

Managers' Personal Characteristics, Bank Supervision, and Cost Stickiness *

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Abstract

Managers are important human capital of firms and their personal characteristics can have direct and significant effects on firms' decision behaviour and value creation. This paper explores this issue from the perspective of cost stickiness, using data from manufacturing firms listed on the Shanghai and Shenzhen Stock Exchanges of China over the period 1999 to 2011. The results are the following. (1) The gender and age of a chairperson can significantly affect a firm's cost stickiness. Firms with a male chairperson or a young chairperson tend to have higher cost stickiness. However, the chairperson's tenure does not significantly affect cost stickiness. (2) The degree of bank supervision may influence the relationship between gender/age and cost stickiness. When the degree of bank supervision is high, a chairperson's personal characteristics do not significantly affect a firm's cost stickiness. (3) The impact of a chairperson's personal characteristics and bank supervision on a firm's cost stickiness is reflected mainly in non-labour costs. Further tests show that long-term and short-term bank loans, as well as bank loans for state-owned and non-state-owned listed firms, have good supervision effects. Overall, these results show that managers' personal characteristics and bank supervision have an important impact on their firms' cost behaviour.

Keywords: Manager, Personal Characteristics, Bank Supervision, Cost Stickiness

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I. Introduction

Managers are the most important human capital of firms, and their personal characteristics can have direct and significant effects on firms' decision behaviour and value creation. Hambrick and Mason (1984) argue that limitations in ability and endeavour make managers acquire knowledge of elements of their complex internal and external environments selectively; and their physical and psychological characteristics tend to determine their perceptions, processing of information, and decision-making. Exploring the impacts of managers' personal characteristics can help to provide not only a detailed understanding of their financial decisions but also to establish a targeted mechanism to reduce the negative impact of their biased decisions.

Hambrick and Mason (1984) conducted seminal work in this area; since then a large number of studies have explored the effects of managers' personal characteristics,⁴ including their gender (Adams and Ferreira, 2009; Gul *et al.*, 2008, 2011; Ren and Wang, 2010; Kuang and Chen, 2011; Zhu *et al.*, 2012); age (Prendergast and Stole, 1996; Chen and Sun, 2008; Xu and Wang, 2010); tenure (Dechow and Sloan, 1991; Fraser and Greene, 2006; Liu and Liu, 2007; Liu *et al.*, 2012); and educational background (Chevalier and Ellison, 1999; Gottesman and Morey, 2006; Jiang *et al.*, 2009; He and Liu, 2010).

However, so far no studies have specifically discussed the relationship between a manager's personal characteristics and the firm's cost stickiness. We explore this issue using manufacturing firms listed in the Shanghai and Shenzhen Stock Exchanges of China over the period 1999 to 2011. The results suggest that the gender and age of the chairperson have a significant impact on the firm's cost stickiness. Firms with a male chairperson or a young chairperson tend to have higher cost stickiness. However, the chairperson's tenure does not significantly affect cost stickiness. In addition, the supervision of banks may affect the relationship between gender/age and cost stickiness. When the degree of bank supervision is high, the personal characteristics of the chairperson do not significantly affect the firm's cost stickiness (and the reverse is true). As regards cost types, the effects of a chairperson's personal characteristics and bank supervision on cost stickiness are mainly reflected in non-labour costs. In addition, both long-term and short-term bank loans have good supervision effects; and bank loans for both state-owned and non-state-owned listed firms have good supervision effects. This paper highlights the importance of a manager's personal characteristics in relation to the firm's cost stickiness and reveals the active role of bank supervision.

This paper contributes to the literature in three important ways. First, it extends the

⁴ The individual characteristics of managers include psychological characteristics and demographic characteristics (such as gender, age, tenure, educational background, etc.). As psychological characteristics are relatively difficult to measure, most research has focused on demographic characteristics (He and Liu, 2010).

understanding of the effects of managers' personal characteristics. There have been few studies of the impact of managers' personal characteristics on the efficiency of corporate production and operation, although there have been some studies of the impact of these characteristics on R&D expenditures. This paper provides evidence of the effects of managers' personal characteristics on firms' cost stickiness. When the cost stickiness changes, a firm's profits also change: the greater the stickiness, the more serious the decline in the firm's profits. Therefore, our study not only provides an intermediary bridge from previous studies of the relationship between managers' personal characteristics and firms' performance but also adds a new path.⁵ Second, this paper adds new evidence concerning the causes of a firm's cost stickiness. In previous studies of cost stickiness, the opportunistic behaviour of managers is considered to be the most important factor (Banker *et al.*, 2011). However, the present research finds that a manager's optimistic expectations also have a significant impact on the firm's cost stickiness; this supplements the findings of Sun and Liu (2004). In addition, previous studies of the optimistic behaviour of managers focus on the economic cycle or industry-level phenomena (Anderson *et al.*, 2003; Banker *et al.*, 2011). This paper extends the focus to the micro level. Third, this paper enriches the literature on the supervision of bank loans. At present, there is a debate on the supervision effect of creditors' rights and bank loans in China.⁶ This paper confirms the effectiveness of bank loans and verifies the active role of both long-term and short-term loans. These findings provide more comprehensive evidence of the positive role of bank loans in China and also imply that bank loans have a positive effect in reducing managers' biased decisions.

The rest of the paper is structured as follows. Section II presents the theoretical analysis and development of the hypotheses. Section III describes the research design. Section IV sets out the empirical test results. Section V presents the conclusions and discusses potential limitations.

II. Theoretical Analysis and Development of the Hypotheses

Cost stickiness occurs when costs increase more as business activity rises than they decrease as business activity falls (Anderson *et al.*, 2003; Sun and Liu, 2004). Anderson *et al.* (2003) were the first to verify this phenomenon, using a sample of companies listed in the US. They found that SG&A (selling, general, and administrative costs) increased by 0.55% when sales revenue increased by 1%, but decreased by only 0.35% when sales revenue decreased by 1%. These findings have been subsequently confirmed by various studies.

There are three explanations for cost stickiness (Banker *et al.*, 2011). The first involves

⁵ The path is that of future expectations but not of opportunistic motivation.

⁶ There is debate about whether the supervision of creditors' rights is effective (Yu, 2003; Wang, 2003); whether the supervision of a bank loan is effective (Tian, 2005; Hu, 2008); and whether the supervision of long-term and short-term loans is effective (Hu and Xie, 2005; Deng *et al.*, 2007).

adjustment costs. The production and operation of a firm depend on a series of internal and external contracts. However, the adjustment cost of a contract varies according to the type of contract, the economic environment, and the time period. In general, cost stickiness is more likely to occur when contract adjustment costs are high. For example, firms with large proportions of physical assets and human capital tend to have a higher level of cost stickiness, since the adjustment costs of these two assets is high (Anderson *et al.*, 2003). In addition, in countries with stronger labour protection the adjustment cost of human capital tends to be greater and firms' labour cost stickiness tends to be higher (Banker *et al.*, 2013). The second explanation involves the fact that managers may behave opportunistically. In order to increase their own utility, managers sometimes spend a lot of money on unproductive endeavours, such as the construction of luxury offices or maintaining large numbers of subordinates. These expenditures tend to increase rapidly when income increases but not to decline when income decreases. Therefore, cost stickiness is more likely to occur when managers engage in more opportunistic behaviour. Chen *et al.* (2012) find that cost stickiness is strongly and positively related to the incentive for managerial empire building. Kama and Weiss (2013) and Dierynck *et al.* (2012) find that earnings management can affect firms' cost stickiness. The third explanation involves the optimistic expectations of managers. When a firm's income declines, if a manager has optimistic expectations about the future he/she may retain resources (such as employees and fixed assets) as this could save money in the long run. In such a case, the company exhibits higher cost stickiness. In addition, some studies suggest that a firm is more prone to cost stickiness if there is rapid macroeconomic growth (Anderson *et al.*, 2003) or if the firm is in a growing industry (Banker *et al.*, 2011).

Studies related to cost stickiness have shown that management expectations are an important factor in a firm's cost stickiness. In addition, existing psychological research suggests that people's beliefs and preferences can be affected by demographic and personal characteristics – such as gender, age, work experience, educational background, and professional skills – and these in turn affect their decision-making (Langer, 1975; Weinstein, 1980). Thus, managers' personal characteristics affect cost stickiness through their effect on expectations regarding future prospects, and so this issue extends to the micro level. In light of their importance and the data availability, this paper focuses on three personal characteristics of managers: gender, age, and tenure.

The existing literature has shown that, compared to male managers, female managers are more stable and more likely to avoid risk. Peng and Wei (2007) find that male managers are more likely to be over-confident and to make the wrong decisions. Boohene *et al.* (2008) point out that female managers are more inclined to choose a defensive strategy; male executives tend to prefer an aggressive strategy. Gul *et al.* (2008) suggest that listed companies with female directors tend to choose high-quality audit firms in order to reduce

litigation risks. Francis *et al.* (2015) and Peni and Vahamaa (2010) find that corporate financial reporting is more robust, and of a higher quality overall, when the CFO of the firm is a woman. Gul *et al.* (2011) find that companies with more female directors have more information disclosure, which means stock prices reflect more company-level information. Kuang and Chen (2011), Chen and Sun (2008), and Zhu *et al.* (2012) find that female managers increase the demand for a high quality audit and they inhibit diversification and over-investment.

The existing literature also shows that older managers tend to be steadier than younger managers. Dechow and Sloan (1991) find that young managers prefer to take risks and their corporate R&D expenditures are higher. Prendergast and Stole (1996) argue that young managers are eager to express themselves and to take radical decisions. Conversely, older managers are more conservative in their behaviour. Chen and Sun (2008) find that a manager's age and the level of diversification of his/her firm appear to have a U-shaped relationship.⁷ Jiang *et al.* (2009) find that with older managers there tends to be less corporate over-investment.

In addition, the existing literature shows that a manager with a longer tenure tends to be more stable. Fraser and Greene (2006) find that managers with longer terms of service can better understand their companies and their industry, and they are constantly revising their own decisions. Jiang *et al.* (2009) argue that managers with longer terms of service tend to have a stronger risk consciousness and their behaviour tends to be more conservative. They find that a manager's tenure can effectively inhibit corporate over-investment in non-state-owned companies.

Related research has found that the optimistic expectations of managers affect a firm's cost stickiness. When a firm's income falls, managers are faced with two choices: to adjust the strategy immediately and reduce the production scale; or to maintain the existing strategy and maintain – or even expand – the existing production scale. The former can avoid further reduction of corporate profits. The latter can lower replacement costs by retaining the existing production scale; when demand grows, the firm can quickly capture the market or win a competitive advantage (Anderson *et al.*, 2003). When managers are pessimistic, they are more inclined to reduce the production scale immediately, which results in lower cost stickiness. When managers are more optimistic, they are more inclined to expand the existing production scale, which results in higher cost stickiness. Compared to female managers, male managers tend to be more confident and even adventurous. In general, male managers are more optimistic about the future macroeconomic situation, and they may be more likely to believe that they can effectively respond to adverse situations. Therefore, when business income declines, male managers often have less desire to reduce

⁷ We believe that the reason why a manager's age can mean an increase in the level of diversification is that ageing is accompanied by the growth of social capital.

the production scale; and thus their firms' cost stickiness tends to be higher. When corporate business incomes decline, older managers tend to trim related business operations as soon as possible and shrink investments, in order to avoid huge losses that could damage their reputations. Younger managers do the opposite. As a result, when firms have younger managers, their cost stickiness tends to be higher. Early in their tenure managers are often more optimistic about the future and thus – compared to managers with longer periods of service – are more likely to take risks. Since cost stickiness translates into accelerated deterioration of corporate profits,⁸ managers in the later stages of service tend to respond quickly in order to avoid its negative impact on their own human capital.⁹ Conversely, when business income falls, managers with shorter terms of service often have a weaker desire to cut down the production scale; and thus the firms' cost stickiness tends to be higher.

In general, the gender, age, and tenure of a manager may have an impact on the firm's cost stickiness. Wong *et al.* (2004), Song (2004, 2006), and Jiang *et al.* (2009) all regard a chairperson as being the most important decision-maker in a company listed on China's stock markets.¹⁰ Consistent with their studies, this paper also focuses on the role of the chairperson. It is expected that a company has higher cost stickiness if the chairperson is young and male, and has a shorter tenure.

The above discussion leads to our first hypothesis.

H1: The personal characteristics of the chairperson affect the cost stickiness of listed firms.

H1a: Listed firms with a male chairperson have a higher level of cost stickiness.

H1b: Listed firms with a younger chairperson have a higher level of cost stickiness.

H1c: Listed firms with a chairperson on a shorter tenure have higher cost stickiness.

The final decisions of managers are influenced by their personal characteristics as well as other factors. Related research on managers' over-confidence has found that an illusion of control can lead to over-confidence, and decision-making power and control seem to be related to this illusion (Burge and Cooper, 1979; Presson and Benassi, 1996). Research has found that when the supervision and restraint by other parties is enhanced, the effect of a manager's personal characteristics as reflected in his/her decision-making is weakened. Existing literature suggests that creditor supervision can effectively influence corporate behaviour (Jensen, 1986; Wang, 2003). As the debt ratio increases, the impact of a

⁸ Cost stickiness corresponds to a decline in revenue and costs, but costs fall more slowly.

⁹ Even when they maintain the existing production scale for several years, these managers may not reap the financial gains.

¹⁰ With China's institutional background, choosing to study CEOs is relatively rare.

business's stature increases. Thus, the motivation for and the degree of creditor supervision are stronger. As an independent financial institution, a bank acts professionally and is sensitive to risk (Kim *et al.*, 2011; Ge *et al.*, 2012). In China, bank loans are the main source of a firm's debt. The control of credit resources even makes the bank dominant in loan contracts. Therefore, bank supervision is an important factor in management decision making. As a creditor, the bank's most important goal is the successful recovery of the principal and the interest on it. Firms obtaining huge profits play a limited role in improving the position of banks. If a company experiences huge losses, a creditor bank will suffer great losses as well. Thus the banks always pay great attention to company risk. To guard against excessive risk, a creditor bank restricts the behaviour of the firm and the manager through restrictive clauses. At the same time, the bank monitors the firm's financial indicators. If a firm's decisions increase the possibility of debt default, the bank may directly intervene or indirectly limit the firm's behaviour by adjusting the debt conditions in the future.¹¹ Realising this, managers try to avoid financial targets that bring their firms close to this danger. It should be noted that cost stickiness means a sharp decline in profits and thus will attract great attention from both parties to the contract. Therefore, the influence of managers' personal characteristics on firms' cost stickiness is different under different kinds of bank supervision; strong supervision weakens the effect of managers' personal characteristics on cost stickiness.

The above discussion leads to our second hypothesis.

H2: A chairperson's personal characteristics have a different effect on corporate cost stickiness under different kinds of bank supervision. The stronger the bank supervision, the weaker the effect of a chairperson's personal characteristics on the cost stickiness of listed firms.

It is hypothesised that a company's final decisions are the result of the manager's personal characteristics and his/her authority. A manager's decision-making power varies with different types of costs. Unlike adjustment of machine equipment costs, adjustment of an employment contract is limited by labour law (e.g. a firm cannot terminate an employee contract within a specific period or must pay higher compensation if it does) and may damage a company's reputation in the labour market. Thus, relative to non-labour costs (i.e. operating costs other than labour compensation), the difficulties and costs of the adjustment of labour costs are higher. Banker *et al.* (2013) indicate that (in OECD19 countries) corporate labour cost stickiness is higher in countries with more stringent employee protection clauses. Jiang *et al.* (2015) and Liu and Liu (2014) find that both the "Minimum Wage Regulations" promulgated in China in 2004 and the "Labour Contract Law of the

¹¹ Lin *et al.* (2011) find that bank supervision may even inhibit such shareholder behaviour as tunnelling.

People's Republic of China" promulgated in 2008 exacerbated corporate cost stickiness. Managers have decision-making power and control of their firms, but the effects of managers' personal characteristics and bank supervision on cost stickiness are mainly reflected in non-labour costs (and less in labour costs).

The above discussion leads to our third hypothesis.

H3: The effects of a chairperson's personal characteristics and bank supervision on corporate cost stickiness are mainly reflected in non-labour costs (rather than in labour costs).

III. Research Design

3.1 Sample Selection

Following Weiss (2010), the initial sample for this study comprised manufacturing firms listed on the Shanghai and Shenzhen Stock Exchanges of China during the period 1999 to 2011.¹² This sample was then processed as follows: (1) observations that were listed for less than two years ($n = 1,057$) were deleted in order to avoid the IPO effect; (2) observations whose change in operating revenue or operating costs was lower than 0.5% or higher than 99.5% ($n = 170$) were deleted (Anderson *et al.*, 2003; Chen *et al.*, 2012); and (3) observations that had missing variables ($n = 1,744$) were deleted. The final sample for the empirical analysis comprised 8,051 observations.

3.2 Model Construction

Following Anderson *et al.* (2003), Sun and Liu (2004), Liang (2013, 2015), and Liang *et al.* (2015), a multiple regression model was established to test our first hypothesis:

$$\begin{aligned} \text{LogCostR} = & a_0 + a_1 \text{LogIncomeR} + a_2 \text{LogIncomeR} * D \\ & + \sum \text{LogIncomeR} * D * \text{Character} + \sum \text{Character} \\ & + \sum \text{LogIncomeR} * D * \text{Ecovar} + \sum \text{Ecovar} \\ & + \sum \text{Controlvar} + \epsilon \end{aligned} \quad (1)$$

LogCostR and *LogIncomeR* represent changes in costs and in income, respectively. *D* is a dummy variable that represents income decline (= 1 if the income declines). *Character* represents the chairperson's personal characteristics. *Ecovar* represents the economic factor variable (economic determinant). *Controlvar* represents the other control variables. *LogIncomeR* * *D* denotes cost stickiness. If the coefficient of *LogIncomeR* * *D* is significantly

¹² Weiss (2010) points out that there may be higher comparability of cost behaviour if the companies are in the same industry. In addition, high competition in the manufacturing industry may eliminate the impact of monopoly prices.

negative, this indicates that cost stickiness exists. If the coefficient of $\text{LogIncomeR} * D * \text{Character}$ is significant, this indicates that a chairperson's personal characteristics impact the cost stickiness of the firm.

Model (1) includes three interaction terms. Subsample tests are used to test the second hypothesis, taking account of the strength of a bank's supervision. According to H2, the $\text{LogIncomeR} * D * \text{Character}$ coefficient should be significant. When there is weak bank supervision, the coefficient of the $\text{LogIncomeR} * D * \text{Character}$ is expected to be consistent with H1. According to H3, when the explained variable is non-labour costs, the coefficient of $\text{LogIncomeR} * D * \text{Character}$ should be statistically significant. When there is weak bank supervision, the coefficient of the $\text{LogIncomeR} * D * \text{Character}$ coefficient is expected to be consistent with H1.

3.3 Descriptions of the Variables

Cost stickiness. LogCostR equals the natural logarithm of the ratio of the operating costs in year t to the operating costs in year $t-1$. LogIncomeR equals the natural logarithm of the ratio of the operating revenue in year t to the operating revenue in year $t-1$. D is a dummy variable for income decline; it is equal to one if the operating revenue in year t is less than the operating revenue in year $t-1$ and to zero otherwise.

Chairperson's personal characteristics. Gender is a dummy variable for the chairperson's gender; it is equal to one if there is a chairman and to zero if there is a chairwoman. Age is a dummy variable for the chairperson's age; it is equal to one if the age of the chairperson is less than the median age and to zero otherwise. Tenure is a dummy variable for the tenure of the chairperson; it is equal to one if the tenure of the chairperson is less than the median and to zero otherwise.¹³

Economic factor variables and other controls. TwoyearD is a dummy variable for income decline over two consecutive years; it is equal to one if the income decline lasts two consecutive years and to zero otherwise. Growth represents economic growth as measured by the GDP growth for that year. EmployInten represents the human capital intensity, defined as the ratio of the number of employees at the end of the year to the current operating income (in millions of renminbi). AssetInten represents capital intensity, defined as the ratio of the general assets to the current operating income. Leverage represents the asset liability ratio, defined as the ratio of total indebtedness to total assets. Market represents the marketisation level, as measured by the market index of Fang *et al.* (2010). Rinde represents the ratio of the total number of independent directors to the total number of directors on the board. Dual is a dummy variable for CEO duality; it is equal to one if the chairperson also serves as CEO and to zero otherwise. Mshare represents the proportion of managerial shareholdings, defined as the sum of the proportions of shares held by

¹³ The median age is 50 years and the median tenure for the chairperson is two years.

management.

Table 1 gives the definitions and explanations of the main variables.

Table 1 Definitions and Explanations of the Main Variables

Type	Symbol	Definition
Cost stickiness variables	<i>LogCostR</i>	Natural logarithm of the ratio of the costs in year t to the costs in year t-1
	<i>LogIncomeR</i>	Natural logarithm of the ratio of the operating income in year t to the operating income in year t-1
	<i>D</i>	Dummy variable: if the operating income in year t is lower than that in year t-1, $D = 1$; otherwise, $D = 0$
Chairperson's personal characteristics variables	<i>Gender</i>	Dummy variable: if there is a chairman, $Gender = 1$; if there is a chairwoman, $Gender = 0$
	<i>Age</i>	Dummy variable: if a chairperson's age is lower than the median age, $Age = 1$; otherwise, $Age = 0$
	<i>Tenure</i>	Dummy variable: if a chairperson's tenure is lower than the median $Tenure = 1$; otherwise, $Tenure = 0$
Control variables	<i>TwoyearD</i>	Dummy variable: if the operating income declines for two consecutive years $TwoyearD = 1$; otherwise, $TwoyearD = 0$
	<i>Growth</i>	GDP growth for year t
	<i>EmployInten</i>	Number of employees/operating income (in millions of renminbi)
	<i>AssetInten</i>	Total assets/operating revenue
	<i>Leverage</i>	Debts/assets
	<i>Index</i>	Marketisation index (Fan <i>et al.</i> , 2010)
	<i>Rinde</i>	Proportion of independent directors
	<i>Dual</i>	Dummy variable: if the CEO and chairperson are the same $Dual = 1$; otherwise, $Dual = 0$
	<i>Mshare</i>	The sum of proportions of shares held by management

3.4 Descriptive Statistics and Correlation Analysis

Panel A in Table 2 reports the descriptive statistics of the main variables. To reduce the effect of extreme values, all the continuous variables are winsorised at the 0.5% level. The means of *LogCostR*, *LogIncomeR*, and *D* are 0.1605, 0.1491, and 0.2376, respectively. These results are consistent with the results reported by Gong *et al.* (2010). In 96.75% of the firms the chairperson is a man. The mean and median ages are 50.53 years and 50 years, respectively. Roughly 50% of the chairpersons are older than 50. As most of the firms' chairpersons are re-elected triennially, the mean and median term of service is 2.0277

Table 2 Descriptive Statistics and Correlation Analysis.

Panel A Descriptive statistics of the main variables										
Variables	Number of observations	Mean	Lower quartile	Median	Upper quartile	Standard deviation				
<i>LogCostR</i>	8,051	0.1605	0.0236	0.1504	0.2918	0.3104				
<i>LogIncomeR</i>	8,051	0.1491	0.0082	0.1436	0.2882	0.3508				
<i>D</i>	8,051	0.2376	0	0	0	0.4256				
<i>Gender</i>	8,051	0.9675	1	1	1	0.1774				
<i>Age</i>	8,051	50.5329	45	50	56	7.4394				
<i>Tenure</i>	8,051	2.0277	1	2	3	1.0956				
<i>TwoyearD</i>	8,051	0.0858	0	0	0	0.2801				
<i>Growth</i>	8,051	10.2252	9.2	10	10.3	1.6885				
<i>EmployInten</i>	8,051	3.0450	1.0041	1.9178	3.5764	4.2181				
<i>AssetInten</i>	8,051	2.2744	1.1594	1.6728	2.4507	3.2869				
<i>Leverage</i>	8,051	0.4816	0.3503	0.4871	0.6170	0.1850				
<i>Index</i>	8,051	7.6179	5.79	7.52	9.43	2.3477				
<i>Rinde</i>	8,051	0.3088	0.3077	0.3333	0.3636	0.1284				
<i>Dual</i>	8,051	0.1137	0	0	0	0.3174				
<i>Mshare</i>	8,051	0.0083	0.0000	0.0000	0.0001	0.0448				

Panel B Correlation coefficients matrix of the main variables												
	A	B	C	D	E	F	G	H	I	J	K	L
(A) <i>LogCostR</i>	1.00											
(B) <i>LogIncomeR</i>	0.85***	1.00										
(C) <i>D</i>	-0.54***	-0.60***	1.00									
(D) <i>TwoyearD</i>	-0.33***	-0.39***	0.55***	1.00								
(E) <i>Growth</i>	0.07***	0.08***	-0.11***	-0.06***	1.00							
(F) <i>EmployInten</i>	-0.20***	-0.29***	0.22***	0.26***	-0.13***	1.00						
(G) <i>AssetInten</i>	-0.20***	-0.31***	0.21***	0.25***	-0.09***	0.51***	1.00					
(H) <i>Leverage</i>	0.06***	0.05***	0.02	0.02	0.09***	-0.02	-0.03*	1.00				
(I) <i>Index</i>	-0.03*	0.00	-0.02	-0.04***	0.25***	-0.27***	-0.10***	0.01	1.00			
(J) <i>Rinde</i>	0.02	0.04***	-0.07***	-0.06***	0.42***	-0.24***	-0.08***	0.10***	0.45***	1.00		
(K) <i>Dual</i>	-0.02	-0.02	0.01	0.01	-0.04***	0.03**	0.03**	-0.05***	0.06***	-0.01	1.00	
(L) <i>Mshare</i>	0.03	0.03*	-0.03	-0.04***	-0.03***	-0.04***	-0.03*	-0.11***	0.19***	0.11***	0.26***	1.00

years.¹⁴ (Here, the ages and terms of service are taken directly from the original data.) In 8.58% of the companies, revenue declines for two consecutive years. The mean debt to assets ratio is 0.4816. The chairperson also serves as CEO at 11.37% of the firms. The distribution of these statistics (and of the other variables) is within reasonable ranges.

Panel B in Table 2 reports the correlation matrix of the main variables. The correlation matrix shows that the changes in the costs (*LogCostR*), changes in operating income (*LogIncomeR*), and declining income (*D*) exhibit strong mechanical correlations. In addition, income declining for two consecutive years (*TwoyearD*) and income declining for year *t* (*D*) are positively related. Human capital intensity (*EmployInten*) and capital intensity (*AssetInten*) are positively related. This is similar to the results of another study in China (Zhao and Li, 2012), but different from the results of a foreign study (Chen *et al.*, 2012). There is no significant correlation between the other variables.

IV. Empirical Analysis

4.1 Testing H1: A chairperson's personal characteristics and cost stickiness

To ensure the robustness of the results, we cluster observations by firms (Petersen, 2009), control for year fixed effects, and adjust for heteroscedasticity (White, 1980).

Table 3 shows the results of testing H1. The regression shows that the adjusted R^2 values are above 0.70 and the F-values are mostly above 200. This shows that the specification of the model is good. Column (1) does not include the chairperson's personal characteristics; we control for the changes in costs (*LogIncomeR*), declining income (*D*), the interaction terms, and the control variables. The coefficient of cost stickiness (*LogIncomeR*D*) is negative and significant at the 1% level, suggesting that cost stickiness exists in China's listed manufacturing firms. This is consistent with the results of Gong *et al.* (2010). The chairperson's personal characteristics – gender, age, and tenure – are included in columns (2), (3), and (4), along with the interaction terms. In column (2) the coefficient of *LogIncomeR*D*Gender* is negative and significant at the 1% level, meaning that the listed firms with a chairman have significantly higher cost stickiness, in comparison to firms with a chairwoman. The results support H1a. In column (3) the coefficient of *LogIncomeR*D*Age* is negative and significant at the 10% level, meaning that the listed firms whose chairperson is older have significantly higher cost stickiness, compared with the listed firms with a younger chairperson. The results support H1b. In column (3) the coefficient of *LogIncomeR*D*Tenure* is positive but not significant, meaning that the tenure

¹⁴ These results are similar to those reported by previous researchers. Jiang *et al.* (2009) showed that 96% of chairpersons at that time were male. Zhang *et al.* (2011) showed that the average age of a chairman was 50.65 years and 97.1% of the companies were led by men (2007 to 2009). Liu and Liu (2007) showed the mean term of service for a chairperson was 2.88 years and the median term of service for a chairperson was three years.

of the chairperson has no significant impact on cost stickiness. The results do not support H1c. When all the chairperson's personal characteristics are controlled for, the results remain unchanged – see column (5). In summary, the gender and age of the chairperson seem to have a significant effect on cost stickiness, but the tenure of the chairman seems to make no significant difference to cost stickiness.

Table 3 Chairperson's Personal Characteristics and Cost Stickiness

	(1)	(2)	(3)	(4)	(5)
<i>LogIncomeR</i>	0.8171*** (38.20)	0.8101*** (37.30)	0.8100*** (37.39)	0.8110*** (37.51)	0.8103*** (37.68)
<i>LogIncomeR*D</i>	-0.2057*** (-4.31)	0.4344*** (2.76)	0.2040* (1.78)	0.1246 (1.02)	0.5109*** (3.10)
<i>LogIncomeR*D*Gender</i>		-0.3058*** (-2.92)			-0.3241*** (-2.73)
<i>LogIncomeR*D*Age</i>			-0.1163* (-1.83)		-0.1267** (-2.12)
<i>LogIncomeR*D*Tenure</i>				0.0248 (0.34)	0.0334 (0.48)
<i>LogIncomeR*D*TwoyearD</i>		-0.0865 (-1.12)	-0.0852 (-1.12)	-0.0824 (-1.05)	-0.0892 (-1.17)
<i>LogIncomeR*D*Growth</i>		-0.0046 (-0.22)	-0.0028 (-0.13)	-0.0062 (-0.30)	0.0005 (0.02)
<i>LogIncomeR*D*EmployInten</i>		-0.2744*** (-4.17)	-0.2624*** (-3.97)	-0.2767*** (-4.22)	-0.2640*** (-4.02)
<i>LogIncomeR*D*AssetInten</i>		-0.1217 (-1.36)	-0.1325 (-1.53)	-0.1233 (-1.35)	-0.1313 (-1.48)
<i>Constant</i>	0.0411* (1.78)	0.0679*** (2.72)	0.0545** (2.25)	0.0537** (2.22)	0.0723*** (2.87)
<i>Year</i>	Yes	Yes	Yes	Yes	Yes
Obs#	8,051	8,051	8,051	8,051	8,051
Adj-R ²	0.7390	0.7448	0.7451	0.7445	0.7462
F-value	190.9	192.4	195.5	198.6	185.5

4.2 Testing H2: A chairperson's personal characteristics, bank supervision, and cost stickiness

According to previous studies (Gao *et al.*, 2006; Zhou and Xue, 2011), the bank loan ratio can be a good proxy for the degree of supervision of the main body of governance. The entire sample is divided into three subsamples on the basis of the bank loan ratio (bank loans/total assets): firms under low supervision (when the bank loan ratio is lower than the

33rd quantile); firms under medium supervision (when the bank loan ratio is between the 33rd and 66th quantiles); and firms under high supervision (when the bank loan ratio exceeds the 66th quantile).

Table 4 Chairperson's Personal Characteristics, Bank Supervision, and Cost Stickiness

	(1) Low degree of bank supervision	(2) Medium degree of bank supervision	(3) High degree of bank supervision
<i>LogIncomeR</i>	0.7411*** (14.98)	0.8616*** (29.31)	0.8346*** (38.18)
<i>LogIncomeR*D</i>	0.8106*** (3.08)	0.5203*** (3.34)	0.1394 (1.03)
<i>LogIncomeR*D*Gender</i>	-0.5691*** (-3.35)	-0.3407*** (-2.88)	0.0612 (0.54)
<i>LogIncomeR*D*Age</i>	-0.1927* (-1.94)	-0.0655 (-0.81)	-0.0531 (-0.54)
<i>LogIncomeR*D*Tenure</i>	-0.0495 (-0.42)	0.0389 (0.42)	0.0755 (0.62)
<i>Gender</i>	-0.0225*** (-2.77)	-0.0231*** (-2.93)	0.0037 (0.31)
<i>Age</i>	-0.0019 (-0.28)	-0.0071 (-1.47)	0.0002 (0.03)
<i>Tenure</i>	-0.0135 (-1.63)	-0.0102* (-1.67)	-0.0051 (-0.88)
<i>Constant</i>	0.1035** (2.51)	0.0874* (1.91)	0.0709 (1.53)
<i>LogIncomeR*D*Ecovar</i>	Yes	Yes	Yes
<i>Ecovar</i>	Yes	Yes	Yes
<i>Controlvar</i>	Yes	Yes	Yes
<i>Year</i>	Yes	Yes	Yes
Obs#	2,738	2,657	2,656
Adj-R ²	0.6710	0.7548	0.8174
F-value	53.31	168.0	199.8
<i>F(LogIncomeR*D*Gender)</i>		(1) vs (2) = 1.24	(1) vs (3) = 9.15***
<i>F(LogIncomeR*D*Age)</i>		(1) vs (2) = 0.98	(1) vs (3) = 1.02

Table 4 shows the regression results. Columns (1), (2), and (3) tally with the above three groups respectively.¹⁵ With the low supervision group, the coefficients of *LogIncomeR*D*Gender* and *LogIncomeR*D*Age* are negative and significant at the 1%

¹⁵ For simplicity, here and below the paper does not report the regression results of the economic factor variables, the interaction term of the economic factor variables and cost stickiness, or the other control variables.

level and at the 10% level, respectively – see column (1). With the medium supervision group, the coefficient of $\text{LogIncomeR}^*D^*Gender$ is negative and significant at the 1% level and the coefficient of $\text{LogIncomeR}^*D^*Age$ is negative but not significant – see column (2). With the medium supervision group, the coefficient of the interaction terms of a chairperson's personal characteristics and cost stickiness is not significant – see column (3). In addition, the coefficients of $\text{LogIncomeR}^*D^*Gender$ and $\text{LogIncomeR}^*D^*Age$ in column (1) are lower than those in the other two columns. A Chow-test shows that the F-value of the coefficients of $\text{LogIncomeR}^*D^*Gender$ in the low supervision and the medium supervision groups is 1.24. The F-value of the coefficients of $\text{LogIncomeR}^*D^*Age$ in the low supervision and the medium supervision groups is 0.98. The F-value of the coefficients of $\text{LogIncomeR}^*D^*Gender$ in the low supervision and high supervision groups is 9.135 and is significant at the 1% level. Thus, the chairperson's personal characteristics seem to significantly affect a company's cost stickiness when the degree of bank supervision is lower. However, as the degree of banking supervision increases, the effects of a chairperson's personal characteristics on a firm's cost stickiness appear to weaken. The results in Table 4 support H2.

4.3 Testing H3: A chairperson's personal characteristics, bank supervision, and different types of cost stickiness

In order to study the influence of a chairperson's personal characteristics and bank supervision on different types of cost stickiness, we divide costs into labour costs and non-labour costs. Fang (2009, 2011) and Quan *et al.* (2010) point out that a manager's authority has an influence on the level of compensation, so compensation was eliminated from the labour costs. Following Lu *et al.* (2012), we subtract executive pay from money payments to and on behalf of employees, to measure the labour costs of ordinary workers.

Panel A in Table 5 shows the regression results for non-labour cost stickiness. The coefficient of $\text{LogIncomeR}^*D^*Gender$ is negative and not significant, and the coefficient of $\text{LogIncomeR}^*D^*Age$ is negative and significant at the 5% level – see column (1). With the low supervision group, the coefficients of $\text{LogIncomeR}^*D^*Gender$ and $\text{LogIncomeR}^*D^*Age$ are negative and significant at the 1% and 5% level, respectively – see column (2). With the medium supervision group, the coefficient of $\text{LogIncomeR}^*D^*Age$ is negative and significant at the 10% level – see column (3). Other factors are not significant. Panel B in Table 5 shows the regression results for labour cost stickiness. The coefficients of $\text{LogIncomeR}^*D^*Gender$ and $\text{LogIncomeR}^*D^*Age$ are not significant. There was no difference under different degrees of bank supervision. According to the above results, the chairperson's personal characteristics significantly affect non-labour cost stickiness, but this relationship varies with the degree of bank supervision. The results in Table 5 support H3.

Table 5 Chairperson's Personal Characteristics, Bank Supervision, and Different Types of Cost Stickiness

Panel A: Non-labour cost stickiness

	(1) Full sample	(2) Low degree of bank supervision	(3) Medium degree of bank supervision	(4) High degree of bank supervision
<i>LogIncomeR</i>	0.8542*** (37.06)	0.7826*** (13.46)	0.9000*** (26.08)	0.8789*** (42.38)
<i>LogIncomeR*D</i>	0.3284** (2.15)	1.0049*** (3.06)	0.2574 (1.63)	0.0796 (0.54)
<i>LogIncomeR*D*Gender</i>	-0.1312 (-1.06)	-0.7368*** (-3.20)	-0.0629 (-0.50)	0.1339 (1.02)
<i>LogIncomeR*D*Age</i>	-0.1756** (-2.37)	-0.2424** (-2.00)	-0.1492* (-1.74)	-0.0740 (-0.66)
<i>LogIncomeR*D*Tenure</i>	-0.0114 (-0.13)	-0.0927 (-0.60)	0.0235 (0.22)	0.0287 (0.21)
<i>Gender</i>	-0.0142** (-2.48)	-0.0234*** (-2.62)	-0.0103 (-1.19)	-0.0052 (-0.48)
<i>Age</i>	-0.0056 (-1.42)	-0.0032 (-0.39)	-0.0088* (-1.72)	-0.0002 (-0.04)
<i>Tenure</i>	-0.0114** (-2.44)	-0.0173* (-1.90)	-0.0105 (-1.62)	-0.0068 (-1.12)
<i>Constant</i>	0.0564** (2.50)	0.1121*** (2.79)	0.0382 (1.01)	0.0568 (1.34)
<i>LogIncomeR*D*Ecovar</i>	Yes	Yes	Yes	Yes
<i>Ecovar</i>	Yes	Yes	Yes	Yes
<i>Controlvar</i>	Yes	Yes	Yes	Yes
<i>Year</i>	Yes	Yes	Yes	Yes
Obs#	7,350	2,506	2,393	2,451
Adj-R ²	0.7308	0.6276	0.7601	0.8164
F-value	182.4	46.96	180.4	210.3
<i>F(LogIncomeR*D*Gender)</i>			(2) vs (3) = 6.68***	(2) vs (4) = 11.03***
<i>F(LogIncomeR*D*Age)</i>			(2) vs (3) = 0.40	(2) vs (4) = 1.09

Panel B: Labour cost stickiness

	(1) Full sample	(2) Low degree of bank supervision	(3) Medium degree of bank supervision	(4) High degree of bank supervision
<i>LogIncomeR</i>	0.4117*** (13.65)	0.3184*** (6.18)	0.4048*** (7.29)	0.4557*** (11.09)
<i>LogIncomeR*D</i>	-0.1629 (-0.65)	0.3387 (0.62)	-0.0631 (-0.23)	-0.3493 (-1.15)
<i>LogIncomeR*D*Gender</i>	0.0054 (0.02)	-0.3465 (-0.66)	-0.1608 (-0.86)	0.2484 (0.86)
<i>LogIncomeR*D*Age</i>	0.0800 (1.25)	0.0237 (0.31)	0.2043** (2.17)	0.0864 (0.58)
<i>LogIncomeR*D*Tenure</i>	0.0602 (0.97)	-0.0770 (-0.93)	0.2633** (2.36)	0.0692 (0.63)
<i>Gender</i>	-0.0054 (-0.34)	-0.0264 (-1.21)	-0.0451* (-1.83)	0.0556 (1.49)
<i>Age</i>	-0.0071 (-1.11)	0.0035 (0.37)	-0.0046 (-0.46)	-0.0083 (-0.68)
<i>Tenure</i>	0.0098 (1.46)	0.0051 (0.46)	0.0291*** (2.64)	0.0012 (0.10)
<i>Constant</i>	0.1683*** (5.87)	0.1743*** (3.92)	0.2155*** (4.07)	0.2553*** (3.64)
<i>LogIncomeR*D*Ecovar</i>	Yes	Yes	Yes	Yes
<i>Ecovar</i>	Yes	Yes	Yes	Yes
<i>Controlvar</i>	Yes	Yes	Yes	Yes
<i>Year</i>	Yes	Yes	Yes	Yes
Obs#	7,352	2,506	2,395	2,451
Adj-R ²	0.2594	0.2357	0.2320	0.3056
F-value	39.97	17.82	17.51	23.48
<i>F(LogIncomeR*D*Gender)</i>			(2) vs (3) = 0.11	(2) vs (4) = 1.02
<i>F(LogIncomeR*D*Age)</i>			(2) vs (3) = 1.88	(2) vs (4) = 0.14

4.4 Other Analysis: The impact of bank supervision on loan terms

Different loans may come with different degrees of bank supervision. On the one hand, a firm's investment behaviour has a bigger influence on the future liquidation of long-term loans (Bergolf and Thadden, 1994). On the other hand, short-term loans have a bigger influence on banks' interests because the proportion of such loans is always much higher than that of long-term loans. Hu and Xie (2005) find that with both types of loan the bank has a supervisory role in a firm's business activities. However, Deng *et al.* (2007) show that neither type has a supervision effect. So, defining long-term loans as being for more than a year and short-term loans as being for less than a year, we perform tests.

Table 6 shows the regression results. Columns (1), (2), and (3) correspond to the tests of long-term loans' supervision effects. Columns (4), (5), and (6) correspond to the tests of short-term loans' supervision effects.¹⁶ For the group with a low degree of bank supervision, the coefficients of both $\text{LogIncomeR}^*D^*Gender$ and $\text{LogIncomeR}^*D^*Age$ are negative and significant at the 1% and 10% levels, as shown in columns (1) and (4). For the group with a medium degree of bank supervision, the coefficient of $\text{LogIncomeR}^*D^*Gender$ is negative and significant at the 5% and 1% levels, as shown in columns (2) and (5). However, the coefficient of $\text{LogIncomeR}^*D^*Age$ is not significant. The coefficient of the interaction term for a chairman's personal characteristics and cost stickiness is not significant, as shown in columns (3) and (6). The trends in the coefficients of $\text{LogIncomeR}^*D^*Gender$ and $\text{LogIncomeR}^*D^*Age$ in the different groups are similar to those in Table 4. Thus, the personal characteristics of the chairperson seem to significantly affect a company's cost stickiness – regardless of the term of the loan – when the degree of supervision degree is low. However, this is not the case when the degree of supervision for the loans is high.

4.5 Other Analysis: The impact of bank supervision on types of borrowers

According to the literature, different types of borrowers can have different requirements and be under different degrees of supervision (Tian, 2005a, 2005b; Gao *et al.*, 2006). Due to the effect of an “implicit guarantee”, the requirements of banks are lower for state-owned firms than for non-state-owned firms (Sun *et al.*, 2005). Therefore, we divide firms into state-owned firms and non-state-owned firms, and run tests.

Table 7 shows the regression results. Columns (1), (2), and (3) show the regression results for state-owned borrowers with a low, medium, or high degree of supervision, respectively. Columns (4), (5), and (6) show the regression results for non-state-owned borrowers with a low, medium, or high degree of supervision, respectively. If the “implicit guarantee” works, the effect of bank supervision would exist mainly in non-state-owned firms. With state-owned firms, a chairperson's personal characteristics should not have a

¹⁶The sample in the group of lowest long-term loans consists of the companies whose long-term loans are 0, the number of observations being more than 1/3 of the total sample.

Table 6 Effects of the Degree of Bank Supervision on Short- and Long-Term Loans

	(1)	(2)	(3)	(4)	(5)	(6)
Term of bank loan	Long-term	Long-term	Long-term	Short-term	Short-term	Short-term
Degree of bank supervision	Low	Medium	High	Low	Medium	High
<i>LogIncomeR</i>	0.7262*** (16.79)	0.8987*** (45.10)	0.8477*** (37.68)	0.7546*** (16.13)	0.8561*** (22.09)	0.8295*** (36.61)
<i>LogIncomeR*D</i>	0.7474*** (4.14)	0.5571** (2.31)	-0.2526 (-0.98)	0.7814*** (3.11)	0.5247*** (2.58)	0.2210 (1.44)
<i>LogIncomeR*D*Gender</i>	-0.3611*** (-2.88)	-0.4175** (-2.58)	0.0957 (0.70)	-0.5870*** (-3.15)	-0.3361*** (-2.94)	-0.0036 (-0.03)
<i>LogIncomeR*D*Age</i>	-0.1375* (-1.68)	-0.0721 (-0.78)	-0.0650 (-0.59)	-0.1550* (-1.66)	-0.0907 (-0.83)	-0.0252 (-0.25)
<i>LogIncomeR*D*Tenure</i>	0.0146 (0.14)	-0.0031 (-0.02)	0.0631 (0.58)	-0.0653 (-0.55)	0.0136 (0.15)	0.1071 (0.98)
<i>Gender</i>	-0.0260*** (-2.82)	-0.0149* (-1.86)	-0.0107 (-1.04)	-0.0207*** (-2.59)	-0.0215** (-2.36)	-0.0050 (-0.47)
<i>Age</i>	0.0042 (0.61)	-0.0032 (-0.62)	-0.0097** (-2.16)	-0.0070 (-1.02)	-0.0043 (-0.83)	0.0009 (0.14)
<i>Tenure</i>	-0.0183* (-1.89)	-0.0042 (-0.64)	-0.0062 (-1.19)	-0.0193** (-2.22)	-0.0061 (-1.20)	-0.0053 (-0.81)
<i>Constant</i>	0.1247** (2.53)	0.0583* (1.95)	0.0129 (0.34)	0.0878** (2.23)	0.0663 (1.36)	0.1214** (2.33)
<i>LogIncomeR*D*Ecovar</i>	Yes	Yes	Yes	Yes	Yes	Yes
<i>Ecovar</i>	Yes	Yes	Yes	Yes	Yes	Yes
<i>Controlvar</i>	Yes	Yes	Yes	Yes	Yes	Yes
<i>Year</i>	Yes	Yes	Yes	Yes	Yes	Yes
Obs#	2,990	2,405	2,656	2,738	2,657	2,656
Adj-R ²	0.6491	0.8111	0.8441	0.6888	0.7916	0.7806
F-value	114.9	209.1	137.2	67.84	147.2	179.2
<i>F(LogIncomeR*D*Gender)</i>		(1) vs (2) = 0.08	(1) vs (3) = 6.36**		(1) vs (2) = 1.34	(1) vs (3) = 7.25***
<i>F(LogIncomeR*D*Age)</i>		(1) vs (2) = 0.26	(1) vs (3) = 0.27		(1) vs (2) = 0.22	(1) vs (3) = 0.94

significant impact on cost stickiness. However, the results show that whether the borrower is a state-owned firm or a non-state-owned firm, a chairperson's personal characteristics have a significant effect on cost stickiness when there is a low degree of supervision (though the effect on non-state-owned firms is weaker). In general, bank loans for both state-owned and non-state-owned firms have a good supervision effect.¹⁷

¹⁷ Interpreting this result requires caution. The supervision of different types of lenders (such as the four state-owned banks and the joint-stock banks) is different (Chen 2010; Chen *et al.* 2013); but, due to lack of data on this, the result cannot be tested further.

Table 7 Degree of Bank Supervision and Type of Borrower

	(1)	(2)	(3)	(4)	(5)	(6)
Borrower type	State-owned	State-owned	State-owned	Non-state-owned	Non-state-owned	Non-state-owned
Degree of bank supervision	Low	Medium	High	Low	Medium	High
<i>LogIncomeR</i>	0.8163*** (23.52)	0.8808*** (33.36)	0.8197*** (25.64)	0.6257*** (6.25)	0.8220*** (16.17)	0.8550*** (35.31)
<i>LogIncomeR*D</i>	0.8315*** (2.86)	0.4413** (2.55)	0.1627 (0.94)	0.9501** (2.34)	0.6076** (2.20)	-0.2928 (-1.25)
<i>LogIncomeR*D*Gender</i>	-0.6047*** (-4.67)	-0.3122** (-2.24)	0.0438 (0.26)	-0.5794* (-1.83)	-0.3482** (-2.16)	0.3884** (2.08)
<i>LogIncomeR*D*Age</i>	-0.2987** (-2.06)	-0.0222 (-0.30)	-0.1527 (-1.48)	-0.0980 (-0.67)	-0.1100 (-0.74)	0.1600 (1.22)
<i>LogIncomeR*D*Tenure</i>	-0.1454 (-1.11)	0.0606 (0.75)	0.0914 (0.63)	-0.0051 (-0.02)	-0.0308 (-0.19)	-0.0124 (-0.11)
<i>Gender</i>	-0.0103 (-1.18)	-0.0257*** (-3.47)	0.0146 (0.80)	-0.0357** (-2.06)	-0.0176 (-1.15)	0.0037 (0.24)
<i>Age</i>	-0.0088 (-1.15)	-0.0007 (-0.12)	-0.0037 (-0.55)	0.0020 (0.12)	-0.0140* (-1.78)	0.0016 (0.19)
<i>Tenure</i>	-0.0100 (-1.41)	-0.0034 (-0.55)	-0.0041 (-0.60)	-0.0195 (-0.93)	-0.0256** (-2.19)	-0.0012 (-0.13)
<i>Constant</i>	0.0961** (2.41)	0.1202** (2.35)	0.0958* (1.75)	0.1358* (1.66)	-0.0006 (-0.01)	-0.0524 (-0.70)
<i>LogIncomeR*D*Ecovar</i>	Yes	Yes	Yes	Yes	Yes	Yes
<i>Ecovar</i>	Yes	Yes	Yes	Yes	Yes	Yes
<i>Controlvar</i>	Yes	Yes	Yes	Yes	Yes	Yes
<i>Year</i>	Yes	Yes	Yes	Yes	Yes	Yes
Obs#	1,804	1,753	1,764	934	904	892
Adj-R ²	0.7661	0.8011	0.7869	0.5901	0.7057	0.8732
F-value	135.5	142.9	122.0	40.06	72.74	122.3
<i>F(LogIncomeR*D*Gender)</i>		(1) vs (2) = 2.38	(1) vs (3) = 10.13***		(4) vs (5) = 0.44	(4) vs (6) = 3.90*
<i>F(LogIncomeR*D*Age)</i>		(1) vs (2) = 2.81*	(1) vs (3) = 0.60		(4) vs (5) = 0.00	(4) vs (6) = 1.89

4.6 Robustness Tests¹⁸

4.6.1 Earnings management

Chen *et al.* (2012) find that the “big bath” style of earnings management can lead to deviation from cost stickiness estimates. Therefore, we control for the absolute value of earnings management and the interaction term.¹⁹ Table 8 reports the regression results. Columns (1), (2), (3), and (4) show the regression results of the full sample and the groups with a low, medium, or high degree of supervision, respectively. The chairperson’s personal

¹⁸ The results of the robustness tests of H3 are stable. Please contact the authors for details.

¹⁹ The calculation of earnings management follows Dechow *et al.* (1995) and Xia (2003).

characteristics still have a significant impact on the firm's cost stickiness, and this relationship seems to change with the intensity of the banking supervision. The regression results are consistent with the earlier findings.

Table 8 Effects of Earnings Management

	(1) Full sample	(2) Low degree of bank supervision	(3) Medium degree of bank supervision	(4) High degree of bank supervision
<i>LogIncomeR</i>	0.7978*** (36.45)	0.7261*** (14.85)	0.8538*** (28.69)	0.8196*** (35.53)
<i>LogIncomeR*D</i>	0.7298*** (4.40)	1.0539*** (4.21)	0.6397*** (3.26)	0.3036** (2.05)
<i>LogIncomeR*D*Absda</i>	-1.9671*** (-3.14)	-2.7652** (-2.46)	-1.4351 (-1.60)	-1.4004** (-2.00)
<i>Absda</i>	0.1402*** (3.02)	0.1631* (1.71)	0.0624 (0.94)	0.1904*** (3.33)
<i>LogIncomeR*D*Gender</i>	-0.2951*** (-2.63)	-0.4468*** (-3.29)	-0.3199** (-2.44)	0.0406 (0.33)
<i>LogIncomeR*D*Age</i>	-0.1119** (-2.04)	-0.1344 (-1.63)	-0.0579 (-0.69)	-0.0867 (-0.88)
<i>LogIncomeR*D*Tenure</i>	0.0963* (1.70)	0.1162 (1.33)	0.0525 (0.58)	0.0974 (0.92)
<i>Gender</i>	-0.0155*** (-2.61)	-0.0210** (-2.51)	-0.0212** (-2.58)	0.0048 (0.38)
<i>Age</i>	-0.0041 (-1.25)	0.0011 (0.18)	-0.0066 (-1.34)	0.0005 (0.08)
<i>Tenure</i>	-0.0078** (-1.97)	-0.0071 (-1.02)	-0.0099 (-1.64)	-0.0059 (-1.05)
<i>Constant</i>	0.0643*** (2.59)	0.0753** (1.97)	0.1040** (2.19)	0.0592 (1.31)
<i>LogIncomeR*D*Ecovar</i>	Yes	Yes	Yes	Yes
<i>Ecovar</i>	Yes	Yes	Yes	Yes
<i>Controlvar</i>	Yes	Yes	Yes	Yes
<i>Year</i>	Yes	Yes	Yes	Yes
Obs#	7,955	2,705	2,625	2,625
Adj-R ²	0.7587	0.6987	0.7604	0.8233
F-value	211.0	78.60	160.4	171.9
<i>F(LogIncomeR*D*Gender)</i>		(2) vs (3) = 0.44	(2) vs (4) = 7.30***	
<i>F(LogIncomeR*D*Age)</i>		(2) vs (3) = 0.40	(2) vs (4) = 0.14	

4.6.2 Excluding the years most affected by the Split Share Structure Reform and the 2008 financial crisis

It has been argued that the financial crisis of 2008 produced systemic shocks to corporate cost stickiness (Ma and Zhang, 2013); and the Split Share Structure Reform

(2005/2006) might also reduce the comparability of cost stickiness. In order to reduce the impact of these factors, the observations for 2005, 2006, and 2008 are removed from the regression. Table 9 reports the regression results, which are consistent with the earlier findings.

Table 9 Excluding 2005, 2006, and 2008 (the years most affected by the Split Share Structure Reform and the 2008 financial crisis)

	(1) Full sample	(2) Low degree of bank supervision	(3) Medium degree of bank supervision	(4) High degree of bank supervision
<i>LogIncomeR</i>	0.8140*** (34.95)	0.7485*** (13.44)	0.8709*** (24.89)	0.8333*** (34.52)
<i>LogIncomeR*D</i>	0.5864*** (3.21)	0.8599*** (2.74)	0.5185*** (3.05)	0.1239 (0.49)
<i>LogIncomeR*D*Gender</i>	-0.4398*** (-4.00)	-0.6573*** (-2.96)	-0.3685*** (-3.16)	0.0717 (0.35)
<i>LogIncomeR*D*Age</i>	-0.1268* (-1.88)	-0.2001* (-1.74)	-0.0382 (-0.40)	-0.0761 (-0.76)
<i>LogIncomeR*D*Tenure</i>	-0.0229 (-0.27)	-0.1446 (-1.00)	-0.0044 (-0.04)	0.1018 (0.67)
<i>Gender</i>	-0.0245*** (-3.51)	-0.0290*** (-2.84)	-0.0301*** (-2.96)	-0.0005 (-0.03)
<i>Age</i>	-0.0072* (-1.70)	-0.0057 (-0.68)	-0.0085 (-1.33)	-0.0020 (-0.28)
<i>Tenure</i>	-0.0097* (-1.88)	-0.0104 (-1.14)	-0.0132* (-1.69)	-0.0032 (-0.44)
<i>Constant</i>	0.0878*** (2.89)	0.1302*** (2.62)	0.0982* (1.72)	0.0712 (1.32)
<i>LogIncomeR*D*Ecovar</i>	Yes	Yes	Yes	Yes
<i>Ecovar</i>	Yes	Yes	Yes	Yes
<i>Controlvar</i>	Yes	Yes	Yes	Yes
<i>Year</i>	Yes	Yes	Yes	Yes
Obs#	5,979	2,058	1,954	1,967
Adj-R ²	0.7427	0.6669	0.7406	0.8154
F-value	145.7	38.49	159.3	151.9
<i>F(LogIncomeR*D*Gender)</i>			(2) vs (3) = 1.22	(2) vs (4) = 5.48**
<i>F(LogIncomeR*D*Age)</i>			(2) vs (3) = 1.20	(2) vs (4) = 0.64

4.6.3 Other robustness tests

Other robustness tests were also carried out (but are not reported here). These tests included (1) clustering observations by firms and years (Cameron *et al.*, 2011), controlling for year fixed effects and adjusting for heteroscedasticity (White, 1980); (2) changing the processing method for extreme observations, winsorising the variables only at the 0.5% or 1% level; (3) using the mean value of a bank loan ratio as a proxy for the degree of bank

supervision; (4) using the ratio of fixed assets to income to measure capital-intensity (Chen *et al.*, 2012); and (5) controlling for the industry effect according to the 10 sub-sectors of the manufacturing industry. The results of the above tests do not change the basic findings of the paper.

V. Conclusions and Limitations

Managers' personal characteristics have a significant impact on corporate decision-making. The accurate understanding of the impact of managers' personal characteristics on corporate financial decisions has important practical significance in improving governance structure and corporate value. Using data from manufacturing firms listed on the Shanghai and Shenzhen Stock Exchanges of China from 1999 to 2011, this paper explores three questions: whether a chairperson's personal characteristics affect the firm's cost stickiness; the role of bank supervision in this relationship; and whether the effect is different for labour costs and non-labour costs. The results show that a chairperson's personal characteristics can affect the firm's cost stickiness. Firms with a chairman (rather than a chairwoman) or with a younger chairperson have a higher level of cost stickiness. However, this research does not find any evidence of an impact of the chairperson's tenure on cost stickiness. In addition, the relationship between a chairperson's personal characteristics and corporate cost stickiness is affected by bank supervision. When the degree of bank supervision is high, a chairperson's personal characteristics do not significantly affect the firm's cost stickiness. In addition, after distinguishing the costs by types, the effect of a chairperson's personal characteristics and bank supervision on cost stickiness is reflected only in non-labour costs. Further tests show that both long-term and short-term bank loans have good supervision effects; and bank loans for both state-owned and non-state-owned listed firms have good supervision effects.

However, this paper has three limitations. First, the personal characteristics of managers are very extensive; this study concerns only gender, age, and tenure. Other variables that could be studied include educational discipline, political background, place of origin, and so on. As the data for these extended features are not readily available and need to be actively collected, this paper does not study these features. Second, this paper has some limitations regarding the identification of cost stickiness. All previous studies on cost stickiness (e.g. Anderson *et al.*, 2003) omit some interaction terms in the models used; this may lead to some measurement bias. Weiss (2010) proposes, for measuring cost stickiness, a method that is based on fluctuations in quarterly operating circumstances. Including more interaction terms may exacerbate the problem of collinearity;²⁰ and Weiss's proposed

²⁰ If we include all interaction terms in the models, the coefficients of $\text{LogIncomeR}^*D^*Gender$ and $\text{LogIncomeR}^*D^*Age$ are negative but not significant. Subsequent VIF tests show that this method has a serious collinearity problem.

method may suffer from the effect of seasonal supply-and-demand cycles (even within the manufacturing industry) – and with unaudited quarterly reports there is some room for manipulation. Third, this paper does not consider the types of bank loans from the lenders' angle. Chen *et al.* (2010) and Chen *et al.* (2013) find that different types of bank have different risk tolerances and information disclosure requirements. (However, due to a lack of data on bank loans, it may not be possible to distinguish loans by types of lenders.) These three aspects could be explored in future research.

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管理者个人特征、银行监督与成本粘性*

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摘要

管理者是公司的重要人力资本，其个人特征会对公司的行为决策与价值创造构成直接和重要的影响。选取成本粘性为视角，以 1999 年至 2011 年沪、深两市制造业上市公司为研究对象，本文围绕这一问题进行了探索。结果显示：（1）董事长性别和年龄会显著影响公司成本粘性，董事长为男性及董事长年龄较小的上市公司，其成本粘性更大；董事长任职期限不会显著影响成本粘性；（2）董事长性别和年龄与成本粘性的关系受到银行监督力度的影响。银行监督力度较高时，董事长的个人特征不会显著影响成本粘性；（3）管理者个人特征及银行监督对成本粘性的作用主要体现于非人力成本中，在人力成本中不存在。进一步分析显示，长期和短期银行贷款、针对国有和非国有上市公司的银行贷款均有较好的监督作用。文章显示了管理者个人特征对公司成本粘性的显著影响，也强调了银行监督的积极作用。

关键词：管理者、个人特征、银行监督、成本粘性

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一、引言

管理者是现代公司中最重要的人力资本，其个人特征会对公司的行为决策与价值创造构成直接和重要的影响。Hambrick and Mason (1984) 指出，管理者能力和精力的局限使之只能选择性地认知复杂的内外环境，其既有的生理和心理特征决定了他们对信息的收集、处理及最终做出的决策。探究管理者个人特征的影响，不仅可以帮助我们理解其财务决策，而且可以建立针对性机制抵减其有偏决策的负面影响，故而具有重要的理论和现实意义。

在 Hambrick and Mason (1984) 之后，已有大量研究围绕管理者的个人特征进行了探索，包括：⁴ 性别 (Adams and Ferreira, 2009; Gul *et al.*, 2008, 2011; 任颀和王峥, 2010; 况学文和陈俊, 2011; 祝继高等, 2012)、年龄 (Prendergast and Stole, 1996; 陈天明和孙俊华, 2008; 徐经长和王胜海, 2010)、任职年限 (Dechow and Sloan, 1991; Fraser and Greene, 2006; 刘运国和刘雯, 2007; 刘华等, 2012)、学历及教育背景 (Chevalier and Ellison, 1999; Gottesman and Morey, 2006; 姜付秀等, 2009; 何威风和刘启亮, 2010) 等等。

然而到目前为止，国内（包括国外）并没有文章专门探讨管理者个人特征与公司成本粘性之间的关系。基于此，本文选取 1999 年至 2011 年沪、深两市制造业上市公司进行研究。结果显示：董事长的个人特征中，性别和年龄会显著影响公司成本粘性，董事长为男性及年龄较小的上市公司，成本粘性更大；任职期限不会显著影响公司成本粘性。性别、年龄与成本粘性的关系受银行贷款监督的影响。银行贷款监督力度较高时，董事长的性别、年龄特征不会显著影响公司的成本粘性；反之则影响显著。区分成本类型、董事长个人特征以及银行监督对粘性的影响主要存在于非人力成本中，在人力成本中则不存在。区分贷款期限、长期和短期银行贷款均有较好的监督作用；区分贷款对象，针对国有和非国有上市公司的银行贷款均有较好的监督作用。本文的发现显示了管理者个人特征对公司成本粘性的重要影响，也揭示了银行监督的积极作用。

本文有如下三方面可能的意义：首先，扩展了对管理者个人特征影响后果的认识。除对研发支出的影响外，以往有关管理者个人特征对公司经营生产效率影响细节的研究并不多见。本文则首次提供了管理者个人特征对公司成本粘性的证据。成本粘性变化的同时，利润也随之变化，粘性越大，利润下滑越严重。因此，本文的研究不仅意味着为以往管理者个人特征与公司业绩关系的研究提供了一个中介桥梁，还增添了一个新的路径；⁵ 其次，为成本粘性动因的研究增添了新证据。以往有关成本粘性的研究中，管理层机会主义行为几乎被认为是最重要的动因 (Banker *et al.*, 2011)。本文则显示，中国上市公司中管理者乐观预期事实上对成本粘性拥有重要的影响，一定程度

⁴ 管理者的个人特征包括心理结构和人口背景特征（性别、年龄、任职期限、学历及教育背景等）两方面，然而前者的测度相对困难，后者相对简便且较为客观，因而大部分个人特征的研究集中在后者（何威风和刘启亮，2010）。本文关注的也是后一方面。

⁵ 这一路径主要指管理者基于未来预期对当前公司成本业务策略，及至公司业绩的影响，而非机会主义动机带来的影响。

上补充了孙铮和刘浩（2004）的发现。并且，以往管理者乐观预期的研究集中在经济周期和行业层面（Anderson *et al.*, 2003; Banker *et al.*, 2011），本文则进一步向微观层面进行了有效扩展；最后，丰富了银行贷款监督的研究。目前为止，有关中国上市公司债权与贷款监督效力存在较大争论。⁶ 本文肯定了银行贷款的监督效力，此外还发现长、短期贷款也均有积极作用。这些发现为中国背景下的银行贷款监督研究提供了较为全面的证据，同时也暗示了其抑制管理者有偏决策的正面作用。

本文接下来的分析，按如下结构组织：第二部分为理论分析与假设发展，第三部分为研究设计，第四部分为实证分析，第五部分为结论与局限。

二、理论分析与假设发展

成本（费用）粘性指的是，业务量上升时成本（费用）的边际增加量大于业务量下降时成本（费用）的边际减少量的现象（Anderson *et al.*, 2003; 孙铮和刘浩, 2004）。Anderson *et al.*（2003）最早用美国上市公司数量验证了这一现象。他们发现，销售收入每增长1%时，SG&A（Selling, General and Administrative Costs）增长0.55%；而销售收入每下降1%时，SG&A却仅仅下降0.35%。这一现象随后被不同研究所证实。

有关成本粘性产生的原因，学术界有三方面解释（Banker *et al.*, 2011）：一是调整成本。公司的生产经营依赖于内外签订的一系列契约，然而不同类型、不同环境以及不同时期条件下，契约的调整成本都是不同的。一般而言，契约的调整成本越高越容易出现成本粘性。比如，实物资产与人力资本比原材料等资源的调整成本更高，因而依赖于前者的公司其成本粘性更高（Anderson *et al.*, 2003）；在员工保护完善的国家，人力资本的调整成本更高，因而这些国家的劳动力成本的粘性更大（Banker *et al.*, 2013）。二是管理层机会主义行为。管理层为增加自身效用，会花费大量的非生产性支出、建造豪华的办公场所、维持庞大的下属人员。这些支出在收入增加时，快速增长，但在收入下降时，并不相应降低。因此当管理层机会主义行为较多时，更容易出现成本粘性。Chen *et al.*（2012）发现管理层存在营造“个人帝国”动机时会显著增加公司的费用粘性。Kama and Weiss（2013）以及Dierynck *et al.*（2012）则显示盈余管理也会影响公司的成本粘性。三是管理者乐观预期。当公司收入下降时，若管理者对未来形势抱有乐观预期，则在保留公司目前资源（如雇用规模、固定资产）的情况下，可以节约未来的重置成本，进而这类公司也容易呈现成本粘性的特点。Anderson *et al.*（2003）发现宏观经济增长较快时、Banker *et al.*（2011）发现成长行业，更容易出现成本粘性。

从成本粘性的上述研究可以看出，管理者预期是成本粘性的重要影响因素。同时已有的心理学相关研究表明，人的信念、偏好会受个人内在特征的影响，诸如个人的性别、年龄、工作经验、教育背景以及专业技能等，进而影响其决策行为（Langer, 1975; Weinstein, 1980）。因而，管理者的个人特征会通过影响其对未来前景的预期，进而影

⁶ 体现在：债权监督是否有效（于东智, 2003; 汪辉, 2003）、银行贷款监督是否有效（田利辉, 2005; 胡奕明等, 2008）；长、短期贷款监督是否有效（胡奕明和谢诗蕾, 2005; 邓莉等, 2007）。

响公司的成本粘性。这将在 Anderson *et al.* (2003)、Banker *et al.* (2011) 提出的宏观因素基础上, 向微观因素的有效拓展。从重要性和数据可得性两个角度出发, 本文选取管理者的性别、年龄和任职年限三项个人特征进行探讨。

从管理者的性别来看, 已有文献显示女性管理者较为稳健, 倾向于风险规避。Peng and Wei (2007) 发现男性管理者更容易过度自信, 并做出错误决策。Boohene *et al.* (2008) 指出, 相较于男性高管的激进战略, 女性高管更倾向于选择防御性战略。Gul *et al.* (2008) 发现存在女性董事的上市公司往往会选择高质量的审计师事务所, 以降低诉讼概率。Francis *et al.* (2015) 与 Peni and Vahamaa (2010) 均发现 CFO 为女性的上市公司其财务报告的稳健性更强、总体质量更高。Gul *et al.* (2011) 发现女性董事较高的公司更多地进行了信息披露, 其股价包含了更多公司层面的信息, 并且这一关系在整体治理水平较弱的公司更为明显。况学文和陈俊 (2011)、陈传明和孙俊华 (2008)、祝继高等 (2012) 则分别发现了女性管理者会增加高质量审计需求以及会抑制多元化和过度投资。

从管理者的性别来看, 已有文献显示随着年龄的增长, 管理者趋于稳健。Dechow and Sloan (1991) 显示, 年轻的管理者更喜欢冒险, 其公司的研发支出更高。Prendergast and Stole (1996) 认为年轻的管理者急于表现自己, 容易采取激进决策, 而年长的管理者出于维护声誉的考虑, 其行为较为保守。陈传明和孙俊华 (2008) 发现管理者年龄与多元化水平呈倒 U 型关系。⁷ 姜付秀等 (2009) 则发现管理者年龄越大, 公司的过度投资越少。

从管理者的任职年限来看, 已有文献显示管理者的任职年限越长, 将更加稳健。Fraser and Greene (2006) 显示任职期限较长的管理者可以更好地把握公司及行业情况, 不断修正自身决策。姜付秀等 (2009) 认为管理者任职期限越长, 其风险意识越强, 行为趋于保守。他们发现, 非国有企业中管理者任职期限抑制了公司的过度投资。

成本粘性动因的相关研究指出, 管理者的乐观预期会影响公司的成本粘性。当公司收入下降时, 管理者事实上面临着两方面选择的权衡: 一是立即调整战略, 缩减生产规模; 二是维持现有战略, 保持甚至扩大现有生产规模。前者的优点在于可以避免未来形势恶化对公司营利的进一步损害, 而后者的优点在于保留现有规模可以降低重置成本, 当需求重回增长时可以迅速占领市场, 赢得竞争优势 (Anderson *et al.*, 2003)。管理层对未来的形势越为悲观, 越容易选择前者, 即立即缩减规模, 此时成本粘性会较低; 管理层对未来的形势越为乐观, 越容易选择后者, 即保持甚至扩大现有规模, 此时成本粘性会处于较高水平。相比女性管理者, 男性管理者的行为更加冒险, 甚至呈现盲目自信。在其他情况相同时, 男性管理者对未来宏观形势的预期更加乐观; 并且, 男性管理者更可能认为其水平超过他人, 能够很好地应对不利情况, 战胜竞争对手。因而业务收入下降时, 男性管理者削减规模的意愿更小, 其公司的成本粘性会更高。对于年龄较大的管理者而言, 当公司的业务水平出现下降时, 为避免巨额亏损对已有声望的损害, 他们会及早削减相应业务, 收缩投资, 而年龄较小的管理者则相反。

⁷ 文章认为管理者年龄会提升多元化水平的原因在于年龄的增长会伴随着社会资本的增长。

因此管理者年龄较小的公司，其成本粘性会更高。处于任职初期的管理者对长远的未来更会抱有乐观期望，行为也更加冒险。同时，成本粘性意味着利润的加速恶化⁸，处于任职后期的管理者往往会迅速应对，避免其对自身人力资本价值的负面影响。⁹ 因此业务收入下降时，管理者任职年限较短的公司，削减规模的意愿更弱，其成本粘性会更高。

总的来说，管理者的性别、年龄和任职期限都可能对公司的成本粘性产生影响。Wong *et al.* (2004)、宋德舜 (2004, 2006)、姜付秀等 (2009) 等均认为董事长是我国背景下上市公司最重要的决策者，并以之展开研究。¹⁰ 与之一致，本文的研究也从董事长展开。董事长为男性、年龄较小、任职年限较短的公司，其成本粘性应该更高。

据此，形成本文的研究假设 1。

研究假设 1：董事长的个人特征会影响上市公司成本粘性。

研究假设 1a：董事长为男性的上市公司，其成本粘性更高。

研究假设 1b：董事长年龄较小的上市公司，其成本粘性更高。

研究假设 1c：董事长任职年限较短的上市公司，其成本粘性更高。

管理者的最终决策不仅会受其个人特征影响，还将受其他多方面因素的影响。管理者过度自信的相关研究指出，控制幻觉是管理者过度自信的心理根源，而管理者拥有的决策力和控制力的大小则是影响控制幻觉的重要因素 (Burger and Cooper, 1979; Presson and Benassi, 1996 等)。当其他主体对公司的监督和约束较强时，管理者个人特征在决策中的体现将被减弱。已有文献指出，债权人监督会有效影响公司行为 (Jensen, 1986; 汪辉, 2003)。随着债务比例的增加，公司经营状况的好坏对债权人利益的影响将会提高，债权人监督管理者的动机和力度会更强。银行作为独立的金融机构，具有较高的专业性，对风险也十分敏感 (Kim *et al.*, 2011; Ge *et al.*, 2012)。同时在我国背景下，银行贷款是公司债务的主要来源，对信贷资源的掌控更使得银行在贷款契约中处于强势。因此我国背景下，银行监督将是管理者决策的重要考虑因素。作为债权人，银行最重要的目标是成功收回本金和利息。公司获得巨额利润对银行利益的提升十分有限，然而一旦发生巨额亏损，则银行利益将遭受重大损失，因而银行十分注重公司的风险状况。为防范风险过度承担，银行会通过限制性条款约束公司和管理者的行为。同时银行会通过财务指标监控公司运行，若公司决策会加剧债务违约，可能直接地干预，或者间接地通过提高未来债务条件加以限制。¹¹ 预期到这些情况，管理者也会尽力避免财务指标接近危险水平。需要注意的是，成本粘性意味着利润的急剧下滑，更加会为契约双方所关注。因此，在银行监督的不同情况下，管理者个人特征对成本粘性的影响存在差异，强力的监督会削弱管理者个人特征对成本粘性的影响。

据此，形成本文的研究假设 2。

⁸ 成本粘性对应着收入下降，但成本下降更为缓慢。

⁹ 即使维持规模数年获得了收益也不归其所有。

¹⁰ 相比之下，中国背景下管理者个人特征的相关研究选取总经理视角比较少见。

¹¹ Lin *et al.* (2011) 显示银行监督甚至能抑制大股东的资金占用等行为。

研究假设 2: 董事长个人特征对成本粘性的影响在银行监督的不同情况下存在差异。银行监督越强, 董事长个人特征会对上市公司成本粘性的影响越弱。

公司的最终决策是管理者个人特征与其决策力和控制力的共同结果。面对不同类型的成本, 管理者的决策力和控制力存在差异。相对于机器设备的调整, 对员工雇佣契约的调整受到劳动法律条款的限制(或者特定时段不能解除, 或者需要支付较高的补偿), 并可能损害公司在劳动力市场的声誉。由此, 相对于非人力成本(员工薪酬外的营业成本), 人力成本(员工薪酬)的调整难度和成本更高。Banker *et al.* (2013) 在 OECD 19 国中发现员工保护条款越严密的国家, 其公司的劳动力成本粘性更大。江伟等(2015)、刘媛媛和刘斌(2014)则分别发现我国 2004 年颁布的《企业最低工资规定》以及 2008 年颁布的《中华人民共和国劳动合同法》均加剧了公司的成本粘性。如此, 从决策力和控制力的角度考虑, 管理者个人特征以及随后的银行监督对成本粘性的影响应该更主要的体现于非人力成本, 而对人力成本粘性的影响则相对较小。

据此, 形成本文的研究假设 3。

研究假设 3: 区分人力成本与非人力成本, 上述董事长个人特征及银行监督的影响应该主要体现于非人力成本, 而对人力成本粘性的影响较小。

三、 研究设计

(一) 样本选取

根据 Weiss (2010), 本文以沪、深两市制造业上市公司为初始样本, 样本期限为 1999 年至 2011 年。¹² 随后, 按以下规则对样本进一步处理: (1) 为避免 IPO 效应, 剔除上市不满两年的观测 1,057 个; (2) 参考 Anderson *et al.* (2003)、Chen *et al.* (2012), 剔除营业收入变化、营业成本变化低于 0.5% 以及高于 99.5% 的观测 170 个; (3) 剔除董事长个人特征数据和其他变量数据缺失的观测 1,744 个。最终, 获得 8,051 个观测用于实证分析。

(二) 模型构建

参考 Anderson *et al.* (2003)、孙铮和刘浩(2004)、梁上坤(2013、2015)、梁上坤等(2015), 设计多元回归模型(1)检验研究假设 1。具体模型如下:

$$\begin{aligned} \text{LogCostR} = & a_0 + a_1 \text{LogIncomeR} + a_2 \text{LogIncomeR} * D \\ & + \sum \text{LogIncomeR} * D * \text{Character} + \sum \text{Character} \\ & + \sum \text{LogIncomeR} * D * \text{Ecovar} + \sum \text{Ecovar} \\ & + \sum \text{Controlvar} + \varepsilon \end{aligned} \quad (1)$$

¹² Weiss (2010) 指出同行业公司成本性态的可比性更高, 此外制造业竞争激烈, 可以较好地消除垄断价格的影响。

其中, LogCostR 与 LogIncomeR 分别为公司的成本变动与收入变动。 D 为收入下降虚拟变量, 公司收入下降取 1, 否则取 0。 Character 为公司董事长特征。 Ecovar 为经济因素变量 (Economics Determinants)。 Controlvar 为其他控制变量。 $\text{LogIncomeR} * D$ 刻画了成本粘性, 若 $\text{LogIncomeR} * D$ 的系数为负且显著, 即表明公司存在成本粘性现象。若 $\text{LogIncomeR} * D * \text{Character}$ 的系数显著, 即表明董事长的个人特征对公司的成本粘性产生了显著的影响。

鉴于模型 (1) 已经包含了三项交乘项, 故按银行监督强弱分组回归以检验本文的研究假设 2。根据研究假设 2, 在不同的分组中, 本文预期 $\text{LogIncomeR} * D * \text{Character}$ 系数的符号或者显著性存在差异。在银行监督弱的组中, $\text{LogIncomeR} * D * \text{Character}$ 系数的符号应该与研究假设 1 结果一致且显著。根据研究假设 3, 以非人力成本为被解释变量的全样本回归中 $\text{LogIncomeR} * D * \text{Character}$ 的系数应该显著, 在银行监督弱的组中, $\text{LogIncomeR} * D * \text{Character}$ 系数的符号应该与研究假设 1 结果一致且显著。

(三) 变量说明

成本粘性相关变量。 LogCostR 为当年与上一年营业成本的比值取自然对数。 LogIncomeR 为当年与上一年营业收入的比值取自然对数。 D , 为收入下降虚拟变量, 若当年营业收入低于上一年营业收入取 1, 否则取 0。

董事长个人特征相关变量。 Gender 为董事长性别虚拟变量, 若董事长性别为男性取 1, 否则取 0; Age 为董事长年龄 (岁), 作虚拟变量处理, 若董事长年龄低于中位数取 1, 否则取 0; Tenure 为董事长任职期限 (年), 作虚拟变量处理, 若董事长任职期限低于中位数取 1, 否则取 0。¹³

经济因素变量与其他控制变量。 TwoyearD 为连续两年收入下降虚拟变量, 若营业收入连续两期下降取 1, 否则取 0; Growth 为经济增长, 当年的 GDP 增长率; EmployInten 为人力资本密度, 年末员工人数与当年营业收入 (百万元) 之比; AssetInten 为资本密集度, 年末资产总额与当年营业收入之比; Leverage 为资产负债率, 年末负债总额与资产总额的比值; Market 为市场化水平, 樊纲等 (2010) 的市场化指数; Rinde 为独董比例, 独立董事占董事会总人数的比例; Dual 为两职合一虚拟变量, 若董事长、总经理两职合一取 1, 否则取 0; Mshare 为管理层持股, 管理层持股比例之和。

表 1 报告了主要变量的定义和说明。

(四) 描述性统计与相关性分析

表 2 Panel A 报告了主要变量的描述性统计。为减小极端值影响, 所有连续变量都进行上下 0.5% 的缩尾调整 (Winsorize)。成本变动、收入变动、收入下降的均值分别为 0.1605、0.1491、0.2376, 均与龚启辉等 (2010) 接近。董事长特征的描述显示 (此处年龄与任职期限报告原始值, 未作虚拟变量处理): 96.75% 的公司其董事长为男性, 男性在中国上市公司董事长职位上占据主导; 年龄的平均值与中位数分别为 50.5329、50, 高于或低于 50 岁的董事长各占一半; 鉴于大部分公司董事长 3 年改选, 任职期限

¹³ 董事长年龄与任职期限的中位数分别是 50 岁与 2 年。

的平均值与中位数分别为 2.0277、2（年），也是比较合理的。¹⁴ 此外，8.58%的公司收入持续下滑，资产负债率的均值为 0.4816，两职合一的公司占 11.37%，这些统计值及其他变量的分布也都在合理范围之内。

表 1 主要变量的定义和说明

变量类型	变量名称	变量符号	变量说明
成本粘性相关变量	成本变动	<i>LogCostR</i>	当年与上一年营业成本的比值取自然对数
	收入变动	<i>LogIncomeR</i>	当年与上一年营业收入的比值取自然对数
	收入下降	<i>D</i>	虚拟变量，当年营业收入低于上一年营业收入取 1，否则取 0
董事长个人特征相关变量	性别	<i>Gender</i>	虚拟变量，若董事长性别为男性取 1，否则取 0
	年龄	<i>Age</i>	虚拟变量，若董事长年龄低于中位数取 1，否则取 0
	任职期限	<i>Teure</i>	虚拟变量，若董事长任职期限低于中位数取 1，否则取 0
控制变量	连续两年收入下降	<i>TwoyearD</i>	虚拟变量，若营业收入连续两年下降取 1，否则取 0
	经济增长	<i>Growth</i>	当年的 GDP 增长率
	人力资本密度	<i>EmployInten</i>	年末员工人数与当年营业收入（百万元）之比
	资本密集度	<i>AssetInten</i>	年末资产总额与当年营业收入之比
	资产负债率	<i>Leverge</i>	年末负债总额与资产总额的比值
	市场化水平	<i>Index</i>	樊纲等（2010）的市场化指数
	独董比例	<i>Rinde</i>	独立董事占董事会总人数的比例
	两职合一	<i>Dual</i>	虚拟变量，若董事长、总经理两职合一取 1，否则取 0
	管理层持股	<i>Mshare</i>	管理层持股比例之和

表 2 Panel B 报告了本文主要变量的相关系数矩阵。相关系数矩阵显示，成本变动（*LogCostR*）、收入变动（*LogIncomeR*）、收入下降（*D*）之间存在着较强的机械相关关系。此外，连续两年收入下降（*TwoyearD*）与当年收入下降（*D*）正相关；人力资本密度（*EmployInten*）与资本密集度（*AssetInten*）正相关，这与国内的发现一致（赵息和李粮，2012），但与国外的发现不同（Chen *et al.*, 2012）。其余变量之间均不存在高度的相关关系。

¹⁴ 这些统计值与以往文献十分接近。姜付秀等（2009）显示男性董事长占比为 96%；张兆国等（2011）显示董事长年龄均值为 50.65，男性董事长占比为 97.1%（2007-2009 年上市公司数据）；刘运国和刘雯（2007）显示董事长任期均值为 2.88，中位数为 3。

表 2 描述性统计与相关性分析

Panel A 主要变量的描述性统计											
变量名	变量符号	观测数量	均值	下四分位数	中位数	上四分位数	标准差				
成本变动	<i>LogCostR</i>	8051	0.1605	0.0236	0.1504	0.2918	0.3104				
收入变动	<i>LogIncomeR</i>	8051	0.1491	0.0082	0.1436	0.2882	0.3508				
收入下降	<i>D</i>	8051	0.2376	0	0	0	0.4256				
董事长性别	<i>Gender</i>	8051	0.9675	1	1	1	0.1774				
董事长年龄	<i>Age</i>	8051	50.5329	45	50	56	7.4394				
董事长任职期限	<i>Tenure</i>	8051	2.0277	1	2	3	1.0956				
连续两年收入下降	<i>TwoyearD</i>	8051	0.0858	0	0	0	0.2801				
经济增长	<i>Growth</i>	8051	10.2252	9.2	10	10.3	1.6885				
人力资本密度	<i>EmployInten</i>	8051	3.0450	1.0041	1.9178	3.5764	4.2181				
资本密集度	<i>AssetInten</i>	8051	2.2744	1.1594	1.6728	2.4507	3.2869				
资产负债率	<i>Leverage</i>	8051	0.4816	0.3503	0.4871	0.6170	0.1850				
市场化水平	<i>Index</i>	8051	7.6179	5.79	7.52	9.43	2.3477				
独董比例	<i>Rinde</i>	8051	0.3088	0.3077	0.3333	0.3636	0.1284				
两职合一	<i>Dual</i>	8051	0.1137	0	0	0	0.3174				
管理层持股	<i>Mshare</i>	8051	0.0083	0.0000	0.0000	0.0001	0.0448				

Panel B 主要变量的相关系数矩阵												
	A	B	C	D	E	F	G	H	I	J	K	L
(A) <i>LogCostR</i>	1.00											
(B) <i>LogIncomeR</i>	0.85***	1.00										
(C) <i>D</i>	-0.54***	-0.60***	1.00									
(D) <i>TwoyearD</i>	-0.33***	-0.39***	0.55***	1.00								
(E) <i>Growth</i>	0.07***	0.08***	-0.11***	-0.06***	1.00							
(F) <i>EmployInten</i>	-0.20***	-0.29***	0.22***	0.26***	-0.13***	1.00						
(G) <i>AssetInten</i>	-0.20***	-0.31***	0.21***	0.25***	-0.09***	0.51***	1.00					
(H) <i>Leverage</i>	0.06	0.05***	0.02	0.02	0.09***	-0.02	-0.03*	1.00				
(I) <i>Index</i>	-0.03*	0.00	-0.02	-0.04***	0.25***	-0.27***	-0.10***	0.01	1.00			
(J) <i>Rinde</i>	0.02	0.04***	-0.07***	-0.06***	0.42***	-0.24***	-0.08***	0.10***	0.45***	1.00		
(K) <i>Dual</i>	-0.02	-0.02	0.01	0.01	-0.04***	0.03**	0.03**	-0.05***	0.06***	-0.01	1.00	
(L) <i>Mshare</i>	0.03**	0.03*	-0.03**	-0.04***	-0.03***	-0.04***	-0.03*	-0.11***	0.19***	0.11***	0.26***	1.00

四、实证分析

(一) 研究假设 1 检验：董事长个人特征与成本粘性

具体的回归采用以下一系列较为严格的统计方法，以增强结果的说服力：按公司进行聚类 (Petersen, 2009)；控制年度效应；报告经异方差调整的 Robust t 值 (White, 1980)。

表 3 董事长个人特征与成本粘性

	(1)	(2)	(3)	(4)	(5)
<i>LogIncomeR</i>	0.8171*** (38.20)	0.8101*** (37.30)	0.8100*** (37.39)	0.8110*** (37.51)	0.8103*** (37.68)
<i>LogIncomeR*D</i>	-0.2057*** (-4.31)	0.4344*** (2.76)	0.2040* (1.78)	0.1246 (1.02)	0.5109*** (3.10)
<i>LogIncomeR*D*Gender</i>		-0.3058*** (-2.92)			-0.3241*** (-2.73)
<i>LogIncomeR*D*Age</i>			-0.1163* (-1.83)		-0.1267** (-2.12)
<i>LogIncomeR*D*Tenure</i>				0.0248 (0.34)	0.0334 (0.48)
<i>LogIncomeR*D*TwoyearD</i>		-0.0865 (-1.12)	-0.0852 (-1.12)	-0.0824 (-1.05)	-0.0892 (-1.17)
<i>LogIncomeR*D*Growth</i>		-0.0046 (-0.22)	-0.0028 (-0.13)	-0.0062 (-0.30)	0.0005 (0.02)
<i>LogIncomeR*D*EmployInten</i>		-0.2744*** (-4.17)	-0.2624*** (-3.97)	-0.2767*** (-4.22)	-0.2640*** (-4.02)
<i>LogIncomeR*D*AssetInten</i>		-0.1217 (-1.36)	-0.1325 (-1.53)	-0.1233 (-1.35)	-0.1313 (-1.48)
<i>Gender</i>		-0.0181*** (-3.23)			-0.0179*** (-2.99)
<i>Age</i>			-0.0059* (-1.74)		-0.0051 (-1.53)
<i>Tenure</i>				-0.0096** (-2.21)	-0.0094** (-2.18)
<i>TwoyearD</i>	-0.0254** (-2.40)	-0.0380*** (-3.05)	-0.0378*** (-3.05)	-0.0379*** (-2.99)	-0.0373*** (-3.07)
<i>Growth</i>	0.0064 (0.63)	0.0041 (0.40)	0.0048 (0.46)	0.0052 (0.50)	0.0022 (0.22)
<i>EmployInten</i>	0.0005 (0.34)	-0.0013 (-0.81)	-0.0012 (-0.78)	-0.0012 (-0.77)	-0.0013 (-0.85)
<i>AssetInten</i>	0.0020 (0.60)	0.0001 (0.02)	-0.0000 (-0.00)	0.0001 (0.04)	-0.0003 (-0.07)
<i>Leverage</i>	0.0236** (2.36)	0.0231** (2.32)	0.0230** (2.32)	0.0229** (2.32)	0.0231** (2.33)
<i>Index</i>	-0.0026*** (-2.94)	-0.0024*** (-2.83)	-0.0024*** (-2.88)	-0.0024*** (-2.85)	-0.0024*** (-2.91)
<i>Rinde</i>	-0.0050 (-0.18)	-0.0041 (-0.15)	-0.0048 (-0.18)	-0.0014 (-0.05)	-0.0021 (-0.08)
<i>Dual</i>	-0.0036 (-0.76)	-0.0042 (-0.88)	-0.0041 (-0.84)	-0.0046 (-0.96)	-0.0044 (-0.91)
<i>Mshare</i>	0.1252*** (5.32)	0.1159*** (5.03)	0.1170*** (5.01)	0.1147*** (5.03)	0.1154*** (4.94)
<i>Constant</i>	0.0411* (1.78)	0.0679*** (2.72)	0.0545** (2.25)	0.0537** (2.22)	0.0723*** (2.87)
<i>Year</i>	Yes	Yes	Yes	Yes	Yes
Obs #	8051	8051	8051	8051	8051
Adj-R ²	0.7390	0.7448	0.7451	0.7445	0.7462
F Value	190.9	192.4	195.5	198.6	185.5

表 3 报告了假设 1 检验的结果。回归的拟合优度均在 0.70 以上, F 值均在 200 左右, 表明模型的设定较好。第 (1) 列没有考虑董事长个人特征, 仅控制收入变动 (LogIncomeR)、收入下降 (D)、两者交乘项及控制变量。可以发现, 成本粘性 ($\text{LogIncomeR} * D$) 的系数在 1% 水平下显著为负。由此表明, 我国制造业上市公司存在明显的成本粘性现象, 印证了龚启辉等 (2010) 的发现。第 (2) 至 (4) 列分别加入了董事长个人特征变量: 性别 (Gender)、年龄 (Age) 与任职期限 (Tenure), 及其与成本粘性 ($\text{LogIncomeR} * D$) 的交乘项。第 (2) 列显示, $\text{LogIncomeR} * D * \text{Gender}$ 的系数为负, 且在 1% 水平下显著, 即董事长为男性上市公司比董事长为女性上市公司, 其成本粘性显著更高。这一发现支持了研究假设 1a。第 (3) 列显示, $\text{LogIncomeR} * D * \text{Age}$ 的系数为负, 且在 10% 水平下显著, 即董事长年轻的上市公司比董事长年长上市公司, 其成本粘性显著更高。这一发现支持了研究假设 1b。第 (4) 列显示, $\text{LogIncomeR} * D * \text{Tenure}$ 的系数为正, 且不显著, 未发现董事长任职年限对成本粘性有显著影响。这一发现未支持研究假设 1c。第 (5) 列将董事长个人特征同时加以控制, 结果不变。董事长性别、年龄会显著影响公司的成本粘性, 而任职年限没有显著影响。表 3 检验了研究假设 1, 并提供了支持的证据。

(二) 研究假设 2 检验: 董事长个人特征、银行监督与成本粘性

根据以往文献 (高雷等, 2006; 周杰和薛友志, 2011), 银行贷款比例可以较好地衡量治理主体的监督力度。根据银行贷款比例 (银行贷款 / 期初资产总额), 由低到高形成银行监督力度低组 (银行贷款比例低于 33 分位数)、银行监督力度中等组 (银行贷款比例高于 33 分位数, 低于 66 分位数)、银行监督力度高组 (银行贷款比例高于 66 分位数)。

表 4 报告了各分组的回归结果, 第 (1) 至 (3) 列分别对应着上述三个分组。¹⁵ 可以发现, 第 (1) 列银行监督力度低组中, $\text{LogIncomeR} * D * \text{Gender}$ 、 $\text{LogIncomeR} * D * \text{Age}$ 的系数均为负, 且分别在 1%、10% 水平下显著; 第 (2) 列银行监督力度中等组中, $\text{LogIncomeR} * D * \text{Gender}$ 的系数为负, 且在 1% 水平下显著, $\text{LogIncomeR} * D * \text{Age}$ 的系数均为负, 但不显著; 第 (3) 列银行监督力度高组中, 董事长个人特征与粘性的交乘项的系数均不显著。此外, 三列中第 (1) 列 $\text{LogIncomeR} * D * \text{Gender}$ 、 $\text{LogIncomeR} * D * \text{Age}$ 的系数均为最低。Chow-test 显示, 监督力度最低组与中间组 $\text{LogIncomeR} * D * \text{Gender}$ 系数比较的 F 值为 1.24; 监督力度最低组与中间组 $\text{LogIncomeR} * D * \text{Age}$ 系数比较的 F 值为 0.98; 监督力度最低组与最高组 $\text{LogIncomeR} * D * \text{Gender}$ 系数比较的 F 值为 9.135, 在 1% 水平下显著。综合以上发现, 当银行的监督力度较低时, 董事长的个人特征会显著影响公司的成本粘性, 但随着银行的监督力度的提高, 董事长的个人特征对公司成本粘性的影响变弱。表 4 的发现支持了研究假设 2。

¹⁵ 简洁起见, 此处及下文不再报告经济因素变量、经济因素变量与粘性交乘项以及其他控制变量回归结果。

表 4 董事长个人特征、治理主体监督与成本粘性

	(1) 银行监督力度低	(2) 银行监督力度中等	(3) 银行监督力度高
<i>LogIncomeR</i>	0.7411*** (14.98)	0.8616*** (29.31)	0.8346*** (38.18)
<i>LogIncomeR*D</i>	0.8106*** (3.08)	0.5203*** (3.34)	0.1394 (1.03)
<i>LogIncomeR*D*Gender</i>	-0.5691*** (-3.35)	-0.3407*** (-2.88)	0.0612 (0.54)
<i>LogIncomeR*D*Age</i>	-0.1927* (-1.94)	-0.0655 (-0.81)	-0.0531 (-0.54)
<i>LogIncomeR*D*Tenure</i>	-0.0495 (-0.42)	0.0389 (0.42)	0.0755 (0.62)
<i>Gender</i>	-0.0225*** (-2.77)	-0.0231*** (-2.93)	0.0037 (0.31)
<i>Age</i>	-0.0019 (-0.28)	-0.0071 (-1.47)	0.0002 (0.03)
<i>Tenure</i>	-0.0135 (-1.63)	-0.0102* (-1.67)	-0.0051 (-0.88)
<i>Constant</i>	0.1035** (2.51)	0.0874* (1.91)	0.0709 (1.53)
<i>LogIncomeR*D*Ecovar</i>	Yes	Yes	Yes
<i>Ecovar</i>	Yes	Yes	Yes
<i>Controlvar</i>	Yes	Yes	Yes
<i>Year</i>	Yes	Yes	Yes
Obs #	2738	2657	2656
Adj-R ²	0.6710	0.7548	0.8174
F Value	53.31	168.0	199.8
<i>F(LogIncomeR*D*Gender)</i>		(1) vs (2) = 1.24	(1) vs (3) = 9.15***
<i>F(LogIncomeR*D*Age)</i>		(1) vs (2) = 0.98	(1) vs (3) = 1.02

(三) 研究假设 3 检验：董事长个人特征、银行监督与不同类型的成本粘性

将成本区分为非人力成本与人力成本，考察管理者个人特征以及银行监督对其粘性的影响。方军雄（2009，2011）以及权小峰等（2010）等指出，管理层权力会对其自身薪酬设置产生影响，因而将管理层薪酬从人力成本中剔除。具体的，参考陆正飞等（2012），以“支付给职工以及为职工支付的现金”扣除高管薪酬，衡量普通员工的人力成本。

表 5 Panel A 报告了非人力成本粘性的回归结果。可以发现第（1）列全样本中，*LogIncomeR*D*Gender* 的系数为负，但不显著；*LogIncomeR*D*Age* 的系数为负，且在 5%水平下显著。同时，第（2）列银行监督力度最低组，*LogIncomeR*D*Gender*、*LogIncomeR*D*Age* 的系数均为负，且分别在 1%、5%水平下显著，第（3）列银行监督力度中等组，*LogIncomeR*D*Age* 的系数均为负，且在 10%水平下显著，而其他各

表 5 区分非人力成本粘性与人力成本粘性

Panel A: 非人力成本粘性

	(1) 全样本	(2) 银行监督力度低	(3) 银行监督力度中等	(4) 银行监督力度高
<i>LogIncomeR</i>	0.8542*** (37.06)	0.7826*** (13.46)	0.9000*** (26.08)	0.8789*** (42.38)
<i>LogIncomeR*D</i>	0.3284** (2.15)	1.0049*** (3.06)	0.2574 (1.63)	0.0796 (0.54)
<i>LogIncomeR*D*Gender</i>	-0.1312 (-1.06)	-0.7368*** (-3.20)	-0.0629 (-0.50)	0.1339 (1.02)
<i>LogIncomeR*D*Age</i>	-0.1756** (-2.37)	-0.2424** (-2.00)	-0.1492* (-1.74)	-0.0740 (-0.66)
<i>LogIncomeR*D*Tenure</i>	-0.0114 (-0.13)	-0.0927 (-0.60)	0.0235 (0.22)	0.0287 (0.21)
<i>Gender</i>	-0.0142** (-2.48)	-0.0234*** (-2.62)	-0.0103 (-1.19)	-0.0052 (-0.48)
<i>Age</i>	-0.0056 (-1.42)	-0.0032 (-0.39)	-0.0088* (-1.72)	-0.0002 (-0.04)
<i>Tenure</i>	-0.0114** (-2.44)	-0.0173* (-1.90)	-0.0105 (-1.62)	-0.0068 (-1.12)
<i>Constant</i>	0.0564** (2.50)	0.1121*** (2.79)	0.0382 (1.01)	0.0568 (1.34)
<i>LogIncomeR*D*Ecovar</i>	Yes	Yes	Yes	Yes
<i>Ecovar</i>	Yes	Yes	Yes	Yes
<i>Controlvar</i>	Yes	Yes	Yes	Yes
<i>Year</i>	Yes	Yes	Yes	Yes
Obs #	7350	2506	2393	2451
Adj-R ²	0.7308	0.6276	0.7601	0.8164
F Value	182.4	46.96	180.4	210.3
<i>F(LogIncomeR*D*Gender)</i>			(2) vs (3) = 6.68***	(2) vs (4) = 11.03***
<i>F(LogIncomeR*D*Age)</i>			(2) vs (3) = 0.40	(2) vs (4) = 1.09

Panel B: 人力成本粘性

	(1) 全样本	(2) 银行监督力度低	(3) 银行监督力度中等	(4) 银行监督力度高
<i>LogIncomeR</i>	0.4117*** (13.65)	0.3184*** (6.18)	0.4048*** (7.29)	0.4557*** (11.09)
<i>LogIncomeR*D</i>	-0.1629 (-0.65)	0.3387 (0.62)	-0.0631 (-0.23)	-0.3493 (-1.15)
<i>LogIncomeR*D*Gender</i>	0.0054 (0.02)	-0.3465 (-0.66)	-0.1608 (-0.66)	0.2484 (0.86)
<i>LogIncomeR*D*Age</i>	0.0800 (1.25)	0.0237 (0.31)	0.2043** (2.17)	0.0864 (0.58)
<i>LogIncomeR*D*Tenure</i>	0.0602 (0.97)	-0.0770 (-0.93)	0.2633** (2.36)	0.0692 (0.63)
<i>Gender</i>	-0.0054 (-0.34)	-0.0264 (-1.21)	-0.0451* (-1.83)	0.0556 (1.49)
<i>Age</i>	-0.0071 (-1.11)	0.0035 (0.37)	-0.0046 (-0.46)	-0.0083 (-0.68)
<i>Tenure</i>	0.0098 (1.46)	0.0051 (0.46)	0.0291*** (2.64)	0.0012 (0.10)
<i>Constant</i>	0.1683*** (5.87)	0.1743*** (3.92)	0.2155*** (4.07)	0.2553*** (3.64)
<i>LogIncomeR*D*Ecovar</i>	Yes	Yes	Yes	Yes
<i>Ecovar</i>	Yes	Yes	Yes	Yes
<i>Controlvar</i>	Yes	Yes	Yes	Yes
<i>Year</i>	Yes	Yes	Yes	Yes
Obs #	7352	2506	2395	2451
Adj-R ²	0.2594	0.2357	0.2320	0.3056
F Value	39.97	17.82	17.51	23.48
<i>F(LogIncomeR*D*Gender)</i>			(2) vs (3) = 0.11	(2) vs (4) = 1.02
<i>F(LogIncomeR*D*Age)</i>			(2) vs (3) = 1.88	(2) vs (4) = 0.14

列变量均不显著。表 5 Panel B 报告了人力成本粘性的回归结果。可以发现 $\text{LogIncomeR} \cdot D \cdot \text{Gender}$ 、 $\text{LogIncomeR} \cdot D \cdot \text{Age}$ 的系数基本都不显著。银行监督力度不同组之间也不存在差异。综合以上结果，董事长的个人特征主要影响公司的非人力成本粘性，且这一关系随银行监督力度的变化而变化。表 5 的发现支持了研究假设 3。

(四) 其他分析：区分贷款期限的银行监督力度

不同期限的贷款可能伴随着不同的银行监督力度：一方面，公司的投资行为对长期贷款未来偿付的影响更大 (Bergolf and Thadden, 1994)；另一方面，短期贷款的比例远高于长期贷款，对银行利益的影响更大。将银行贷款划分为长期贷款与短期贷款，胡奕明和谢诗蕾 (2005) 发现两者都能够对公司经营活动产生监督作用，而邓莉等 (2007) 则显示两者均不存在显著的监督效应。沿其思路，本文区分长期贷款与短期贷款 (将一年内到期的长期贷款计入短期贷款中)，形成不同的银行监督力度分组。

表 6 区分贷款期限的银行监督力度

	(1)	(2)	(3)	(4)	(5)	(6)
	长期贷款 银行监督 力度低	长期贷款 银行监督 力度中等	长期贷款 银行监督 力度高	短期贷款 银行监督 力度低	短期贷款 银行监督 力度中等	短期贷款 银行监督 力度高
<i>LogIncomeR</i>	0.7262*** (16.79)	0.8987*** (45.10)	0.8477*** (37.68)	0.7546*** (16.13)	0.8561*** (22.09)	0.8295*** (36.61)
<i>LogIncomeR</i> · <i>D</i>	0.7474*** (4.14)	0.5571** (2.31)	-0.2526 (-0.98)	0.7814*** (3.11)	0.5247*** (2.58)	0.2210 (1.44)
<i>LogIncomeR</i> · <i>D</i> · <i>Gender</i>	-0.3611*** (-2.88)	-0.4175** (-2.58)	0.0957 (0.70)	-0.5870*** (-3.15)	-0.3361*** (-2.94)	-0.0036 (-0.03)
<i>LogIncomeR</i> · <i>D</i> · <i>Age</i>	-0.1375* (-1.68)	-0.0721 (-0.78)	-0.0650 (-0.59)	-0.1550* (-1.66)	-0.0907 (-0.83)	-0.0252 (-0.25)
<i>LogIncomeR</i> · <i>D</i> · <i>Tenure</i>	0.0146 (0.14)	-0.0031 (-0.02)	0.0631 (0.58)	-0.0653 (-0.55)	0.0136 (0.15)	0.1071 (0.98)
<i>Gender</i>	-0.0260*** (-2.82)	-0.0149* (-1.86)	-0.0107 (-1.04)	-0.0207*** (-2.59)	-0.0215** (-2.36)	-0.0050 (-0.47)
<i>Age</i>	0.0042 (0.61)	-0.0032 (-0.62)	-0.0097** (-2.16)	-0.0070 (-1.02)	-0.0043 (-0.83)	0.0009 (0.14)
<i>Tenure</i>	-0.0183* (-1.89)	-0.0042 (-0.64)	-0.0062 (-1.19)	-0.0193** (-2.22)	-0.0061 (-1.20)	-0.0053 (-0.81)
<i>Constant</i>	0.1247** (2.53)	0.0583* (1.95)	0.0129 (0.34)	0.0878** (2.23)	0.0663 (1.36)	0.1214** (2.33)
<i>LogIncomeR</i> · <i>D</i> · <i>Ecovar</i>	Yes	Yes	Yes	Yes	Yes	Yes
<i>Ecovar</i>	Yes	Yes	Yes	Yes	Yes	Yes
<i>Controlvar</i>	Yes	Yes	Yes	Yes	Yes	Yes
<i>Year</i>	Yes	Yes	Yes	Yes	Yes	Yes
Obs #	2990	2405	2656	2738	2657	2656
Adj-R ²	0.6491	0.8111	0.8441	0.6888	0.7916	0.7806
F Value	114.9	209.1	137.2	67.84	147.2	179.2
F(<i>LogIncomeR</i> · <i>D</i> · <i>Gender</i>)	(1)vs(2)=0.08	(1)vs(3)=6.36**	(1)vs(3)=6.36**	(1)vs(2)=1.34	(1)vs(3)=7.25***	(1)vs(3)=7.25***
F(<i>LogIncomeR</i> · <i>D</i> · <i>Age</i>)	(1)vs(2)=0.26	(1)vs(3)=0.27	(1)vs(3)=0.27	(1)vs(2)=0.22	(1)vs(3)=0.94	(1)vs(3)=0.94

表 6 报告了各分组的回归结果, 第 (1) 至 (3) 列对应以长期贷款区分银行监督力度的分组; 第 (4) 至 (6) 列对应以短期贷款区分银行监督力度的分组。¹⁶ 可以发现, 第 (1) 列、第 (4) 列监督力度低组中, $\text{LogIncomeR} * D * \text{Gender}$ 、 $\text{LogIncomeR} * D * \text{Age}$ 的系数均为负, 且分别在 1%、10%、1%、10% 水平下显著; 第 (2) 列、第 (5) 列监督力度中等组中, $\text{LogIncomeR} * D * \text{Gender}$ 的系数为负, 且分别在 5%、1% 水平下显著, $\text{LogIncomeR} * D * \text{Age}$ 的系数不显著; 第 (3) 列、第 (6) 列银行监督力度高组中, 董事长个人特征与粘性的交乘项的系数均不显著。不同分组间 $\text{LogIncomeR} * D * \text{Gender}$ 、 $\text{LogIncomeR} * D * \text{Age}$ 系数的变化趋势与表 4 基本相似。综合以上结果, 无论长期贷款或者短期贷款的监督力度较低时, 董事长的个人特征都会显著影响公司的成本粘性, 但当长期贷款或者短期贷款的监督力度较高时, 董事长的个人特征并不会显著影响公司的成本粘性。

(五) 其他分析: 区分贷款对象的银行监督力度

以往文献发现, 对于不同类型的贷款对象, 银行的监督力度和要求存在差异 (田利辉, 2005a, 2005b; 高雷等, 2006)。由于“隐性担保”的作用, 银行对于国有上市公司的监督力度和要求较低 (孙铮等, 2005)。那么, 是否针对不同产权性质的公司, 银行贷款监督的效力会存在差异, 并在本文研究的命题中有所体现呢? 沿其思路, 本文区分国有上市公司与非国有上市公司, 形成不同贷款对象的分组。

表 7 报告了各分组的回归结果, 第 (1) 至 (3) 列分别是贷款对象为国有公司的银行监督力度低组、银行监督力度中等组、银行监督力度高组的回归结果。第 (4) 至 (6) 列分别是贷款对象为非国有公司的银行监督力度低组、银行监督力度中等组、银行监督力度高组的回归结果。若“隐性担保”的作用成立, 则银行贷款力度的作用发挥应该主要在非国有公司组; 国有公司各组中, 管理者个人特征对成本粘性的影响应该不存在显著差异。然而结果显示, 无论贷款对象是国有公司, 还是非国有公司, 董事长的个人特征对成本粘性的影响均主要存在于监督力度低的情况下 (甚至非国有公司组的结果更弱一些)。即区分贷款对象, 针对国有和非国有上市公司的银行贷款均有较好的监督作用。¹⁷

(六) 稳健性测试¹⁸

1 考虑盈余管理

陈磊等 (2012) 发现, “大洗澡”式的盈余管理会导致成本粘性估计的偏差。此处控制盈余管理幅度的绝对值及其与粘性的交乘项, 再进行回归。¹⁹ 表 8 报告了回归结果。第 (1) 至 (4) 列分别是全样本、银行监督力度低组、银行监督力度中等组、银行监

¹⁶ 长期贷款最低组内的样本均为长期贷款为 0 的公司, 其数量超过了 1/3。

¹⁷ 当然, 对这一结果的解读需要谨慎。不同类型的银行 (如国有四大行、股份制银行) 的监督力度也存在差异 (Chen *et al.*, 2010; Chen *et al.*, 2013)。由于本文缺乏这一信息, 所以无法更进一步地进行测试。

¹⁸ 研究假设 3 的各项稳健性测试结果均稳定, 限于篇幅未报告, 欢迎来信索取。

¹⁹ 盈余管理的计算参考 Dechow *et al.* (1995) 以及夏立军 (2003)。

督力度高组的回归结果。董事长的个人特征会公司的成本粘性，且这一关系随银行监督力度的变化而变化。回归结果与之前发现基本一致。

表 7 区分贷款对象的银行监督力度

	(1)	(2)	(3)	(4)	(5)	(6)
	国有公司 银行监督 力度低	国有公司 银行监督 力度中等	国有公司 银行监督 力度高	非国有公司 银行监督力 度低	非国有公司 银行监督力 度中等	非国有公司 银行监督力 度高
<i>LogIncomeR</i>	0.8163*** (23.52)	0.8808*** (33.36)	0.8197*** (25.64)	0.6257*** (6.25)	0.8220*** (16.17)	0.8550*** (35.31)
<i>LogIncomeR*D</i>	0.8315*** (2.86)	0.4413** (2.55)	0.1627 (0.94)	0.9501** (2.34)	0.6076** (2.20)	-0.2928 (-1.25)
<i>LogIncomeR*D*Gender</i>	-0.6047*** (-4.67)	-0.3122** (-2.24)	0.0438 (0.26)	-0.5794* (-1.83)	-0.3482** (-2.16)	0.3884** (2.08)
<i>LogIncomeR*D*Age</i>	-0.2987** (-2.06)	-0.0222 (-0.30)	-0.1527 (-1.48)	-0.0980 (-0.67)	-0.1100 (-0.74)	0.1600 (1.22)
<i>LogIncomeR*D*Tenure</i>	-0.1454 (-1.11)	0.0606 (0.75)	0.0914 (0.63)	-0.0051 (-0.02)	-0.0308 (-0.19)	-0.0124 (-0.11)
<i>Gender</i>	-0.0103 (-1.18)	-0.0257*** (-3.47)	0.0146 (0.80)	-0.0357** (-2.06)	-0.0176 (-1.15)	0.0037 (0.24)
<i>Age</i>	-0.0088 (-1.15)	-0.0007 (-0.12)	-0.0037 (-0.55)	0.0020 (0.12)	-0.0140* (-1.78)	0.0016 (0.19)
<i>Tenure</i>	-0.0100 (-1.41)	-0.0034 (-0.55)	-0.0041 (-0.60)	-0.0195 (-0.93)	-0.0256** (-2.19)	-0.0012 (-0.13)
<i>Constant</i>	0.0961** (2.41)	0.1202** (2.35)	0.0958* (1.75)	0.1358* (1.66)	-0.0006 (-0.01)	-0.0524 (-0.70)
<i>LogIncomeR*D*Ecovar</i>	Yes	Yes	Yes	Yes	Yes	Yes
<i>Ecovar</i>	Yes	Yes	Yes	Yes	Yes	Yes
<i>Controlvar</i>	Yes	Yes	Yes	Yes	Yes	Yes
<i>Year</i>	Yes	Yes	Yes	Yes	Yes	Yes
Obs #	1804	1753	1764	934	904	892
Adj-R ²	0.7661	0.8011	0.7869	0.5901	0.7057	0.8732
F Value	135.5	142.9	122.0	40.06	72.74	122.3
F(<i>LogIncomeR*D*Gender</i>)		(1)vs(2)=2.38	(1)vs(3)=10.13***	(4)vs(5)=0.44	(4)vs(6)=3.90*	
F(<i>LogIncomeR*D*Age</i>)		(1)vs(2)=2.81*	(1)vs(3)=0.60	(4)vs(5)=0.00	(4)vs(6)=1.89	

2 剔除股权分置及金融危机年份

以往文献认为，2008 年的金融危机将对公司成本粘性产生系统性冲击（马永强和张泽南，2013）。同时，2005 年至 2006 年不同公司股权分置改革进程的差异也会降低成本粘性的可比性。为减轻金融危机和股权分置改革事件对本文结果的影响，剔除 2005 年、2006 年及 2008 年的观测进行回归。表 9 报告了回归结果。可以发现，这一回归结果与之前发现基本一致。

表 8 考虑盈余管理的回归结果

	(1) 全样本	(2) 银行监督力度低	(3) 银行监督力度中等	(4) 银行监督力度高
<i>LogIncomeR</i>	0.7978*** (36.45)	0.7261*** (14.85)	0.8538*** (28.69)	0.8196*** (35.53)
<i>LogIncomeR*D</i>	0.7298*** (4.40)	1.0539*** (4.21)	0.6397*** (3.26)	0.3036** (2.05)
<i>LogIncomeR*D*Absda</i>	-1.9671*** (-3.14)	-2.7652** (-2.46)	-1.4351 (-1.60)	-1.4004** (-2.00)
<i>Absda</i>	0.1402*** (3.02)	0.1631* (1.71)	0.0624 (0.94)	0.1904*** (3.33)
<i>LogIncomeR*D*Gender</i>	-0.2951*** (-2.63)	-0.4468*** (-3.29)	-0.3199** (-2.44)	0.0406 (0.33)
<i>LogIncomeR*D*Age</i>	-0.1119** (-2.04)	-0.1344 (-1.63)	-0.0579 (-0.69)	-0.0867 (-0.88)
<i>LogIncomeR*D*Tenure</i>	0.0963* (1.70)	0.1162 (1.33)	0.0525 (0.58)	0.0974 (0.92)
<i>Gender</i>	-0.0155*** (-2.61)	-0.0210** (-2.51)	-0.0212** (-2.58)	0.0048 (0.38)
<i>Age</i>	-0.0041 (-1.25)	0.0011 (0.18)	-0.0066 (-1.34)	0.0005 (0.08)
<i>Tenure</i>	-0.0078** (-1.97)	-0.0071 (-1.02)	-0.0099 (-1.64)	-0.0059 (-1.05)
<i>Constant</i>	0.0643*** (2.59)	0.0753** (1.97)	0.1040** (2.19)	0.0592 (1.31)
<i>LogIncomeR*D*Ecovar</i>	Yes	Yes	Yes	Yes
<i>Ecovar</i>	Yes	Yes	Yes	Yes
<i>Controlvar</i>	Yes	Yes	Yes	Yes
<i>Year</i>	Yes	Yes	Yes	Yes
Obs #	7955	2705	2625	2625
Adj-R ²	0.7587	0.6987	0.7604	0.8233
F Value	211.0	78.60	160.4	171.9
F(<i>LogIncomeR*D*Gender</i>)			(2) vs (3) = 0.44	(2) vs (4) = 7.30***
F(<i>LogIncomeR*D*Age</i>)			(2) vs (3) = 0.40	(2) vs (4) = 0.14

3 其他稳健性测试

本文还进行了未报告的其他稳健性测试，包括：（1）按公司和年度进行聚类（Cameron *et al.*, 2011）、控制年度固定效应、报告经异方差调整的 Robust t 值（White, 1980）；（2）改变样本极端值处理方法，仅进行上下 0.5%或 1%的 winsorize 处理；（3）采用银行贷款比例的均值，设置监督力度高低的子样本；（4）以固定资产与收入的比值衡量资本密集度（陈磊等，2012）；（5）根据制造业十个细分行业，控制行业效应。以上测试均不改变文章基本发现。

表 9 剔除股权分置及金融危机年份的回归结果

	(1) 全样本	(2) 银行监督力度低	(3) 银行监督力度中等	(4) 银行监督力度高
<i>LogIncomeR</i>	0.8140*** (34.95)	0.7485*** (13.44)	0.8709*** (24.89)	0.8333*** (34.52)
<i>LogIncomeR*D</i>	0.5864*** (3.21)	0.8599*** (2.74)	0.5185*** (3.05)	0.1239 (0.49)
<i>LogIncomeR*D*Gender</i>	-0.4398*** (-4.00)	-0.6573*** (-2.96)	-0.3685*** (-3.16)	0.0717 (0.35)
<i>LogIncomeR*D*Age</i>	-0.1268* (-1.88)	-0.2001* (-1.74)	-0.0382 (-0.40)	-0.0761 (-0.76)
<i>LogIncomeR*D*Tenure</i>	-0.0229 (-0.27)	-0.1446 (-1.00)	-0.0044 (-0.04)	0.1018 (0.67)
<i>Gender</i>	-0.0245*** (-3.51)	-0.0290*** (-2.84)	-0.0301*** (-2.96)	-0.0005 (-0.03)
<i>Age</i>	-0.0072* (-1.70)	-0.0057 (-0.68)	-0.0085 (-1.33)	-0.0020 (-0.28)
<i>Tenure</i>	-0.0097* (-1.88)	-0.0104 (-1.14)	-0.0132* (-1.69)	-0.0032 (-0.44)
<i>Constant</i>	0.0878*** (2.89)	0.1302*** (2.62)	0.0982* (1.72)	0.0712 (1.32)
<i>LogIncomeR*D*Ecovar</i>	Yes	Yes	Yes	Yes
<i>Ecovar</i>	Yes	Yes	Yes	Yes
<i>Controlvar</i>	Yes	Yes	Yes	Yes
<i>Year</i>	Yes	Yes	Yes	Yes
Obs #	5979	2058	1954	1967
Adj-R ²	0.7427	0.6669	0.7406	0.8154
F Value	145.7	38.49	159.3	151.9
<i>F(LogIncomeR*D*Gender)</i>			(2) vs (3) = 1.22	(2) vs (4) = 5.48**
<i>F(LogIncomeR*D*Age)</i>			(2) vs (3) = 1.20	(2) vs (4) = 0.64

五、 结论与局限

管理者的个人特征对公司的行为决策拥有重要影响。准确认识管理者个人特征对公司财务治理决策的影响，识别可能的偏差方向，构建相应的监督机制，对于完善治理结构、提高公司价值具有重要的现实意义。以 1999 年至 2011 年沪、深两市制造业上市公司为研究样本，本文具体考察了三个问题：管理者个人特征是否对公司成本粘性存在影响；银行监督在上述关系中发挥怎样的作用；以上影响在人力成本和非人力成本中是否存在不同。研究发现：董事长个人特征会影响公司成本粘性，董事长为男性及董事长年龄较小的上市公司，其成本粘性更大；但并未发现董事长任职期限影响成本粘性的证据。董事长个人特征与成本粘性的关系受到银行监督的约束。当银行监督力度较高时，董事长的个人特征不会显著影响公司的成本粘性。区分成本类型，董事长个人特征以及银行监督对粘性的影响主要存在于非人力成本中，在人力成本中则

不存在。区分贷款期限，长期和短期银行贷款均有较好的监督作用；区分贷款对象，针对国有和非国有上市公司的银行贷款均有较好的监督作用。文章揭示了董事长个人特征对公司成本粘性构成的影响，也显示了银行监督的积极作用。

当然，本文还存在以下三方面的局限：首先，管理者个人特征的范围十分广泛。除本文关注的性别、年龄、任职期限、学历外，还包括教育（学科）背景、政治背景、籍贯等特征。这些扩展的特征往往需要借助于手工收集数据，本文并未一一加以研究；其次，成本粘性的识别。以往的成本粘性研究（如 Anderson *et al.*（2003）等）均未在模型中纳入所有二次交乘项，这可能会导致一定的测量偏误。此外，Weiss（2010）提出了基于季度经营状况波动的成本粘性的计量方法。然而，前者纳入所有二次交乘项会进一步加剧共线性问题，²⁰而后者基于季度经营状况波动计算成本粘性可能遭受季节供需周期的影响（即使在整个大的制造行业），加之季度报告未经审计，存在较大的操纵空间，故本文未在研究设计中采用这些方法；最后，未考虑银行产权性质信息。Chen *et al.*（2010）与 Chen *et al.*（2013）发现不同类型的银行对公司的风险承受和信息披露要求存在差异。然而，由于本文缺乏贷款银行信息的数据，因而区分贷款对象的检验结果可能有偏，需谨慎看待。以上三方面是本文目前的局限，也有待未来的探索。

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²⁰ 我们尝试在模型中纳入所有二次交乘项和一次项，结果显示 $\text{LogIncomeR}^*D*Gender$ 、 LogIncomeR^*D*Age 的系数均为负，但不显著。随后的 VIF 检验显示，这一方法伴随着严重的共线性问题。

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