



Are Bank Loans a Blessing or a Curse for M&A Quality? Evidence From China

Ping Hu*

Shenzhen University, Shenzhen, 518060, China

*Corresponding author. Email: huping146@foxmail.com

Abstract. This paper reviews the impact of bank credit on M&A performance, combining corporate ownership and free cash flow to study the relationship between bank loans and M&A quality of Chinese public companies. Using 1956 M&A events as samples, the paper empirically examines the impact of bank loans on M&A quality. The study employs a multiple regression model and introduces the nature of corporate ownership and free cash flow as moderating variables. The study finds that bank loan growth has a substantial impact on the success of mergers and acquisitions (M&A), with the effect being more pronounced in cases of higher financial leverage indicators. State-owned enterprises (SOEs) impede the promotion of loans, while free cash flow positively regulates the impact of loans.

Keywords: Bank loans, M&A quality, Nature of business ownership, Free cash flow

1 Introduction

Mergers and acquisitions (M&A) are becoming more important in the global economy. They help companies use their resources better and be more competitive. Bank credit is an important way for companies to get money. It can have a big impact on M&A decisions and how well companies work together after they join. Financial markets have gotten better, so bank credit is more important in M&A. But studies haven't shown exactly how bank credit affects M&A quality. This paper looks at how much a company borrows from banks compared to how much it owns. This shows how much money a company has. Total bank loans show how much money the banking sector gives to the economy in a region. The quality of M&A is how good the process is and how well the work is done. M&A performance can show how good M&A is. The better the M&A performance, the better the M&A quality. Research has explored the role of bank credit on M&A quality using theories like financing constraints, agency costs, and institutional environment. Cornaggia et al. (2018) found bank credit affects M&A, especially during crises when firms give up high-quality opportunities for less risky ones. This supports the theory that higher financing costs reduce investment efficiency¹. Fee et al.

(2019) found that covenant clauses constrain acquisition behavior, improving quality and reducing agency costs².

The allocation of credit resources is influenced in China by ownership differences, affecting firms' access to and efficiency in using credit resources. Zhang (2020) show significant "ownership discrimination" in the financial system, where SOEs are more likely to get bank credit support due to political connections and implicit guarantees³.

Free cash flow is a key concept in corporate financial management. It refers to the remaining discretionary cash of an enterprise after maintaining normal operations and completing necessary capital investments. It measures a firm's ability to generate cash through its operating activities and the financial resources available for strategic decisions after reproduction needs have been met. The interaction between FCF and bank credit affects the quality of M&A, and the free cash flow hypothesis is important for understanding this relationship. It states that firms with abundant free cash flow are more prone to agency problems, and bank credit can inhibit management's opportunistic behavior through its supervisory role. Zhang (2025) find that free cash flow-poor firms are more dependent on bank credit and more sensitive to changes in credit conditions⁴. This paper proposes the following research hypotheses:

H1: Bank credit positively impacts mergers and acquisitions (M&A) quality; a firm's credit size affects its M&A performance and quality.

H2: Bank credit plays a more significant role in enhancing M&A quality for private enterprises compared to state-owned ones.

H3: Free cash flow positively affects the relationship between bank credit and M&A quality. Firms with abundant free cash flow promote M&A quality through bank credit more effectively.

The objective of the present study is to explore the mechanism through which bank loans impact the quality of M&A. The study will focus on the moderating effects of the nature of corporate ownership and the level of free cash flow on this relationship. It offers an interdisciplinary analytical framework integrating theories of institutional economics, corporate finance, and strategic management, along with practical guidelines for enterprises, banks, and the government. This study is significant because it prevents financial risks and improves resource allocation efficiency.

2 Samples and Models

In this study, a sample of China's A-share listed companies in Shanghai and Shenzhen was selected for analysis from 2011 to 2021. The following criteria were used to screen the sample: Firstly, samples with missing data were excluded. Secondly, ST and *ST companies were excluded. Thirdly, samples of financial listed companies were excluded. Fourthly, samples with the total price of M&A transactions less than 5% of the acquirer's net assets were excluded. Fifthly, samples with both B-share and H-share issuance were excluded. Sixthly, samples with net assets less than 0 were excluded. Lastly, samples with the net worth of the acquirer being less than 0% were excluded⁵. The sample set was filtered to exclude samples with net assets less than zero, and outlier-excluding was conducted on the continuous variables (0-1% and 99-100%). 1,956

samples were obtained. The bank loans, M&A and financial data are from the CSMAR and Wind databases, and Stata 16 was used to process the data.

We use a multiple regression model to analyze, where model (1) examines the effect of bank loans on the quality of corporate M&A, and the expected coefficient α_1 is positive, indicating that bank loans have a facilitating effect on the quality of M&A; Model (2) examines the moderating effect of the type of corporate ownership on the relationship between bank loans and the quality of corporate M&A, and the expected negative coefficient of the interaction term, α_3 , indicates that state-owned enterprises reduce the quality of bank loans on M&A; Model (3) examines the moderating effect of corporate free cash flow on the relationship between bank loans and the quality of corporate M&A, and the expected coefficient of the interaction term, α_3 , is positive, indicating that the higher the free cash flow, the more significant the facilitating effect of bank loans on the quality of M&A.

$$\Delta ROA = \alpha_0 + \alpha_1 LOAN_{i,t-1} + \alpha_2 SIZE_{i,t-1} + \alpha_3 CASH_{i,t-1} + \alpha_4 TOP_{i,t-1} + \alpha_5 LEV_{i,t-1} + \alpha_6 MB_{i,t-1} + \alpha_7 GROW_{i,t-1} + \alpha_8 AGE_{i,t-1} + \sum YEAR + \sum IND + \varepsilon_{it} \tag{1}$$

$$\Delta ROA = \alpha_0 + \alpha_1 LOAN_{i,t-1} + \alpha_2 SOE_{i,t-1} + \alpha_3 LOAN_{i,t-1} \times SOE_{i,t-1} + \alpha_4 SIZE_{i,t-1} + \alpha_5 CASH_{i,t-1} + \alpha_6 TOP_{i,t-1} + \alpha_7 LEV_{i,t-1} + \alpha_8 MB_{i,t-1} + \alpha_9 GROW_{i,t-1} + \alpha_{10} AGE_{i,t-1} + \sum YEAR + \sum IND + \varepsilon_{it} \tag{2}$$

$$\Delta ROA = \alpha_0 + \alpha_1 LOAN_{i,t-1} + \alpha_2 FCF_{i,t-1} + \alpha_3 LOAN_{i,t-1} \times FCF_{i,t-1} + \alpha_4 SIZE_{i,t-1} + \alpha_5 CASH_{i,t-1} + \alpha_6 TOP_{i,t-1} + \alpha_7 LEV_{i,t-1} + \alpha_8 MB_{i,t-1} + \alpha_9 GROW_{i,t-1} + \alpha_{10} AGE_{i,t-1} + \sum YEAR + \sum IND + \varepsilon_{it} \tag{3}$$

The following Table 1 presents a definition and descriptive analysis of the variables in this paper:

Table 1. Descriptive Statistics of Variables

Variables	Variable Definitions	Mean	Max	Min	Median	SD
LOAN	Explanatory Variable: Total bank loans/total assets at the end of the year before the firm's M&A.	0.332	0.769	0.000	0.000	0.471
ΔROA	Explained Variable. ΔROA is the difference between the average of ROA for the three years after the M&A announcement date and the ROA for the year before.	0.003	0.691	0.1957	-0.003	0.140
SOE	Moderator Variable. Its value is 1 if it is a state-owned enterprise and 0 otherwise.	0.307	1.000	0.000	0.000	0.462
FCF	Moderator Variable. Firms' free cash flow per share in the year prior to the M&A	1.126	0.231	-0.127	0.055	1.086
SIZE	Control Variable	21.823	25.520	19.863	21.662	1.132
TOP	Control Variable	0.175	0.517	0.014	0.153	0.114
CASH	Control Variable	0.227	0.694	0.016	0.187	0.155
MB	Control Variable	0.878	4.679	0.155	0.613	0.836
LEV	Control Variable	0.38	0.836	0.048	0.362	0.209
GROW	Control Variable	0.496	9.492	-0.554	0.174	1.281

3 Empirical Analysis

We tested how bank loans (LOAN) affect M&A performance (Δ ROA) and its moderating effect through three sets of regression models based on 1956 observation samples, and the results are shown in the Table 2. The table shows the results. Model (1) shows that the LOAN coefficient is significant at the 5% level, indicating that expanding credit improves M&A performance and verifies Hypothesis 1. The LOAN*SOE coefficient of model (2) is also significant at the 5% level, indicating that state-owned enterprises weaken the promotional effect of credit on M&A quality. This confirms Hypothesis 2. State-owned enterprises enjoy policy shelters and low-cost financing, so they rely less on market-based credit, while private enterprises rely more on external credit to achieve M&A integration due to financing constraints. The LOAN*FCF coefficient in model (3) is 0.020, which is also significant at the 1% level. This indicates that free cash flow strengthens the effect of credit on M&A quality, proving Hypothesis 3. This aligns with Jensen's (1986) theory of agency costs, suggesting abundant cash flow can alleviate agency costs and enhance the efficiency of credit capital utilization.

Table 2. Impact of Bank Loans on M&A Quality and Moderating Effects

	Δ ROA		
	(1)	(2)	(3)
LOAN	0.086** (0.034)	0.009** (0.003)	0.009** (0.003)
SOE		-0.006 (0.009)	
LOAN*SOE		-0.027** (0.012)	
FCF			0.011** (0.004)
LOAN*FCF			0.020*** (0.007)
CONTROLS	YES	YES	YES
YEAR	YES	YES	YES
IND	YES	YES	YES
N	1956	1956	1956
R ²	0.111	0.113	0.109

4 Robustness Check

To ensure the reliability of the results, we replaced the selection of the M&A quality indicator with Δ ROE, replacing the average of the return on net assets (Δ ROE) of the two years after the M&A event and the average of the two previous years as a measure of M&A quality⁶. The empirical results are in the Table 3. Model (1) shows the loan coefficient is 0.115, significantly positive at the 1% level, and consistent with the H1

study. The higher strength of the effect is due to ROE's sensitivity to financial leverage and credit's indirect enhancement of returns. The coefficient of the LOAN*SOE term in model (2) is -0.026, negatively significant at the 5% level. This indicates state-owned property rights weaken credit's facilitating role and support H2. The coefficient of the LOAN*FCF term in model (3) is 0.121, significantly positive at the 1% level. This verifies the moderating role of free cash flow and the FCF main effect suggests that abundant cash flow itself promotes performance, but the interaction term coefficient is higher, indicating stronger synergies between credit and cash flow. Thus, bank credit's impact on M&A performance is robust and significantly moderated by ownership and cash flow.

Table 3. Robustness tests of the impact of bank loans on M&A quality and moderating effects

	Δ ROE		
	(1)	(2)	(3)
LOAN	0.115*** (0.012)	0.028*** (0.007)	0.020*** (0.007)
SOE		-0.003 (0.004)	
LOAN*SOE		-0.026** (0.010)	
FCF			0.011** (0.004)
LOAN*FCF			0.121*** (0.025)
CONTROLS	YES	YES	YES
YEAR	YES	YES	YES
IND	YES	YES	YES
N	1956	1956	1956
R ²	0.105	0.118	0.102

5 Conclusions

We explore how bank loans affect M&A quality, theoretically point out the possible moderating effects of corporate ownership type and free cash flow, and examine 1,956 M&A events of China's A-share listed companies during 2011-2021 to reveal the facilitating effect of bank loans on M&A performance. We find that bank loans significantly improve M&A performance by constructing a multiple regression model, but the effect is moderated by several factors. Mechanistic analysis reveals that SOEs decrease credit's effect because of policy financing, while free cash flow increases it by reducing agency costs. Heterogeneity analysis shows that private firms are more sensitive to

credit and that cash flow-rich firms benefit more from credit. Our study confirms the impact of credit on M&A quality.

We suggest the following policy recommendations: optimize credit policy, enhance credit availability by improving the system for private enterprises, and strengthen financing constraints for state-owned enterprises to reduce policy dependence. We also recommend guiding cash flow management, encouraging rational free cash flow allocation to avoid over-investment and financial manipulation, and promoting credit use for optimizing M&A decisions.

References

1. Cornaggia J ,Li Y J .The value of access to finance: Evidence from M&As[J].Journal of Financial Economics,2018,131(1):232-250. <https://doi.org/10.1016/j.jfineco.2018.09.003>.
2. Fee E C ,Subramaniam V ,Wang M , et al. Bank lenders as matchmakers? Evidence from when acquirers and targets share a common lender[J].Pacific-Basin Finance Journal,2019,56248-272. <https://doi.org/10.1016/j.pacfin.2019.06.003>.
3. Zhang D . Do credit squeezes influence firm survival? An empirical investigation of China[J].Economic Systems,2020. <https://doi.org/10.1016/j.ecosys.2020.100790>.
4. Zhang Y ,Lin T ,Qiao Y . Impact of mergers and acquisitions on firms' performance adjusted to business cycle fluctuations in China. [J].PloS one, 2025, 20 (1): e0318024. <https://doi.org/10.1371/journal.pone.0318024>.
5. Chiu H S ,Lin Y T ,Pan L . External financing sensitivities and inefficient R&D investment: Evidence from China[J].Research in International Business and Finance,2024,70(PA):102330-. <https://doi.org/10.1016/j.ribaf.2024.102330>.
6. Xiao-Lin L ,Pinyi X ,Hui D , et al. Central bank lending facility and investment efficiency of non-SOEs: evidence from China[J].Economic Modelling,2023,126. <https://doi.org/10.1016/j.econmod.2023.106421>.

Open Access This chapter is licensed under the terms of the Creative Commons Attribution-NonCommercial 4.0 International License (<http://creativecommons.org/licenses/by-nc/4.0/>), which permits any noncommercial use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.

