IJEM
International Journal of Economics and Management
Journal homepage: http://www.ijem.upm.edu.my

CEOs' Optimism in Cost Behavior Asymmetry: A Content Analysis

KOMANG AYU KRISNADEWI[a*], DIAN AGUSTIA[b]
AND NOORLAILIE SOEWARNO[b]

[a]*Department of Accounting, Faculty of Economics and Business, Universitas Udayana, Indonesia*
[b]*Department of Accounting, Faculty of Economics and Business, Universitas Airlangga, Indonesia*

ABSTRACT

This study aims to examine the effect of CEOs' optimism on the asymmetry of cost behavior, namely cost stickiness (CS). A sticky condition occurs when the increase in costs due to the increase in sales is greater than the decrease in costs during the decrease in sales. This study measures CEOs' optimism by conducting content analysis using the DICTION application. The results of this study indicate that the level of optimism increases CS. These results contribute to behavioral sciences in management accounting, especially in relation to the role of the upper echelon in corporate strategic decision-making. The results of this study have implications for the appraisal of management performance, when looking at the fact that there is sticky-cost behavior. This sticky behavior is thought to be intended to restore the situation to an advantageous position. The previous literature states that this asymmetry occurs due to deliberate decision-making by decision-makers. Unlike previous research, this study uses the upper echelon approach, with the individual CEOs as proxy. The upper echelon theory states that the characteristics of the leadership will affect a company's strategy, so they have an impact on company performance, including decision-making regarding resource-capacity management.

JEL Classification: M41, M49
Keywords: CEO; cost behavior asymmetry; DICTION; optimism; upper echelon

Article history:
Received: 15 September 2022
Accepted: 17 March 2023

* Corresponding author: Email: komangayukrisnadewi@unud.ac.id
DOI: http://doi.org/10.47836/ijeam.17.1.03

INTRODUCTION

According to the conventional view, changes in cost behavior tend to be mechanical in nature and are known as symmetrical cost behaviors (Anderson et al., 2003; Brüggen and Oliver, 2014; Calleja et al., 2006; Cohen et al., 2017; Dierynck et al., 2012; Li and Zheng, 2018). By contrast, contemporary studies disagree on this (Calleja et al., 2006). Contemporary studies find that cost behavior tends to be asymmetrical (Bradbury and Scott, 2018; Chung et al., 2019; Lee et al., 2019). When there is an increase in activity, total costs increase; but when there is a decrease in activity, the total costs do not decrease immediately. This finding was first disclosed by Anderson et al. (2003) and it is known as sticky cost or cost stickiness (CS).

Literature suggests that a leader's intention to retain unused resources when the volume of activity decreases causes CS. The previous literature concurs that this deliberate action is partly due to a manager's optimism (Anderson et al., 2003; Balakrishnan et al., 2014; Banker and Byzalov, 2014; Li and Zheng, 2017). The previous literature has demonstrated the effect of leadership optimism and pessimism on CS using financial data and macro data from companies. For example, the use of what are known as successive decreases in sales indicates the level of pessimism felt by leadership (Banker et al., 2013; Krisnadewi and Soewarno, 2020; Namitha and Shijin, 2016). The second proxy is the growth rate of the country's gross domestic product (GDP). If the rate is high, then this reflects the leader's optimism in facing the future (Banker et al., 2013; Banker and Byzalov, 2014; Bu et al., 2015; Lee et al., 2019; Prabowo et al., 2018). The third proxy is the use of forecasting future sales or profits (Argilés-Bosch et al., 2017; Bradbury and Scott, 2018; Yang and Zhang, 2017).

On the other hand, the upper echelon theory states that company decisions are made by powerful actors based on the existing cognitive base and values (Carpenter et al., 2004; Hambrick, 2007). The decision-making process is highly dependent on the personality and experience of the decision-makers and the circumstances surrounding the decisions (Fuchs et al., 2015). The role of the leader in the strategic decision-making process is extremely crucial. The characteristics that exist in the leadership very much influence what the leadership feels and considers. Therefore, the characteristics of the individual leaders also influence the policies that the leadership enact regarding the management of resource capacity.

The influence of leaders on their followers, strategic leadership, and firm performance has all benefited from top executive personality studies (Holmes et al., 2021). In contrast to previous research that has tended to use macro and financial data, this study has used the CEOs' optimistic characteristics in the decision-making process related to CS, in accordance with the approach used in the upper echelon theory. Even though they faced the same event, namely a decline in sales, the decisions made by each CEO were not the same. This is because the characteristics of individual decision-makers play an important role in producing different decisions. The CEOs can represent the upper echelon because they are the highest level of formal leadership in their companies, and play a major role in the success or failure of their companies' operations (Martino et al., 2020).

Data on optimism and the control variables used in this study are derived from the annual reports of public companies listed on the Indonesia Stock Exchange (IDX), excepting those of financial companies (based on the Jakarta Stock Exchange Industrial Classification). Based on the predetermined criteria, the number of final observations obtained for this research was 577 firm-years from 194 companies. The novelty of this research is to test optimism from the perspective of the upper echelon, namely the CEO, in influencing the CS level of the company. Therefore, the data used in this study are those related to the CEO, namely his or her optimism. Each CEO's optimism level is measured by a content analysis of the statement of the directors in the annual report for the current year, with the help of the DICTION application.

The results of this study indicate that the asymmetry of cost behavior occurs consistently, both by using the main analysis and by using a robustness analysis. Based on research observations, the authors find that when sales increase, SGA costs increase, whereas, when sales decrease, costs still increase. Several studies have found something similar to this study and continue to state that this condition is sticky cost behavior (Cai et al., 2019; Hur et al., 2019; Krisnadewi and Soewarno, 2020; Wu et al., 2020). There is only one study that states these findings are super-sticky (Bradbury and Scott, 2018). The high level of

optimism of the CEOs was proven to consistently increase CS. This is in accordance with hypothesis proposed in this study.

Contemporary studies related to cost behavior show that costs are asymmetrical, with a tendency toward being sticky or anti-sticky. The results of this research show that, when there is an increase in activity, the total cost shows an increase; but when there is a decrease in activity, the total cost increases again. This study has demonstrated the role of the upper echelon in triggering cost behavior asymmetry, particularly the influence of the CEOs' optimism. Even though it has only been shown to be conclusive with regard to the characteristic of optimism, the results of this study at least contribute to the upper echelon theory which states that the characteristics of individual leaders influence a company's strategic decision-making.

The influence of a CEO is related to individual behavior, so the results of current research also contribute to the science of behavioral accounting. Previous research has proven that cost behavior is influenced by certain personal characteristics (e.g. overconfidence) while examining the extent of these characteristics found the chief financial officer (Chen et al., 2022), using research and development cost behavior (Hur et al., 2019), and using manager optimism, especially regarding manager ownership (Jang, 2020). Our study uses a measure of top management optimism, namely the CEO, as the highest decision-maker in a public company in Indonesia and does not examine specifically the effect of manager ownership on CS. Like the pioneers in this field of research, Anderson et al. (2003), the cost measurement the authors use is SGA (sales, general, and administrative) costs because the changing measure of activity used is sales activity. SGA costs are, of course, closely related to the company's sales activities. In addition, previous research has tested whether linguistically-induced time perception arising from reference to a future time in language related to the asymmetric sensitivity of costs to activity changes using a measure at the country level (Huang and Kim, 2020); meanwhile, our research has used a measure of optimism at the firm level as represented by the CEO by using the DICTION application.

INSTITUTIONAL BACKGROUND

Indonesia's corporate governance is unique, owing to the country's use of a two-tier board structure. This structure consists of a management board (board of directors) and a supervisory board (board of commissioners). The rules regarding boards in public companies in Indonesia are stipulated by Limited Company Law No.40 of 2007 (Republic of Indonesia, 2007) and Regulation of the Financial Services Authority No.33 of 2014. In this regulation, it is stated that: "the Board of Directors is the company's organ, which has the authority and is fully responsible for the management of the company in the interests of the company, in accordance with the aims and objectives of the company and represents the company, both inside and outside the court in accordance with the provisions of the articles of association". In addition, Regulation No.33 of 2014 states that: "the Board of Commissioners is the company's organ that has the responsibility to conduct general and/or specific supervision in accordance with the articles of association and to provide the Directors with advice".

A public company's strategic decisions are made by its Board of Directors, which is chaired by a CEO (President Director). The CEO, as the top leader and most powerful decision-maker, will strive to align the company's strategic goals and objectives, including the management of company resources (Harymawan et al., 2019; Shahab et al., 2020; Tabesh et al., 2019). CEOs are accountable for general operations, business planning, and annual reports. Unlike previous research, this study starts from the belief that decision-making related to resource capacity is influenced by the characteristics of decision-makers. In accordance with the upper echelon theory approach, the CEO—as the representative of the top management team—weighs various considerations before making a decision.

Optimism theory states that optimism can affect individual feelings when facing problems (Carver et al., 2010). Even if environmental conditions are favorable, pessimistic CEOs tend to ignore these conditions. Unlike the case with CEOs who are pessimistic, optimistic CEOs see a better future even though current and past conditions tend to be unfavorable. This optimism is then transmitted to the people around them by inviting their teams to make maximum efforts to achieve the targets. Therefore, this study uses CEO optimism in influencing CS. In Indonesia, financial services authorities require the use of

English, in addition to Indonesian, for the presentation of an annual report. This annual report requires a statement from the board of directors. Craig and Brennan (2012), among others, recognize the CEO's statement letter as being an important medium to show what is happening in a company.

REVIEW OF LITERATURE

The selection of strategic decisions is made based on the leadership's perception of various considerations related to the decision. Decision-makers consider the external and internal conditions of the company and individuals interpret them differently. The characteristics of the upper echelon (top leaders) influence this interpretation which include psychological aspects (cognitive base and value) as well as various observable characteristics. This study uses the upper echelon theory as a basic theory considering that decision-making about resource management is the reflection of the cognitive bases, values, and observable characteristics of top leaders. Based on various considerations that come from external and internal companies and supported by individual characteristics, top leaders then form a perception as a basis for strategic decision-making which in turn has an impact on resource management.

Previous studies have demonstrated that there are some personality factors that influence decision-making, including financial decisions. For example, CEO greed (Jebran et al., 2022), CEO narcissism (Zhang et al., 2021), machiavellianism (Recendes et al., 2022), overconfidence (Lai et al., 2021; Yu, 2014), and optimism (Banker et al., 2013; Krisnadewi and Soewarno, 2020; Namitha and Shijin, 2016). Optimism is defined as a trait that generates the belief that positive results will occur in the future (Carver et al., 2010; Gallagher and Lopez, 2009; Miceli and Castelfranchi, 2010; Trevelyan, 2008). Optimism is a personality factor that is closely related to other personality factors. Companies with greedy CEOs take excessive risks because they are optimistic that what they are doing will yield better results for them. Likewise, CEOs who have high narcissism and overconfidence will see themselves as people who are very optimistic about the future. This is consistent with research that has demonstrated that highly optimistic managers tend to have optimistic expectations for future results, believing that these results will be of benefit in the future. Even if the results are negative, managers who have positive expectations for the project will be motivated to work harder and feel challenged, so they tend to exert more effort (Narsa and Narsa, 2018).

Optimism (and pessimism) directly influence how individuals feel when facing problems (Carver et al., 2010). Research results have shown that someone who views the future positively is able to respond to any difficulties in a better way than someone who has negative expectations, even in the case of someone who is over-optimistic. These positive expectations are then transmitted to the people around them. Even though a person's optimistic behavior can be biased (Bracha and Brown, 2012), Hilary et al. (2016) have found that leaders will exert greater effort to meet their biased or over-optimistic forecasts. If a problem is related to a deadline, a person tends to be more optimistic when facing future events that have a longer horizon (Kinari, 2016).

Studies by previous researchers have demonstrated the influence of decision-maker optimism on financial decisions. For example, optimistic CEOs tend to delay external financing (Ataullah et al., 2018; Dai et al., 2017; Deshmukh et al., 2021). Optimism can also influence investors' financial decisions in the capital market (Khan et al., 2017; Rashid et al., 2022). (Rashid 2022, Khan and Tan 2027, Angelini and Cavapozzi, 2017). Optimism also influences decisions about managing the capacity of unused resources, causing cost stickiness. In this study, the researchers use optimism theory to explain why cost stickiness occurs. When there is a decline in sales, leaders who are more optimistic tend to be reluctant to lower their sales targets; this has an impact on managers' decisions to maintain resource capacity even if it is not used in the current period. This causes cost behavior to become sticky (Anderson et al., 2003; Guenther et al., 2014). Optimism is a major source of cost-behavior asymmetry (Kama and Weiss, 2013). When leaders are optimistic, the level of stickiness becomes greater. Conversely, when the leader is pessimistic, costs tend to decrease more when sales fall compared to costs increase when sales increase (anti-stickiness).

The effect of high optimism in increasing cost stickiness has been identified by several researchers. Previous studies on cost stickiness have used a measure of optimism from expectations based on past and present sales experiences (Banker et al., 2013; Krisnadewi and Soewarno, 2020; Namitha and Shijin, 2016), GDP growth (Banker et al., 2014; Banker et al., 2013; Banker et al., 2013; Bu et al., 2015; Lee et al., 2019;

Prabowo et al., 2018), or forecasting sales or profits (Argilés-Bosch et al., 2017; Banker et al., 2014; Bradbury and Scott, 2018; Yang and Zhang, 2017).

In contrast to previous research that used optimism using financial measures or macro data, this study uses a measure of the optimism of company leaders as decision-makers. The CS study results show that the management of unused resource capacity is a deliberate decision made by the decision-makers. The decision-making process is highly dependent on the personality and experience of the decision-makers and the circumstances related to the decisions (Fuchs et al., 2015). The role of the leader in the strategic decision-making process is extremely crucial. What the leadership feels and considers is very much influenced by the characteristics that exist in the leadership. Therefore, the characteristics of the individual leaders also influence the policies that the leadership selected regarding the management of resource capacity.

Leadership optimism can occur due to rational considerations about future sales based on currently available information. Optimism can also come from a leader's psychological bias, such as dispositional optimism. These two causes lead to the same predictive results associated with CS. So, both the optimism that comes from the environment and from the nature of the individual are both able to explain the occurrence of CS (Banker and Byzalov, 2014; Krisnadewi and Soewarno, 2021). We state our hypothesis as the degree to which CS increases with the CEO's optimism.

RESEARCH METHODOLOGY

Measurement of a CEO's optimism

We use the net optimism score to measure optimism based on the statement of the directors in the annual report for the current year. Given that we carry out the measurement of the optimism score using an English-based application, the statement letters used in this study are the English language versions. Using the statement letters, we can measure the optimism value of the CEOs, as they are the compilers of the letters and the ones who sign off on them.

In practice, the CEO may not have made the statement. One can presume this from the pattern of statement letters from the directors, which are always the same from period to period, even when there is a change of CEO. Even so, this study believes that the CEO reviews the final draft of the statement letter, so it can reflect his or her character. To ensure this, the optimism score was tested when there was a change of CEO in a company. The result shows that the optimism scores before and after the change of CEO in the observed company show a significant difference based on the paired *t*-test (not shown).

The level of optimism for a person is not only found at two extreme points (optimistic versus pessimistic). Research shows that an expanded measure of optimism (very optimistic, optimistic, neutral, pessimistic, and very pessimistic) produces a more consistent response rate compared to the two-point measure (Kam, 2020). Therefore, the measurement of the level of optimism in this study has been carried out by forming a quintile-based dummy score. The results of the optimism score from all the observations have been sorted and then formed into five groups (quintiles) and given values ranging from 0 to 1 (Amir et al., 2015). The lowest quintile (lowest optimism score) is scored as 0; the second quintile is 0.25; the third quintile is 0.50; the fourth is quintile 0.75; and the highest quintile has a value of 1. The higher the score is, the higher the level of the CEO's optimism is.

Content analysis is carried out to measure the optimism score using an application called DICTION 7.1. This application uses the scientific method to determine the tone of a verbal message based on the 10,000 corpus words which produce five main variables for research purposes (activity, optimism, certainty, realism, and commonality). In this research, only an optimism score is required. The DICTION application defines optimism as a language that supports a person, group, concept, or event or highlights their positive achievements. The optimism variable produced by DICTION is formed using a net optimism score with the following formula.

Net Optimism = [Praise + Satisfaction + Inspiration] - [Blame + Hardship + Denial]

The DICTION application has a database that can be used for comparison when someone wants to analyze a statement according to the desired goal (in the program, it is known as a norm). This study used the CEO's statement letter as the material with which to measure the level of optimism, so the norm is used in the form of corporate public relations (hereinafter referred to as PR). The database for this norm involves a collection of vision and mission statements and CEO statements in America. However, the statement letter by the board of directors in the annual report of companies in Indonesia also relates to financial reporting. Therefore, the calculation of the optimism score has also been tested using the norm in the form of a corporate financial report (hereinafter referred to as FR). The database for this norm contains the annual financial statements of Fortune 500 companies.

Empirical model

In this study, the CS model proposed by Anderson et al. (2003), which has been confirmed by subsequent researchers, is used. The basic model is as follows.

$$ln\left[\frac{SGA_{i,t}}{SGA_{i,t-1}}\right] = \beta_0 + \beta_1 ln\left[\frac{Sales_{i,t}}{Sales_{i,t-1}}\right] + \beta_2 * DD_{i,t} * ln\left[\frac{Sales_{i,t}}{Sales_{i,t-1}}\right] + \varepsilon_{i,t} \quad (1)$$

Or it can be written as follows (Banker & Byzalov, 2014).

$$\Delta lnSGA_{i,t} = \beta_0 + \beta_1 \Delta\, lnSales_{i,t} + \beta_2 DD_{i,t} * \Delta\, lnSales_{i,t} + \varepsilon_{i,t} \quad (2)$$

where SGA = sales; general and administrative costs; Sales = sales; DD = decrease dummy = dummy change in sales from period *t-1* to period *t*; DD = 1 when there is a decrease in sales; DD = 0 when there is an increase in sales or when sales are fixed; *I* = company; *t* = period of years; β = coefficient; ε = error; and Δ = delta = change.

The use of the log-log model in Anderson et al. (2003) makes it easier for researchers to compare variables between companies and reduce the problem of heteroscedasticity (Banker and Byzalov, 2014). The log specification accommodates the economic interpretation of the coefficients being estimated. One of the advantages of the log-log model is that the coefficients β_1 and β_2 can be used to measure the elasticity of the percentage change in the dependent variable, which is related to the percentage change in the value of the independent variable (Gujarati and Porter, 2009: p. 160, p. 207). In this case, the percentage change is in sales, and general administration (SGA) costs as a result of the change in the percentage of sales.

The value of the decrease dummy (DD) is 0 when sales increase, so the coefficient β_1 measures the percentage increase in SGA costs along with a 1% increase in sales. Conversely, the value of DD is 1 when sales decrease so the coefficient $\beta_1 + \beta_2$ measures the percentage change in SGA costs along with a 1% decrease in sales. SGA costs are called sticky if the change in SGA costs when sales increase is greater than the change when sales decrease. Mathematically, costs are called sticky if the value $\beta_1 > 0$ and value $\beta_2 < 0$ (Anderson et al., 2003).

In this study, the main variable used are the CEOs' optimism. In addition, based on previous research, this study also includes control variables in the form of asset intensity (IA) and liability intensity (IL) as proxies for adjustment costs (among others, Anderson et al., 2003; Habib and Hasan, 2019; Krisnadewi and Soewarno, 2020; Lee et al., 2019). Given that SGA cost efficiency is also influenced by the size of the company, this model also adds a control variable in the form of the company's total assets (TA) (Baumgarten et al., 2010). Previous studies find that risk preference influences decisions relate to cost management (Abdel-Khalik, 2014; Kitching et al., 2016; Li et al., 2020) so we have included risk preference (CEO age) as a control variable.

The focus of this study is to determine the effect of the main and control variables on CS when the sales decline. Therefore, the β_2 coefficient in Equation 2 is extended to determine the effect of the main and control variables on the CS level (Anderson et al., 2003), so the final equation used in this study is as follows. Appendix A shows the measurements for each variable.

$$\begin{aligned}\Delta\, lnSGA_{i,t} = {} & \beta_0 + \beta_1 \Delta\, lnSales_{i,t} + \beta_2 * DD_{i,t} * \Delta\, lnSales_{i,t} + \beta_3 * Opt_{i,t} * DD_{i,t} * \Delta\, lnSales_{i,t} + \beta_4 * IA_{i,t} \\ & * DD_{i,t} * \Delta\, lnSales_{i,t} + \beta_5 * IL_{i,t} * DD_{i,t} * \Delta\, lnSales_{i,t} + \beta_6 * TA_{i,t} * DD_{i,t} * \Delta\, lnSales_{i,t} \\ & + \beta_7 * Risk_{i,t} * DD_{i,t} * \Delta\, lnSales_{i,t} + Industry + Year + \varepsilon_{i,t}\end{aligned} \quad (3)$$

where $\Delta\, lnSGA_{i,t}$ = change in SGA cost of company *i* from period *t-1* to period *t* in log form; $\Delta\, lnSales_{i,t}$ = change in sales of company *i* from period *t-1* to period *t* in log form; $DD_{i,t}$ = decrease dummy = 1 if there is a decrease in sales in period *t*, while if sales remain steady or increase = 0; $Opt_{i,t}$ = the level of optimism in company *i* in period *t*; $IA_{i,t}$ = the intensity of assets in company *i* in period *t*; $IL_{i,t}$ = the intensity of liabilities in company *i* in period *t*; $TA_{i,t}$ = total assets of company *i* in period *t*; $Risk_{i,t}$ = risk preference in company *i* in period *t*; $Industry$ = dummy classification of industry types based on three main sectors; β = coefficient; and ε = error.

RESULTS AND DISCUSSION

Sample selection and descriptive statistics

The data on optimism and control variables used in this study come from the annual reports of public companies listed on the Indonesia Stock Exchange, other than financial companies (Code 8). Financial companies have different formats for income statements and have rigid rules relating to cost management, so they have not been used in this study. The observation period used was the seven years between 2011 and 2017 because it related to the availability of the annual reports.

In order to be used in research, observations (firm-years) must meet the following criteria: 1) Access is available to financial reports during the study period for at least two consecutive years. 2) The company has a December 31 cut-off for the financial year and uses the IDR currency. 3) The sales value in the observation period, and before it, was not negative and was greater than IDR0. 4) The value of SGA cost is not greater than the sales in the relevant year and the previous year. 5) The increase in SGA costs and sales does not exceed 50% and the decrease is not more than 33% (Banker, Byzalov and Chen, 2013) as well as changes in assets due to the possibility of a merger or divestment. 6) The value of equity is greater than zero, because companies with a value of less than zero are considered to have difficulties in carrying out normal business activities (Lee et al., 2019). 7) The available annual reports (as defined in the first point) are presented in English, in an unlocked PDF format and not a scanned document.

This study uses a measure of the optimism of company leaders as decision-makers. In order for them to be used in this analysis, the criteria for the CEOs that can be sampled are as follows: 8) there is no change or replacement of the CEO in the years concerned, bearing in mind that this research measures optimism during those years; and 9) data related to the CEOs' ages (risk preference) can be obtained easily and reliably, both from the companies' annual reports and other sources, such as the Bloomberg website and idx.co.id.

Based on these criteria, a total of 577 firm-year observations were obtained from 194 companies with the details as follows (Table 1).

Table 1 Criteria for Sample Selection

Criteria	Absolute	Percentage
Data from public companies (other than financial ones) *	2.852	100%
Does not meet requirements 1-6	-2.003	-70%
Eligible for sticky analysis	849	30%
Does not have an optimism score (requirement 7)	-162	-6%
There is a change of CEO in year *t* (requirement 8)	-96	-3%
CEO age not available (requirement 9)	-14	-0.005%
Observations meet the criteria	577	20%

Note: * Source: ticmi.co.id

Based on those 577 observations that met the criteria set for this study, a statistical description has been obtained as shown in Table 2, and Table 3 presents the Pearson correlation matrix of the variables used in our main analyses. The average change in sales volume (without being adjusted for inflation) is 1.074 with a minimum value of 0.678 and a maximum value of 1.500. The average value of change in SGA costs is 1.097 with a minimum value of 0.752 and a maximum value of 1.460. According to the sales growth and cost growth formulas used in this study, numbers above 1 indicate an increase in sales/costs, while below 1 indicates a decrease in sales/costs. Therefore, on average, the observations indicated mostly

increases in sales with only 30.50% experiencing a decrease in sales, which is similar to the findings of early CS research (Anderson et al., 2003) and most recently (Hartlieb et al., 2020).

Table 2 Descriptive statistics

Variable (N = 577)	Mean	Std. Dev.	Min.	Max.
ΔSales	1.074	0.151	0.678	1.500
ΔSGA	1.097	0.133	0.752	1.460
Optimism (Public Relation)	52.42	2.18	47.32	60.57
Age (years old)	54.15	9.18	24.00	81.00
Total assets (IDR billion)	6,311	11,100	10.274	91,800
Total Liabilities (IDR billion)	2,963	55,519	5.616	48,700

Table 3 Pearson Correlations

		1	2	3	4	5	6	7	8
ΔlnSGA	1	1.000							
ΔlnSales	2	0.423**	1.000						
		(0.000)							
DD.ΔlnSales	3	0.318**	0.788**	1.000					
		(0.000)	(0.000)						
Opt.DD.ΔlnSales	4	0.212**	0.602**	0.754**	1.000				
		(0.000)	(0.000)	(0.000)					
IA.DD.ΔlnSales	5	-0.258**	-0.445**	-0.568**	-0.438**	1.000			
		(0.000)	(0.000)	(0.000)	(0.000)				
IL.DD.ΔlnSales	6	-0.057	0.014	0.082*	0.021	0.161**	1.000		
		(0.175)	(0.740)	(0.048)	(0.609)	(0.000)			
TA.DD.ΔlnSales	7	0.308**	0.781**	0.993**	0.757**	-0.536**	0.126**	1.000	
		(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.002)		
Risk.DD.ΔlnSales	8	0.294**	0.656**	0.842**	0.591**	-0.432**	0.055	0.843**	1.000
		(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.186)	(0.000)	

Note: p-values in parentheses * $p < 0.1$, * $p < 0.05$, ** $p < 0.01$.

The scores for optimism generated using words, as detected by the DICTION application according to PR norms, have an average of 52.42 with a minimum value of 47.32 and a maximum of 60.57. As for the CEOs' ages, the average was 54.15, with the youngest CEO being 24 years old and the oldest being 81. In terms of assets, according to the observations, they range from IDR 10.274 (billion) to IDR 91,800 (billion), with an average asset value of IDR 6,311 (billion). In terms of liabilities, the lowest value was IDR 5.616 (billion) and the highest was IDR 48,700 (billion).

Empirical results

To test the hypotheses, a regression analysis was carried out using the final equation, (equation 3). In Table 4, the regression results from measuring the effect of optimism using scores from the PR [1] and FR [2] norms are shown. It can be seen that the coefficients β_1 and β_2 have indications in accordance with expectations and are significant. This shows that there is sticky cost behavior in the observations of this study. Even though the coefficient value β_2 has a negative indication, the numbers generated in Table 4 [1] and [2] are quite large. When sales activity increased by 1%, SGA costs increased by β_1, namely 0.292 to 0.293%. Conversely, when sales activity decreased, SGA costs also increased by $\beta_1 + \beta_2$, namely 1.488 to 1.501%[1].

[1] In the research by Anderson et al. (2003), the β_2 coefficient is negative and the value is smaller than β_1 (β_1 = 0.5459, while β_2 = −0.1914). Therefore, when there is an increase in sales, SGA costs increase by 0.55%, whereas, when there is "sales decline", SGA costs "decrease" by $\beta_1 + \beta_2$, that is 0.5459 – 0.1914 = 0.3545 = 0.35%. By contrast, in the results of this research, the value of ($\beta_1 + \beta_2$) is negative, so we interpret it in the opposite way: that where "sales decline", SGA costs actually experience an "increase".

Table 4 Results of Testing the Influence on CS of CEOs' Optimism

		Exp. Sign	[1] ΔlnSGA	[2] ΔlnSGA	[3] ΔlnSGA	[4] ΔlnSGA
ΔlnSales	β_1	+	0.293***	0.292***	0.297***	0.298***
			(4.03)	(3.99)	(4.10)	(4.11)
DD.ΔlnSales	β_2	-	-1.794**	-1.780**	-1.939**	-1.809**
			(-2.00)	(-1.97)	(-2.10)	(-2.14)
Opt.DD.ΔlnSales	β_3	-	-0.597**	-0.410*	-0.551**	-0.626**
			(-2.19)	(-1.65)	(-2.02)	(-2.00)
IA.DD.ΔlnSales	β_4	-	-0.170*	-0.162*	-0.150	-0.143
			(-1.74)	(-1.65)	(-1.55)	(-1.47)
IL.DD.ΔlnSales	β_5	+	-0.362***	-0.365***	-0.350***	-0.339***
			(-3.05)	(-3.03)	(-2.73)	(-2.95)
TA.DD.ΔlnSales	β_6	-	0.137**	0.130**	0.143**	0.131**
			(2.20)	(2.12)	(2.33)	(2.23)
Risk.DD.ΔlnSales	β_7	-	-0.123	-0.105	-0.040	-0.043
			(-0.38)	(-0.32)	(-0.13)	(-0.14)
_cons			0.091***	0.090***	0.110***	0.089***
			(4.44)	(4.42)	(4.88)	(4.33)
Industry			Y	Y	Y	Y
Year			Y	Y	Y	Y
F			12.643	11.131	19.550	10.695
R^2			0.227	0.222	0.268	0.227
Adjusted R^2			0.209	0.204	0.251	0.210
N			577	577	577	577

Note: *t* statistics in parentheses. $^{*}p < 0.1$, $^{**}p < 0.05$, $^{***}p < 0.01$. [1] Testing the influence of CEO's optimism (PR) on CS. [2] Testing the influence of CEO's optimism (FR) on CS. [3] Testing the influence of CEO's optimism (PR) on CS (adjusted for inflation). [4] Testing the influence of CEOs' Optimism (LM) on CS.

The results of this research are in accordance with previous research that has found similar results (Bradbury and Scott, 2018; Cai et al., 2019; Hur et al., 2019; Krisnadewi and Soewarno, 2020; Wu et al., 2020). When sales increase, SGA costs increase, but when sales decrease, SGA costs also increase. On the contrary, when there is an increase in sales, there is no single observation where the SGA costs decrease. This is in accordance with the cost behavior theory. When there is an increase in sales, changes in SGA costs in this study are dominated by an increase in SGA costs, which has a lower percentage than the percentage for the increase in sales.

Bearing in mind the mathematical terms for sticky costs, according to Anderson et al. (2003), the results of this study indicate there was sticky cost behavior because the value $\beta_1 > 0$ and the value $\beta_2 < 0$. In accordance with the negative indication of the β_3 coefficient, the results of this research support the hypothesis, which indicates that the higher the level of optimism of the CEO is, the higher the CS level is.

Some of the previous research into CS states that the tendency of cost behavior asymmetry is sticky (Anderson et al., 2003; Li and Zheng, 2017; Prabowo et al., 2018). Some other research states that the asymmetry of cost behavior also tends toward anti-sticky (Banker and Byzalov, 2014; Cannon, 2014; Cohen et al., 2017; Elio, 2019; Nagasawa, 2018; Namitha and Shijin, 2016; Venieris et al., 2015). A sticky condition occurs when the increase in costs due to the increase in sales is greater than the decrease in costs during the decrease in sales. Conversely, the anti-sticky condition occurs when the decrease in costs due to the decrease in sales is greater than the increase in costs when sales increase.

In contrast to those two groups of research results, the results of this study indicate the occurrence of a different cost behavior asymmetry, both with the definition of sticky and anti-sticky, as found in the previous research. The results of the regression analysis in this research show that, when sales increase, SGA costs increase, while when sales decrease, SGA costs also increase. Results like these have also been obtained by several previous studies and they state that this condition is also known as sticky cost behavior (Bradbury and Scott, 2018; Cai et al., 2019; Hur et al., 2019; Krisnadewi and Soewarno, 2020; Wu et al., 2020). As for the research conducted by (Bradbury and Scott, 2018), they specifically call this situation super-sticky. From an efficiency standpoint, this situation tends to result in inefficient company performance. This is consistent with research that has demonstrated that companies in developing countries, such as Indonesia, have a lower degree of technical efficiency than companies in developed countries (Tan et al., 2018).

In line with what has been stated in the previous literature, leaders who have optimism will view what is currently happening in a positive way (Carver et al., 2010; Gallagher and Lopez, 2009; Miceli and Castelfranchi, 2010; Trevelyan, 2008). When there is a drop in sales, optimistic leaders view this event as a

temporary decline, especially when they feel that previous sales patterns have tended to be stable or even increase. The stability of sales in the past causes them to manage strategic costs by using committed resources, so the asymmetry pattern of cost responsiveness increases due to past sales growth (Anderson et al., 2013). Human resources are an example of committed resources. They are viewed as the company's most valuable asset, and managers recognize their contribution to business success (Johari et al., 2012).

The CEO's optimism regarding future sales has resulted in the sales target not being revised, so the company needs to make various efforts to encourage sales to return to normal. These efforts may require additional resources, leading to increased SGA costs. Based on observations of the financial statements of companies that experienced an increase in SGA costs when sales decreased, the components of SGA costs that generally experienced a significant increase were advertising and promotion costs, professional consultant service fees, entertainment and representation costs, and training costs. Although it is difficult to generalize the increased costs of the SGA, in terms of the overall observation (considering that the breakdown of cost classifications between observations tends to vary), at first glance, we see that companies are investing in these types of costs to boost sales.

Even though the company is operating in the manufacturing industry, the role of SGA cost support is very much needed because it is believed that it will provide added value for the company in the future. The SGA cost component is closely related to those costs that are related to human resources. The value creation strategy is mainly based on living knowledge that is attached to human resources, therefore it has a high level of human capital intensity (Iazzolino and Laise, 2016) and will have a positive impact on profitability and productivity to a certain level (Yao et al., 2019). The use of a management control system based on strategic management accounting is believed to help companies to improve their performance in the future by utilizing this intellectual capital (Pavlatos and Kostakis, 2018) to ensure the sustainability of the company even though sales conditions have declined. Several studies have shown that a certain level of resource slack will have a positive effect on performance due to the role of intellectual capital in innovation (Alrashdan and Alnahedh, 2022; Li et al., 2022; Zan et al., 2022; Zhou et al., 2022).

The CEO's high optimism, despite the decline in sales, prompts the investments to be made in order to face uncertain future conditions. The CEO is optimistic that actions taken in this uncertain condition will provide better results in the future. This is also in accordance with the contemporary real options theory (Krisnadewi and Soewarno, 2020; Li and Zheng, 2017; Schmidt et al., 2017). Leaders' optimism is also supported by consumer behavior that is optimistic about future economic prospects, so leaders postpone resource adjustments until sales recover (Hartlieb, 2021). This causes the leadership to have confidence that the company's prospects are still good, so cost behavior tends to be more sticky. In addition, the research results also demonstrate that financial analysts understand the causes of sticky cost behavior, so their forecast errors are less sensitive, especially for companies with a prospector strategy (Wu and Wilson, 2022).

An optimistic CEO feels that increasing spending on certain resources will drive subsequent sales. Even if the CEO's company cannot return to the normal sales volume immediately, at least this expense is able to prevent a decline in sales, which results in greater losses. This is even more the case if the decline in sales occurs due to competitive pressures, both from similar products and substituted products. In a competitive situation, delays in investing cause the firm's value to decrease. Experimental studies have found that, as the number of competitors increases, the desire to cut costs tends to decrease (Schmidt et al., 2017). Investment is carried out in a flexible and gradual manner, with a variety of low-cost portfolio approaches, allowing for modification of the investment in the future. An optimistic CEO invests in stages while looking at the resulting reaction to the investment that has been made. Every result obtained, whatever it is, will be modified to still produce positive results in the future, because he or she believes it will be achieved.

The influence of a CEO's optimism on resource management decisions that have an impact on the asymmetry of cost behavior is in accordance with the upper echelon theory proposed by Hambrick and Mason (1984). While previous research has used financial data as a proxy for optimism, this study measures the inherent optimism of the CEO as the company's upper echelon representative. The asymmetry of the company's cost behavior is a reflection of the characteristics of its leader. Optimistic leaders tend to view the future positively, so it is hoped that future company performance will also be positive.

Sensitivity analysis

To ensure that CS does not occur due to the effect of price, Table 4 [3] shows an analysis that adjusts sales and SGA costs in accordance with the inflation rate, based on the consumer price index. According to the table, the results obtained are consistent, both without and with adjustments for inflation. Therefore, even without taking inflation into account, sticky conditions persist.

The coefficient β_1 has a significant positive indication in the range of 0.297, while the coefficient β_2 has a significant negative indication in the range of -1.939. Based on these figures, it is found that when sales activities increase, SGA costs increase by 0.297%. Conversely, when the activities decrease, the SGA cost still increases, by $\beta_1 + \beta_2$, which is 1.642%. The influence of the CEO's optimism (coefficient β_3) is also consistent with a significant negative indication in the range of -0.551. This shows that the higher the CEO's optimism is, the higher the CS level is, so that the hypothesis can be accepted.

Loughran and McDonald (2015), among others, have rejected the selection of words related to optimism in the DICTION application. This rejection occurred because they considered the choice of words related to optimism used by the application to be inappropriate. Therefore, in testing robustness, words expressing positive and negative sentiments should be used, according to Loughran and McDonald (hereinafter referred to as LM), to measure net optimism. The authors examined the incidence of these two groups of words to form a net optimism score. The DICTION application can also be used to analyze word lists according to the user's wishes. The authors did the same thing with the previous measure, but only differentiated in terms of the choice of words, namely by adjusting the LM word dictionary.

Table 4 [4] shows the test results using different norms, namely the LM method. According to the table, when using different methods, the results consistently show sticky cost behavior, namely the coefficients β_1 and β_2 have indications in accordance with the expectations and are significant. The influence of the CEOs' optimism on CS, β_3, using various methods (LM), appears to be consistently negative and significant.

CONCLUSIONS

This study aims to examine the effect of the CEOs' optimism on the occurrence of cost behavior asymmetry, namely cost stickiness (CS). Contemporary studies related to cost behavior show that costs are asymmetrical with a tendency toward being sticky or anti-sticky. The results of this study show that, when there is an increase in activity, the total cost shows an increase; but when there is a decrease in activity, the total cost increases too. This study has demonstrated the role of the upper echelon in triggering cost behavior asymmetry, particularly the influence of the optimism of CEOs. Even though it has only been shown to be conclusive in terms of the optimism characteristic, these results at least contribute to the upper echelon theory, which states that the characteristics of individual leaders influence a company's strategic decision-making. The influence of the CEO is related to individual behavior, so the results of this current research also contribute to the science of behavioral accounting.

The results of this study have implications for the appraisal of management performance, when looking at the fact that there is sticky cost behavior. This sticky behavior is thought to be intended to restore the situation to an advantageous position. However, the limited number of observations requires the reader to take the shrewdest possible account of this cost behavior. In order to ensure that this sticky behavior gives good results for the company (sales recovery), further research is needed to look at the effect of this behavior on the company's sales performance in the subsequent periods. For some people, cost stickiness may be seen as unfavorable for the future of the company. This view demands that companies try to work more efficiently, for example by using flexible resources. Another example is implementing lean manufacturing practices. This practice supports the application of just-in-time deliveries and quality management, which will have an impact on supply chain sustainability (Rupasinghe and Wijethilake, 2020). Future research could test the asymmetric cost behavior of companies implementing lean manufacturing.

REFERENCES

Abdel-Khalik, A. R., 2014. CEO risk preference and investing in R and D. *Abacus*, *50*(3), pp. 245–278.

Alrashdan, A. and Alnahedh, M., 2022. Slack resources and firm performance: evidence from GCC countries. *International Journal of Organizational Analysis*. https://doi.org/10.1108/IJOA-05-2022-3266.

Amir, E., Kama, I. and Levi, S., 2015. Conditional Persistence of Earnings Components and Accounting Anomalies. *Journal of Business Finance and Accounting*, *42*(7–8), pp. 801–825.

Anderson, M., Asdemir, O. and Tripathy, A., 2013. Use of precedent and antecedent information in strategic cost management. *Journal of Business Research*, *66*(5), pp. 643–650.

Anderson, M. C., Banker, R. D. and Janakiraman, S. N., 2003. Are selling, general, and administrative costs 'sticky'?. *Journal of Accounting Research*, *41*(1), pp. 47–63.

Argilés-Bosch, J. M., García-blandón, J., Ravenda, D., Valencia-silva, M. M. and Somoza, A. D., 2017. The influence of the trade-off between profitability and future increases in sales on cost stickiness. *Estudios de Economia*, *44*(1), pp. 81–104.

Ataullah, A., Vivian, A. and Xu, B., 2018. Optimistic Disclosure Tone and Conservative Debt Policy. *Abacus*, *54*(4), pp. 445–484.

Balakrishnan, R., Labro, E. and Soderstrom, N. S., 2014. Cost structure and sticky costs. *Journal of Management Accounting Research*, *26*(2), pp. 91–116.

Banker, R. D. and Byzalov, D., 2014. Asymmetric Cost Behavior. *Journal of Management Accounting Research*, *26*(2), pp. 43–79.

Banker, R. D., Byzalov, D. and Chen, L. T., 2013. Employment protection legislation, adjustment costs and cross-country differences in cost behavior. *Journal of Accounting and Economics*, *55*(1), pp. 111–127.

Banker, R. D., Byzalov, D., Ciftci, M. and Mashruwala, R., 2014. The moderating effect of prior sales changes on asymmetric cost behavior. *Journal of Management Accounting Research*, *26*(2), pp. 221–242.

Banker, R. D., Byzalov, D. and Threinen, L., 2013. *Determinants of International Differences in Asymmetric Cost Behavior*, Philadelphia.

Baumgarten, D., Bonenkamp, U. and Homburg, C., 2010. The information content of the SG&A ratio. *Journal of Management Accounting Research*, *22*(1), pp. 1–22.

Bracha, A. and Brown, D. J., 2012. Affective decision making: A Theory of optimism bias. *Games and Economic Behavior*, *75*(1), pp. 67–80.

Bradbury, M. E. and Scott, T., 2018. Do managers understand asymmetric cost behavior?. *Australian Journal of Management*, *43*(4), pp. 538-554.

Bu, D., Wen, C. and Banker, R. D., 2015. Implications of asymmetric cost behaviour for analysing financial reports of companies in China. *China Journal of Accounting Studies*, *3*(3), pp. 181-208.

Cai, C., Zheng, Q. and Zhu, L., 2019. The effect of shared auditors in the supply chain on cost stickiness. *China Journal of Accounting Research*, *12*(4), pp. 337–355.

Cannon, J. N., 2014. Determinants of 'sticky costs': An analysis of cost behavior using United States air transportation industry data. *Accounting Review*, *89*(5), pp. 1645–1672.

Carpenter, M. A., Geletkanycz, M. A. and Sanders, W. G., 2004. Upper echelons research revisited: Antecedents, elements, and consequences of top management team composition. *Journal of Management*, *30*(6), pp. 749–778.

Carver, C. S., Scheier, M. F. and Segerstrom, S. C., 2010. Optimism. *Clinical Psychology Review 2*, *30*, pp. 879–889.

Chen, C. X., Nasev, J. and Wu, S. Y. C., 2022. CFO Overconfidence and Cost Behavior. *Journal of Management Accounting Research*, *34*(2), pp. 117–135.

Cohen, S., Karatzimas, S. and Naoum, V., 2017. The sticky cost phenomenon at the local government level: empirical evidence from Greece. *Journal of Applied Accounting Research*, *18*(4), pp. 445–463.

Craig, R. J. and Brennan, N. M., 2012. An exploration of the relationship between language choice in CEO letters to shareholders and corporate reputation. *Accounting Forum*, *36*(3), pp. 166–177.

Dai, N., Ivanov, V. and Cole, R. A., 2017. Entrepreneurial optimism, credit availability, and cost of financing: Evidence from U.S. small businesses. *Journal of Corporate Finance*, *44*, pp. 289–307.

Deshmukh, S., Goel, A. M. and Howe, K. M., 2021. Do CEO beliefs affect corporate cash holdings?. *Journal of Corporate Finance*, *67*. https://doi.org/10.1016/J.JCORPFIN.2021.101886

Elio, A., 2019. CEO career concerns and expectations management. edited by Li-Zheng, B. *Journal of Applied Accounting Research*, *20*(3), pp. 267–289.

Fuchs, H. M., Steigenberger, N. and Lübcke, T., 2015. Intuition or deliberation – How do professionals make decisions in action ?. *Proceedings of the ISCRAM 2015 Conference*, Kristiansand.

Gallagher, M. W. and Lopez, S. J., 2009. Positive expectancies and mental health: Identifying the unique contributions of hope and optimism. *Journal of Positive Psychology*, *4*(6), pp. 548–556.

Guenther, T. W., Riehl, A. and Rößler, R., 2014. Cost stickiness: State of the art of research and implications. *Journal of Management Control*, *24*(4), pp. 301–318.

Gujarati, D. N. and Porter, D. C., 2009. *Basic Econometrics*, 5th ed., McGraw-Hill/Irwin, New York.

Habib, A. and Hasan, M. M., 2019. Corporate social responsibility and cost stickiness. *Business & Society*, *58*(3), pp. 453–492.

Hambrick, D .C., 2007. Upper echelons theory: An update. *Academy of Management Review*, *32*(2), pp. 334–343.

Hambrick, D. C. and Mason, P. A., 1984. Upper Echelons : The Organization as a Reflection of Its Top Managers. *Academy of Management Review*, *9*(2), pp. 193–206.

Hartlieb, S., 2021. Consumer Sentiment, Managerial Expectations and Resource Adjustment Decisions. Routledge, https://doi.org/10.1080/09638180.2021.1986091.

Hartlieb, S., Loy, T. R. and Eierle, B., 2020. Does community social capital affect asymmetric cost behaviour?. *Management Accounting Research*, *46*(August), p. 100640.

Harymawan, I., Nasih, M., Ratri, M. C. and Nowland, J., 2019. CEO busyness and firm performance: evidence from Indonesia. *Heliyon*, *5*(5), p. e01601.

Hilary, G., Hsu, C., Segal, B. and Wang, R., 2016. The bright side of managerial over-optimism. *Journal of Accounting and Economics*, *62*(1), pp. 46–64.

Holmes, R. M., Hitt, M. A., Perrewé, P. L., Palmer, J. C. and Molina-sieiro, G., 2021. Building cross-disciplinary bridges in leadership : Integrating top executive personality and leadership theory and research. *The Leadership Quarterly*, *32*, p. 101490.

Huang, W. and Kim, J., 2020. *Linguistically Induced Time Perception and Asymmetric Cost Behavior*, *Management International Review*, *60*. https://doi.org/10.1007/s11575-020-00429-4.

Hur, K. S., Kim, D. H. and Cheung, J. H., 2019. Managerial overconfidence and cost behavior of R&D expenditures. *Sustainability (Switzerland)*, *11*(18), pp. 1–13.

Iazzolino, G. and Laise, D., 2016. Value creation and sustainability in knowledge-based strategies. *Journal of Intellectual Capital*, *17*(3), pp. 457–470.

Jang, J. -K., 2020. Determinants of asymmetric cost behavior: focusing on managerial optimistic bias, manager's ownership. *Journal of The Korea Society of Computer and Information*, *25*(7), pp. 159–165.

Jebran, K., Chen, S. and Cai, W., 2022. Excess of everything is bad: CEO greed and corporate policies. *Review of Quantitative Finance and Accounting*, *59*(4), pp. 1577–1607.

Johari, J., Yean, T. F., Adnan, Z., Yahya, K. K. and Ahmad, M. N., 2012. Promoting employee intention to stay: do human resource management practices matter?. *International Journal of Economics and Management*, *6*(2), pp. 396–416.

Kam, C. C. S., 2020. Expanded format shows better response consistency than Likert-scale format in the measurement of optimism. *Personality and Individual Differences*, *152*(September), p. 109606.

Kama, I. and Weiss, D., 2013. Do earnings targets and managerial incentives affect sticky costs?. *Journal of Accounting Research*, *51*(1), pp. 201–224.

Khan, M. T. I., Tan, S. H. and Chong, L. L., 2017. Perception of past portfolio returns, optimism and financial decisions. *Review of Behavioral Finance*, *9*(1), pp. 79–98.

Kinari, Y., 2016. Properties of expectation biases: Optimism and overconfidence. *Journal of Behavioral and Experimental Finance*, *10*, pp. 32–49.

Kitching, K., Mashruwala, R. and Pevzner, M., 2016. Culture and cost stickiness: A cross-country study. *International Journal of Accounting*, *51*(3), pp. 402–417.

Krisnadewi, K. A. and Soewarno, N., 2020. Competitiveness and cost behaviour: evidence from the retail industry. *Journal of Applied Accounting Research*, *21*(1), pp. 125–141.

Krisnadewi, K. A. and Soewarno, N., 2021. Optimism and profit-based incentives in cost stickiness: an experimental study. *Journal of Management Control*, *32*(1), pp. 7–31.

Lai, S., Li, X. and Chan, K. C., 2021. CEO overconfidence and labor investment efficiency. *North American Journal of Economics and Finance*, *55*. https://doi.org/10.1016/j.najef.2020.101319.

Lee, J., Park, J. -H. H. and Hyeon, J., 2019. Co-CEOs and asymmetric cost behavior. *Sustainability*, *11*(4), p. 1046.

Li, R., Zheng, L. and Yuan, L., 2022. TMT's decision-making on adoption of management innovation. *Journal of Organizational Change Management*. https://doi.org/10.1108/JOCM-10-2021-0311

Li, W. L. and Zheng, K., 2017. Product market competition and cost stickiness. *Review of Quantitative Finance and Accounting*, *49*(2), pp. 283–313.

Li, Z., Ying, Q., Chen, Y. and Zhang, X., 2020. Managerial risk appetite and asymmetry cost behavior: evidence from China. *Accounting and Finance*. https://doi.org/10.1111/acfi.12692

Loughran, T. and McDonald, B., 2015. The Use of Word Lists in Textual Analysis. *Journal of Behavioral Finance*, *16*(1), pp. 1–11.

Martino, P., Rigolini, A. and D'Onza, G., 2020. The relationships between CEO characteristics and strategic risk-taking in family firms. *Journal of Risk Research*, *23*(1), pp. 95–116.

Miceli, M. and Castelfranchi, C., 2010. Hope: The Power of Wish and Possibility. *Theory & Psychology*, *20*(2), pp. 251–276.

Nagasawa, S., 2018. Asymmetric cost behavior in local public enterprises: exploring the public interest and striving for efficiency. *Journal of Management Control*, *29*(3–4), pp. 225–273.

Namitha, C. and Shijin, S., 2016. Managerial discretion and agency cost in Indian market. *Advances in Accounting*, *35*(C), pp. 159–169.

Narsa, N. P. D. R. H. and Narsa, I. M., 2018. The relationship between psychological capital and the escalation of commitment in capital project continuation decisions: empirical evidence from Indonesia. *International Journal of Economics and Management*, *12*(S1), pp. 91–104.

Pavlatos, O. and Kostakis, X., 2018. The impact of top management team characteristics and historical financial performance on strategic management accounting. *Journal of Accounting and Organizational Change*, *14*(4), pp. 455–472.

Prabowo, R., Hooghiemstra, R., Veen-dirks, P. Van and Van Veen-Dirks, P., 2018. State ownership, socio-political factors, and labor cost stickiness. *European Accounting Review*, *27*(4), pp. 771–796.

Rashid, K., Tariq, Y. Bin and Rehman, M. U., 2022. Behavioural errors and stock market investment decisions: recent evidence from Pakistan. *Asian Journal of Accounting Research*, *7*(2), pp. 129–145.

Recendes, T., Aime, F., Hill, A. D. and Petrenko, O. V., 2022. Bargaining your way to success: The effect of Machiavellian chief executive officers on firm costs. *Strategic Management Journal*, *43*(10), pp. 2012–2041.

Rupasinghe, H. D. and Wijethilake, C., 2020. The impact of leanness on supply chain sustainability: examining the role of sustainability control systems. *Corporate Governance (Bingley)*, *21*(3), pp. 410–432.

Schmidt, K. M., Fey, L. and Thoma, C., 2017. Competition and incentives. *European Economic Review*, *98*, pp. 111–125.

Sepasi, S. and Hassani, H., 2015. Study of the effect of the firm size on cost stickiness: Evidence from Teheran Stock Exchange. *IJABER*, *13*(6), pp. 4143–4159.

Shahab, Y., Ntim, C. G., Chen, Y., Ullah, F., Li, H. X. and Ye, Z., 2020. Chief executive officer attributes, sustainable performance, environmental performance, and environmental reporting: New insights from upper echelons perspective. *Business Strategy and the Environment*, *29*(1), pp. 1–16.

Tabesh, P., Vera, D. and Keller, R. T., 2019. Unabsorbed slack resource deployment and exploratory and exploitative innovation: How much does CEO expertise matter?. *Journal of Business Research*, *94*, pp. 65–80.

Tan, K. M., Kamarudin, F., Bany-Ariffin, A. N. and Norhuda, A. R., 2018. Firm efficiency in selected developed and developing East Asia countries: using data envelopment analysis. *International Journal of Economics and Management*, *12*(S2), pp. 431–442.

Trevelyan, R., 2008. Optimism, overconfidence and entrepreneurial activity. *Management Decision*, *46*(7), pp. 986–1001.

Venieris, G., Naoum, V. C. and Vlismas, O., 2015. Organisation capital and sticky behaviour of selling, general and administrative expenses. *Management Accounting Research*, *26*(2014), pp. 54–82.

Via, N. D. and Perego, P., 2014. Sticky cost behavior: Evidence from small and medium sized companies. *Accounting and Finance*, *54*(3), pp. 753–778.

Wu, M. and Wilson, M., 2022. How well do analysts really understand asymmetric cost behaviour?. *Accounting and Finance*, *62*(3), pp. 3951–3985.

Wu, T. Z. C., Young, C. S., Yu, C. C. and Hsu, H. T., 2020. Are governmental expenditures also sticky? Evidence from the operating expenditures of public schools. *Applied Economics*, *52*(16), pp. 1763–1776.

Yang, D. and Zhang, Z. -N., 2017. Impact of managerial optimism on cost stickiness: Evidence from China. *International Journal of Applied Business and Economic Research*, *15*(21), pp. 373–383.

Yao, H., Haris, M., Tariq, G., Javaid, H. M., Aamir, M. and Khan, S., 2019. Intellectual Capital, Profitability, and Productivity: Evidence from Pakistani Financial Institutions. *Sustainability*, *11*(3842), pp. 1–30.

Yu, C. -F. J., 2014. CEO overconfidence, CEO compensation, and earnings manipulation. *Journal of Management Accounting Research*, *26*(2), pp. 167–193.

Zan, A., Yao, Y. and Chen, H., 2022. Knowledge search and firm innovation: the roles of knowledge inertia and knowledge integration capability. *Technology Analysis and Strategic Management*. https://doi.org/10.1080/09537325.2022.2076589.

Zhang, L., Liang, B., Bi, D., Zhou, Y. and Yu, X., 2021. Relationships Among CEO Narcissism, Debt Financing and Firm Innovation Performance: Emotion Recognition Using Advanced Artificial Intelligence. *Frontiers in Psychology*, *12*. https://doi.org/10.3389/FPSYG.2021.734777

Zhou, W., Gu, X. and Yang, X., 2022. The impact of knowledge search balance on the generality and specificity of breakthrough innovation. *Technology Analysis and Strategic Management*, *34*(11), pp. 1310–1325.

APPENDIX

Appendix Variables Measurement

Variable	Measurement	Data Sources
Sticky cost	Costs are called sticky if the value $\beta_1 > 0$ and value $\beta_2 < 0$ (Anderson et al., 2003).	Financial report
Optimism	Level of optimism has been carried out by forming a quintile-based dummy score from 0 to 1 (Amir et al., 2015). The lowest quintile (lowest optimism score) is scored as 0; the second quintile is 0.25; the third quintile is 0.50; the fourth is quintile 0.75; and the highest quintile has a value of 1. The higher the score is, the higher the level of the CEO's optimism is.	CEO's statement letter (English version)
Control Variables:		
Asset Intensity	*ln* (fixed asset / sales)	Financial report
Liability Intensity	*ln* (liability / sales).	Financial report
Company size	*ln* (total asset)	Financial report
Risk Preference	CEO's age measured by forming quintile-based dummy score from 0 to 1 (Amir et al., 2015). The highest quintile (the oldest) is scored as 0; and the lowest quintile has a value of 1 (youngest). The younger the CEO, the more likely they are to take risks (risk taker).	Annual report, bloomberg.com