

A Study on the Labor Cost of Chinese Listed Companies

—Based on the Perspective of Labor Contract Law

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Abstract

Given the background of enterprises facing with rising labor costs and shortage of human resources, we use a large sample of firms in China during 2004-2011 to test the sticky characteristic of labor cost. We also test the effect of labor protection on cost stickiness based on the implementation of Labor Contract Law. We find that the labor cost of listing firms in China is sticky, and the stickiness of state-owned enterprises is higher than that of non-state-owned enterprises. Furthermore, implementation of Labor Contract Law increased labor cost stickiness, both state-owned enterprises and non-state-owned enterprises.

Keywords

Labor Protection, Labor Cost, Cost Stickiness

1. Introduction

Labor force is a very important factor of production, especially for the modern economy which oriented by service and technology, human capital has become an important asset of enterprises [1]. However, compared to the employer, the employee as the weak side in the labor market, their interests tend to be more susceptible, which is harmful to improve production efficiency and maintain social stability. In order to further standardize the labor relations of labor market in our country, clarify the rights and obligations of both parties of the labor contract, and protect employees' legitimate rights and interests, our country enacted "The People's Republic of China Labor Contract Law" (hereinafter referred to as the "labor contract law") on June 29, 2007 and officially implemented since January 1, 2008.

Compared with the "Labor Law" enacted in 1994, "Labor Contract Law" defined the probation period without a fixed term contract and economic compensation etc. clearly. "Labor Contract Law" regulated, for example,

when labor contract expires, if the employer does not renew the contract or sign of the contract with reducing conditions, it shall pay economic compensation. This is the law with tendency, which strengthened the protection of laborers, but increased the firing cost of enterprises, and reduced the enterprise employment flexibility [2]. However, “Labor Contract Law” not only has influenced on “improve firing costs” of enterprises, but also on the labor cost stickiness—enterprises lay off employees when volume declines, it increases the difficulty to lay off employees, which may intensify enterprise labor cost stickiness.

When we are talking about the concept of cost stickiness, it is necessary to go back to traditional management accounting. In the traditional model of cost behavior that pervades the accounting literature, costs are described as fixed or variable with respect to changes in activity volume. In this model, variable costs change proportionately with changes in the activity driver [3], implying that the magnitude of a change in costs depends only on the extent of a change in the level of activity, not on the direction of the change. But practice and the existing research have documented strong evidence of asymmetric cost behavior. Costs are “sticky” when they respond less to decreases in activity than to increases in activity [4]. The current research literature on “Cost Stickiness” mainly are from the following two perspectives: one is the study of sticky characteristics of SG&A, operating costs (operating costs) and its influencing factors, for example, ABJ, Sun Zheng and Liu Hao and Balakrishnan, Gruca [5] [6]; the another is to study its existence and influencing factors like the corporate governance, with the perspective of executive compensation stickiness, such as Fang Junxiang, Bu Danlu, Luo Li [7]-[9].

But little literature has studied sticky characteristics of labor costs of enterprises, especially from the perspective of labor protection. Labor cost is sticky when labor costs increase more with sales revenue increases than they decrease in response to equivalent sales revenue decreases. One possible reason is existence of adjustment cost. When the enterprise cut off human resources, it not only has to pay severance pay and compensation, but also bear the hidden losses such as employee motivation drop; when the enterprise increase human resources, it has to bear recruitment cost and training costs.etc. However, because the cost of adjusting resources downward is often higher than the cost of adjusting resources upward, the labor cost of the increase in costs associated with an increase in volume is greater than the labor cost of the decrease in costs associated with an equivalent decrease in volume, which leads labor cost stickiness.

In recent years, with the acceleration of the national industrial structure adjustment, the implementation of preferential agricultural policies, and enhanced awareness of the rights of employees, supply of labor resources is not abundant as 1990s. The implementation of one-child policy and strengthen of labor protection lead enterprises facing with shortage of human resources and rising labor costs. In this context, to study of the sticky characteristics of the labor cost not only has a positive practical significance, but also enriches our understanding of the economic consequences of the labor contract law with the perspective of labor contract law to examine the impact of labor protection on labor costs.

In view of this, we use a large sample of firms in China during 2004-2011 to test the sticky characteristic of labor cost. We find that the labor cost of listing firms in China are sticky, and the stickiness of state-owned enterprises is higher than that of non-state-owned enterprises. Because state-owned enterprises assume policy objectives like employment, it commit more redundant personnel and it cannot cut off labor resources with political pressure when volumes declines [10] [11]. Furthermore, we also test the effect of labor protection on cost stickiness based on the implementation of Labor Contract Law, which increased labor cost stickiness, both state-owned enterprises and non-state-owned enterprises.

The possible contribution is mainly reflected in the following aspects: firstly, it study sticky characteristics of labor cost and the difference between state-owned enterprises and non-state-owned enterprises, which enrich the stickiness of cost related literature; secondly, with the implementation of new “Labor Contract Law” as a exogenous variables, it provide a more powerful evidence about labor protection effect on the microscopic behavior.

2. Hypothesis Development

2.1. Labor Cost Stickiness

Traditional cost behavior models in the accounting literature distinguish between fixed and variable costs with respect to changes in the level of activity. Fixed costs are assumed to be independent of the level of activity whereas variable costs are assumed to change linearly and proportionately to changes in the level of activity. Underlying the traditional cost behavior model are a number of assumptions which, apart from simplifying the

real world, distance the model from the way costs behave in reality. Contemporary studies on cost behavior find that costs increase more with activity increases than they decrease in response to equivalent activity decreases. This sticky cost behavior contradicts the traditional model which assumes that costs behave symmetrically for activity increases and decreases. Anderson et al find that selling, general and administrative costs are sticky and increase, on average, by 0.55% per 1% increase in revenues, but decrease only 0.35% per 1% decrease in revenues. This conclusion provided empirical evidence for the existence of sticky characteristics of the cost for the first time. Subsequently, the domestic and foreign scholars sought for the cause of cost stickiness for the perspective of adjustment costs, managers' future expectation and agency problem.

Adjustment cost view: manager must take careful consideration when they decide to adjust labor recourse because the adjustment of resources need to bear a certain price. When the enterprise cut off human resources, it not only has to pay severance pay and compensation, but also bear the hidden losses such as employee motivation drop; when the enterprise increase human resources, it has to bear recruitment cost and training costs.etc. However, because the cost of adjusting resources downward is often higher than the cost of adjusting resources upward [12], the labor cost of the increase in costs associated with an increase in volume is greater than the labor cost of the decrease in costs associated with an equivalent decrease in volume, which is called sticky cost. Part of authors' literature support this view, such as Subramaniam & Weidenmier, Zhengsun & Laoliu and Balakrishnan & Gruca. For example, the study of Subramaniam found that the degree of Cost Stickiness is relevant the degree of change in volume [13]. When the degree of change in sales is very small, the adjustment cost is small, so the adjustment cost is small, the cost and the volume is linear; when the degree of change in sales is more than 10%, cost stickiness will exist. This is because it is possible to change the original cost structure, adjustment cost is bigger, the manager decide to cut off fewer resources and thus lead to cost stickiness.

Manager' optimistic expectations view: managers tend to take the future market demand into account when they make decision. If managers hold optimistic attitude towards future sales, they will not cut off resources substantially even if the current market demand declines, which lead to cost stickiness. Because cutting labor resources not only need to pay severance payments, compensation, etc., but also need to bear re-recruit staff costs and training costs. Part of authors' literature support this view, such as ABJ, Banker & Chen and Kama & Weiss [14] [15]. For example, the study of ABJ found that in the sustained decline period, managers expect the future product demand will continue to decline, so they will cut loose resources, resulting in cost stickiness reduced. In the macroeconomic growth period, managers hold optimistic attitude towards future sales, so they will maintain a certain level of cost to meet the needs of the future intentionally resulting in cost stickiness increased.

Agency problem view: based on self-interest motivation, managers tend to increase their own compensation significantly and expand to control resources when the volume increases; but they are reluctant to reduce compensation and lose control of resources while the volume decreases, thus leading to labor cost stickiness. Part of authors' literature support this view, such as Chen Lu & Sougiannis and Kama & Weiss. For example, the study of Chen, Lu & Sougiannis found that managers' "empire building" motivation tend to increase cost stickiness, and corporate governance could decrease cost stickiness with the data from 1996 to 2005 [16].

Based on the above analysis, we can find that the existence of adjustment cost, managers' optimistic expectations and agency problem all may lead to cost stickiness. Of course, we need to point out that, in the business operation of complex system, the three elements are not independent but mingled. Therefore, we propose hypothesis 1:

H1: The relative magnitude of an increase in labor costs for an increase in sales revenue is greater than the relative magnitude of a decrease in labor costs for a decrease in sales revenue.

2.2. Labor Cost Stickiness and State

Both state-owned and non-state-owned enterprises play a very important role in the market economy. However, because of the existence of government intervention, state-owned enterprises always bear policy objectives such as solving employment and maintaining policy stability. Compared to non-state-owned enterprises, the state-owned enterprises pay more attention to the social and political objectives than management efficiency [17]. Local government's major local is promoting employment, which is also an index of performance evaluation. With facing with the pressure of employment, local government required state-owned enterprises to share part of the pressure or not allowed state-owned enterprises to release redundant labor resource. Therefore, state-owned enterprises still bear social burden like redundancy [17]. However, because interventions cost of non-state-

owned enterprises is higher than that of state-owned enterprises due to privatization, non-state-owned enterprises do not assume redundancy. Redundancy of non-production-workers is a major cause of loss of state-owned enterprises, but state-owned enterprises did not lay off employees [18]. Frydman, Hessel and Rapaczynski pointed out, it is political pressure that prevent state-owned enterprises laying off employees [19]. Unlike to state-owned economy, non-state-owned economy of our country, especially the private economy, is developing in the market conditions, basically in accordance with the rules of market economy to use factors of production [20]. Therefore, compared to non-state-owned enterprises, state-owned enterprises committed more redundancies and could not cut off labor resources because of political pressure, resulting in higher labor costs stickiness. Therefore, we propose the hypothesis 2:

H2: The labor costs stickiness of state-owned enterprises is higher than that of non-state-owned enterprises.

2.3. Labor Protection and Labor Cost Stickiness

The implementation of “Labor Contract Law” has significant influence on labor relations, firing cost and employment behavior of enterprises. There is no standard definition of firing cost [21]. It is generally believed that all costs about ruining position is called firing cost. Firing cost can be expressed in a variety of forms, such as compensation; advance notice; terms of dismissal and cumbersome procedures. “Labor Contract Law” has improved firing costs through regulations like paying compensation and contract without a fixed term [22]-[24]. For example, “Labor Contract Law” regulated that when the employee proposes or agrees to renew a labor contract, both sides should sign a non-fixed term labor contract, in addition to the employee proposes to sign a fixed term labor contract. The condition that the enterprise has not signed a written labor contract with the employee since the employee has been working for one year, is deemed to be a labor contract with a non-fixed term. With fixed contract expiring, there is no need to pay economic compensation, but a non-fixed term labor contract has no termination time. The enterprise has to pay the economic compensation when terminating a contract in addition to the employees of the fault of the termination of the contract.

The increase of firing cost has influence managers’ decision-making laying off employees and hiring employees [25]. According to the principles of micro-economics, the enterprise in the pursuit of profit maximization, dismiss employees based on the present value of the net cash flow that the employee is likely to create in the future less than the firing cost, after considering transaction costs and adjustment costs. The basis for the employment of employees is: at the margin, the balance of the present value of the net cash flow of the employee in the future minus their salary and possible future firing costs is greater than recruitment cost [26]. Therefore, the increase of firing costs has two contrary effects on labor cost stickiness. On one hand, when volume declines, manager will cut off less resource because of bearing higher firing costs, which lead to increase labor cost stickiness. On the other hand, when volume increases, manager may increase human resources prudently with considering higher firing costs in the future, which partially offsets labor cost stickiness. The former influence is direct and affirmative; while the latter is indirect and uncertain. Because the enterprises tend to hire new employees, when external demand grows faster. Therefore, the implementation of “Labor contract law” may aggravate labor cost stickiness. Because the “Labor contract law” is implemented in the whole country, it has an impact on both state-owned enterprises and non-state-owned enterprises. Based on the above analysis, we put forward the hypothesis 3:

H3: The implementation of “Labor Contract Law” aggravate labor cost stickiness of both state-owned enterprises and non-state-owned enterprises.

3. Research Design

3.1. Model Design

In order to test the existence of Labor cost stickiness, we modified ABJ’s change model and propose model follows:

$$\Delta \ln \text{ labor cost} = \beta_0 + \beta_1 \times \Delta \ln \text{ sales} + \beta_2 \times D \times \Delta \ln \text{ sales} + \beta_3 \times D + \varepsilon \quad (1)$$

$\Delta \ln$ labor cost measures the change in the natural logarithm of labor cost between periods $t-1$ and t , and labor cost is measured by the total amount of staff’s salary. $\Delta \ln$ sales measures the change in the natural logarithm of sales revenue between periods $t-1$ and t . D takes the value of 1 when sales revenue decreases between periods $t-1$ and t , and 0 otherwise.

Because the value of D is 1 when revenue increases, the coefficient β_1 measures the percentage increase in labor costs with a 1% increase in sales revenue. Because the value of D is 1 when revenue decreases, the sum of the coefficients, $\beta_1 + \beta_2$ measures the percentage increase in labor costs with a 1% decrease in sales revenue. If labor costs are sticky, the variation of SG&A costs with revenue increases should be greater than the variation for revenue decreases. Thus, the empirical hypothesis for stickiness, conditional on $\beta_1 > 0$ is $\beta_2 < 0$. The smaller β_2 , the stronger the degree of stickiness of labor cost.

In this paper, hypothesis 2 is to study labor protection how to affect the labor cost stickiness--the change of β_2 . But it is not feasible to directly measure the labor cost coefficient of each enterprise in every year statistically. Therefore, this paper developed Banker *et al*'s method and propose model 2:

$$\begin{aligned} \Delta \text{Ln labor cost} = & \beta_0 + \beta_1 \times \Delta \text{Ln sales} + \beta_2 \times D \times \Delta \text{Ln sales} + \beta_3 \times LP \times \Delta \text{Ln sales} \times D \\ & + \beta_4 \times \text{Sec} \times \Delta \text{Ln sales} \times D + \beta_5 \times EI \times \Delta \text{Ln sales} \times D \\ & + \beta_6 \times \text{Growth rate} \times \Delta \text{Ln sales} \times D + \beta_7 \times D + \beta_8 \times LP + \beta_9 \times \text{Sec} + \beta_{10} \times EI \\ & + \beta_{11} \times \text{Growth rate} + \beta_{12} \times \text{Lev} + \beta_{13} \times \text{Size} + \beta_{14} \times \text{Lshare} + \beta_{15} \times \text{Dual} + \lambda \text{Ind} + \varepsilon \end{aligned} \quad (2)$$

The paper treated labor protection as the proxy variable of firing costs. In above model, LP is the dummy variables, which expressed whether the implementation of "Labor contract law" or not. LP takes the value of 1 when year is greater than 2008, and 0 otherwise. Sec takes the value of 1 when sales revenue decreases between periods $t-2$ and $t-1$, and 0 otherwise. EI is labor intensity and is expressed in logarithm. Growth rate takes growth opportunities of i enterprise for periods t in its industry.

In above model, we also control variables as following: Size , the natural logarithm of total assets at the end of the year t ; Lev , total debt at the end of the year t /total assets at the end of the year t ; L share, the equity ratio of the largest shareholder; Dual , takes the value of 0 when chairman and general manager are one person, and 1 otherwise. In addition, we also control the industry dummy variables Ind .

In the above model, the implementation of the "labor contract law" has increased the labor cost stickiness of the enterprises, conditional on $\beta_3 < 0$. Relevant variables are defined as in [Table 1](#).

3.2. Data Source and Sample Selection

This paper selects the data of 2004-2011 all A shares of listing corporation as the initial sample. We have carried out the following elimination of samples: 1) removing the ST listed companies; 2) excluding the samples of the financial and insurance industry; 3) eliminating negative labor cost sample values, negative operating income sample values; 4) eliminating sample value of labor cost greater than operating income; 5) eliminating the missing values of main variables. Finally we got the 9367 sample values. According to the nature of the ultimate

Table 1. Variable defined.

Variable	Variable defined
Sales	Sales revenue
Labor cost	Total employee compensation
$\Delta \text{Ln labor cost}$	the change in the natural logarithm of labor cost $\Delta \text{Ln labor cost} = \text{Ln}(\text{labor cost } i, t) - \text{Ln}(\text{labor cost } i, t-1)$;
$\Delta \text{Ln sales}$	the change in the natural logarithm of sales revenue; $\Delta \text{Ln sales} = \text{Ln}(\text{sales } i, t) - \text{Ln}(\text{sales } i, t-1)$;
LP	the value of 1 when year is more than 2008, and 0 otherwise.
Sec	the value of 1 when sales revenue decreases between periods $t-2$ and $t-1$, and 0 otherwise.
EI	in the natural logarithm of labor intensity; $= \text{Ln}(100,000 \times \text{total number of employee}/\text{sales revenue})$;
Growth rate	Median operating income growth of all enterprises in the same industry;
Size	the natural logarithm of total assets at the end of the year t
Lev	total debt at the end of the year t /total assets at the end of the year t
Lshare	the equity ratio of the largest shareholder
Dual	the value of 0 when chairman and general manager are one person, and 1 otherwise
Ind	In accordance with the Commission in 2012 industry classification, the manufacturing industry to take the first two code, while the other industry to get the first code

controller, sample was divided into two groups of state-owned enterprises and non-state-owned enterprises. The number of the state-owned enterprises sample is 5621, and the number of the non-state-owned enterprises sample is 3746. The ultimate controller data come from the Wind database, other financial data come from the CSMAR database. In addition, we delete observations if the continuous variables is above 99% percentile or below 1% percentile of its distribution. The following descriptive statistics and empirical results are based on the results of the data processing. In this paper, stata12.0 software is used for data processing and regression analysis.

4. Empirical Results

4.1. Descriptive Statistics

The paper discusses descriptive statistics of sample data. Labor costs increased year by year, from 115.77 million in 2004 to 611.91 million in 2011. The proportion of labor costs accounting for sales revenue is from 8.4% in 2004 to 10.09% in 2011. The difference between average growth rate of labor costs and sales revenue growth rate is little. Labor costs are rising fast, and it is likely to be sticky.

4.2. The Existence of Labor Cost Stickiness

According to the previous research design, this paper takes the model (1) to test the existence of the labor cost stickiness, and the regression results are shown in **Table 2**. Through the model (1), we test the characteristics of the labor cost of the listing Corporation in our country. By regression of all samples, β_1 is 0.392, namely labor costs increase 0.392% with 1% increase in sales revenue. β_2 is -0.159 , $\beta_1 + \beta_2 = 0.233\%$, namely labor costs decrease 0.233% with 1% decrease in sales revenue. β_1 and β_2 are significant at the 1% level, which proves that the labor cost in China's listing Corporation is "sticky" and verifies the hypothesis 1.

By regression of sub-sample of state-owned enterprises, β_1 is 0.467, namely labor costs increase 0.467% with a 1% increase in sales revenue. β_2 is -0.258 , $\beta_1 + \beta_2 = 0.209\%$, namely labor costs decrease 0.209% with 1% decrease in sales revenue. β_1 and β_2 are significant at the 1% level, which proves that the labor cost in the state-owned listed companies is "sticky". Degrees of stickiness of state-owned is 0.258%.

Similarly, by regression of sub-sample of non-state-owned enterprises, β_1 is 0.335, namely labor costs increase 0.335% with a 1% increase in sales revenue. β_2 is -0.092 , $\beta_1 + \beta_2 = 0.243\%$, namely labor costs decrease 0.243% with 1% decrease in sales revenue. β_1 and β_2 are significant at the 1% level, which proves that the labor cost in the non-state-owned listed companies is "sticky". Degrees of stickiness of non-state-owned is 0.092%.

This paper adopts Chow test to test differences in grouping regression coefficient β_2 . Test results show that, $\chi^2(1) = 2.81$, $p = 0.094 < 0.1$. Therefore, degrees of stickiness of state-owned is significantly higher than that of non-state owned enterprises, which verifies the hypothesis 2.

Table 2. The existence of labor cost stickiness.

Dependent variable	Ln labor cost	Ln labor cost	Ln labor cost
Sample classification	Total sample	Sample of state-owned enterprise	Sample of non-state-owned enterprise
Ln sales	0.392*** (37.59)	0.467*** (32.88)	0.335*** (21.25)
D × Ln sales	-0.159*** (-7.41)	-0.258*** (-7.87)	-0.092*** (-3.04)
D	-0.034*** (-3.35)	-0.016 (-1.24)	-0.052*** (-3.07)
_cons	0.102*** (19.96)	0.084*** (13.85)	0.116*** (12.77)
N	9367	5621	3746
R ²	0.193	0.211	0.182
adj. R ²	0.193	0.210	0.182
F	746.095	499.257	278.095

4.3. Labor Protection and Labor Cost Stickiness

Based on the previous design, we use the model 2 to empirically test whether the implementation of the “Labor contract law” has an impact on labor cost stickiness as shown in **Table 3**.

By regression of all samples, β_1 is 0.407, namely labor costs increase 0.407% with 1% increase in sales reve-

Table 3. Labor protection and labor cost stickiness.

Dependent variable	Ln labor cost	Ln labor cost	Ln labor cost
Sample classification	Total sample	Sample of state-owned enterprise	Sample of non-state-owned enterprise
Ln sales	0.407*** (36.70)	0.469*** (30.98)	0.359*** (21.33)
D × Ln sales	-0.206*** (-4.57)	-0.205** (-2.42)	-0.238*** (-3.88)
LP × D × Ln sales	-0.150*** (-4.05)	-0.194*** (-3.19)	-0.122** (-2.36)
Sec × D × Ln sales	0.121*** (3.21)	0.005 (0.09)	0.173*** (3.36)
EI × D × Ln sales	-0.022* (-1.85)	-0.050** (-2.03)	-0.020 (-1.20)
Growth rate × D × Ln sales	0.287* (1.71)	-0.182 (-0.67)	0.632*** (2.67)
D	-0.011 (-0.99)	0.004 (0.29)	-0.020 (-1.09)
Sec	-0.078*** (-8.30)	-0.075*** (-6.69)	-0.076*** (-4.73)
EI	0.019*** (4.75)	0.015*** (3.08)	0.023*** (3.28)
Growth rate	0.196*** (4.00)	0.054 (0.94)	0.358*** (4.10)
LP	0.016* (1.93)	-0.011 (-1.20)	0.052*** (3.52)
Lev	-0.008* (-1.73)	-0.004 (-0.96)	-0.028* (-1.67)
Size	0.032*** (8.96)	0.023*** (5.66)	0.060*** (8.17)
Lshare	-0.000 (-0.10)	-0.000 (-0.37)	0.000 (0.88)
Dual	-0.013 (-1.18)	-0.002 (-0.17)	-0.009 (-0.58)
Industry fixed effect	control	control	control
_cons	-0.579*** (-7.41)	-0.382*** (-4.25)	-1.192*** (-7.58)
N	9367	5621	3746
R ²	0.231	0.236	0.246
adj. R ²	0.229	0.232	0.240
F	85.004	53.482	37.387

nue. β_2 is -0.206 , namely labor costs decrease 0.201% ($\beta_1 + \beta_2$) with 1% decrease in sales revenue before implementation of the “Labor contract law”. Degree of stickiness is 0.206% (β_2). β_3 is -0.15 , namely labor costs decrease 0.051% ($\beta_1 + \beta_2 + \beta_3$) with 1% decrease in sales revenue after implementation of the “Labor contract law”. Degree of stickiness is 0.356% ($\beta_2 + \beta_3$). β_3 are significant at the 1% level, indicating that the implementation of the “Labor contract law” intensify labor cost stickiness.

By regression of sub-sample of state-owned enterprises, β_1 is 0.469 , namely labor costs increase 0.469% with 1% increase in sales revenue. β_2 is -0.205 , namely labor costs decrease 0.264% ($\beta_1 + \beta_2$) with 1% decrease in sales revenue before implementation of the “Labor contract law”. Degree of stickiness is 0.205% (β_2). β_3 is -0.194 , namely labor costs decrease 0.070% ($\beta_1 + \beta_2 + \beta_3$) with 1% decrease in sales revenue after implementation of the “Labor contract law”. Degree of stickiness is 0.399% ($\beta_2 + \beta_3$). Similarly, by regression of sub-sample of non-state-owned enterprises, β_1 (0.359), β_2 (-0.238) and β_3 (-0.122) are significant. Before the implementation of the “Labor contract law”, labor cost stickiness is 0.238% (β_2); while labor cost stickiness is 0.36% ($\beta_2 + \beta_3$). The empirical results show that: the implementation of the “Labor contract law” has an impact on both the state-owned enterprises and non-state-owned enterprises, which has increased labor cost stickiness, verifying the hypothesis 3.

5. Conclusions and Limitations

In recent years, Chinese companies face with rising labor cost pressure and the risk of labor shortage, and implementation of “Labor Contract Law”. These provide a good opportunity for researching the labor costs stickiness characteristics of domestic enterprises. This paper analyzes the labor cost stickiness characteristics and the influence of the “labor contract law” with a large sample of firms in China during 2004-2011. The main conclusions of this paper are as follows: firstly, the labor cost of listing firms in China is sticky; secondly, the stickiness of state-owned enterprises is higher than that of non-state-owned enterprises; finally, implementation of “labor contract law” increased labor cost stickiness of both state-owned enterprises and non-state-owned enterprises. These conclusions guide the direction of cost management. State-owned enterprises should further accelerate the pace of market-oriented reform, weaken the influence of the government intervention, adjust human resource in accordance with the rules of market economy, thereby reducing the labor cost stickiness. Furthermore, the conclusion also provides evidence for the economic consequences after the implementation of the “Labor contract law”. State-owned enterprises should accelerate market oriented process and adjust the labor force resources according to the operating performance of enterprises, thus to reduce the cost of labor

In the era of knowledge economy, human resources are very important for enterprise production efficiency. The implementation of “labor contract law” not only protects the rights and interests of the employees, but also is conducive to improve production efficiency and maintain social stability. Therefore strengthening labor protection is positive. However, this article provides evidence of the negative economic consequences of labor protection only from the perspective of cost stickiness, which are unilateral. Because there are differences in the efficiency of law enforcement in different regions of our country, the level of labor protection in different regions is different, which may be led to differences in the cost stickiness. But this paper did not answer this question, and not to measure the level of labor protection. These not only are limitations of this paper, but also the direction of further research in the future.

References

- [1] Zingales, L. (2000) In Search of New Foundations. *Journal of Finance*, **55**, 1623-1653.
- [2] Liu, C.F. (2008) The Influence of the Labor Contract Law on the Dismissal Costs and Employment Behavior of Chinese Enterprises: A Questionnaire Survey on Enterprises. *Economic Management*, **Z2**, 143-150.
- [3] Noreen, E. (1991) Conditions under Which Activity-Based Cost Systems Provide Relevant Costs. *Journal of Management Accounting Research*, **3**.
- [4] Anderson, M.C., Banker, R.D. and Janakiraman, S.N. (2003) Are Selling, General, and Administrative Costs “Sticky”? *Journal of Accounting Research*, **41**, 47-63.
- [5] Sun, Z. and Liu H. (2004) Research on the Cost “Stickiness” Behavior of Listing Corporation in China. *Economic Research*, **12**, 26-34, 84.
- [6] Balakrishnan, R. and Gruca, T.S. (2008) Cost Stickiness and Core Competency: A Note. *Social Science Electronic Publishing*, **25**(4): 993-1006.

- [7] Fang, J.X. (2009) Is the Salary of the Executive of the Listing Corporation in Our Country Sticky? *Economic Research*, **3**, 110-124.
- [8] Bu, D.L. and Wen, C.H. (2013) Does Executive Pay Stickiness Increase Corporate Investment. *Financial Research*, **6**, 63-72.
- [9] Luo, L. and Hu, Y.D. (2015) Does the Internal Control Have an Inhibitory Effect on the Stickiness of Listing Corporation's Executive Pay? From the Empirical Evidence of a Shares in Shanghai and Shenzhen. *Audit and Economic Research*, **1**, 26-35.
- [10] Lin, Y.F., Liu, M.X. and Zhang, Q. (2004) The Policy Burden and the Soft Budget Constraints of Enterprises: An Empirical Study from China. *Management World*, **8**, 81-89, 127-156.
- [11] Chen, X.Y. and Ceng, Q.S. (2006) State Owned, over Employee and Labor Costs. *Economic Research*.
- [12] Jaramillo, F., Schiantarelli, F. and Sembenelli, A. (1993) Are Adjustment Costs for Labor Asymmetric? An Econometric Test on Panel Data for Italy. *Review of Economics & Statistics*, **75**, 640-648. <http://dx.doi.org/10.2307/2110017>
- [13] Weidenmier, M.L. and Subramaniam, C. (2003) Additional Evidence on the Sticky Behavior of Costs. Social Science Electronic Publishing, Rochester.
- [14] Banker, R.D. and Chen, L. (2006) Predicting Earnings Using a Model Based on Cost Variability and Cost Stickiness. *Accounting Review*, **81**, 285-307. <http://dx.doi.org/10.2308/accr.2006.81.2.285>
- [15] Kama, I. and Weiss, D. (2010) Do Managers' Deliberate Decisions Induce Sticky Costs? *SSRN Electronic Journal*. <http://dx.doi.org/10.2139/ssrn.1558953>
- [16] Chen, C.X., Lu, H. and Sougiannis, T. (2011) The Agency Problem, Corporate Governance, and the Asymmetrical Behavior of Selling, General, and Administrative Costs. *Contemporary Accounting Research*, **29**, 252-282.
- [17] Xue, Y.K. and Bai, Y.X. (2008) State Ownership, Redundant Employees and Corporate Performance. *Management World*.
- [18] Li, D.D. and Liang, M. (1998) Causes of the Soft Budget Constraint: Evidence on Three Explanations. *Journal of Comparative Economics*, **26**, 104-116. <http://dx.doi.org/10.1006/jceec.1997.1507>
- [19] Frydman, R., Hessel, M. and Rapaczynski, A. (1998) Why Ownership Matters?: Politicization and Entrepreneurship in the Restructuring of Enterprises in Central Europe. Working Papers.
- [20] Chen, Z. and Lu, M. (2003) The Theoretical and Empirical Analysis of the Adjustment of Ownership Structure in China. Shanxi Economic Press, Taiyuan.
- [21] Huang, L. and Peng, B.Y. (2005) New Development of Labor Market Search Theory. *Economics Dynamics*.
- [22] Li, C.Y. (2008) An Analysis of the Impact of the Labor Contract Law on the Dismissal Costs of Enterprises. *Contemporary Economy*.
- [23] Tang, Y.J. and Zhao, W.Y. (2009) Binary Labour Market, Dismissal Protection and Labor Contract Law. *Nankai Economic Studies*.
- [24] Cheng, Y.Y. and Yang, L. (2010) Implementation of Labor Contract Law Effect on Human Resource Management of Enterprises in Our Country—Based on the Human Resource Manager's View. *Economic Theory and Economic Management*.
- [25] Banker, R., Byzalov, D. and Chen, L. (2013) Employment Protection Legislation, Adjustment Costs and Cross-Country Differences in Cost Behavior. *Journal of Accounting & Economics*, **55**, 111-127. <http://dx.doi.org/10.1016/j.jacceco.2012.08.003>
- [26] Bentolila, S. and Bertola, G. (1990) Firing Costs and Labour Demand: How Bad Is Eurosclerosis? *Review of Economic Studies*, **57**, 381-402. <http://dx.doi.org/10.2307/2298020>