

Financial Flexibility and Commercial Credit Supply

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Abstract

This paper takes Chinese A-share non-financial listed companies from 2014 to 2019 as research samples to explore the impact of corporate financial flexibility on the supply of commercial credit. The results show that the financial flexibility of corporate reserve has a negative impact on the supply of corporate commercial credit. The stronger the financial flexibility of enterprises, the supply of commercial credit is constrained; The financial flexibility established from the perspective of enterprise operating cash holding level and bank credit line is unfavorable to the supply of enterprise commercial credit to some extent. This study enriches the research of financial flexibility and commercial credit, and has enlightenment significance to the study of the appropriateness of financial flexibility reserve in enterprise working capital management.

Keywords

Financial Flexibility; Supply of Commercial Credit; Enterprise Working Capital Management.

1. Introduction

With the rapid development of China's "new normal economy", the demand for industrial structure transformation and upgrading is increasing. Risks and opportunities coexist. The prosperity of enterprises is closely related to the cyclical fluctuations of the economy, the regulation and control of macroeconomic policies, the transformation of market competition demands and their own strategic positioning. Investigate its fundamental, the competitive power problem becomes the focus of attention naturally. However, the synergy of competitive tactics and corporate strategy is not achieved overnight. On the one hand, financial flexibility, as an important redundant resource of an enterprise, plays a role in coordinating the flexibility of enterprise business strategy. On the other hand, the enterprise operation system lacks the motivation to improve the effectiveness of financial flexibility, and the redundant buffer capacity will lead to the waste of financial resources, capabilities and information [1].

Financial flexibility refers to a systematic comprehensive ability of an enterprise to proactively cope with various uncertain risks by integrating financial resources and capabilities. Such "system comprehensive capability" generally consists of financial buffering capability, adaptability capability, coordination capability and innovation capability [1]. What is undeniable is that the financial flexibility in the enterprise market competition strategy, technology and organization uncertainty presents optimistic buffer coordination, but companies as the market competition in the upstream, the race to the top of the profit organization, with only a conservative company strategy of coordination ability to adapt is not enough, Keen sense of the market, flexible allocation of enterprise resources, the combination of prevention and efficiency, timely and appropriate adjustment of the company's strategy and operation management are all indispensable parts. In fact, within a certain accounting period, the proportion of liquidity resource allocation in the capital structure of enterprises usually fluctuates little, which is a great challenge to the corporate strategy matching the market competition and the enterprise resources needed to adjust the resource allocation and reserve

enough financial flexibility. Commercial credit refers to the credit provided by the enterprise (supplier) selling products or providing services to the enterprise (customer) buying products or receiving services in the process of transactions between enterprises. From the perspective of the buyer, it is the behavior of the enterprise to use the funds of other enterprises to operate the capital flow during the credit period to achieve a certain purpose by delaying the payment of goods (Amiti and Weinstein, 2011) [3]. It can be the acquisition of cash discount or short-term investment income. It can also be a means for enterprises to relieve financing pressure. From the seller's point of view, the enterprise provides a disguised form of short-term loan for the buyer through delayed collection of payment, which functions as both a competitive market means and a financing tool (Petersen and Rajan, 1997; Lu Zhengfei, Yang Deming, 2011) [4]-[5], the realization of such commercial credit supply behavior needs to cost the enterprise's own resources.

Whether the supply of commercial credit is for the purpose of market competition or speculation of short-term financing tools, the supply of commercial credit and the flexible financial reserve need the support of the enterprise's own resources. When firm resources are relatively sufficient, the mutually exclusive effect of the two on firm resource allocation demand is not obvious. When there is a shortage of enterprise resources, the company's strategy corresponding to the two resource allocation requirements must be some of the loss of one.

Some studies have recognized the positive impact of financial flexibility on corporate strategy, financing constraints and enterprise value from the perspective of prevention and utilization. Hayward et al. [6] found in their study that financial flexibility plays an important role in the strategic adjustment of enterprises, which can help enterprises acquire resources and reconstruct resources to cope with the changes of external environment. Flexible enterprises can avoid financial difficulties in the face of negative shocks, and at the same time can finance possible investment opportunities in the future (Gamba and Triantis, 2008) [7]. By comparison, Gamba & Triantis found that companies with high financial flexibility had significantly different performance improvement compared with those with low financial flexibility, further confirming the significance of financial flexibility in enhancing enterprise value.

Compared with the existing research, the possible theoretical contribution of this paper lies in : (1) expanding the research on commercial credit from the perspective of financial flexible reserve motivation. The existing research on how financial flexibility negatively affects commercial credit supply lacks attention. This paper analyzes and examines the impact and mechanism of financial flexibility on commercial credit supply, and expands the perspective of research on commercial credit supply. (2) From the perspective of enterprise working capital management, the paper reveals the mechanism of financial flexible reserve and commercial credit supply, and further improves the theoretical framework of commercial credit research. (3) It enriches the research in the field of corporate strategy and financial decision-making. Starting with the motivation of commercial credit supply, this paper discusses the influence of financial flexibility on enterprise working capital management decision, which has certain enlightenment to the study of enterprise accounting and financial behavior. In addition, the research conclusion of this paper has certain practical significance, which is helpful to the reasonable allocation of working capital resources in commercial credit supply and financial flexible reserve.

2. Review of Relevant Literature

Most foreign literatures focus on financial flexibility from the perspective of prevention and speculation. For example, financial flexibility refers to the ability of an enterprise to obtain or invoke financial resources in time to prevent or utilize uncertain events, grasp valuable investment opportunities and maximize corporate value (Graham and Harvey, 2001) [8];

FASB,2008; Byoun,2011[9]; DeAngelo and DeAngelo, 2009 [10]). Marchica and Mura (2010) [11], Arslan et al. (2013) [12] and Zeng Aimin et al. (2011) [13] all used the single indicator determination method to study the financial flexibility of enterprises. DeAngelo and DeAngelo (2009) [10] believe that it is appropriate to combine multiple financial indicators (such as financial leverage ratio and cash holdings, etc.) to measure corporate financial flexibility. Doidge et al. (2009) [14], Arslan et al. (2013) [12] and Ma Chunai et al. (2010) [15] all used the multi-index synthesis method to measure the financial flexibility of enterprises. This paper adopts the same financial flexibility measurement method as Zeng Aimin et al. (2011) [13], namely, cash flexibility = enterprise cash holding ratio - industry average cash holding ratio, debt financing flexibility = Max (0, industry average debt ratio - company debt ratio).

According to the liquidity preference theory of cash holding proposed by Keynes (1936), corporate cash holding motivation can be summarized into three aspects: transactional motivation, preventive motivation and speculative motivation. Graham and Harvey (2001) [8] found in their investigation that financial flexibility is the primary determinant of financial decisions made by CFOs. DeAngelo and DeAngelo (2007) [16] theoretically explained that from the perspective of financial flexibility, conservative debt and flexible dividend policy are the optimal financial policy choices of enterprises. Acharya et al. (2014) [17] studied the substitution relationship between cash and credit line, which can also provide financial flexibility for enterprises. Hoberg ETAL. (2014) [18] studied that in order to improve financial flexibility, enterprises would reduce the tendency to pay through dividends or repurchase and improve their cash holdings. Sandri et al. (2010) [19] believes that enterprises are motivated by precautionary motivation, and the higher the uncertainty of the company's future operation, the greater the amount of cash held by the company. Harford (1999) [20] found that cash-rich companies are more likely to carry out MERGERS and acquisitions, and the purchase price they pay is often too high, and the business performance after mergers and acquisitions is often worse than other mergers and acquisitions. Almeida, Campello and Weisbach (2002) [21] found that the management with low shareholding level would still accumulate cash and maintain a high cash holding level when the company has abundant cash flow and no financing constraints. The above literature shows that the high financial flexible reserve manifested by excess cash holdings will not only satisfy the precautionary motivation of enterprises, but also cause a serious waste of redundant resources, and will have many adverse effects on the sustainable operation and working capital management of enterprises. Therefore, there are relevant "tradeoff theory" that corporate cash holdings should be balanced between preventive motivation and transactional motivation benefits. Xin Yu and Xu Liping (2006a) [22] believed that the better the micro-governance mechanism of listed companies is, the more reasonable the cash holding level will be, and the less possibility there will be cash redundancy and cash shortage. Therefore, whether it is "trade-off theory" or micro-governance, high cash holding without considering the enterprise's own working capital management will cause a series of adverse effects on the enterprise.

In conclusion, the existing literature is mostly studies the positive effects of flexible financial reserves, for financial flexibility has made a good contribution to the influence of aspect, but about to influence trade credit supply financial flexibility to the research of the motives of accounting behavior still few, studies of financial flexibility and the commercial credit financing more mechanism from the Angle of its positive influence, However, as a system of profit-making organizations, enterprises have their own operating mechanism. The favorable influence is certainly good, and the conditions for realizing its mechanism cannot be ignored. In view of the above problems, this paper studies the influence mechanism of commercial credit supply from the perspective of financial flexible reserve motivation, which not only enrich is the theoretical research on financial flexibility and commercial credit, but also explores the reality of high financial flexible reserve from the practical point of view.

3. Theoretical Analysis and Research Hypothesis

3.1. Financial Flexibility and Commercial Credit Supply

The representative measurement index of corporate financial flexible reserve usually combines the judgment of cash flexibility and debt financing flexibility, and is also the measurement index adopted by Arslan et al. (2013) [12] and Zeng Aimin et al. (2011) [13]. Enterprises' financial flexible reserves mainly come from internal capital accumulation and external credit financing. The amount of the two reserves is closely related to enterprises' sales performance and operating conditions. Commercial credit can be used as a financing method for enterprises and a means of competition in the product market, which is confirmed by the commercial credit competition hypothesis proposed by Fisman and Raturi (2004) [23] and Van Horen (2005) [24]. Therefore, the supply of commercial credit can be understood as a short-term loan financing provided by enterprises to customers through deferred collection, which functions as both a competitive market means and a financing tool (Petersen and Rajan, 1997; Lu Zhengfei, Yang Deming, 2011) [4]-[5]. Enterprise working capital management strategy is largely changed along with the corporate cash holding abundant degree, commercial credit supply in limited financing customer funds also takes up the enterprise's own money, delay gathering some of the money in the enterprise the overall operation of the capital layout of lines often need through the enterprise trading activities to compensate for the other, So the corresponding commercial credit supply and market competition strategy consultation to a certain extent by the cash holdings of the enterprise working capital management strategy, commercial credit supply overdue amount to enterprise own capital ratio is higher, the enterprise for the lower working capital management of liquidity, the liquidity that quick ratio also reduced accordingly, Opler et al.(1999)[25] and Bate et al.(2009)[26] showed that corporate profitability, working capital and financial risk would affect the level of corporate cash holdings.

Jian-wei cheng and wei-xian zhou (2007) [27] study found that the higher the company's investment level is, the more, the higher the company's debt ratio, cash substitutes, commercial credit supply delay payment methods similar to short-term foreign borrowing financing, belong to the working capital of foreign investment enterprises, commercial credit supply takes up limit, the higher the required instead of money amount is higher, Bank credit as a means of financing will lead to higher debt ratio of the company. Commercial credit supply, therefore, the corresponding sales as the main source of revenue, enterprise commercial credit supply enterprise fund proportion is higher, the enterprise operating the lower liquidity, while maintaining high flexible enterprise financial reserves and the funds required for the high cash levels will not be able to maintain, money missing parts or by revenue collection, In other words, the supply of commercial credit is mutually restricted with the degree of enterprise financial flexible reserve. Based on this, hypothesis 1 is proposed in this paper.

H1: Assuming that other conditions remain unchanged, the higher the level of flexible financial reserve, the lower the supply of commercial credit.

3.2. The Mechanism of Financial Flexibility on Business Credit: Based on the Mediating Effect of Operating Cash Holding Level

According to the above analysis, from the perspective that the supply of commercial credit occupies the enterprise's own funds, the mechanism of the effect of the enterprise's financial flexible reserve on the supply of commercial credit may be through affecting the cash holding level required by the enterprise's working capital management strategy, and then affecting the amount of the supply of commercial credit. Corporate strategy is either aggressive or conservative and usually fluctuates little over a given accounting period. Radical corporate strategy in working capital management performance for product market competition, or under the fierce market competition, or to grab market share, new products or by products

unsalable, firms have to expand the commercial credit supply lines, from the perspective of the layout of working capital management requirements, this will lead to enterprise operating activities cash levels are low, Thus affect the enterprise financial flexible reserve; On the contrary, the lower the financial flexible reserve of an enterprise is, the lower the cash holding level is usually, and the enterprise often needs to adjust the commercial credit supply strategy and increase the product sales performance to maintain the future cash inflow. In the short term, the lower the financial flexible reserve of an enterprise is, the lower the cash holding level is, and the higher the commercial credit supply level is. Conservative strategy for protection against the risk, keep product market share, stable yield, the purpose of commercial credit supply collection speed affect the enterprise cash levels and flexible enterprise financial strength, the enterprise in order to guarantee high flexible financial reserves, usually requires to keep the high level of cash holdings, to commercial credit supply takes up the proportion of enterprise own capital limited, Generally, the higher the enterprise's financial flexible reserve is, the higher the cash holding level is, and the lower the commercial credit supply level is. In view of this, this paper proposes hypothesis 2.

H2: The higher the financial flexible reserve is, the higher the cash holding level is, and the lower the commercial credit supply level is.

3.3. The Mechanism of Financial Flexibility on Commercial Credit: Based on the Mediating Effect of Corporate Bank Credit Financing Level

From the perspective of the prevention motive of commercial credit supply, the mechanism of corporate financial flexible reserve on the supply of commercial credit may be through affecting the debt ratio corresponding to the bank credit financing level, and affecting the amount of corporate commercial credit supply. From the point of contagion effect of supply chain, supplier a glorious all glory, broken between companies and customers, enterprise commercial credit supply as ease customer financing constraints and to provide customers a short-term credit investment, the potential contagion effects between suppliers and customers, because the working capital amount commercial credit supply to take up the enterprise is bound to affect enterprise of their freedom to its own funds, In order to maintain sufficient financial flexibility, enterprises often need to make up for the capital share occupied by commercial credit supply through the alternative way of bank credit financing, that is, the dilemma of corporate customers' financing constraints will affect the financing level of enterprises to a certain extent. The more flexible financial reserves an enterprise has, the higher the level of bank credit financing will be. Considering the awareness of risk prevention, the proportion of the supply line of commercial credit of the enterprise will be reduced, so as to make up for the missing cash line faster. On the contrary, the less flexible financial reserve of enterprises, the lower the level of bank credit financing, the more limited financing, enterprises have to sell more goods in the short term to provide more commercial credit supply in order to maintain sufficient cash holding level in the future. In view of this, this paper proposes hypothesis 3.

H3: The higher the enterprise financial flexible reserve is, the higher the bank credit financing level is, and the lower the commercial credit supply level is.

4. Study Design

4.1. Samples and Data

The data in this paper are from THE CSMAR database, and 15036 A-share listed companies are selected from 2014 to 2019. (2) Corporate data with missing data were removed; (3) Excluded the data of companies whose data do not conform to the normal operation situation, such as the debt ratio less than 0 and greater than 1, and the companies with negative receivables and

payables and cash holdings, etc. A total of 9532 imbalanced panel data were obtained. To overcome the influence of extreme values, variables are winsorized at 1% and 99% levels.

Table 1. Variable definitions

variable name	variable definition
QC1	Accounts receivable/revenue
QC2	(Accounts receivable - accounts received in advance)/revenue
FF	Cash flexibility + debt financing flexibility
	Cash flexibility = corporate cash holding ratio - industry average cash holding ratio
	Debt financing flexibility =Max(0, industry average debt ratio - company debt ratio)
Cash1	Monetary capital/total assets
Banklev	(Short term borrowings + long term borrowings + long term borrowings due within 1 year)/Total assets
TBQ	Tobin's Q value A, market capitalization A/ total assets; If the denominator has no value, it is NULL
Financilev	financial leverage
Cash2	(monetary capital + tradable financial assets)/total assets
Customer	Proportion of top five customer sales to total sales
Roa	Net return on total assets
Size	The natural log of total assets
Lev	Total liabilities/total assets
Growth	Sales revenue growth rate

4.2. Model Construction

According to the correlation analysis in this paper, referring to the studies of Lu Zhengfei et al. [28] and Yu Minggui et al. [29], the main effect regression model (1) is established to test hypothesis 1. If hypothesis 1 is true, the coefficient α_1 of financial flexibility (FF) is significantly negative. Detailed variable definitions are shown in Table 1.

$$\begin{aligned}
 QC1 = & \alpha_0 + \alpha_1 FF + \alpha_2 Cash1 + \alpha_3 Banklev + \alpha_4 TBQ + \alpha_5 Financilev + \alpha_6 Cash2 \\
 & + \alpha_7 Customer + \alpha_8 Roa + \alpha_9 Size + \alpha_{10} Lev + \alpha_{11} Growth + \alpha_{12} \epsilon
 \end{aligned}
 \tag{1}$$

In order to test hypothesis 2 and 3, models (2), (3) and (4)) are designed to test the influence mechanism of financial flexibility on commercial credit. X in the model represents the operating cash flow (Cash1) and the bank credit level (Banklev) respectively. Referring to the method of Wen Zhonglin et al. [30], the first step is to estimate model (2) and further investigate the significance of the mediation effect on the premise that α_1 is significant. The second step estimation model (3) and (4), if the beta 1 regression coefficient is positive, the regression coefficient of gamma 2 significantly negative, explain enterprise financial flexible reserve level, the higher the corresponding enterprise operating cash levels or bank credit financing level is higher, restricted by its working capital management strategy, which reduces the commercial credit supply foreign investment; The higher the company's financial flexible reserve, the lower the company's foreign commercial credit supply level. Third, if the coefficient γ_1 is not significant, it indicates that the level of operating cash holding or bank credit financing plays a complete intermediary role. The coefficient γ_1 was still significant, indicating that the level of operating cash holdings or bank credit financing played a partial intermediary role.

$$\begin{aligned}
 QC1 = & \alpha_0 + \alpha_1 FF + \alpha_2 Xi + \alpha_3 TBQ + \alpha_4 Financilev + \alpha_5 Cash2 \\
 & + \alpha_6 Customer + \alpha_7 Roa + \alpha_8 Size + \alpha_9 Lev + \alpha_{10} Growth + \alpha_{11} \epsilon
 \end{aligned}
 \tag{2}$$

$$Xi = \beta_0 + \beta_1FF + \beta_2TBQ + \beta_3Financilev + \beta_4Cash2 + \beta_5Customer + \beta_6Roa + \beta_7Size + \beta_8Lev + \beta_9Growth + \beta_{10}\epsilon \tag{3}$$

$$QC1 = \gamma_0 + \gamma_1FF + \gamma_2Xi + \gamma_3TBQ + \gamma_4Financilev + \gamma_5Cash2 + \gamma_6Customer + \gamma_7Roa + \gamma_8Size + \gamma_9Lev + \gamma_{10}Growth + \gamma_{11}\epsilon \tag{4}$$

5. Empirical Results and Analysis

5.1. Descriptive Statistics

Descriptive statistics of the main variables are shown in Table 2. The data show that the minimum value of QC1 is 0.000426 and the maximum value is 1.090. The minimum value of QC2 is -0.804, and the maximum value is 1.047. It shows that there is a certain gap in the supply level of commercial credit for different enterprises.

Table 2. Decriptive statistics

VARIABLES	N	mean	sd	min	max
TBQ	9,532	2.224	1.328	0.869	8.379
FF	9,532	0.175	0.147	0.00176	0.681
QC1	9,532	0.260	0.230	0.000426	1.090
QC2	9,532	0.190	0.274	-0.804	1.047
Financilev	9,532	1.126	0.508	0	4.401
Cash2	9,532	0.216	0.132	0.0243	0.644
Banklev	9,532	0.0791	0.0945	0	0.402
Customer	9,532	31.98	22.05	1.250	96.03
Cash1	9,532	0.230	0.140	0.0266	0.678
Roa	9,532	0.0597	0.0426	0.000462	0.210
Size	9,532	9.521	0.506	8.676	11.13
Lev	9,532	0.317	0.169	0.0512	0.799
Growth	9,532	6.974	608.6	-2.780	59,412

5.2. Correlation Analysis

According to the correlation analysis results, except that the correlation coefficient between QC1 and QC2 is 0.868, the correlation coefficient between Cash1 and Cash2 is 0.922, the correlation coefficient between Banklev is 0.647, the correlation coefficient between Size and Lev is 0.533. The correlation coefficients between the remaining variables are all less than 0.5, that is, there is no multicollinearity between the main variables. There is a significant negative correlation between financial flexibility (FF) and two variables measuring commercial credit supply (QC1/QC2), indicating that the higher the level of financial flexibility reserve, the lower the amount of external commercial credit supply, which preliminarily verifies hypothesis 1. In addition, the level of cash held in business activities (Cash1) is significantly negatively correlated with the supply of commercial credit (QC1/QC2), that is, the lower the balance of cash held in business activities, the more inclined enterprises are to provide the supply of commercial credit in order to maintain sufficient cash inflow in the future. Company bank credit financing (Banklev) take up the limit is lower, the enterprise for the sake of product market competition strategy, tends to provide more business credit supply, so that the preemption

market share, namely the enterprise operating activities cash levels and the level of bank credit financing is negatively related to the foreign provide commercial credit supply lines.

5.3. Regression Analysis

The multiple regression results of model (1) are shown in Column (3) of Table 3 and Table 4. The regression coefficient of enterprise financial flexibility is significantly negative, indicating that the higher the level of enterprise financial flexibility reserve is, the lower its foreign commercial credit supply will be. Substitution variables QC1 (net receivables/revenue), to QC2 ((net receivables - advance payment)/operating income) to measure enterprise commercial credit supply level, the return of the enterprise financial flexibility is still significantly negative (Table 5), the hypothesis was tested 1, namely enterprise financial flexible reserve level is higher, the lower the commercial credit supply lines.

Table 3. Effect mechanism of financial flexibility on commercial credit supply: operating cash holding level of enterprises

	(1)	(2)	(3)
VARIABLES	QC1	Cash1	QC1
FF	-0.393*** (-14.84)	0.024*** (3.54)	-0.389*** (-14.70)
Cash1			-0.150*** (-3.69)
Banklev	-0.068** (-2.08)	-0.042*** (-5.11)	-0.074** (-2.27)
TBQ	0.002 (1.17)	-0.002*** (-4.77)	0.002 (0.99)
Financilev	-0.012** (-2.56)	0.000 (0.31)	-0.012** (-2.55)
Cash2	0.159*** (6.31)	0.948*** (149.74)	0.301*** (6.54)
Customer	0.002*** (19.59)	0.000 (0.43)	0.002*** (19.62)
Roa	-1.017*** (-17.84)	0.118*** (8.22)	-0.999*** (-17.48)
Size	-0.084*** (-15.31)	-0.001 (-0.68)	-0.084*** (-15.34)
Lev	-0.225*** (-9.52)	-0.014** (-2.33)	-0.227*** (-9.61)
Growth	-0.000 (-0.73)	-0.000 (-0.13)	-0.000 (-0.73)
Constant	1.174*** (22.72)	0.035*** (2.68)	1.179*** (22.83)
Observations	9,532	9,532	9,532
R-squared	0.145	0.854	0.146
F test	0	0	0
r2_a	0.144	0.854	0.145
F	161.4	5590	148.1

Note: *, ** and *** are significant at the level of 10%, 5% and 1% respectively, and are t values in brackets.

The regression results of model (2) are shown in Table 3 and Table 4. Table 3 shows the mediation effect test with QC1 as the dependent variable. Among them, the coefficient of financial flexibility (FF) in column (1) is significantly negative, indicating that the increase of enterprise financial flexibility reserve will weaken the supply of commercial credit; (2) The coefficient of financial flexibility in the column is significantly positive, indicating that the

higher the level of flexible reserve of blood donation, the higher the level of operating cash holding; (3) The coefficient of Cash1 in operating activities is significantly negative, indicating that the less cash balance in operating activities, the more commercial credit supply enterprises can provide to ensure sufficient cash inflow from operating activities in the future. However, the coefficient of Cash2 is significantly positive. It shows that the total cash holdings of investment activities and operating activities have a positive effect on the supply of corporate commercial credit, which happens to coincide with the positive effect of corporate financial flexibility. The above results show that the mediating effect is established, indicating that the level of cash holding in operating activities plays a mediating effect between financial flexibility and commercial credit supply. It can be seen that the higher the level of financial flexible reserve of an enterprise, the higher the level of cash held in operating activities. In order to ensure the stability of cash flow, the enterprise will reduce the supply of commercial credit to foreign countries, and the income from sales will tend to be sold on a cash basis. Hypothesis 2 has passed the test.

Table 4. Effect mechanism of financial flexibility on commercial credit supply: Bank credit financing

	(1)	(2)	(3)
VARIABLES	QC1	Banklev	QC1
FF	-0.391***	0.025***	-0.389***
	(-14.78)	(2.98)	(-14.70)
Banklev			-0.074**
			(-2.27)
Cash1	-0.145***	-0.065***	-0.150***
	(-3.57)	(-5.11)	(-3.69)
TBQ	0.002	-0.001***	0.002
	(1.05)	(-2.62)	(0.99)
Financilev	-0.015***	0.040***	-0.012**
	(-3.28)	(27.28)	(-2.55)
Cash2	0.303***	-0.027*	0.301***
	(6.58)	(-1.88)	(6.54)
Customer	0.002***	0.000***	0.002***
	(19.51)	(6.20)	(19.62)
Roa	-0.986***	-0.171***	-0.999***
	(-17.33)	(-9.59)	(-17.48)
Size	-0.084***	0.003	-0.084***
	(-15.37)	(1.48)	(-15.34)
Lev	-0.249***	0.304***	-0.227***
	(-11.65)	(45.26)	(-9.61)
Growth	-0.000	0.000	-0.000
	(-0.77)	(1.55)	(-0.73)
Constant	1.184***	-0.063***	1.179***
	(22.94)	(-3.90)	(22.83)
Observations	9,532	9,532	9,532
R-squared	0.146	0.500	0.146
F test	0	0	0
r2_a	0.145	0.499	0.145
F	162.4	950.9	148.1

Note: *, ** and *** are significant at the level of 10%, 5% and 1% respectively, and are t values in brackets.

Table 4 shows the mediation effect test with QC1 as the dependent variable. Among them, the coefficient of financial flexibility (FF) in column (1) is significantly negative, indicating that the increase of enterprise financial flexibility reserve will weaken the supply of commercial credit;

(2) The coefficient of financial flexibility in the column is significantly positive, indicating that the higher the level of financial flexibility reserve, the higher the level of commercial credit financing; (3) The coefficient of commercial credit financing (Banklev) in the column is significantly negative, indicating that the higher the enterprise's commercial credit financing, the higher the debt ratio, the enterprises will tighten the supply line of commercial credit to foreign countries and tend to adopt the timely payment collection strategy of sales income in consideration of future repayment pressure. The above results show that the mediation effect is established, indicating that bank credit financing plays a mediation effect between financial flexibility and commercial credit supply. It can be seen that the higher the level of financial flexible reserve is, when the bank credit financing method ensures sufficient financial flexibility and stability, the enterprise will often reduce the external supply of commercial credit, and the sales income will tend to be sold on cash. Hypothesis 3 has passed the test.

5.4. Stability Test

Table 5. The regression results

VARIABLES	QC2	Cash1	QC2
FF	-0.573***	0.024***	-0.569***
	(-18.88)	(3.54)	(-18.72)
Cash1			-0.200***
			(-4.29)
Banklev	0.413***	-0.042***	0.405***
	(11.06)	(-5.11)	(10.83)
TBQ	0.002	-0.002***	0.001
	(0.80)	(-4.77)	(0.59)
Financilev	0.009*	0.000	0.009*
	(1.67)	(0.31)	(1.69)
Cash2	0.225***	0.948***	0.415***
	(7.78)	(149.74)	(7.85)
Customer	0.003***	0.000	0.003***
	(23.86)	(0.43)	(23.90)
Roa	-0.721***	0.118***	-0.697***
	(-11.02)	(8.22)	(-10.63)
Size	-0.080***	-0.001	-0.081***
	(-12.82)	(-0.68)	(-12.86)
Lev	-0.722***	-0.014**	-0.725***
	(-26.69)	(-2.33)	(-26.81)
Growth	-0.000	-0.000	-0.000
	(-0.72)	(-0.13)	(-0.73)
Constant	1.144***	0.035***	1.151***
	(19.31)	(2.68)	(19.44)
Observations	9,532	9,532	9,532
R-squared	0.205	0.854	0.206
F test	0	0	0
r2_a	0.204	0.854	0.205
F	245.1	5590	224.9

Note: *, ** and *** are significant at the level of 10%, 5% and 1% respectively, and are t values in brackets.

As a robustness test, in Table 3, based on the QC2 ((net receivables - advance payment)/revenue) instead of QC1 measure enterprise commercial credit supply, regression results as shown in Table 5, enterprise financial flexible storage levels and providing commercial credit supply lines reverse changes, enterprises operating activities cash levels is negatively related

to the commercial credit supply, The financial flexible reserve of an enterprise is positively correlated with the cash holding level of operating activities. The better the financial flexibility of an enterprise is, the enterprises tend to reduce the amount of commercial credit supply to foreign countries and pay more attention to the operating cash inflow corresponding to sales income for the preventive motivation of maintaining sufficient and stable financial flexibility and cash holding level. It can be seen that the conclusion above is still valid after the measurement of commercial credit is changed.

6. Research Conclusion

This paper investigates the effect and mechanism of financial flexibility on commercial credit supply. China a-share non-financial listed companies in 2014-2019 data on research and analysis, the company's financial flexibility has A significant influence on commercial credit supply, flexible financial reserves, the higher the providing commercial credit, the lower the supply lines of foreign enterprises and further studies have found that financial flexibility affected by cash levels and bank credit business credit supply level. On the one hand, the higher the financial flexibility is, the higher the corresponding cash holding level of operating activities is. For the preventive motivation of stabilizing the financial flexibility level, enterprises tend to reduce the supply of commercial credit and pay more attention to sales collection. On the other hand, with a high level of financial flexibility, the higher the level of bank credit financing, the enterprises will also impose restrictions on the supply of commercial credit out of the preventive motivation of stable working capital management strategy, and tend to adopt the cash-as-you go policy.

In the existing literature, most of the researches related to financial flexibility focus on the positive effects of financial flexibility, and little attention is paid to the redundant effects of financial flexibility reserve. The results of this paper show that the high level of financial flexibility has a negative impact on the supply of business credit. From the perspective of the prevention motivation of enterprise working capital management strategy, the influence and mechanism of financial flexibility on the supply of business credit are analyzed. From a theoretical point of view, high flexible working capital to the enterprise financial management is bad, will weaken the competition strategy of foreign enterprises and high flexible financial corresponding high cash levels, will lose the opportunity cost of working capital investment, high flexible financial corresponding low debt ratio, the high level of bank credit financing, credit in the bank didn't also give full play to the role of the financial leverage, The contribution rate to the operating efficiency of enterprise working capital is not high.

From a practical point of view, the financial flexibility has important influence to the enterprise working capital management, the commercial credit supply as providing working capital investment of foreign enterprises and to clarify the financial flexibility and the relationship between the commercial credit supply and its mechanism of action, to help enterprises in the working capital management strategy, enterprise financial balance flexible reserves and the proportion of commercial credit supply, To avoid the loss of one and the other, neither increase the risk of enterprise working capital operation, nor make enterprise resources redundant.

References

- [1] Zhao Hua, Zhang Dingshi: Research on the Original Attribute of Enterprise Financial Flexibility [J], Accounting Research, 2010(6), p.62-69.
- [2] Fang Hongxing, Chu Youwei: Corporate Strategy and commercial credit financing [J], Nankai Management Review, 2019(5), p.142-154.
- [3] Amity M, Weinstein D E: Exports and financial shocks[J], The Quarterly Journal of Economics, 2011, 126 (4), p.1841-1877.

- [4] Petersen M A, Rajan R G. Trade credit: theories and evidence[J], *The Review of Financial Studies*, 1997, 10(3), p.661-691.
- [5] Lu Zhengfei, Yang Deming, Commercial Credit: Alternative Financing or buyer's Market [J]. *Management World*, 2011(4). P.6-14.
- [6] Hayward M. et al. Entrepreneurs' Capital Budgeting Orientation and Innovation Outputs: Evidence from Australian Biotechnology Firms [J]. *Long Range Planning*, 2017(1), p.121-133.
- [7] Gamba A, Triantis A.: The value of financial flexibility [J]. *The Journal of Finance*, 2008, 63 (5), p. 2263-2296.
- [8] Graham, J. R., Harvey, C.R.: The Theory and Practice of Corporate Finance: Evidence from the Field, *Journal of Financial Economics*, 2001, Vol.60, No.2-3, p.187-243.
- [9] Byoun: Financial Flexibility and Capital Structure Decision, SSRN eLibrary. S.2011.
- [10] DeAngelo, H., DeAngelo, L.: Capital Structure, Payout Policy and Financial Flexibility, University of Southern California, Working Paper, 2009.
- [11] Marchica, M.-T., Mura, R.: Financial Flexibility, Investment Ability and Firm Value: Evidence from Firms with Spare Debt Capacity, *Financial Management*, 2010, Vol.39, No.4, p.1339-1365.
- [12] Arslan, O., Florackis, C., Ozkan, A.: Financial Flexibility, Corporate Investment and Performance: Evidence from East Asian Firms, *Review of Quantitative Finance and Accounting* Forthcoming, 2013.
- [13] Zeng Aimin, Research on Financial Flexibility and Enterprise Investment and Financing Behavior, Doctoral dissertation of Xiamen University, 2011.
- [14] Doidge, C. et al.: Private Benefits of Control, Ownership and the Cross-Listing Decision, *Journal of Finance*, 2009, Vol.64, No.1, p.425-466.
- [15] Ma Chunai, Construction and Empirical Analysis of Enterprise Financial Resilience Index, *Systems Engineering*, 2010 (10).
- [16] DeAngelo H, DeAngelo L: Capital structure, payout policy, and financial flexibility[R]. SSRN working paper, 2007.
- [17] Acharya V: Credit lines as monitored liquidity insurance: theory and evidence[J]. *Journal of Financial Economics*, 2014, 112(3), p287-319.
- [18] Hoberg G, Phillips G, Prabhala N: Product market threats, payouts, and financial flexibility[J]. *The Journal of Finance*, 2014, 69(1), p293-324.
- [19] Sandri S, Schade C & MuBhoff O et al: Holding on for too long? An experimental study on inertia in entrepreneurs' and non-entrepreneurs' disinvestment choices[J]. *Journal of Economic Behavior & Organization*, 2010, 76(1), p30-40.
- [20] Harford, J., 1999: Corporate Cash Reserves and Acquisitions, *Journal of Finance*, Vol. 54, pp. 1969-1997.
- [21] Almeida, H., Campello M and M. S. Weisbach: The Demand for Corporate Liquidity: A Theory and Some Evidence, Working Paper, University of Illinois and New York University, 2002.
- [22] Xin Yu, Xu Liping: Corporate Governance mechanism and Excess Cash Holding Level, *Management World*, 2006a (5), p.136-141.
- [23] Fisman, R. and M. Raturi: Does Competition Encourage Credit Provision? Evidence from African Trade Credit Relationships, *Review of Economics & Statistics*, 2004, Vol.86(1) p.345-352.
- [24] Van Horen, N.: Do Firms Use Trade Credit as a Competitiveness Tool? Evidence from Developing Countries, Working Paper, World Bank, 2005.
- [25] Opler, Tim C, Pinkowitz, Lee, Stulz, Rene M: The Determinants and Implications of Corporate Cash Holdings[J]. *Nber working Papers*, 1999, 52(1), p3-46.
- [26] Bates, Kahle, and Stulz.: Why Do U.S. Firms Hold So Much More Cash than They Used to[J]. *Journal of Finance*, 2009, 64(5), p1985-2021.
- [27] Cheng J W, ZHOU W X. Cash holdings of listed companies: Tradeoff theory or Pecking theory [J]. *China Industrial Economics*, 2007 (4), p104-110.

- [28] Lu Z F, Yang D M, Commercial credit: Alternative Financing or buyer's Market [J]. Management World, 2011, (4), p 6-14.
- [29] Yu Minggu, PAN Hongbo, Financial development, commercial credit and product market competition [J]. Management World, 2010, (8),p 117-129.
- [30] Wen Z L, Zhang L, HOU J T, et al. The mediating effect test procedure and its application [J]. Acta Psychologica Sinica, 2004, 36(5), p614-620.