.217	0.181	0.117	5.101
FAM_OWN	2,926	0.618	0.096	0.000	1.000
FOUND_CEO	2,926	0.451	0.041	0.000	1.000
NFM_CEO	2,926	0.221	0.051	0.000	1.000
BD_SIZE	2,926	8.010	0.052	7.000	13.000
BD_IND	2,926	0.484	0.047	0.141	0.560
CEO_DUAL	2,926	0.137	0.043	0.000	1.000
BD_GD	2,926	0.141	0.097	0.000	0.380
AUD_COMM	2,926	2.927	0.023	1.000	4.000
ROA	2,926	6.553	0.037	-18.510	26.140
TOBIN	2,926	0.546	0.077	0.002	34.051
LEV	2,926	0.217	0.021	0.010	0.510
F_AGE	2,926	26.438	0.077	1.000	70.000
F_SIZE	2,926	22.751	0.047	19.032	26.556

Note: The table shows the number of observations (N), means (Means), standard deviations (SD), minimum (Min) and maximum (Max) of all the variables used in the study.

Table IV: Pearson correlation

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	VIF
1 LAB_PROD1	1															
2 LAB_PROD2	0.324**	1														1.03
3 FAM_OWN	0.204**	0.281**	1													1.04
4 FOUND_CEO	0.139**	0.131**	0.221**	1												1.01
5 NFM_CEO	-0.127**	-0.119**	-0.117	0.137	1											1.02
6 BD_SIZE	0.118	0.114	0.126*	0.011*	0.017*	1										1.02
7 BD_IND	0.108	0.113*	0.113**	0.049*	0.041*	0.016	1									1.02
8 CEO_DUAL	0.019	0.151**	0.021	0.010	0.019	-0.039*	0.097***	1								1.04
9 BD_GD	0.136	0.132*	0.136*	0.178***	0.061***	0.131	-0.024	0.011	1							1.02
10 AUD_COMM	0.121*	0.113	0.104*	0.027	0.025	0.181	0.186*	0.011	0.117*	1						1.01
11 ROA	0.128	0.119	0.104	0.016	0.011	0.018	0.064	0.008	0.012	0.017	1					1.01
12 TOBIN	0.137	0.128*	0.121	0.034	0.022	-0.029	0.017	0.032	0.043*	0.113*	0.011	1				1.02
13 LEV	-0.116	0.113	-0.026	0.013	0.017	0.005	0.059**	-0.061**	-0.009	-0.019	-0.012	0.002	1			1.01
14 F_AGE	0.141*	0.066***	0.051**	0.015	0.016	-0.106	-0.107	0.109	-0.040*	-0.037	-0.053**	0.113**	-0.025	1		1.01
15 F_SIZE	0.129	0.131	0.112*	0.121	0.114	0.157**	0.132	0.102	0.125	0.123	0.101	0.121	-0.122	0.120***	1	1.01

Note: The table reports Pearson correlation and variance inflation factor (VIF) of all the variables used in the study. *, **, *** indicates significance at 10%, 5% and 1% level of significance.

Table V: Mean difference test

Variable	Family firms with Founder CEO	Family firms with non- family CEO	Difference	t-statistics
LAB_PROD1	4.210	3.368	0.842	6.518***
LAB_PROD2	3.624	3.028	0.596	4.635***
BD_SIZE	8.357	7.138	1.219	3.210**
BD_IND	0.531	0.427	0.104	-3.952***
CEO_DUAL	0.207	0.193	0.014	4.637***
BD_GD	0.181	0.119	0.062	3.038***
AUD_COMM	3.031	2.308	0.723	-6.307***
ROA	8.119	5.637	2.482	-3.217***
TOBIN	0.638	0.425	0.213	4.927***
LEV	0.239	0.327	-0.088	5.127***
F_AGE	28.139	22.035	6.104	-5.036***
F_SIZE	25.637	21.114	4.523	4.628***
Number of observations	1,811	1,115		

Note: The table shows the mean difference test between family firms with founder CEO and family firms with non-family CEO. *, **, *** indicates significance at 10%, 5% and 1% level of significance, respectively.

Table VI: Ordinary least squares regression analysis-Family ownership, founder CEO, non-family CEO, and labour productivity

Variables	Labor Productivity 1			Labor Productivity 2		
FAM_OWN	0.235*** (0.011)	0.217*** (0.015)	0.205*** (0.005)	0.207*** (0.011)	0.191*** (0.017)	0.179*** (0.010)
FOUND_CEO		0.181*** (0.017)			0.121** (0.001)	
NFM_CEO			-0.201** (0.011)			-0.231** (0.021)
FAM_OWN*FOUND_CEO		0.208** (0.011)			0.101** (0.001)	
FAM_OWN*NFM_CEO			-0.119** (0.010)			-0.121** (0.001)
BD_SIZE	0.131** (0.011)	0.032** (0.040)	0.042* (0.040)	0.141** (0.012)	0.107** (0.048)	0.116** (0.041)
BD_IND	0.123** (0.016)	0.132 (0.037)	0.138* (0.038)	0.121** (0.001)	0.116** (0.021)	0.119** (0.017)
CEO_DUAL	0.124* (0.017)	0.106 (0.026)	0.098 (0.026)	0.125 (0.002)	0.037** (0.012)	0.035** (0.009)
BD_GD	0.135** (0.013)	0.170*** (0.054)	0.166*** (0.054)	0.133** (0.002)	0.143** (0.002)	0.147** (0.001)
AUD_COMM	0.125* (0.011)	0.015** (0.001)	0.007** (0.004)	0.030** (0.001)	0.011** (0.003)	0.015** (0.001)
ROA	0.108** (0.071)	0.021** (0.011)	0.027** (0.011)	-0.027 (0.001)	0.031 (0.002)	0.022 (0.001)
TOBIN	0.031** (0.013)	0.011** (0.005)	0.009** (0.005)	0.034** (0.003)	0.013** (0.004)	0.017** (0.001)
LEV	-0.032 (0.013)	0.027** (0.014)	0.029** (0.014)	-0.031 (0.001)	0.033 (0.001)	0.031 (0.002)
F_AGE	0.064* (0.011)	-0.016 (0.054)	-0.004 (0.054)	0.058* (0.001)	0.055* (0.001)	0.044* (0.001)
F_SIZE	0.015 (0.001)	0.016** (0.032)	0.016** (0.032)	0.014 (0.001)	0.018 (0.001)	0.017 (0.001)
Constant	0.435*** (0.019)	0.450*** (0.011)	0.401*** (0.016)	0.513*** (0.019)	0.411*** (0.017)	0.457*** (0.017)
Observations	2,926	1,317	1,019	2,926	1,317	1,019
Region dummy	Included	Included	Included	Included	Included	Included
Industry dummy	Included	Included	Included	Included	Included	Included
Year dummy	Included	Included	Included	Included	Included	Included
R-square	0.34	0.34	0.32	0.35	0.34	0.34

Note: The table reports ordinary least squares regression results of family ownership, founder CEO, non-family CEO and labour productivity. Standard errors are reported in parentheses. *, **, *** indicates significance at 10%, 5% and 1% level of significance, respectively.

Table VII: Generalized method of moments estimation- Family ownership, founder CEO, non-family CEO, and labour productivity

Variables	LAB_PROD1			LAB_PROD2		
LAB_PROD1 _{t-1}	0.519*** (0.034)	0.555*** (0.031)	0.568*** (0.030)			
LAB_PROD2 _{t-1}				0.514*** (0.034)	0.559*** (0.032)	0.537*** (0.031)
FAM_OWN	0.291*** (0.011)	0.266*** (0.012)	0.237*** (0.005)	0.219*** (0.012)	0.192*** (0.013)	0.181*** (0.011)
FOUND_CEO		0.127*** (0.019)			0.134** (0.010)	
NFM_CEO			-0.122*** (0.015)			-0.144** (0.010)
FAM_OWN * FOUND_CEO		0.208*** (0.017)			0.214** (0.011)	
FAM_OWN* NFM_CEO			-0.101** (0.001)			-0.119** (0.001)
BD_SIZE	0.122** (0.013)	0.027** (0.033)	0.042* (0.040)	0.137** (0.007)	0.101** (0.041)	0.119** (0.032)
BD_IND	0.119** (0.015)	0.121 (0.031)	0.138* (0.038)	0.117** (0.001)	0.119** (0.018)	0.123** (0.011)
CEO_DUAL	0.121* (0.016)	0.107 (0.025)	0.098 (0.026)	0.121 (0.001)	0.041** (0.005)	0.047** (0.001)
BD_GD	0.131** (0.011)	0.165*** (0.051)	0.166*** (0.054)	0.139** (0.001)	0.141** (0.001)	0.133** (0.001)
AUD_COMM	0.129* (0.010)	0.011** (0.001)	0.007** (0.004)	0.022** (0.001)	0.017** (0.001)	0.027** (0.001)
ROA	0.105** (0.066)	0.017** (0.007)	0.027** (0.011)	-0.033 (0.001)	0.039 (0.001)	0.027 (0.001)
TOBIN	0.035** (0.011)	0.018** (0.001)	0.009** (0.005)	0.037** (0.003)	0.011** (0.001)	0.028** (0.001)
LEV	-0.037 (0.009)	0.021** (0.011)	0.029** (0.014)	-0.038 (0.001)	0.031 (0.001)	0.029 (0.002)
F_AGE	0.061* (0.007)	-0.011 (0.059)	-0.004 (0.054)	0.051* (0.001)	0.051* (0.002)	0.061* (0.002)
F_SIZE	0.011 (0.001)	0.013** (0.001)	0.016** (0.032)	0.019 (0.001)	0.013 (0.001)	0.019 (0.001)
Constant	0.361*** (0.011)	0.277*** (0.019)	0.319*** (0.011)	0.421*** (0.011)	0.326*** (0.017)	0.318*** (0.027)
Observations	2,640	1,185	915	2,640	1,185	915
Controls	Included	Included	Included	Included	Included	Included
Industry dummy	Included	Included	Included	Included	Included	Included
Year dummy	Included	Included	Included	Included	Included	Included
Instruments	49	40	32	49	40	32
Hansen j-test (p-value)	0.128	0.119	0.171	0.167	0.191	0.110
AR 2 (p-value)	0.217	0.274	0.219	0.279	0.282	0.271

Note: The table reports generalized method of moments estimation results of family ownership, founder CEO, non-family CEO and labour productivity. Standard errors are reported in parentheses. *, **, *** indicates significance at 10%, 5% and 1% level of significance, respectively.

Table VIII: Fixed effect analysis- Family ownership, founder CEO, non-family CEO, and labour productivity

Variables	Labor Productivity1			Labor Productivity2		
FAM_OWN	0.217*** (0.013)	0.231** (0.015)	0.261** (0.017)	0.127*** (0.017)	0.166** (0.013)	0.161** (0.013)
FOUND_CEO		0.172** (0.013)			0.201** (0.015)	
NFM_CEO			-0.115** (0.006)			-0.137** (0.012)
FAM_OWN * FOUND_CEO		0.163*** (0.013)			0.193*** (0.013)	
FAM_OWN * NFM_CEO			-0.213*** (0.005)			-0.119*** (0.005)
Constant	0.353*** (0.011)	0.361*** (0.015)	0.383*** (0.014)	0.253*** (0.015)	0.233*** (0.011)	0.217*** (0.016)
Observations	2,926	1,317	1,019	2,926	1,317	1,019
Controls	Included	Included	Included	Included	Included	Included
Firm fixed effects	Included	Included	Included	Included	Included	Included
Year fixed effects	Included	Included	Included	Included	Included	Included
R-square	0.21	0.23	0.24	0.21	0.23	0.23

Note: The table reports fixed effects analysis results of family ownership, founder CEO, non-family CEO and labour productivity. Standard errors are reported in parentheses. *, **, *** indicates significance at 10%, 5% and 1% level of significance, respectively.

Table IX: Difference-in-differences estimation – Family ownership and labor productivity

Variables	LAB_PROD1	LAB_PROD1	FAM_OWN	FAM_OWN
	(1)	(2)	(3)	(4)
TREAT * POST	2.821*** (0.017)	1.874*** (0.016)	2.079*** (0.021)	1.727*** (0.013)
BD_SIZE		0.168*** (0.014)		0.163*** (0.015)
BD_IND		0.227*** (0.014)		0.228*** (0.014)
CEO_DUAL		0.235*** (0.010)		0.168*** (0.013)
BD_GD		0.137*** (0.005)		0.127*** (0.006)
AUD_COMM		0.219* (0.007)		0.139* (0.011)
ROA		0.207** (0.016)		0.135** (0.015)
SALES		0.141*** (0.012)		0.151*** (0.016)
LEV		0.127*** (0.015)		0.187*** (0.014)
F_AGE		0.139*** (0.012)		0.141*** (0.015)
F_SIZE		0.155** (0.012)		0.167** (0.017)
Constant	0.412*** (0.014)	0.317*** (0.009)	0.629*** (0.020)	0.511*** (0.014)
Observations	1,230	1,230	1,230	1,230
Controls	No	Yes	No	Yes
Firm fixed effects	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
Adj R-square	0.19	0.21	0.18	0.21

Note: The table reports difference in difference estimation results of family ownership and labor productivity. Standard errors are reported in parentheses. *, **, *** indicates significance at 10%, 5% and 1% level of significance, respectively.

Table X: Ordinary least squares regression - Family ownership, training and development, founder CEO, non-family CEO and labour productivity

Variables	LAB_PROD1	T&D	LAB_PROD1	LAB_PROD1	T&D	T&D
FAM_OWN	0.217*** (0.017)	0.161*** (0.012)		0.236*** (0.011)	0.173*** (0.015)	0.128*** (0.012)
Training & Development			0.127** (0.012)	0.115** (0.010)		
FOUND_CEO					0.217*** (0.015)	
NFM_CEO						-0.115** (0.011)
FAM_OWN * FOUND_CEO					0.271*** (0.015)	
FAM_OWN * NFM_CEO						-0.165*** (0.017)
Constant	0.339*** (0.016)	0.371*** (0.013)	0.291*** (0.017)	0.305*** (0.016)	0.354*** (0.016)	0.329*** (0.016)
Observations	2,926	1,317	1,019	2,926	2,926	2,926
Controls	Included	Included	Included	Included	Included	Included
Firm fixed effects	Included	Included	Included	Included	Included	Included
Year fixed effects	Included	Included	Included	Included	Included	Included
R-square	0.23	0.22	0.22	0.23	0.24	0.22

Note: The table reports ordinary least squares regression analysis results of family ownership, training and development, founder CEO, non-family CEO and labour productivity. Standard errors are reported in parentheses. *, **, *** indicates significance at 10%,5% and 1% level of significance, respectively.

Table XI: Ordinary least squares regression analysis - Family ownership, founder CEO, non-family CEO, and labour productivity

Variables	LAB_PROD1		
LAB_PROD1 _{t-1}	0.187*** (0.027)	0.172*** (0.021)	0.115*** (0.018)
FAM_OWN _{t-1}	0.173*** (0.011)	0.217*** (0.015)	0.203*** (0.011)
FOUND_CEO _{t-1}		0.169*** (0.013)	
NFM_CEO _{t-1}			-0.129*** (0.010)
FAM_OWN * FOUND_CEO _{t-1}		0.237*** (0.011)	
FAM_OWN* NFM_CEO _{t-1}			-0.135** (0.006)
BD_SIZE _{t-1}	0.137** (0.011)	0.027** (0.031)	0.047* (0.033)
BD_IND _{t-1}	0.125** (0.011)	0.133 (0.021)	0.131* (0.027)
CEO_DUAL _{t-1}	0.161* (0.015)	0.161 (0.025)	0.091 (0.021)
BD_GD _{t-1}	0.185** (0.010)	0.153*** (0.047)	0.161*** (0.051)
AUD_COMM _{t-1}	0.133* (0.008)	0.015** (0.001)	0.008** (0.003)
ROA _{t-1}	0.119** (0.061)	0.018** (0.007)	0.021** (0.013)
TOBIN _{t-1}	0.039** (0.010)	0.019** (0.001)	0.008** (0.004)
LEV _{t-1}	-0.043 (0.008)	0.026** (0.013)	0.025** (0.011)
F_AGE _{t-1}	0.059* (0.006)	-0.015 (0.061)	-0.003 (0.051)
F_SIZE (employees) _{t-1}	0.017 (0.001)	0.015** (0.001)	0.019** (0.031)
Constant	0.451*** (0.015)	0.417*** (0.011)	0.347*** (0.011)
Observations	2,926	1,317	1,019
Controls	Included	Included	Included
Industry dummy	Included	Included	Included
Year dummy	Included	Included	Included
R-square	0.25	0.27	0.27

Note: The table reports ordinary least square regression results of family ownership, founder CEO, non-family CEO and labour productivity. Standard errors are reported in parentheses. *, **, *** indicates significance at 10%, 5% and 1% level of significance, respectively.

Table XII: Ordinary least squares regression analysis-Family ownership, founder CEO, non-family CEO, and labour productivity

Variables	LAB_PROD 3		
FAM_OWN	0.169*** (0.012)	0.177*** (0.011)	0.119*** (0.004)
FOUND_CEO		0.109*** (0.011)	
NFM_CEO			-0.127** (0.010)
FAM_OWN*FOUND_CEO		0.105** (0.010)	
FAM_OWN*NFM_CEO			-0.125** (0.011)
Constant	0.331*** (0.018)	0.353*** (0.010)	0.308*** (0.015)
Observations	2,926	1,317	1,019
Industry dummy	Included	Included	Included
Year dummy	Included	Included	Included
R-square	0.29	0.31	0.32

Note: The table reports ordinary least squares regression results of family ownership, founder CEO, non-family CEO and labour productivity. Standard errors are reported in parentheses. *, **, *** indicates significance at 10%, 5% and 1% level of significance, respectively.

Figure I: Interaction effect of founder CEO

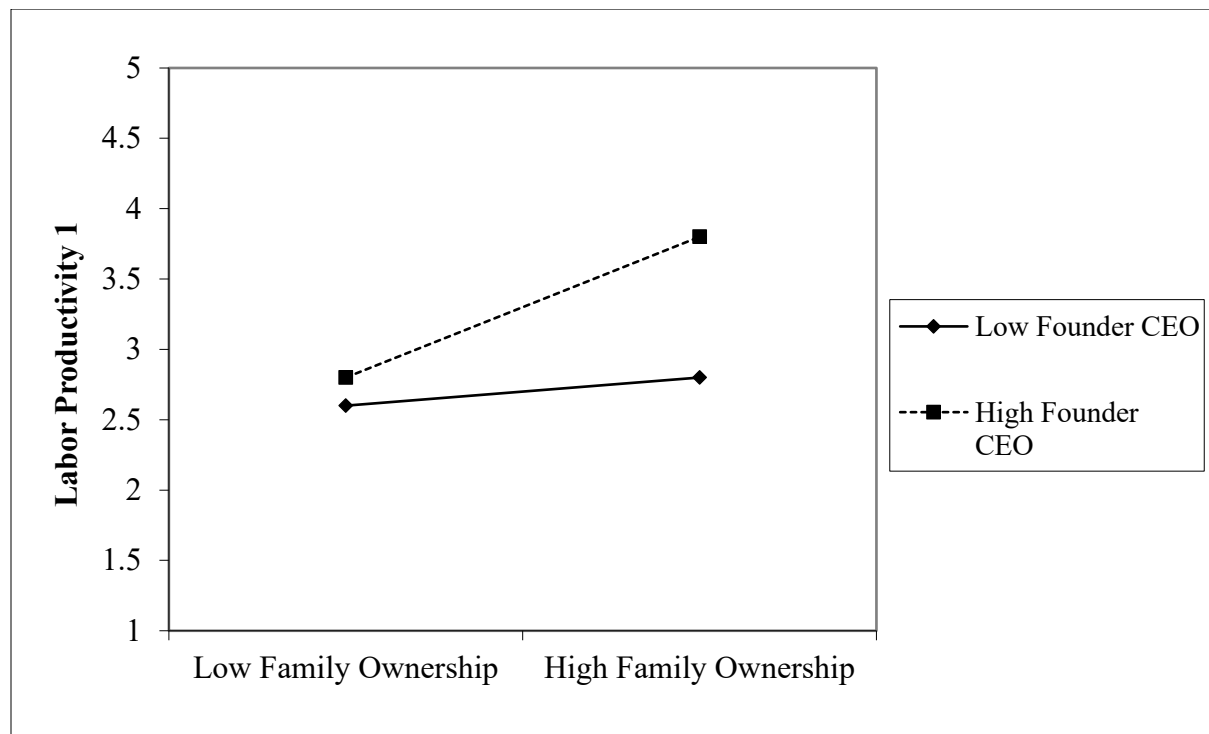


Figure II: Interaction effect of founder CEO

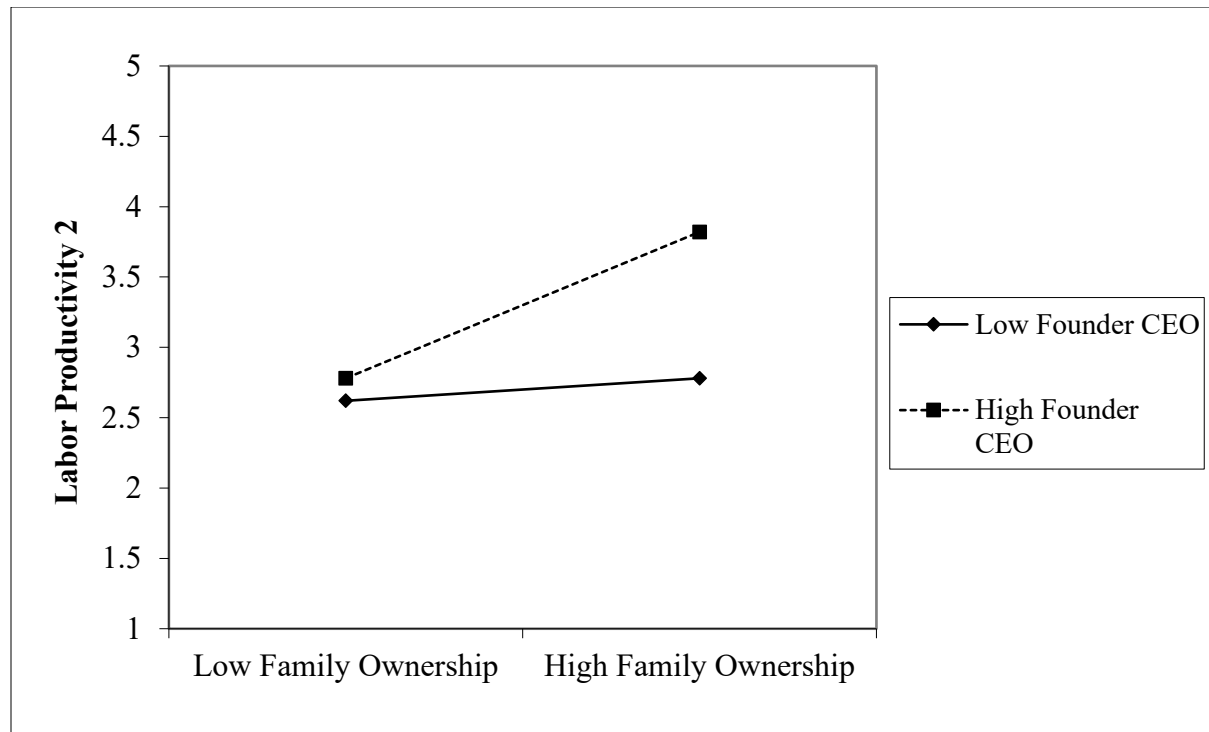


Figure III: Interaction effect of non-family CEO

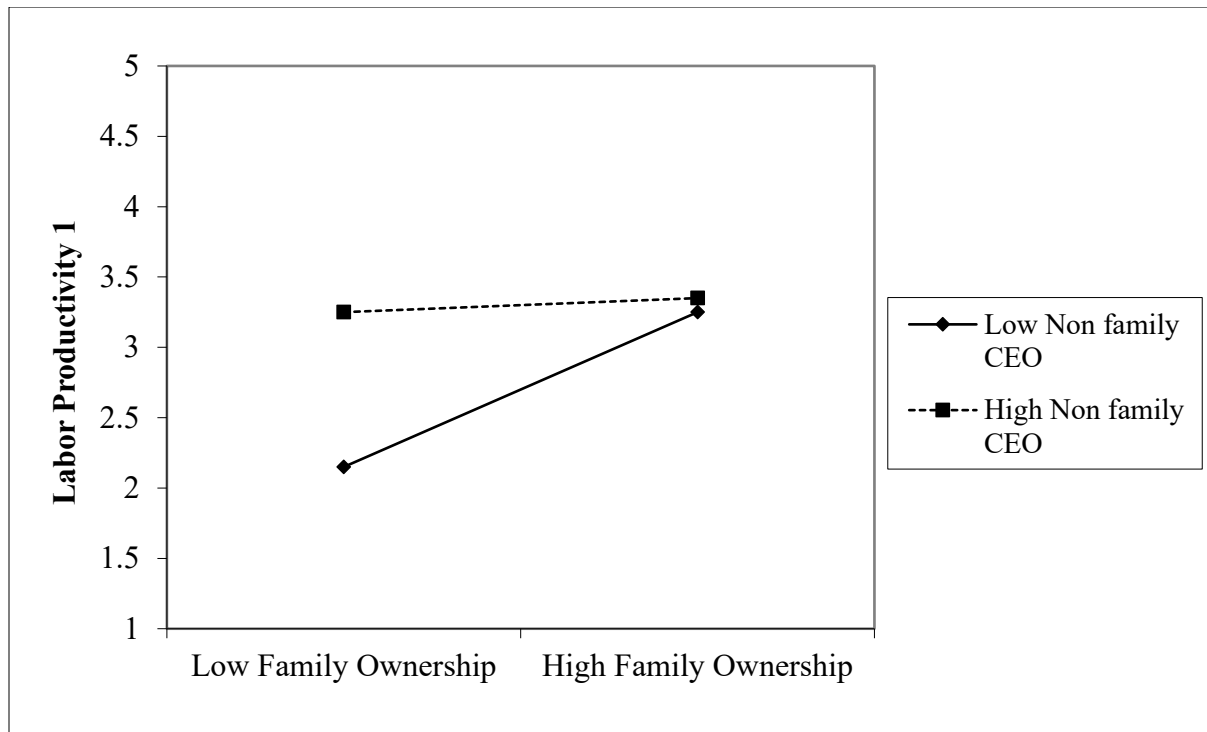
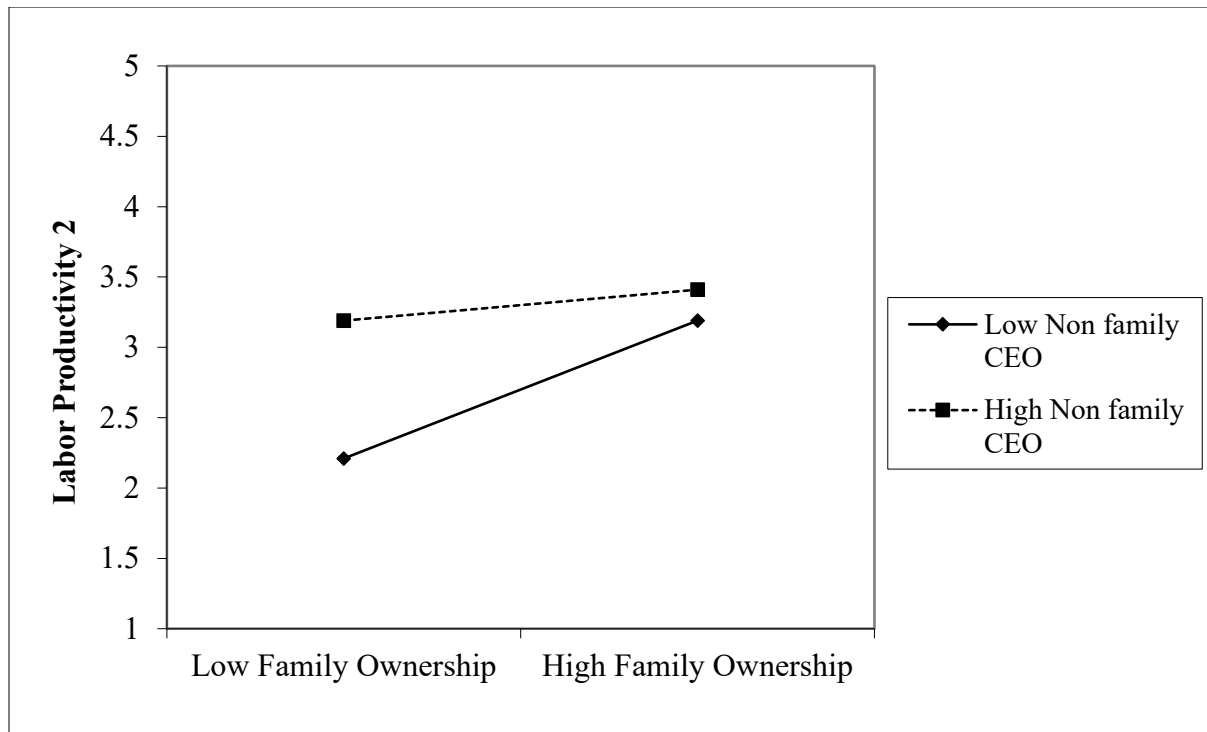


Figure IV: Interaction effect of non-family CEO



Note: The figure shows the negative moderation effects of non-family CEO on the relationship between family ownership and labor productivity2.