

# Effects of working capital management on company value under different competitive strategies

**Li Wang**

*School of Public Finance and Taxation,  
Southwestern University of Finance and Economics,  
Chengdu 611130, Sichuan, China*

**Yunrong Li**

*School of Public Finance and Taxation,  
Southwestern University of Finance and Economics,  
Chengdu 611130, Sichuan, China*

### Abstract

Traditionally, the researchers in managing working capital have focused on the concept of working capital, working capital structure, turnover period of working capital, and the relationship between working capital and firm performance. However, as a guideline of all operational decisions, strategic choice is one of the most important factors which determines working capital and needs to be carefully analyzed. Few studies on the relationship between working capital management and company value, either theoretical or empirical, are done from the perspective of strategic influence. This paper builds up a model investigating the relationships among the aggressive/conservative/moderate working capital management and company value, which is named as “competitive strategy–working capital management–company value” model. The data are about 48 public limited construction companies listed at SHSE and SZSE for the period from 2007 to 2014. Empirical results show there does exist an inverted U-shaped relationship between radicalness of working capital management and company value. The moderate working capital management is proved to be optimal for different competitive strategies, i.e. the investing management of working capital the majority companies carry out cannot match their financing management of working capital, and thus, the overall working capital management is either too conservative or too aggressive.

Key words: WOKING CAPITAL MANAGEMENT, COMPANY VALUE, COMPETITIVE STRATEGY

### Introduction

Working capital management (WCM) is an important part of corporate financial

management, and is related to corporate solvency, profitability and risk control ability. It also plays a vital role in companies' financial risk and profits,

so strengthen the efficiency and the effectiveness of WCM is the key to prevent the rupture of capital chain. With intensify of the global construction market competition, especially in China, both overall construction market and the market segments are in a state of excessive competition. Most construction companies are high- production, low-margin in the context of the low-price bidding and the phenomenon of contracting with fund, so they are lack of adequate funding to improve their comprehensive competitiveness. In this situation, to constantly improve the efficiency of corporate resources, especially to enhance the value creation ability by advancing the efficiency and the effectiveness of WCM is an important way in gaining the existence and development in the sharp market competition.

Efficient management of working capital is a fundamental part of the overall corporate strategy to create the shareholders' value. In 2003, Deloof indicated that firms try to keep an optimal level of working capital that maximizes their value, according to Cash Conversion Cycle (CCC) [1]. In general, from the viewpoint of Chief Financial Officer (CFO), WCM is a simple concept of ensuring the ability of the organization to finance the difference between the current assets and current liabilities [2]. However, a "Total" WCM approach should be formed which cover all the company's operating activities [3]. In reality, WCM has become one of the most important issues in companies where many CFOs are trying to identify the basic determinants of working capital and to study the optimal level of working capital [4]. And the main objective of WCM is to maintain an optimal balance between each of the working capital components. Business success heavily depends on the ability of financial executives to effectively manage receivables, inventory, and payables [5]. In these studies towards financial management theory, domestic scholars have been more concerned about the impacts of working capital turnover efficiency on firm performance, and few studied on WCM situations from the perspective of competitive strategy [6]. For the configuration level of working capital, most researches focused on isolated several aspects such as cash, accounts receivable, inventory and so on, without considering the influence of competitive strategy. Besides, for the choice of WCM, most empirical researches still remain in the linear relationship between the radicalness of WCM and the

company value, while ignoring the nonlinear relationship between them.

This paper builds the "competitive strategy – working capital management – company value" theoretical model, and gains the inverted U-shaped relationship among the aggressive/conservative/moderate working capital policies and company value by Fixed Effect Regression Model under four different competitive strategies. The present study is expected to contribute to better understand these policies based on different competitive strategies and their nonlinear impacts on company value especially in the capital intensive construction market like China.

### Literature Review

With the gradual intensified market competition, companies have attached great importance to management efficiency and effectiveness of input and output of various resources. Meanwhile WCM, which occupies an important position in business management activities, is one of the hottest topics of academic research. Hampton and Wagner studied on how to develop a reasonable overall working capital policies from perspectives of profitability and risk [7]. Brigham and Besley pointed out that WCM was a management policy issue essentially. Moyer and Mcguigan described the conservative, moderate and aggressive WCM separately [8]. Weinraub and Vissche analyzed the working capital policies of American companies and tested the relationship between the aggressive and the conservative [9]. Sathyamoorthi studied on the current assets' components and the corresponding financing policies, it indicated that these sample companies had been using aggressive working capital policies during the study period [10]. Afza and Nazir analyzed the conservative and the aggressive management policy, they concluded that there were a significant negative correlation between the radicalness of WCM and profit, which was in accordance with the Weinraub's conclusion. Compared with foreign researches, studies on working capital policies started late in China [11]. Jinghua Du pointed out that companies should combine aggressive and conservative working capital policies so as to promote enterprise sustainable development. Huaiyi Liu reached the conclusion that the conservative WCM could enhance corporate performance [12]. Then, Caiying Tian found that there had been a positive correlation between corporate profitability and the radicalness of WCM [13].

## Economy

---

In measurement for company value, most scholars have adopted traditional financial indexes, such as return on investment (ROI), return on assets (ROA), operating revenues, growth speed of operating revenue, earnings per share (EPS), price to earnings ratio (PE), etc. Diversification has been presented in studies on performance in academic circles since 1991 when Economic Value Added (EVA, EVA is based on economic profit instead of traditional accounting profit concept, the emphasis is the net value after deducting capital costs from the profit.) was raised by American scholar. In specific, company value was usually studied via Tobin's Q, Market Value Added (MVA), EVA and the price per share, or correlation analysis was conducted between them and other traditional financial indexes. These scholars all acknowledged the interpretation of Stern Stewart & Co. for EVA. That is to say, EVA is a single index based on value creation that can evaluate development strategy, company value and internal incentive mechanism, and it is better than other indexes like EPS and ROI. Therefore, a set of financial management system, decision-making mechanism and compensation system based on EVA theory has prevailed in major companies around the world. Domestic scholars also started to study EVA, but their studies are restricted to manufacturing industry and financial industry. In 2009, British scholars suggested that current researchers should encourage other industries to operate on the basis of EVA. Subsequently, Chinese State-owned Assets Supervision and Administration Commission of the State Council pointed out in No. 22 decree that Interim Measures for Assessment of the Operational Performance of Persons in Charge of Central Companies was going to be implemented from 1 Jan. 2010. Later state-owned real estate companies of China started to adopt EVA performance evaluation system, but the academic circle has not paid enough attention to the real estate industry and there is a lack of empirical studies on funds management and value creation effect of EVA. Most research conclusions show that: (1) EVA is better than EPS and ROA in describing company value. (2) It is better than

return on equity (ROE) and book value per share (BVPS) in explaining variation of share price. (3) EVA has higher explanatory ability for MVA and contains more information, but it cannot fully explain MVA, and still needs other financial indexes to interpret MVA.

So far, most domestic and foreign researches believed that there have existed a certain correlation between working capital policies and company value, and further studied the linear between them while ignoring the non-linear relationship, which affects the accuracy of the WCM evaluation to a large extent.

### **Theoretical analysis and research design**

#### **Theoretical analysis**

Companies pursue different strategic goals under different competitive strategies, therefore, they have differences both in resources allocation and cost control or differentiation, and these differences will cause different impact on company value. The WCM differs from different strategic objectives, and then affects the ability of value creation. WCM can reduce the capital cost and get extra return on investments, however different working capital policies differ in the reduction, the return and the risk, therefore, the paper obtains three managerial results of WCM. The first one is to create value, that is, when the conservative WCM is implemented, companies are facing lower overall risk, at this time, the sum of the reduction and the return is greater than the risk they suffers, which can create value. The second one is to protect value. When the moderate management policy is implemented, their overall risk is modest, and at this time the save of capital cost and the return of investment is equal to the loss of risk, thus it can maintain value. The last one is to damage value, namely when companies carry out the aggressive WCM, they face relatively high overall risk. Because of the save of capital cost and the return less than the risk then, they will damage company value. As have discussed above, the relationship between radicalness of WCM and company value is inverted U-shaped, as shown in figure 1.

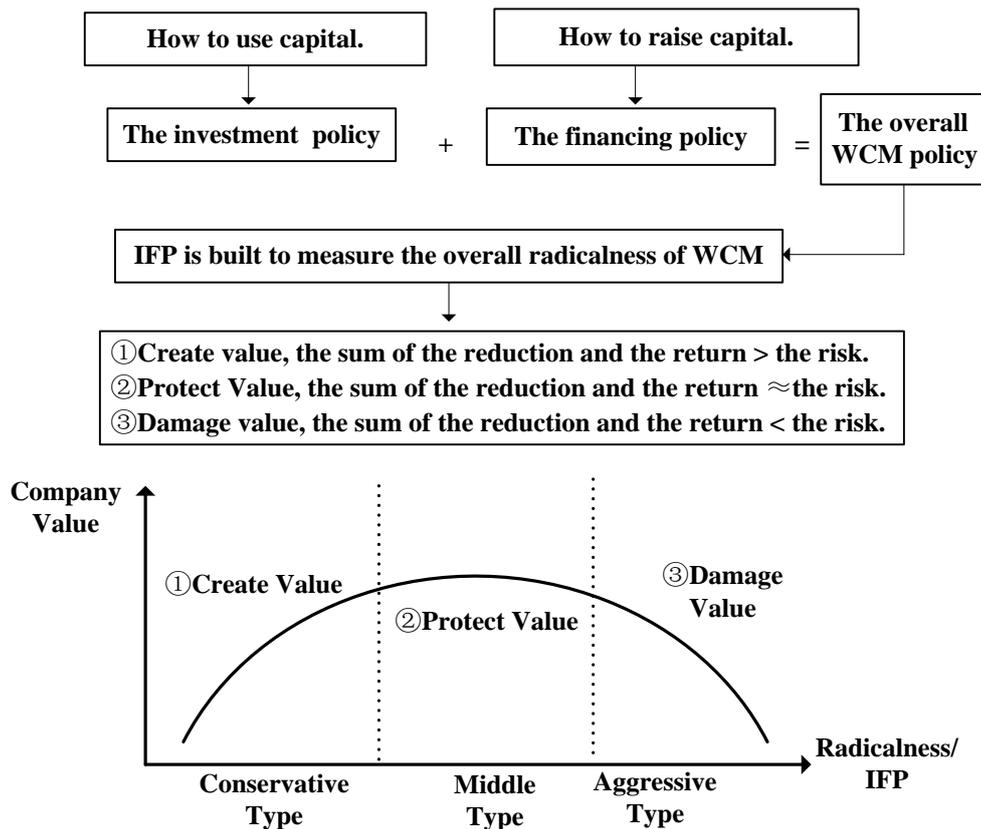


Figure 1. The relationship between WCM and company value

**Research design**

**Variables**

In order to reduce the influence of owners' equity (net assets) on company value, the paper adopts the relative value of EVA (REVA, the ratio of EVA and net assets) as the dependent variable, to measure companies' relative ability to create value.

According to Stewart's definition, NOPAT and TC have to be adjusted. Adjustment for EVA mainly covers over one hundred terms like deferred income tax, inventory falling price

reserves, R&D capitalization value, goodwill amortization and so on. However, over 10 important adjustment terms are involved in practical investigation for specific companies. The key to gaining the calculation formula for EVA is to determine the accounting subjects that should be adjusted. The paper obtained the adjusted value of EVA on the basis of the CSMAR study, and the calculation process of EVA is detailed introduced as followed in formulation (1)-(9):

$$EVA = NOPAT - COTC \tag{1}$$

$$\begin{aligned} \text{NOPAT} = & (\text{operating profit} + \text{financial expenses} + \text{depreciation of fixed assets} \\ & + \text{depreciation of oil and gas assets} + \text{depreciation of productive biological assets} \\ & + \text{amortization of intangible assets} + \text{amortization of long} \\ & - \text{term deferred expenses}) \times (1 - T) \end{aligned} \tag{2}$$

$$COTC = WACC \times TC \tag{3}$$

$$WACC = \left( \frac{KD}{KD + KE} \right) \times (1 - T) \times K_d + \left( \frac{KE}{KD + KE} \right) \times K_e \tag{4}$$

$$K_e = R_f + \beta \times (R_m - R_f) \tag{5}$$

$$TC = \text{general capital} + \text{liability with interest} - \text{non-operating investment} \tag{6}$$

$$\text{general capital} = \text{total owner's equity} + \text{minority equity} + \text{various reserve balances} \tag{7}$$

$$\begin{aligned} \text{liability with interest} = & \text{short-term borrowing} + \text{long-term liability of one year} \\ & + \text{all long-term liability} \end{aligned} \tag{8}$$

NOPAT (net operating profit after tax) is the operating profit after tax before the accounting subjects of financing cost and noncash amortization are deducted. COTC means cost of total capital. WACC means weighted average cost of capital. TC means total capital and equals to the sum of equity capital and debt that bears interest or the result of subtracting current liabilities that do not bear interests from the total capital. KD means debt capital. KE represents equity capital.  $K_d$  indicates cost rate of debt capital.  $K_e$  refers to cost rate of equity capital, calculated by the capital asset pricing model (CAPM). T is income tax rate.  $R_f$  is riskless rate of return and the mean value 3.00% of the deposit rate issued by People's Bank of China in 2014 is adopted for its calculation.  $\beta$  is the risk factor of risk assets, calculated according to equity derivative regression model and taken from CSMAR.  $R_m$  is annual rate of return of the market. The difference between  $R_m$  and  $R_f$  is the risk premium of market portfolio and reflects premium of the entire securities market to riskless rate of return. At present, the market risk premium 4% is adopted in China. The mean rate of borrowing 6.28% in 2014 is adopted to calculate cost rate of debt capital. Relevant data shows that liability of Chinese listed companies is different from foreigner's (short-term and long-term bonds). Liabilities of Chinese companies mainly cover bank loans, and current liability occupies more than 90% of total liabilities. Therefore, it is reasonable to determine

cost rate of debt capital according to loan interest of the bank.

By the definition rules of dummy variables, if there are m types of exclusive properties in a model, we need introduce (m-1) dummy variables, so, in order to measure which type of competitive strategy the enterprise implemented, the paper introduces three dummy variables to represent the four competitive strategy types (differentiation strategy, cost leadership strategy, combination strategy, non-dominant strategy), respectively by D1, D2 and D3.

In order to study the overall WCM of Chinese listed construction companies, the investing and financing policy (IFP) indicator of working capital is built to measure the overall radicalness of WCM. Considering the impacts of current assets and current liabilities on the investing and financing management of working capital, IFP should include the influence of current assets and the influence of current liabilities, and because the current assets and the current liabilities are a pair of opposite indexes, so with (1- proportion of current assets) to convert, therefore, the greater the value of the IFP index is, the more aggressive WCM is. The declaration of all variables (dependent, independent, control variables) are listed in Table 1.

$$IFP = \sqrt{\left(1 - \frac{Current\ Assets}{Total\ Assets}\right) \times \frac{Current\ Liabilities}{Total\ Assets}} \quad (10)$$

**Table 1.** Variable declaration

Variables	Properties	Variable Declaration
REVA	dependent variable	REVA= (NPOAT-WACC×TC)/Net assets
IFP	independent variable	IFP=[(1-PCATA)*PCLTA]^0.5
DEBT	control variable	DEBT=Total liabilities /Total assets
RISK	control variable	RISK= Degree of operating leverage * Degree of financial leverage
SIZE	control variable	SIZE=Log(Total assets)
D1	dummy variable	D1=1, The Differentiation Strategy
D2	dummy variable	D2=1 , The Cost Leadership Strategy
D3	dummy variable	D3=1, The Combination Strategy
D1, D2, D3	dummy variable	D1= D2= D3=0, The Non-dominant Strategy

### Model construction

In order to verify the conclusion in the theoretical analysis, the paper tests the inverted U-shaped relationship between the radicalness of

WCM and the company value by the quadratic function of the IFP index. In addition, companies pursue different aims under different competitive strategies, therefore, they have differences both in

the allocation of working capital (such as monetary fund, inventory) and the managerial benefit, in this situation, the radicalness of WCM is also different. Therefore, the paper constructs the interactions between the competitive strategies and the radicalness of WCM, which is used to represent the radicalness of WCM under different

competitive strategies. Those interaction items are the dummy variables of strategic types multiply by the standardized IFP index, as shown in Table 2. And *i* represents the effective annual sample, and *t* is representative of the year from 2007 to 2014.

**Table 2.** How to set the interaction between competitive strategies and WCM

D1*IFP	D2*IFP	D3*IFP	Variables	Variable Declaration
=0	=0	=0	—	IFP under the Non-dominant Strategy
=1*IFP	=0	=0	D1 <sub>(i,t)</sub> *IFP <sub>(i,t)</sub>	IFP under the Differentiation Strategy
=0	=1*IFP	=0	D2 <sub>(i,t)</sub> *IFP <sub>(i,t)</sub>	IFP under the Cost Leadership Strategy
=0	=0	=1*IFP	D3 <sub>(i,t)</sub> *IFP <sub>(i,t)</sub>	IFP under the Combination Strategy

At the same time, in order to control and reduce the impact of exogenous issues on company value, On the basis of Na Wu and other research models and in order to control and reduce the impact of exogenous issues on company value [14], the paper select three control variables (the asset-liability ratio, corporate scale, enterprise risk) to control the influences of capital factor, scale factor and risk factor so as to improve the model’s accuracy, then the model is built as follows:

$$\begin{aligned}
 REVA = & \beta_0 + \beta_1 IFP_{(i,t)} + \beta_2 IFP_{(i,t)}^2 + \beta_3 DEBT_{(i,t)} \\
 & + \beta_4 RISK_{(i,t)} + \beta_5 SIZE_{(i,t)} + \beta_6 D1_{(i,t)} + \beta_7 D2_{(i,t)} + \beta_8 D3_{(i,t)} \\
 & + \beta_9 D1_{(i,t)} \times IFP_{(i,t)} + \beta_{10} D2_{(i,t)} \times IFP_{(i,t)} + \beta_{11} D3_{(i,t)} \times IFP_{(i,t)} + a_t + \varepsilon_{(i,t)}
 \end{aligned}
 \tag{11}$$

In the formula (11), REVA is dependent variable, namely the economic value added ratio, IFP is on behalf of the radicalness of WCM (the matching of the investing and financing management), RNWC represents configuration ratio of working capital, DEBT represents asset-liability ratio, RISK represents corporate risk, and SIZE represents company scale.  $\beta_0$  means the intercept of company value,  $(\beta_1 + \beta_2)$  represents the marginal impact on company value that WCM strategy aggressiveness have when companies do not have a dominant strategy,  $\beta_3$  represents the marginal impact that liabilities have on the value of corporate,  $\beta_4$  represents marginal impact of business risk,  $\beta_5$  represent marginal impact of firm size.  $(\beta_1 + \beta_2 + \beta_9)$  means the marginal impact on company value that WCM strategy radicalness have when companies implement differentiation strategy,  $(\beta_1 + \beta_2 + \beta_{10})$  means the marginal impact when implement cost leadership strategy, and  $(\beta_1 + \beta_2 + \beta_{11})$  means the marginal impact when carry out combination strategy.

**Empirical analysis**

**Sample selection**

According to the industry classification guidelines of listed companies, a share panel data of listed construction companies from 2007 to 2014 in Shanghai and Shenzhen Stock Exchange is selected as samples. In order to avoid the influence of outliers, this article excludes ST companies and the companies with missing data, and eventually gets 384 valid annual samples.

**The identification of competitive strategy**

Referred to research methods of Hambrick [15], the paper uses the total assets turnover, fixed assets turnover, current assets turnover, fixed assets ratio, and employee productivity to measure cost leadership strategy. Similarly, referred to research methods of David [16], gross margin, research and development intensity, marketing campaign, intangible assets ratio and the expense ratio are adopted to measure differentiation strategy. Factor analysis method is used to decrease dimensions and Bartlett sphericity test, and then cluster analysis is used to identify the competitive strategy type. Finally, competitive strategies would eventually be divided into four categories, namely differentiation strategy, cost leadership strategy, combination and non-dominant, with sample size of 13, 45, 37 and 289, respectively.

**Multivariate nonlinear regression analysis**

The paper standardizes the data and takes method of generalized least squares to build the model. At the same time, in order to test the applicability of panel data model and improve the accuracy of data analysis, the paper analyzes random effects, fixed effects and mixed effect,

respectively, and finds out the fixed effects model is optimal by Hausman Test and F test.

**The choice between the random effects model and the fixed effects model**

First, the paper uses the Random Effects model to estimate the IFP model in 3.2.2, and then does the Hausman Test. The result of the Hausman Test indicates that the Prob.=0.000, and Chi-Sq. Statistic=51.614, Chi-Sq. d.f.=9, so the null hypothesis is rejected, that is to say the Fixed Effects model is more suitable than the Random Effects model.

**The choice between the random effects model and the fixed effects model**

The paper uses the F Statistics methods to make a choice between the Random Effects model and the Fixed Effects model. The null hypothesis and the alternative hypothesis are as follow,

H<sub>0</sub>: When the real model is the Mixed Effects model, every individual's intercept parameter α<sub>i</sub> is same, and α<sub>i</sub>=α<sub>0</sub>.

H<sub>1</sub>: When the real model is the Fixed Effects model, every individual's intercept parameter α<sub>i</sub> is different.

The calculation of the F Statistics is as follow,

$$F = \frac{(SSE_r - SSE_u) / [(NT - k - 1) \square (NT - N - k)]}{SSE_u / (NT - N - k)} = \frac{(SSE_r - SSE_u) / 47}{SSE_u / 325} \tag{12}$$

$$SST = \sum_{i=1}^n (REVA_i - \overline{REVA}) \tag{13}$$

$$SSE = \sum_{i=1}^n (REVA_i - \overline{REVA}) \tag{14}$$

$$SSR = \sum_{i=1}^n \hat{\varepsilon}_i^2 \tag{15}$$

$$SST = SSE + SSR \tag{16}$$

$$R^2 = \frac{SSE}{SST} = 1 - \frac{SSR}{SST} \tag{17}$$

$$\bar{R}^2 = 1 - \frac{SSR}{SST} \times \frac{n-1}{n-k-1} = 1 - \frac{SSR}{SST} \times \frac{47}{36} \tag{18}$$

In the function (12), SSE<sub>u</sub> is the sum squared residual of the Fixed Effects model, SSE<sub>r</sub> is the sum squared residual of the Mixed Effects model. In terms of the estimated parameters, there are N-1 more parameters estimated with the Mixed Effects model than with the Fixed Effects model. Besides, N represents the number of cross-section individuals in T-period, k represents the number of explanatory variables. By calculation shows, the residual sum of squares of the Mixed Effects model is 63.321, the residual sum of squares of the Fixed Effects model is 13.814. The disp invFtail (54,211,0.05) is about 1.399, obviously, the F Statistics ( F= 13.814 ) is larger than 1.39, so the null hypothesis is rejected, that is to say the Fixed Effects model is the best suitable among Random Effects model, the Fixed Effects model and the Mixed Effects model. The R<sup>2</sup> and the adjusted R<sup>2</sup> are calculated by function (15-18).

**The regression results**

According to the correlation analysis, the maximum value is 0.481, this is to say, the multicollinearity does not exist among those variables. All variables but D3 pass through the significance test the at 95 % confidence level (see in Table 3).

**Table 3.** Correlation analysis of non-linear regression variables

Variables	ZREVA	ZIFP	ZIFP^2	ZDEBT	ZRISK	ZSIZE	D1	D2	D3
ZREVA	1.000	0.045	-0.037	0.481	-0.137	0.355	0.179	-0.044	-0.324
ZIFP	0.045	1.000	0.964	0.645	-0.168	0.203	-0.032	-0.327	-0.103
ZIFP^2	-0.037	0.964	1.000	0.528	-0.099	0.151	-0.045	-0.290	-0.048
ZDEBT	0.481	0.645	0.528	1.000	-0.232	0.531	0.014	-0.109	-0.299
ZRISK	-0.137	-0.168	-0.099	-0.232	1.000	0.124	-0.007	-0.024	-0.020
ZSIZE	0.355	0.203	0.151	0.531	0.124	1.000	0.029	-0.106	-0.261
D1	0.179	-0.032	-0.045	0.014	-0.007	0.029	1.000	-0.032	-0.044
D2	-0.044	-0.327	-0.290	-0.109	-0.024	-0.106	-0.032	1.000	-0.191
D3	-0.324	-0.103	-0.048	-0.299	-0.020	-0.261	-0.044	-0.191	1.000

Influence coefficients of the radicalness of WCM to the company value are listed in Table 4.

**Table 4.** Influence coefficients of the radicalness of WCM to the company value

Variables	Coefficient	Std. Error	t-Statistic	Prob.
ZIFP	2.508	0.913	2.748	0.007
ZIFP^2	-2.866	0.833	-3.440	0.001
ZDEBT	0.482	0.226	2.139	0.034
ZRISK	0.148	0.080	1.841	0.047
ZSIZE	-0.114	0.252	-0.453	0.651
D1	1.092	0.946	1.154	0.250
D2	-0.074	0.215	-0.347	0.729
D3	-0.183	0.184	-0.994	0.022
D1*ZIFP	-0.230	2.023	-0.114	0.910
D2*ZIFP	-0.463	0.217	-2.138	0.034
D3*ZIFP	-0.609	0.183	-3.330	0.001
C	-0.036	0.073	-0.486	0.027

The regression results indicate  $R = 0.795$ , adjusted  $R^2 = 0.619$ , F-statistic = 48.293, Prob (F-statistic) = 0.000, Durbin-Watson stat = 1.739, the regression effect is remarkable, the goodness of fit is better, and the result is not affected by multicollinearity.

① Model corresponded to the differentiation strategy

When  $D1 = 1, D2 = 0, D3 = 0$ , take average value of rest variables into the equation, and work out the relationship between the radicalness of WCM and company value, that is  $ZREVA = - 2.866 * ZIFP ^ 2 + 2.856 * ZIFP + 1.056$ .

② Model corresponded to the cost leadership strategy

When  $D1 = 0, D2 = 1, D3 = 0$ , take average value of rest variables into the equation, and work out the relationship between the

radicalness of WCM and company value, that is  $ZREVA = - 2.866 * ZIFP ^ 2 + 2.045 * ZIFP - 0.110$ .

③ Model corresponded to the combination strategy

When  $D1 = 0, D2 = 0, D3 = 1$ , take average value of rest variables into the equation, and work out the relationship between the radicalness of WCM and company value, that is  $ZREVA = - 2.866 * ZIFP ^ 2 + 1.137 * ZIFP - 0.219$ .

④ Model corresponded to the non-dominant strategy

When  $D1 = 0, D2 = 0, D3 = 0$ , take average value of rest variables into the equation, and work out the relationship between the radicalness of WCM and company value, that is  $ZREVA = - 2.866 * ZIFP ^ 2 + 0.62 * ZIFP - 0.416$ .

Thus, the paper draws the relationship between the radicalness of the overall WCM and company value, as shown in Figure 2.

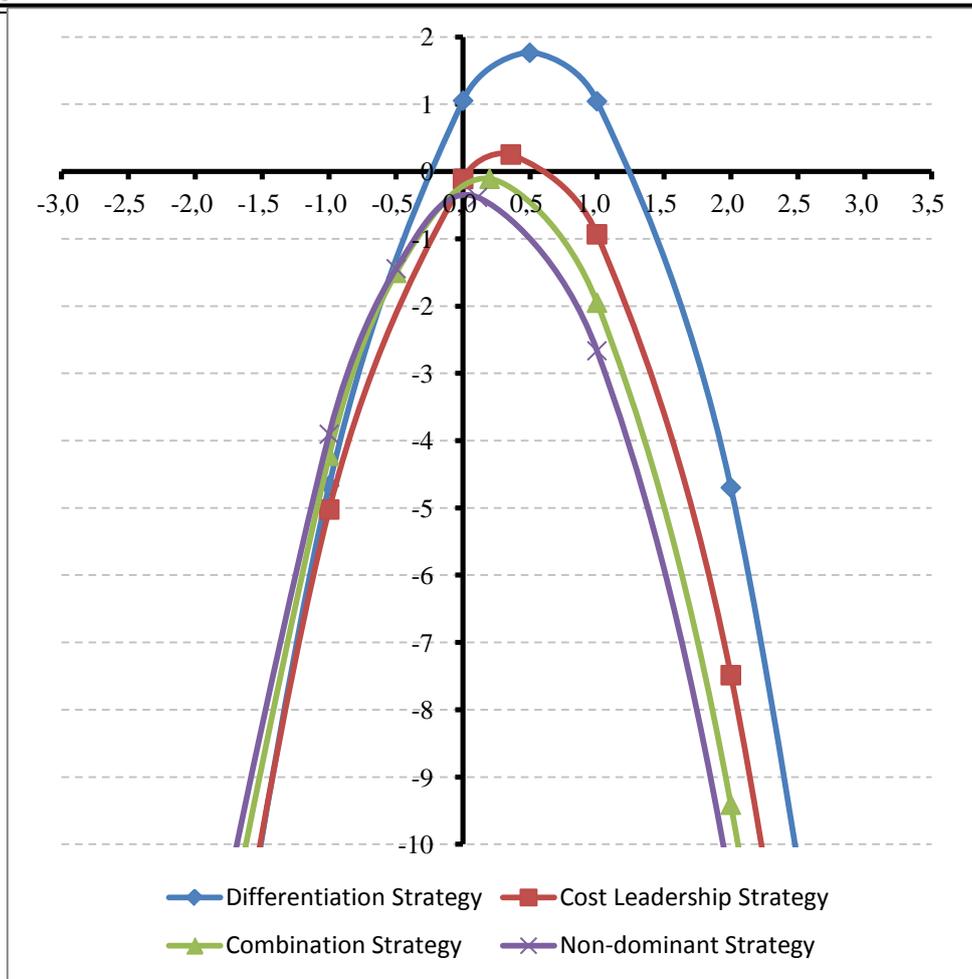


Figure 2. The influence of IFP on company value under different competitive strategies

In order to study the radicalness of overall WCM adopted, the paper makes clustering analysis on IFP, and the final cluster centers on 0.222, 0.362 and 0.491 with corresponded interval of [0.035, 0.292], [0.294, 0.426] and [0.429, 0.756]. According to definition rules of IFP, IFP of construction companies are divided into conservation 30.34%, moderation 41.42% and radical type 28.23%. When company value reaches

its maximum, and the corresponding IFP is the best with different competitive strategies. The results show that there are significant difference in IFP under different competitive strategies, but on the whole the optimal WCM strategies are all moderation though being in different position, which also verifies the conclusions of Huaiyi Liu, as shown in Table 5.

Table 5. The optimal WCM strategy under different competitive strategies

Competitive strategy	ZREVA Maximum	ZIFP corresponding values	IFP corresponding values	Radicalness of WCM
Differentiation	1.768	0.498	0.414	Moderation (lean to radicalness)
Cost Leadership	0.255	0.357	0.398	Moderation (lean to radicalness)
Combination	-0.106	0.198	0.379	Moderation (lean to radicalness)
Non-dominant	-0.382	0.108	0.369	Moderation (lean to the conservative)

Studies have shown that under different competitive strategies, the optimal WCM is the moderate one and the impact trend of aggressiveness on company value is consistent though with variable extreme points. It follows that companies who implement differentiation strategy and cost leadership strategy should take a relatively aggressive WCM, and who carry out the combination strategy and non-dominant strategy should take a relatively conservative WCM. In addition, the studies have also found when the aggressiveness is consistent, construction companies with the implementation of differentiation strategy are more able to create value, followed by cost leadership strategy, and those with the combination strategy and non-dominant strategy are weaker in terms of value creation.

## Conclusions

The research findings from this study further prove that the overall WCM performance of Chinese construction companies is poor, more specifically, the investing and financing policies adopted by most construction companies do not match, which are expressed in a specific way that about 30% of listed construction companies have adopted too conservative working capital policies resulting in high allocation level of working capital, and the working capital policies have adopted by about 28% are too radical which leading to the lack of working capital liquidity. As a whole, compared to the trends of international working capital policies getting increasingly aggressive, the policies of Chinese listed construction companies are still too conservative, and Chinese construction companies have poorer performance in WCM compared with the world-class contractors. All these greatly reduce the overall profitability of construction companies resulting in becoming increasingly inadapted to the development since financial leverage have become so important.

## References

1. Deloof M. (2003) Does Working Capital Management Affect Profitability of Belgian Firms?. *Journal of Business, Finance and Accounting*, 30(3), p.p.573-587.
2. Harris A. (2005) Working Capital Management: Difficult, but Rewarding. *Financial Executive*, 21(4), p.p.52-53.
3. Keith V. Smith. (1979) State of the Art of Working Capital Management. *Financial Management*, 2(3), p.p.50-55.
4. Lamberson M. (1995) Changes in Working Capital of Small Firms in Relation to Changes in Economic Activity. *Mid-American Journal of Business*, 10(2), p.p.45-50.
5. Filbeck G and T Krueger (2005) Industry Related Differences in Working Capital Management. *Mid- American Journal of Business*, 20(2), p.p.11-18.
6. Wang Zhuquan et al. (2007) A Review and Prospect of the Working Capital Management. *Accounting Research*, 2(1), p.p.85-92.
7. Hampton JJ, Wagner CL. (1989) *Working Capital Management*. Wiley Interscience: New York
8. Moyer RC, Mcguigan JR, Kretlow WJ. (1998) *Contemporary Financial Management*, St. Paul: West Publishing Company, 1(1), p.p.51-58.
9. Weinraub HJ, Visscher S. (1998) Industry Practice Relating to Aggressive Conservative Working Capital Policies. *Journal of Financial and Strategic Decision*, 11(2), p.p.11-18.
10. Sathyamoorthi C. (2002) Management of Working Capital in Selected Co-operatives in Botswana. *Finance India*, 16(3), p.p.1015-1034.
11. Afza T, Nazir MS. (2007) Is It Better to Be Aggressive Or Conservative in Managing Working Capital. *Journal of Quality and Technology Management*, 3(2), p.p.11-21.
12. Huaiyi Liu (2013) An empirical study on the influence factors of working capital management. *Nankai Economic Studies*, 1(3), p.p.105-115, 134.
13. Caiying Tian (2012) An empirical analysis on the working capital management of the real estate industry listing companies. *Finance and Accounting Monthly*, 1 (8), p.p.31-34.
14. Na Wu (2007) *Analysis on Working Capital Management from the Perspective of the Managerial Balance Sheet*. Chengdu: Southwestern University of Finance and Economics.
15. Hambrick DC, Macmillan IC. (1984) Asset Parsimony-managing Assets to Manage Profits. *Sloan Management Review*, 25(2), p.p.67-74.
16. David JS, Hwang Y, Pei BK, et al. (2002) The Performance Effects of Congruence between Product Competitive Strategies and Purchasing Management Design. *Management Science*, 2002, 48(7), p.p.866-885.