

4. ANALYZING THE IMPACT OF CEO SUCCESSION VIA HIERARCHICAL DISTURBANCE ON FIRMS' GROWTH LIFE CYCLE: A MODERATING ROLE OF AGENCY COST

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Abstract

The current study investigates the effectiveness of CEO succession via hierarchical disturbance on firms' growth life cycle. Significantly, the paper use 2SLS and GMM panel regression techniques to analyse the data of Chinese listed firms for the years 2017-2021. Explicitly, three-level of this specific CEO succession was categorized through contemplating the hierarchy of the corporate board. Conclusively, the three types of CEO succession via hierarchical disorder positively boost the cash flow operating (CFO), and cash flow financing (CFF) while decelerate the capital flow investment (CFI). CEO succession via hierarchical disorder intensity was formulated which accelerates the CFF and CFF while deterring the CFI. Conclusively, the moderating role of agency cost accentuates that it is detrimental for the cash flow investment. Specifically, aged CEO successor via hierarchical disturbance was examined as a deterrent vehicle for all types of cash flows (CFO, CFI and CFF). Additionally, total assets and earnings per share are positive indicators of the growth life cycle of the firms. Implicatively, the current study recommends in case of inevitability of forceful succession, the young incumbent CEO should be preferred to maintain the firms' growth cycle.

Keywords: CEO succession, Hierarchical disturbance, Firms 'Growth life cycle, Agency cost , Cash flow operating, Cash flow financing, Cash flow investment, Panel regression technique

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1. Introduction

Competitive ability of the CEOs indicates the decisive signal for the market, which, as a repercussion, influences the business operations reaction to the CEO's decisions (Yan and Margarethe, 2009). Meanwhile, highly competitive CEOs escalate the firm value through his psychological, behavioural and social characteristics (Hill et al., 2019). Doubtlessly, CEO characteristics do influence the firms' strategic decision and ultimately influence the firms' growth. However, every CEO has to confront the inevitable phenomena of departure either through completion of tenure or via succession (Tao & Zhao, 2019). The upper echelon theory described its adaptive view while contemplating the aftermath of organizational performance (Chen et al., 2016). According to CEO- firm theory which elaborates that CEO availability after the succession should be efficient and competitive so that acceleration of the growth remains synchronized (Jenter et al., 2016). Meanwhile, the non- routine CEO succession were examined, which does not affect the firms' value at all (Kaehr & Thiel, 2019). On the contrary, non- routine CEO succession is expansive as compared to regular succession (Farquhar, 1996). Categorically, CEO succession disturbs the normal phenomena of an organization (Ballinger & Marcel, 2010; Gjerløv-Juel, 2019; Hannan, Polos, & Carroll, 2003; Kesner & Sebor, 1994; Shen & Canella, 2002) in any form of firm' life cycle. Despite such studies, it has not been yet contemplated whether a CEO succession via hierarchical disturbance can influence the firms' growth life cycle or not? which this study will fill the already existing lacunas.

Since the last two decades, firms' life cycle has been given vigorous attention which is linked with the role of corporate governance while executing corporate strategies (Habib& Hasan, 2018). Certainly, the role of corporate governance is an inevitable mechanism in every aspect of firms' life cycle. Specifically, the role of the board is advisory during the growth phase of the firms (Huse & Zattoni, 2008). Theoretically, firms' growth cycle emphasizes that initial stage is identified with commencement of a firm which ultimately reaches the matured stage (Bulan & Subramanian, 2009).

Significantly, firms suffer from agency cost problem, which compels the investors to avoid financing. Therefore, firms rely on their internal financing scheme through cash flow investment (Jiang et al., 2019). Moreover, operating cash flow (CFO) is an indicator of survival for younger firms which can be disturbed by corporate governance decision (Lu et al., 2018). Meanwhile, upper echelon also decides whether to utilize the cash flow through financing or not? Specifically, Chinese firms have distinct characteristics as compared to other emerging economies. Distinctly, Chinese firms are categorized into state-owned and non-state-owned enterprises (Liu et al., 2015). Prior firms have excessive control of the government through ownership structure having weak rights of stakeholders (Jiang et al., 2010; Yan et al., 2019).

Moreover, agency cost problem was examined among Chinese firms which have been signified as corporate fraud. The predecessors of corporate frauds are either, weak corporate governance mechanism, ownership structure, board structure (Chen et al., 2013; Hou & Moore, 2010) or due to weak corporate laws and abrupt turnover of CEOs (Yiu et al., 2018). It was examined that corporate fraud aggravates the agency cost problem (Chen et al., 2016). In such circumstances, the role of corporate governance is highly significant to tackle the issue of agency cost (Tang et al., 2019). Relevant to this, principal-agent complication has also been observed among family-owned and private firms (Huang et al., 2019). Convincingly, it still requires an extensive exploration to demonstrate the impact of agency cost problem during CEO succession via hierarchical disturbance. Distinguishably, hierarchical position⁵ among Chinese firms is considered to be highly reputed and hegemonic (Zhu et al., 2016) and informal hierarchy does

⁵ *Even independent directors are allocated according to their seniority and experience (Zhu et al., 2016) which specifies their authority while making strategic decision (Markóczy et al., 2019).*

boost the performance but what will be the impact on organizational different aspects if CEO successor is appointed via hierarchical disturbance? Especially the effect on firms' life cycle. To contemplate the firms' life cycle, investing cash flow, cash flow financing and operating cash flow are the proxies for firms' life cycle (Dickinson, 2011).

The contributions of the study have been signified as follow. Firstly, this study has constructed CEO succession via hierarchical disturbance while categorizing it into three distinct types (low medium and high level). Further, it was examined that CEO succession and its three types affect the cash flow operating (CFO), cash flow investment (CFI) and cash flow financing (CFF). CEO succession via hierarchical disorder intensity has also been analyzed to demonstrate what will be the psychological impact whenever higher-ranking board members are condoned during this specific type of CEO succession. Lastly, agency cost was examined as a moderator between CEO succession via hierarchical disturbance and three types of cash flow. Specifically, to demonstrate the integrity of the results, 2SLS and GMM instrumental regressions were applied, which signify the authentication of our results.

2. Theoretical Background and Hypotheses Formulation

The extant literature studied the different aspects of firms' growth life cycle of the firms. In this regard, some study demonstrated the role of financial reporting during three stages of firms' growth cycle while concluding irregularities in the statements (Krishnan, Myllymäki, and Nagar 2021). Moreover, some study revealed that an enormous investment is required during introduction and decline stages of life cycle of firms (Hasan and Cheung 2018). Meanwhile, (Tariq et al. 2020) examined the innovative capabilities within the firms' growth life cycle concluding that mature stage firms adopt green innovative strategies as compared to the firms with growth stage. However, there is scant literature which reveals the interconnection between firms' growth life cycle and specific CEO succession which this study explored empirically.

Comprehensively, the extant literature contemplated that CEO attributes (Liu et al., 2018; Page, 2018), gender difference (Hmieleski & Sheppard, 2019) which certainly affects the firms' performance. Moreover, "the tug of war" among organizations have compelled them to adopt innovative measures so that sustainability may be attained while having vigorous intensive competitive advantages (Cantele & Zardini, 2018). Despite these demanding aspects of organizations, CEO succession is such an inevitable phenomenon which is undeniable, and each organization has to confront in its span of life. Different aspects of CEO succession were analyzed which influence the performance, innovation and CSR activities (Abernethy et al., 2019; Biscotti et al., 2018; El Messoussi, 2018).

but scant literature was explored whether CEO succession is detrimental or conducive for the firms' life cycle or not? Moreover, there is still a quest for examining CEO succession, which influences the specific span of firms' life cycle.

Most significantly, in Chinese perspective, the extant literature emphasized either on corporate governance mechanism or CEO compensation and political links of CEO while dominating the different aspects of the Chinese firms (Bu et al., 2019; Ding et al., 2010; Fan et al., 2007; You & Du, 2012). Additionally, Chinese firms are segregated as SOE and Non-SOEs and among these prior firms are under excessive control of the government through ownership (Huang et al., 2018). Even Non-SOEs are partially controlled through political connected CEOs (Wu et al., 2018). In such a particular scenario, it is quite significant to contemplate how does CEO succession occur and what are its aftermath consequences? The prior study alleged that in the case of intense stock volatility, high rate of forceful turnover was demonstrated among Chinese firms (Jiang et al., 2013). Meanwhile, the upper echelon structure among Chinese firms is quite distinguished. The high-rank board members among the hierarchical ladder are considered to be authoritative

(Zhu et al., 2016). Therefore, it is also worthwhile to analyze the CEO succession via disturbing hierarchical order on specific features of organizations. Though (Shah et al., 2019; Sarfraz et al., 2019) demonstrated the CEO succession via hierarchical jumps on innovation and principal-agent problem while neglecting firms' growth life cycle which this study substantiated through empirical analysis.

Prior study examined that firm' life cycle (FLC) is affected by management (Chok & Sun, 2007; Grullon et al., 2002). Moreover, some study contemplated the effectiveness of risk in a different life span of firms (Shazad et al., 2020). Meanwhile, (Shah et al., 2019; Sarfraz et al., 2019) examined specific CEO succession on agency cost, firms' performance and innovation. Additionally, (Sarfraz et al. 2021) analyzed the impact of hierarchical CEO succession on state-owned and non-state-owned firms' performance and cash hoarding. Moreover, (Sha, Shah, and Muddassar 2023) demonstrated that irregular CEO succession enhances the short selling among Chinese SMEs. To encapsulate, keeping these views, we can amalgamate that CEO succession via hierarchical disturbance does affect the firms' life cycle. Doubtlessly, CEO succession does occur either in growth stage or decline stages rather than the initial phase of the firms. Hence our hypotheses are as follow

H1a: CEO succession via hierarchical disturbance affects the CFO positively

H1b: CEO succession via hierarchical disturbance boosts the CFF

H1c: CEO succession via hierarchical disturbance mitigates the CFI

Hierarchy boosts the performance unquestionably, but it disintegrates the corporate board into low, medium and high-rank order (He & Huang, 2011). Therefore, CEO successor via any type of hierarchical disturbance will affect the firm growth life cycle (CFF, CFO and CFI). Hence, it formulates the next hypotheses

H2a: CEO via all types of hierarchical disturbance boost CFF

H2b: CEO succession via all types hierarchical disturbance boosts the CFF

H2c: CEO succession via all types hierarchical disturbance mitigates the CFI

3. Agency Cost and CEO Succession via Hierarchical Disorder

Persuasively, agency cost problem was examined to be intensive among state-owned as compared non-state owned (Huang et al., 2011) which is detrimental to the performance (Firth et al., 2008). Chinese firms are dominated by government ownership, but despite that agency, the cost has not been eradicated (Su et al., 2008). Even the extant literature evaluated that CEO overconfidence has a positive relation with intensive cash flow, but this relation is vigorous among concentrated agency cost firms (Huang et al., 2011). Moreover, the recent study shed light through signifying a specific type of CEO succession on principal- agent issue (Shah et al., 2019). To encapsulate, Chinese firms are struggling with agency cost problem and agency cost as moderator will affect the growth life cycle of the firms. Hence our hypotheses can be described as following

H3a: The interaction term of agency cost and CEO succession via hierarchical disturbance positively influence CFO

H3b: The interaction term of agency cost and CEO succession via hierarchical disturbance positively impact CFF

H3c: The interaction term of agency cost and CEO succession via hierarchical disturbance positively impact CFF

4. Data Accumulation and Variable Measurement

We selected Chinese listed firms on Shenzhen and Shanghai stock exchanges for the year 2017-2021. The independent variables CEO succession via hierarchical disturbance (CSHD) and all its types were formulated by analyzing the corporate board of the listed firms following (Shah et al., 2019). Mathematically,

$$CSHD_{i,t} = \sum LCSHD_{i,t} + MCSHD_{i,t} + HCSHD_{i,t} \quad (1)$$

$$LCSHD_{i,t} = \begin{cases} 1 & \text{if } I_{SSC} > 0, PHL_{i,t-1} \leq U_L \\ 0 & \text{otherwise} \end{cases} \quad (2)$$

$$MCSHD_{i,t} = \begin{cases} 1 & \text{if } I_{SSC} > 0, U_L < PHL_{i,t-1} \leq M_L \\ 0 & \text{otherwise} \end{cases} \quad (3)$$

$$HCSHD_{i,t} = \begin{cases} 1 & \text{if } I_{SSC} > 0, M_L < PHL_{i,t-1} \leq L_L \\ 0 & \text{otherwise} \end{cases} \quad (4)$$

$$CSHDIN_{i,t} = (TPSHL_{i,t}) * (TBM_S C_{i,t}) \quad (5)$$

Equation (1) elaborates the CEO succession via hierarchical disturbance (CSHD) which is the sum of three level of CEO turnover via hierarchical disturbances (low, medium and high) (which are illustrated via equation (2), (3) and (4) respectively). In equation (2), Lower CEO succession via hierarchical disturbance will be considered if it satisfies two conditions (First of all, there must be an internal succession $I_{SSC} > 0$ and position of the successor in a hierarchical positioning is less than the upper level of board members $PHL_{i,t-1} \leq U_L$). Similarly, equation (3) illustrates the medium level CEO succession via hierarchical CEO succession (if the placement of a successor in the hierarchical order is between upper and medium level board members $U_L < PHL_{i,t-1} \leq M_L$). Lastly, equation (3) contemplates the high CEO succession via hierarchical ladder (if the placement of a successor is beyond the medium level but less or equal to low-level board members $M_L < PHL_{i,t-1} \leq L_L$). In equation (5), CEO succession via hierarchical disturbance intensity is defined by the interaction term (Total position of the successor in hierarchical ladder multiplied by total senior board members crossed during hierarchical disturbance).

4.1. Dependent Variables and Control Variables

Firms' life cycle is our dependent variable which was defined via CFI (cash flow in investment), CFO (operating cash flow) and CFF (cash flow in financing). Firstly, Anthony and Ramesh (1992) identified to define the firms' life cycle, but Dickinson ameliorated the technique to categorize the firms' life cycles. Hence following (Shazad et al., 2019, Wernerfelt, 1985, Dickinson, 2011), firms' life cycle stages has been signified as follow

If $CFF > 0, CFO < 0$ and $CFI < 0$ then Introduction stage

If $CFF > 0, CFO > 0$ and $CFI < 0$ then Growth stage

If $CFF > 0, CFO < 0$ and $CFI < 0$ then Matured Stage

If $CFF < 0, CFO < 0$ and $CFI > 0$ then decline Stage

Specifically, our empirical analysis evaluates that growth life cycle is influenced by the CEO succession via hierarchical disturbance (see detail in empirical results). Following the extant literature, most significant control variables has been endorsed which are earnings per share (EPS), CEO(degree), CEO(age), log of total assets (LNTA), log of total employees (LNEMP), leverage (LV), number of directors (NDIR), CEO(dual) and state-owned (SOE) (Cummings and Knott, 2018, Shah et al., 2019, Safraz et al., 2019). The variables CEO (age) and CEO (degree)

and CEO (dual) indicate the CEO attributes which can influence the firms' strategic decision and ultimately can impact the firms' growth. Moreover, "firms size" (LNEMP) is also a significant variable which the prior study evaluated to be an indicator of highly profitable firms. Hence this variable was included in the regression to assess its effectiveness for firms' growth cycle. "Leverage" is an indicator of the intensity of risk, especially when firms attain the growth stage. Meanwhile, "total assets" also represent how much a firm can sustain its growth for the future. The variable "EPS" is an indicator of firms' efficiency, which can play a vital role during the firms' growth cycle. Lastly, "NDIR" (a number are a director) is the member whose vigilant role can deter the novel CEO from manipulating the funds.

Meanwhile, as a moderator, agency cost was contemplated to visualize the role of novel CEO successor. Remarkably, Chinese firms are confronting with principal-agent issue which deters the firms' growth. Following (Shah et al., 2019), agency cost was measured via proxy (management ratio).

4.2. Empirical Models

Empirical analysis substantiated through panel regression via STATA. Meanwhile, the truthfulness of the empirical underpinnings was confirmed through 2SLS instrumental panel regression. "TPSHL", total position of a successor in a hierarchical ladder" was endorsed as an instrumental variable (Ghulam et al., 2019; Shah et al., 2019; Sarfraz et al., 2019). Additionally, GMM instrumental regression has also been regressed to contemplate the integrity of the results. Mathematically panel regressions are written as follow

$$CFF_{it} = \beta_{0,t} + \beta_{1it}CSHD_{it} + \beta_{nit} \sum_{n=2}^{10} Z_{it} + \vartheta Industry + \pi Year + \varepsilon_{it} \tag{6}$$

$$CFO_{it} = \beta_{0,t} + \beta_{1it}CSHD_{it} + \beta_{nit} \sum_{n=2}^{10} Z_{it} + \vartheta Industry + \pi Year + \varepsilon_{it} \tag{7}$$

$$CFI_{it} = \beta_{0,t} + \beta_{1it}CSHD_{it} + \beta_{nit} \sum_{n=2}^{10} Z_{it} + \vartheta Industry + \pi Year + \varepsilon_{it} \tag{8}$$

$$CFF_{it} = \beta_{0,t} + \beta_{1it}CSHDIN_{it} + \beta_{nit} \sum_{n=2}^{10} Z_{it} + \vartheta Industry + \pi Year + \varepsilon_{it} \tag{9}$$

$$CFO_{it} = \beta_{0,t} + \beta_{1it}CSHIN_{it} + \beta_{nit} \sum_{n=2}^{10} Z_{it} + \vartheta Industry + \pi Year + \varepsilon_{it} \tag{10}$$

$$CFI_{it} = \beta_{0,t} + \beta_{1it}CSHIN_{it} + \beta_{nit} \sum_{n=2}^{10} Z_{it} + \vartheta Industry + \pi Year + \varepsilon_{it} \tag{11}$$

$$CFF_{it} = \beta_{0,t} + \beta_{1it}LCSHD_{it} + \beta_{2it}MCSHD_{it} + \beta_{3it}HCSHD_{it} + \beta_{nit} \sum_{n=4}^{13} Z_{it} + \vartheta Industry + \pi Year + \varepsilon_{it} \tag{12}$$

$$CFO_{it} = \beta_{0,t} + \beta_{1it}LCSHD_{it} + \beta_{2it}MCSHD_{it} + \beta_{3it}HCSHD_{it} + \beta_{nit} \sum_{n=4}^{13} Z_{it} + \vartheta Industry + \pi Year + \varepsilon_{it} \tag{13}$$

$$CFI_{it} = \beta_{0,t} + \beta_{1it}LCSHD_{it} + \beta_{2it}MCSHD_{it} + \beta_{3it}HCSHD_{it} + \beta_{nit} \sum_{n=4}^{13} Z_{it} + \vartheta Industry + \pi Year + \varepsilon_{it} \tag{14}$$

$$CFF_{it} = \beta_{0,t} + \beta_{1it}(CSHD_{it} * Agencycost_{i,t}) + \beta_{nit} \sum_{n=2}^{10} Z_{it} + \vartheta Industry + \pi Year + \varepsilon_{it} \tag{15}$$

$$CFO_{it} = \beta_{0,t} + \beta_{1it}(CSHD_{it} * Agencycost_{i,t}) + \beta_{nit} \sum_{n=2}^{10} Z_{it} + \vartheta Industry + \pi Year + \varepsilon_{it} \tag{16}$$

$$CFI_{it} = \beta_{0,t} + \beta_{1it}(CSHD_{it} * Agencycost_{i,t}) + \beta_{nit} \sum_{n=2}^{10} Z_{it} + \vartheta Industry + \pi Year + \varepsilon_{it} \tag{17}$$

The term " $\sum Z_{i,t}$ " in all equations ((6)- (17)) represents the control and independent variables. Further, the term " $\vartheta Industry + \pi Year$ " indicates the industry dummy and year dummy which is embedded in all equations. Particularly, the equations (6)- (9) evaluates the impact of CEO turnover via hierarchical disturbance on the three cash flows (CFI, CFF and CFO) whereas the equations (9)- (11) elucidate on the effect of CEO turnover via hierarchical disturbance intensity

on the three types of cash flows. Moreover, the equations (12)- (14) demonstrate the effects of three kinds of CEO succession via hierarchical disturbance on CFO, CFI and CFF. The last three equations (15)- (17) signify the impact of moderator (interaction term of agency cost and CEO succession via hierarchical disturbance) on CFO, CFI and CFF.

5. Empirical Results

Following (Larker and Rusticus, 2010), we endorsed the results of 2SLS regression directly. Most significantly, GMM instrumental panel regression has also been endorsed to verify the truthfulness of the results. Table 1 indicates the descriptive statistics in which five variables are dummy having the maximum value “1”. The variable CSHD indicates the CEO succession via hierarchical disturbance whereas “Degree” and “AGE” represents the education (economics, Law etc.) and age of successor respectively.

Table 1. Descriptive Statistics

Variables	Obs	Mean	Std. Dev	Min	Max
EPS	13479	.3522194	.7755077	-6.859921	42.43205
LEV	13640	.4517351	.6347192	.007969	63.97121
CSHD	12470	.0826851	.2754166	0	1
Degree	12470	.0264635	.1605156	0	1
AGE	12470	.0375301	.1900644	0	1
LNTA	13627	22.07624	1.486582	14.94164	30.81489
LNEMP	13636	7.590694	1.373216	1.609438	13.21468
NDIR	13641	8.72546	1.84488	0	22
Dual	13501	.2631657	.4405361	0	1
SOE	13642	.4390119	.4962847	0	1
Agency cost	13627	1.081999	3.80956	-2.81e-08	4580.944
CFO	13642	208.851	7.101	-19200	113200
CFI	13642	-237.9932	3.826	-119000	7136
CFF	13642	62.95706	8.7219	-9305	28230

Table1 illustrates that variables “CSHD” (CEO succession via hierarchical disturbance), “Degree” and “AGE” have less number of observations due to missing data. The variable “NDIR” is proxy for several directors whereas CFO (Operating cash flow), CFI (Cash flow of Investment), and CFF (Cash flow for financing) are the joint proxy for firms’ life cycle.

Table 2 indicates whether there is no threat of absolute endogeneity. Only one variable “AGE” has a correlation value “0.643” with “CSHD” while another correlation value is less than” 0.5”. Hence, we can rely on our results decisively.

Table 2. Correlation Matrix

	EPS	LEV	CSHD	CSHDIN	Degree	AGE	LNTA	LNEMP	Dual	SOE	CFO	AGCS
EPS	1.000											
LEV	-0.102	1.000										
CSHD	-0.004	0.011	1.000									
CSHDIN	-0.009	0.017	0.461	1.000								
Degree	0.002	-0.011	0.530	0.2155	1.000							
AGE	0.006	0.008	0.624	0.2907	0.275	1.000						
LNTA	0.100	0.180	-0.01	0.0102	-0.01	-0.01	1.000					
LNEMP	0.078	0.092	-0.00	0.0010	-0.01	-0.01	0.393	1.000				
Dual	-0.015	-0.087	-0.00	-0.023	-0.01	0.172	0.126	-0.103	1.000			
SOE	0.003	0.149	0.007	0.0249	0.027	-0.19	0.172	0.126	-0.10	1.000		
CFO	0.018	0.012	-0.01	0.0206	-0.00	-0.00	0.055	0.038	-0.01	0.054	1.000	
AGCS	-0.005	0.004	-0.00	-0.002	-0.00	-0.00	-0.054	-0.035	-0.00	0.006	-0.001	1.000

Table 2 Signifies that all variables have less correlation value than 0.5 except “AGE” and “Degree” whose correlation value are “0.624” and “0.530” concerning “CSHD”, which are acceptable for empirical analysis. The maximum correlation value is due to all these are dummy variable, and both variables “AGE” and “Degree” was formulated concerning CEO succession via hierarchical disturbance (CSHD).

Table 3 evaluates the influence of CEO turnover via hierarchical disorder on the growth cycle of firms. The first row of table witnesses that CFO and CFF are absolutely significant while CFI is negatively significant. Additionally, “Degree” and “AGE” both adversely affect the three types of cash flow (Operating, investment and financing). Elaborately, matured CEO successor via hierarchical disturbance having technical education like economics, law or engineering always prefers to mitigate three types of cash flows. Further, earning per share (EPS) indicated the positive sign for CFO and CFF while negatively significant for CFI elucidating that earning per share supports the firms’ growth cycle. Similarly, firms’ total assets (LNTA) indicated the positive relation with CFO and CFF while negative association with CFI. Conclusively, this result justifies that during the growth cycle of the firms, the worth of total assets is highly inevitable.

Table 3. 2SLS Regression (CEO Succession via Hierarchical Disturbance and Firms’ life Cycle)

	(1)	(2)	(3)	(4)	(5)
VARIABLES	CFO	CFI	CFF	CFI	CFO
CSHD	0.135**	-0.137**	0.215*	-0.140**	0.0888***
	(0.0553)	(0.0557)	(0.126)	(0.0562)	(0.0337)
EPS	0.000792*	-0.000976**	0.00327***	-0.000991**	0.000519
	(0.000464)	(0.000467)	(0.00106)	(0.000470)	(0.000406)
Leverage	-0.00136	0.00102	0.00225	0.00104	-0.00174
	(0.00120)	(0.00121)	(0.00275)	(0.00123)	(0.00117)
Degree	-0.0902**	0.0913**	-0.145*	0.0937**	-0.0818***
	(0.0368)	(0.0370)	(0.0837)	(0.0373)	(0.0306)
AGE	-0.101**	0.102**	-0.164*	0.105**	
	(0.0414)	(0.0417)	(0.0945)	(0.0421)	
LNTA	0.000826***	-0.000790***	0.00235***	-0.000847***	0.000881***
	(0.000265)	(0.000266)	(0.000565)	(0.000252)	(0.000248)
LNEMP	5.61e-06	-0.000159			8.41e-05
	(0.000292)	(0.000294)			(0.000262)
NDIR	0.000321	-0.000356*	0.000892*	-0.000374*	0.000385**
	(0.000202)	(0.000203)	(0.000456)	(0.000203)	(0.000184)
Dual	0.000662	-0.000833	0.00122	-0.000783	0.000297
	(0.000814)	(0.000819)	(0.00186)	(0.000827)	(0.000732)
SOE	0.00217***	-0.00198***	-8.98e-05	-0.00201***	0.00298***
	(0.000736)	(0.000741)	(0.00168)	(0.000750)	(0.000685)
Industry&Year	Included	Included	Included	Included	Included

	(1)	(2)	(3)	(4)	(5)
VARIABLES	CFO	CFI	CFF	CFI	CFO
Constant	-0.0246***	0.0253***	-0.0639***	0.0257***	-0.0272***
	(0.00572)	(0.00576)	(0.0131)	(0.00583)	(0.00570)
Observations	12,184	12,184	12,190	12,190	12,184
R-squared	0.197	0.210	0.267	0.186	0.289

Note: Standard errors in parentheses; *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

In table 3, the first row unveils the positive relation of CSHD with CFO and CFF while negatively influences CFI. Similarly, earnings per share (EPS) and total assets (LNTA) show positive signs with CFO and CFF while negatively affect CFI. Fourth and fifth row indicates that “Degree” and “AGE” both negatively influence the three dependent variables (CFO, CFF and CFI).

In table 4, the first three rows revealed that all three categories of CEO turnover via hierarchical disturbance (Medium, low and high level) affect the firms' growth cycle. Significantly, the intensity of effectiveness is high among medium-level CEO succession via hierarchical disturbance (MCSHD). Argumentatively, following the prior research (Shah et al., 2019) CEO successor via medium level hierarchical disturbance are enthusiastic to execute such strategies for escalation of firms' growth which is why they prefer to boost CFO (operating cash flow) and CFF (financing cash flow) as compared to CFI (Investment cash flow).

Table 4. 2SLS Regression (all Types of CEO Succession via Hierarchical Disturbance and Firms' Life cycle)

	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES	CFO	CFO	CFI	CFI	CFF	CFF
MCSHD	0.185**	0.223**	-0.224**	-0.207***	0.323*	0.349**
	(0.0777)	(0.0881)	(0.0882)	(0.0763)	(0.169)	(0.173)
LCSHD	0.0323**	0.0389**	-0.0387**	-0.0535***	0.0842*	0.0911**
	(0.0140)	(0.0159)	(0.0159)	(0.0203)	(0.0449)	(0.0459)
HCSHD	0.0270**	0.0326**	-0.0324**	-0.0481***	0.0722*	0.0780*
	(0.0119)	(0.0135)	(0.0135)	(0.0183)	(0.0406)	(0.0413)
EPS	0.000900*	0.00111**	-0.00129**	-0.00125**	0.0036***	
	(0.000490)	(0.000542)	(0.000542)	(0.000501)	(0.00111)	
Leverage	-6.27e-05	0.000435	-0.000766	-0.000122	0.00437*	0.00311
	(0.00113)	(0.00123)	(0.00124)	(0.00116)	(0.00258)	(0.00264)
AGE	-0.0610**	-0.0733**	0.0730**	0.0658***	-0.104*	-0.112**
	(0.0256)	(0.0290)	(0.0291)	(0.0245)	(0.0543)	(0.0554)
LNTA	0.00074***					
	(0.000266)					
LNEMP	2.85e-05	0.000261	-0.000403	-0.000320	0.0020***	0.0022***

	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES	CFO	CFO	CFI	CFI	CFF	CFF
	(0.000296)	(0.000308)	(0.000308)	(0.000297)	(0.000658)	(0.000660)
NDIR	0.000320	0.000356	-0.000389*	- 0.000432**	0.000792*	0.000780
	(0.000206)	(0.000226)	(0.000226)	(0.000210)	(0.000465)	(0.000477)
Dual	0.00108	0.00111	-0.00128	-0.00104	0.00167	0.00153
	(0.000883)	(0.000974)	(0.000975)	(0.000880)	(0.00195)	(0.00198)
SOE	0.00202***	0.00213**	-0.00194**	- 0.00258***	0.000814	0.00108
	(0.000765)	(0.000839)	(0.000840)	(0.000755)	(0.00167)	(0.00171)
Degree				0.0603***	-0.0949*	-0.103**
				(0.0223)	(0.0494)	(0.0504)
Industry&Year	Included	Included	Included	Included	Included	Included
Constant	-0.0227***	- 0.00946***	0.0108***	0.00956***	-0.0268***	-0.0263***
	(0.00559)	(0.00286)	(0.00286)	(0.00253)	(0.00560)	(0.00571)
Observations	12,180	12,194	12,194	12,194	12,194	12,325
R-squared	0.365	0.371	0.371	0.382	0.382	0.390

Note: Standard errors in parentheses; *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

In table 4, the first three rows unveil that MCSHD, LCSHD and HCSHD positively boosted the CFF and CFO while negatively affected the CFI. Similarly, EPS (earnings per share) is positively significant for CFO and CFF while negatively significant for CFI.

Table 5 signifies the effectiveness of CEO succession via hierarchical disturbance intensity on firms' growth cycle. Most significantly, the coefficient value of CSHDIN is low as compared to CSHD. Convincingly, whenever a maximum number of board members are neglected, then the intensity of effectiveness on the growth cycle is meagre. Further, "EPS" positively boost the CFO and CFF while decelerates the CFI. Additionally, the variable "AGE" mitigated the three cash flows (CFO, CFI and CFF).

Table 5. 2SLS Regression (CEO Succession via Hierarchical Disturbance Intensity and Firms' Cycle)

	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES	CFO	CFO	CFI	CFI	CFF	CFF
CSHDIN	0.000463***	0.000528***	- 0.000481***	-0.000494***	0.000831**	0.000902**
	(0.000171)	(0.000176)	(0.000179)	(0.000180)	(0.000415)	(0.000423)
EPS	0.000744*	0.000872**	-0.000937**		0.00337***	
	(0.000413)	(0.000430)	(0.000423)		(0.00101)	

	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES	CFO	CFO	CFI	CFI	CFF	CFF
Leverage	-0.000850 (0.00103)	-0.000611 (0.00107)	0.000331 (0.00104)	0.000681 (0.00104)	0.00371 (0.00253)	0.00247 (0.00259)
Degree	-0.0206*** (0.00752)	-0.0233*** (0.00774)			-0.0378** (0.0183)	-0.0409** (0.0186)
AGE	-0.0291*** (0.0107)	-0.0331*** (0.0110)	0.0349*** (0.0130)	0.0356*** (0.0130)	-0.0538** (0.0260)	-0.0579** (0.0264)
LNTA	0.000552** (0.000241)		-0.000525** (0.000245)	-0.000562** (0.000244)		
LNEMP	0.000281 (0.000255)	0.000481* (0.000251)	-0.000466* (0.000262)	-0.000480* (0.000263)	0.00256*** (0.000593)	0.00267*** (0.000602)
NDIR	0.000344* (0.000181)	0.000373** (0.000190)	-0.000366** (0.000186)	-0.000362* (0.000187)	0.000752* (0.000448)	0.000755* (0.000456)
Dual	0.00125 (0.000806)	0.00129 (0.000847)	-0.00153* (0.000843)	-0.00153* (0.000847)	0.00234 (0.00200)	0.00233 (0.00203)
SOE	0.00160** (0.000734)	0.00162** (0.000772)	-0.00114 (0.000801)	-0.00117 (0.000801)	-0.000957 (0.00182)	-0.000776 (0.00185)
Industry&Year	Included	Included	Included	Included	Included	Included
Constant	-0.0179*** (0.00483)	-0.00790*** (0.00225)	0.0193*** (0.00491)	0.0197*** (0.00490)	-0.0263*** (0.00531)	-0.0257*** (0.00538)
Observations	12,186	12,200	12,186	12,317	12,200	12,331
R-squared	0.391	0.363	0.387	0.412	0.376	0.380

Note: Standard errors in parentheses; *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

In table 5, the first row indicates the positive influence of CSHDIN on CFO and CFF while negatively affects the CFI. In the second row, “EPS” is positively significant for CFO and CFF while shown the negative significance for CFI. Moreover, the variable “AGE” is negatively significant for all cash flows (CFO< CFI and CFF).

Table 6 signifies the interaction term positively affected the CFO (operating cash flow) and CFF (cash flow in financing) while negatively influenced the CFI (cash flow investment). Comprehensively, the result signifies that CEO successor of the firms involved in agency cost problem prefers to mitigate the cash flow investment. Reasonably, firms suffering from agency cost already have fewer funds to invest which is the cause of CEO diversion from CFI. Moreover, in this table “AGE” shows the negative significance for all types of cash flows.

Table 6. 2SLS Regression (Agency Cost as a Moderator and Firms' Life Cycle)

	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES	CFO	CFO	CFF	CFF	CFI	CFI
Agency*CSHD	0.0111**	0.00707**	0.0917*	0.0569*	-0.0385**	-0.0376**
	(0.00510)	(0.00358)	(0.0533)	(0.0341)	(0.0151)	(0.0151)
EPS	0.000464	0.000447	0.00345***			-0.000707
	(0.000334)	(0.000327)	(0.00119)			(0.000438)
Leverage	-0.000681	-0.000551	0.00263	0.000632	0.00172	0.00143
	(0.000866)	(0.000839)	(0.00316)	(0.00286)	(0.00127)	(0.00126)
Degree	-0.00591**	-0.00516**	-0.0438*	-0.0280*	0.0179**	0.0176**
	(0.00283)	(0.00258)	(0.0246)	(0.0160)	(0.00708)	(0.00709)
AGE	-0.00464*		-0.0371*	-0.0238*	-0.0147**	-0.0143**
	(0.00239)		(0.0208)	(0.0136)	(0.00601)	(0.00597)
LNEMP	0.000273	0.000248	0.00394***	0.00234***	-0.000618**	-0.000600**
	(0.000215)	(0.000210)	(0.00107)	(0.000670)	(0.000296)	(0.000295)
LNTA	0.000982***	0.000886***		0.00319***	-0.00165***	-0.00162***
	(0.000235)	(0.000214)		(0.00103)	(0.000455)	(0.000460)
NDIR	0.000382**	0.000388***	0.000907*	0.000687	-0.000388*	-0.000387*
	(0.000151)	(0.000148)	(0.000517)	(0.000451)	(0.000200)	(0.000198)
Dual	0.000493	0.000396	0.00207	0.00187	-0.00118	-0.00123
	(0.000614)	(0.000596)	(0.00225)	(0.00193)	(0.000852)	(0.000853)
SOE	0.00211***	0.00229***	-0.00204	-0.00156	-0.000970	-0.000933
	(0.000579)	(0.000549)	(0.00247)	(0.00205)	(0.000909)	(0.000912)
Industry&Year	Included	Included	Included	Included	Included	Included
Constant	-0.0260***	-0.0239***	-0.0355***	-0.0891***	0.0428***	0.0422***
	(0.00503)	(0.00452)	(0.00893)	(0.0231)	(0.0102)	(0.0103)
Observations	12,184	12,184	12,184	12,315	12,315	12,184
R-squared	0.376	0.354	0.354	0.411	0.421	0.383

Note: Standard errors in parentheses; *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

In table 6, the first row indicates the result of the interaction term (agency cost and CSHD) which is positive and significant for CFO and CFI while a negative (significant) for CFI. The dummy variable "AGE" deters all three types of cash flows.

Table 7 illustrates the results of GMM instrumental regression. In the first row, CSHD is absolutely significant for CFO and CFI and negatively significant for CFI. The variables "AGE", "Degree" and "LNTA" shows the same results which are indicated by the previous table 3.

Table 7. GMM Instrumental Regression (CEO Succession via Hierarchical Disturbance and Firms' Life cycle)

	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES	CFO	CFO	CFI	CFI	CFF	CFF
CSHD	0.135** (0.0547)	0.165** (0.0662)	-0.153** (0.0699)	-0.155** (0.0692)	0.260* (0.154)	0.174* (0.101)
EPS	0.000792 (0.000577)	0.00101 (0.000670)	-0.00102* (0.000571)		0.00358*** (0.00128)	0.00307*** (0.00117)
Leverage	-0.00136 (0.00113)	-0.00109 (0.00114)	0.000240 (0.00106)	0.000615 (0.00107)	0.00296 (0.00267)	0.00224 (0.00304)
Degree	-0.0902** (0.0365)	-0.111** (0.0442)			-0.175* (0.103)	-0.161* (0.0923)
AGE	-0.101** (0.0411)	-0.124** (0.0497)	0.138** (0.0632)	0.141** (0.0627)	-0.197* (0.116)	
LNTA	0.000826* (0.000499)		-0.000887** (0.000432)	-0.000952** (0.000431)		
LNEMP	5.61e-06 (0.000497)	0.000263 (0.000415)	-0.000258 (0.000461)	-0.000271 (0.000460)	0.00222*** (0.000790)	0.00241*** (0.000770)
NDIR	0.000321 (0.000214)	0.000362 (0.000245)	-0.000287 (0.000256)	-0.000267 (0.000259)	0.000738 (0.000544)	0.000870* (0.000528)
Dual	0.000662 (0.000726)	0.000600 (0.000816)	-0.00127 (0.000950)	-0.00126 (0.000951)	0.00125 (0.00174)	0.000522 (0.00151)
SOE	0.00217*** (0.000737)	0.00233*** (0.000833)	-0.000724 (0.000998)	-0.000763 (0.000992)	0.000144 (0.00195)	0.00176 (0.00193)
Industry&Year	Included	Included	Included	Included	Included	Included
Constant	-0.0246*** (0.00946)	-0.0101*** (0.00319)	0.0301*** (0.00934)	0.0310*** (0.00937)	-0.0298*** (0.00955)	-0.0330*** (0.0104)
Observations	12,184	12,198	12,184	12,315	12,198	12,198
R-squared	0.291	0.298	0.311	0.327	0.287	0.278

Note: Robust standard errors in parentheses; *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table 7 witnesses CSHD positively affected the CFO and CFF while negatively influences CFI. The variables "AGE", "Degree" and "LNTA" are significant but with asymmetrical signs.

Table 8 elucidated the effect of three types of CEO turnover which are positively significant for CFO and CFF while negatively significant for CFI. Moreover, "AGE" negatively influenced all types of cash flows.

Table 8. GMM Instrumental Regression (All types of CEO Succession via Hierarchical Disturbance and Firms' Life Cycle)

	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES	CFO	CFO	CFI	CFI	CFF	CFF
MCSHD	0.172** (0.0694)	0.206** (0.0806)	-0.175** (0.0703)	-0.149** (0.0580)	0.345** (0.172)	0.382* (0.195)
LCSHD	0.0450** (0.0185)	0.0538** (0.0214)	-0.0451** (0.0187)	-0.0164** (0.00685)	0.0386* (0.0202)	0.100* (0.0517)
HCSHD	0.0404** (0.0167)	0.0484** (0.0194)	-0.0405** (0.0169)	-0.0156** (0.00664)	0.0335* (0.0196)	0.0865* (0.0468)
EPS	0.000871* (0.000526)	0.00107* (0.000590)	-0.00106** (0.000439)	-0.000909** (0.000372)	0.00381*** (0.00114)	0.00363*** (0.00118)
Leverage	-0.000589 (0.000958)	-0.000211 (0.000939)	0.000236 (0.000942)	0.000433 (0.000920)	0.00436* (0.00257)	
Degree	-0.0507** (0.0206)	-0.0605** (0.0240)	0.0510** (0.0209)	0.0450** (0.0178)	-0.105** (0.0524)	-0.112* (0.0576)
AGE	-0.0553** (0.0224)	-0.0661** (0.0260)	0.0555** (0.0227)			-0.123* (0.0630)
LNTA	0.000724 (0.000491)		-0.000686* (0.000392)	-0.000714* (0.000380)		
LNEMP	-3.39e-05 (0.000494)	0.000178 (0.000416)	-0.000119 (0.000434)	-0.000183 (0.000414)		0.00208** (0.000811)
NDIR	0.000357* (0.000210)	0.000398* (0.000238)	-0.000392* (0.000218)	-0.000412* (0.000212)	0.00127** (0.000594)	0.000802 (0.000560)
Dual	0.000875 (0.000731)	0.000863 (0.000800)	-0.00105 (0.000783)	-0.000792 (0.000710)	0.000842 (0.00172)	0.00169 (0.00189)
SOE	0.00255*** (0.000758)	0.00276*** (0.000837)	-0.00238*** (0.000780)	-0.00278*** (0.000817)	0.00232 (0.00192)	0.00119 (0.00187)
Industry&Year	Included	Included	Included	Included	Included	Included
Constant	-0.0213** (0.00912)	-0.00826*** (0.00284)	0.0219*** (0.00756)	0.0232*** (0.00742)	-0.0171** (0.00708)	-0.0262*** (0.00873)
Observations	12,180	12,194	12,180	12,180	12,200	12,195
R-squared	0.298	0.288	0.298	0.276	0.243	0.217

Note: Robust standard errors in parentheses; *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

The first three rows of table 8 indicate that MCSHD, LCSHD and HCSHD positively influence the CFO, CFF while negatively affect the CFI. Additionally, "AGE" shows a negative significance for all types of cash flows.

6. Discussion

Since the adaptation of modern mechanism, Chinese firms are boosting their performance but the hegemonic role of government still exist, especially, among SOEs. Due to this reason, academicians, organizational theorists and practitioners are contemplating each and every aspect which is the cause of the success of Chinese organizations. Doubtlessly, CEO was observed at an intensive level. Though CEOs are forcefully turned over due to poor performance but the role novel CEO successor requires exploration with deep insight. Remarkably, this study enunciated that CEO succession via hierarchical disturbance effects during the growth life cycle of the firms.

Moreover, this study unveils that any type of CEO succession via hierarchical CEO succession positively boost the operating cash flow and cash flow financing while decelerating the capital flow investment. Comprehensively, the effectiveness of CEO succession via hierarchical disturbance intensity was contemplated which also affects the growth life cycle of the firms but its intensity is weaker as compared to CEO succession via hierarchical disturbance. Reasonably, whenever, a large number of senior board members will be neglected during forceful succession it will cause a panic among the employees which can be detrimental for firms' optimal growth.

7. Conclusion

This study re-investigates the link between insurance activities and economic growth for China. Since the adaptation of modern mechanism, Chinese firms are boosting their performance but the hegemonic role of government still exist, especially, among SOEs. Due to this reason, academicians, organizational theorists and practitioners are contemplating each and every aspect which is the cause of the success of Chinese organizations. Doubtlessly, CEO succession is an inevitable phenomenon but among Chinese organizations, forceful turnover was observed at an intensive level. Though CEOs are forcefully turned over due to poor performance but the role novel CEO successor requires exploration with deep insight. Remarkably, this study enunciated that CEO succession via hierarchical disturbance effects during the growth life cycle of the firms. Moreover, this study unveils that any type of CEO turnover via hierarchical fluctuation positively boost the operating cash flow and cash flow financing while decelerating the capital flow investment. Our results assimilate with the prior study which concluded that CEO succession declines the investment cash flow (Zhao and Ma 2017). Further, (Intintoli and Kahle 2016) supported our results which substantiate that forced turned over enhances the efficiency of working capital. Comprehensively, the effectiveness of CEO turnover via hierarchical fluctuation intensity was contemplated which also affects the growth life cycle of the firms but its intensity is weaker as compared to CEO succession via hierarchical disturbance. Reasonably, whenever, a large number of senior board members will be neglected during forceful succession it will cause a panic among the employees which can be detrimental for the future growth of the firms.

Additionally, it concludes that aged CEO successors and CEOs having specific education are less orientated towards cash flow financing and cash flow operating. Argumentatively, CEO successors which were appointed forcefully, their prime concern is to boost the performance which is why they prefer to deter the cash flow activities. Lastly, it has also been analysed that firms having large total assets and better earnings per shares can perform splendidly during the growth life cycle of the firms.

Study Implications

This study suggests practical implications for the practitioners, theorists and higher authority. Firstly, the study concludes that during the growth cycle, CEO succession via hierarchical disturbance is effective. Doubtlessly, hierarchical order is necessary but during forceful appointment via hierarchical disturbance, the selection from any level will affect, especially during the firms' growth life cycle. However, it is suggested that a young person should be preferred while being appointed forcefully. Further during the appointment, no preference should be given on the base of specific education. Remarkably, it is necessary to mitigate the agency cost problem which is definitely detrimental during the firms' growth cycle because even the novel successor can involve themselves in such activities. Certainly, the presence of independent directors can be an alternate solution to this problem.

Meanwhile, the empirical results suggested that firms having high total assets and intensive earnings per share perform splendidly during the growth life cycle, therefore, these firms should avoid CEO succession via hierarchical disturbance.

Study Limitation

This study shed light on the new aspects but still there exist some limitations which pave the way towards future research. Firstly, we analysed the Chinese listed firms. Future study can elucidate the listed firms in Hong Kong exchange. Secondly, this study emphasizes the growth cycle of firms. It would be worthwhile to contemplate the CEO turnover via hierarchical fluctuation on the decline phase. Lastly, intensity of organizational risk can also be determined under the impact of CEO turnover via hierarchical fluctuation.

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Data Availability Statement

The data that support the findings of this study are available in the China Stock Market & Accounting Research Database (<http://us.gtadata.com/>), (www.cninfo.com.cn). These data were derived from the following resources available in the public domain: The excel file of compiled data can also be provided if required for the review process.

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