Impact of Falling Bank Interest Rates on the High Quality of Business Development

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Abstract: In the context of encouraging financial support entities in China, this paper studies the impact of the decline of bank interest rate on the high-quality development of enterprises from the perspective of financing constraints and enterprise technology innovation. The study has found that the decline in bank interest rates can promote the high-quality development level of enterprises. Further channel analysis shows that the decrease of enterprise financing cost caused by the reduction of bank loan interest rate will make enterprises increase their investment in technological innovation, so as to improve the high-quality development level of enterprises. This paper has some enlightenment for understanding the positive role of financial support entities and improving the high-quality development level of enterprises.

***Keywords*:** benchmark interest rate reduction; high-quality development; financial support entity; technological innovation

1. Introduction

The real economy is the foundation of a country's economic development, and its high-quality development is the key to achieving economic sustainability and competitiveness. In recent years, driven by a new round of scientific and technological revolution and industrial transformation, real enterprises are facing unprecedented challenges and opportunities. High-quality development has become the only way for the transformation and upgrading of real enterprises, which not only requires enterprises to carry out technological innovation, management optimization and market expansion, but also requires the effective cooperation and coordination of the external environment, especially the financial support system.

In fact, the quality and efficiency of financial services have a direct impact on the development vitality and innovation capacity of the real economy. There are multiple contradictions and problems in the existing financial system serving the real economy, such as the difficult and expensive financing for enterprises, the serious homogenization of financial products, and the disconnection between the financial market and the real economy. These problems restrict the development of real enterprises, especially micro, small, medium and medium-sized enterprises. Therefore, it is urgent to deepen the financial reform, improve the financial market system, and innovate the financial products and services to better meet the diversified financial needs of real enterprises.

This paper with financial support entity enterprise high quality development as the research theme, from the current entity enterprise in the development of financial problems, how to explore financial service economic entities, how to improve the quality and efficiency of financial services, and how to build the financial and benign interaction with the real economy, for the entity enterprise to provide more effective and accurate financial services, to support its development.

2. Literature review and research hypotheses

2.1 Literature review

2.1.1 The phenomenon of enterprises "moving from real to virtual"

The phenomenon of "turning from the real to the virtual" is mainly discussed from the macro and micro aspects, the capital gathers in the virtual economy, which idling financial assets in financial enterprises without flowing into the real economy sector; and the price increase of financial assets and the excessive expansion of shadow credit (Han Xun and Li Jianjun, 2020; Peng chao and Huang Zhigang, 2018)[1] [2]. At the micro level, the "shift from real to virtual" is manifested in the increasing financialization of enterprises, that is, the shadow investment activities of enterprises enable them to invest funds in financial assets and seriously squeeze out their productive main business investment (Du Yong et al., 2019)[3], hindering the sustainable development of enterprises (Huang Xianhuan et al., 2021)[4], Increasing the risk of corporate stock price crash (Si Dengkui, 2021)[5].

2.1.2 Mechanism and path of high-quality enterprise development

The existing literature is mainly based on the perspectives of enterprise finance theory and market finance theory to explore its influence on the high-quality development of enterprises. From the perspective of corporate finance theory, scholars believe that ESG performance can help enterprises improve their performance (Li Jinglin et al., 2021)[6]And continuous profitability (Xi Longsheng and Zhao Hui, 2022)[7], Help enterprises to obtain credit resources (Li Zengfu and Feng Liuhua, 2022)[8], And improve the total factor productivity of enterprises, so as to help the high-quality development of enterprises (Wang Sanxing and Wang Ziming, 2023)[9]; In addition, the governance of state-owned major shareholders can promote the high-quality development of enterprises through multiple channels such as improving the level of supervision, quality of internal control and social reputation (Zhang qia and Liu Zhiming, 2024)[10], Enterprises with high entrepreneurial spirit will promote the performance of the high-quality development of enterprises (Yuan Xina et al., 2024)[11]. From the perspective of market finance theory, the financialization of enterprises will have a inhibitory effect on the total factor productivity of the real economy, thus hindering the high-quality development of real enterprises (Liu Zhaomin, 2023)[12]. Some scholars have also expounded the logical mechanism of the capital development of the market to support high-quality economic development. They believe that multi-level capital market can be introduced to support micro, small and medium-sized enterprises and deepen the supply-side structural reform, so as to achieve the effect of better financial support for the real economy (Yu Mei and Bian Jiangze, 2024)[13].

The above literature lays a solid foundation for the research of this paper, on which this paper can delve into the relationship and role channels between banks located at the core of China's financial system and the high-quality development of manufacturing enterprises. Most scholars have studied from the micro perspective of the market and enterprises, and have conducted rich research around ESG, shareholder governance, and financialisation of enterprises. However, there is a relative lack of research focusing on the impact of bank lending rate cuts on the development of real enterprises. Based on this, this paper attempts to advance the research from the following perspectives: (1) In-depth analysis of the mechanism and channels of influence of the reduction of bank interest rates on the high-quality development of real enterprises, especially the manufacturing industry;(2) To analyse the impact of bank concessions on the high quality development of firms from the perspective of financing constraints and financialisation of firms; (3) Analyse the role of the channel mechanism of the input of innovation activities of enterprises, and then provide reference suggestions for better financial support to the entity.

2.2 The research hypothesis

An important reference for high-quality development is the technological innovation of enterprises, and the long cycle of technological innovation and the large amount of investment make enterprises face greater investment risks and uncertainties. The long-term nature of investment and the instability of financing limit enterprise innovation. At the same time, resource mismatch and information asymmetry lead to serious financing constraints for banks to invest in enterprise innovation (Zhang Xuan et al., 2017)[14], resulting in serious lack of innovation investment by enterprises, which hinders the high-quality development of enterprises. The reduction of bank lending rates means that the interest expense of enterprise loans is reduced, which will reduce the financing cost of enterprises, so that enterprises have more funds to use for technological innovation, thus enhancing their high-quality development level.In conclusion, the following research hypotheses are proposed:

H1a: The reduction of bank loan interest rates has promoted the high-quality development of enterprises.

However, a drop in bank lending rates could also hinder high-quality corporate development. When companies receive funds, they may invest them in financial assets, namely the financialization of the enterprise. There are various motives of enterprise financialization. This paper discusses this problem from the excess return rate of the financial industry. The return rate of the financial industry is much higher than the profit rate of the real economy, which makes enterprises put all their funds into the financial market to obtain profits, so as to make up for the decline of the profit margin of the actual economy, that is, the credit funds squeeze out the industrial investment. However, this behavior will lead to the flow of capital back to the financial system, making it difficult to give full play to the role of financial support entities, and unable to promote the high-quality development level of enterprises. Therefore, the following alternative assumptions are proposed:

H1b: The reduction of bank loan interest rates has inhibited the high-quality development of enterprises.

3. Research design

3.1 Data and samples

In this paper, all A-share listed manufacturing companies from 2010 to 2022 were taken as the initial research object. In the screening process of samples, all listed companies with ST, *ST, delisting and other abnormal trading status, as well as

samples with missing relevant data problems, were excluded. The final screened sample included 225 listed companies with a total of 2925 company-year observations. All the enterprise data in this article comes from the CSMAR database, and the interest rate data comes from the official website of the People's Bank of China.

3.2 Variable definition

3.2.1 High-quality development

Currently there are two main approaches regarding the measurement of this variable: firstly, a single variable is adopted, such as total factor productivity[15] and economic value added[16]. The second is to construct a multidimensional indicator system for weighted measurement[17]. Drawing on existing literature (Li Xiaoqing and He Weixuan, 2022)[18], This paper comprehensive high quality development concept, from the business performance, development ability, risk prevention and control, open sharing four dimensions, a total of 10 secondary indicators, using the entropy method of the index empowerment, finally get the manufacturing enterprise high quality development index (Hqd), as the regression of regression variables.

In addition, the total factor productivity measured by LP method (index estimation) is used as a replacement variable for the high-quality development of enterprises to ensure the robustness of the empirical results.

3.2.2 Interest rate floating

According to the one-year bank loan benchmark interest rate stipulated by the People's Bank of China, the weighted benchmark lending interest rate (Int) of each year is calculated on a monthly basis, and the annual growth rate (Rint) is calculated as the variable to measure the floating interest rate in this paper. The annual growth rate is calculated as: Rint = (loan rate of this year-loan rate of the previous year) / loan rate of the previous year.

The weighted lending benchmark rate (Int) is calculated as follows: if the loan benchmark rate does not change within one year, the interest rate will be used as the weighted lending benchmark rate. If the benchmark interest rate changes multiple times within a year, the continuous month of each benchmark interest rate is divided by 12 as the weight, and the interest rate obtained after summing the benchmark interest rate is taken as the weighted benchmark interest rate.

3.2.3 Control variables

The characteristics of the enterprise itself are the basic factors affecting the relationship between digital innovation and the high-quality development of enterprises. In order to avoid the inconsistent impact of other variables on the regression results of this paper, this paper draws on the research of (Shao Chuanlin, 2021)[19], and adds the following enterprise characteristics as the control variables. Specifically, it includes: board of directors (lnnod) TobinQ (Tobinq), total asset turnover (Tat), property rights (Equity), equity concentration (Top10), and variable definitions and measures are shown in Table 1.

Table 1. Variable definitions and measures

Type of variable	Variable name	Variable symbol	Variable measure
Explained variable	High-quality development of enterprises (micro-level)	Hqd	The entropy weight method was used to construct the comprehensive index
	Enterprise high-quality Development (macro)	TFP-LP	The resulting total factor productivity was calculated by the LP method
Explanatory variable	Interest rate floating	Rint	Growth rate of the weighted annual benchmark lending rate
Metavaria-ble	Enterprise innovation	lnrd	The current r & d investment of the enterprise is a natural log
Controlled variable	Board size	lnnod	The number of boards takes the natural log number
	Tobbin q	Tobinq	Corporate market value / total assets
	Turnover of total capital	Tat	Closing balance of operating income / total assets
	Property nature	Equity	When the equity of listed company is private enterprise, 1, otherwise it is 0
	Enterprise equity concentration degree	Top10	Number of shares held by the top ten shareholders / total number of shares

Table 2 is the descriptive statistical analysis of the main variables, according to the table, the mean and median of Hqd are 0.162 and 0.137 respectively; the mean of Rint is-0.0249, indicating that the average annual bank loan benchmark rate decreased by 0.0249% compared with the previous year. The statistical results of the remaining variables were within the reasonable range.

Table 2. Descriptive statistics of the main variables

Variable	N	Mean	Std	Min	P25	P50	P75	Max
Hqd	2925	0.162	0.091	0.018	0.106	0.137	0.207	0.699
TFP-LP	2925	8.816	0.881	6.217	8.206	8.730	9.363	11.890
Rint	13	-0.025	0.077	-0.177	-0.049	-0.012	0	0.166
lnrd	2925	17.200	5.321	0	17.500	18.550	19.570	23.760
lnnod	2925	2.252	0.218	1.386	2.197	2.197	2.398	3.219
Tobinq	2925	2.308	1.626	0.715	1.339	1.798	2.671	21.300
Tat	2925	0.228	0.248	0.016	0.115	0.161	0.232	5.412
Equity	2925	0.463	0.499	0	0	0	1	1
Top10	2925	0.562	0.137	0.177	0.464	0.564	0.659	0.951

4. Empirical results and analysis

4.1 Basic regression results

First, the relationship between the change of interest rate and the high-quality development of manufacturing enterprises is tested. The regression model was constructed as follows:

$$Hqd_{i,t} = \alpha + \beta Rint_t + \gamma Control_{i,t} + \varepsilon_{i,t} \quad (1)$$

$Hqd_{i,t}itRint_t$ is the high quality development level of the enterprise in the year, namely the benchmark rate of the current period, the control variable and the random disturbance term $Control_{i,t}\varepsilon_{i,t}$.

Table 3 is the main regression results, and the estimated coefficients of Rint in columns (1) and (2) are-0.125 and-0.840 respectively, indicating that the impact of the decline of bank loan benchmark interest rate on the high quality development level of manufacturing enterprises is positive and significant at the 1% level, which is consistent with the theoretical derivation in this paper. Specifically, take the results of Table 3 columns (1) as an example, for every 1% drop in interest rate, the high-quality development level of enterprises is increased by 0.125%.

Table 3. The impact of interest rate changes on the high-quality development level of manufacturing enterprises

	(1) Hqd	(2) TFP-LP
Rint	-0.1246***	-0.8405***
	(-8.9525)	(-8.3540)
lnnod	-0.0528***	0.0885*
	(-7.8511)	1.8208
Tobinq	0.0002	0.0089
	(0.2239)	(1.2634)
Tat	-0.0478***	-0.3259***
	(-9.5092)	(-8.9702)
Equity	0.0087	0.1237
	(0.9014)	(1.7735)
Top10	-0.0382*	-0.7811***
	(-2.4144)	(-6.8352)
Time fixed effect	deny	deny
Individual fixation effect	yes	yes
Observed value	2925	2925
Adjusted R^2	0.6293	0.7952

Note: * * *, * * and * are significant at the 1%, 5% and 10% levels, respectively.

4.2 Channel analysis

As mentioned in the above research hypothesis, the decline of bank loan interest rate can ease the financing cost of

manufacturing enterprises, and thus improve the high-quality development level of enterprises by promoting enterprise innovation. Therefore, in order to test the function channel of "bank loan interest rate decline-enterprise innovation investment increase-enterprise high-quality development level improvement", this paper selects the natural logarithm (lnrd) of the amount of enterprise R&D investment as the agent variable to measure enterprise innovation investment, and constructs the following intermediary effect model:

$$lnrd_{i,t} = \alpha_1 + \beta_1 Rint_t + \gamma_1 Control_{i,t} + \varepsilon_{i,t} \tag{2}$$

$$Hqd_{i,t} = \alpha_2 + \beta_2 Rint_t + \delta_2 lnrd_{i,t} + \gamma_2 Control_{i,t} + \varepsilon_{i,t} \tag{3}$$

$\beta_1\beta_2$ When testing for a mediation effect, we focused on the significance level and direction of the coefficients in model (2) and model (3). Table 4 reports the main regression results, and the explained variables for columns (1) and (2) being lnrd and Hqd, respectively. The results showed that the estimated coefficient of Rint in column (1) is significantly negative, which indicates that the decline in the benchmark lending rate of bank loans will increase manufacturing investment in their R&D activities; although the estimated coefficient of Rint in column (2) is reduced compared with Table 3 (1), it is still significant and negative, which indicates that the intermediary effect exists, that is, the improvement of high-quality development level by the innovation investment of manufacturing enterprises.

Table 4. Channel inspection: the intermediary role of R & D activity input of enterprises

	(1) lnrd	(2) Hqd
Rint	-20.8340***	-0.0982***
	(-20.0541)	(-6.6101)
lnrd		0.0013***
		(4.9284)
Other control variables	control	control
Time fixed effect	deny	deny
Individual fixation effect	yes	yes
Observed value	2925	2925
The adjusted R square	0.4025	0.6325

Note: * * *, * * and * are significant at the 1%, 5% and 10% levels, respectively.

5. Conclusions and revelation

From the perspective of enterprise financing constraints and technological innovation, this paper comprehensively uses the micro and macro level data, and demonstrates the influence relationship between the decline of bank interest rate and the high-quality development of enterprises through empirical analysis. The study has found that the decline in bank interest rates will help to improve the high-quality development level of enterprises. Its function channel is that the reduction of the financing cost of enterprises caused by the reduction of the benchmark interest rate of bank loans will make enterprises increase their investment in technological innovation, so as to improve the high-quality development level of enterprises.

The research in this paper has the following enlightenment. First, it should be realized that the real economy is the foundation of economic development and the main driving force for job creation, output growth and economic prosperity. By providing financing services and investment support to real enterprises, financial institutions can improve the efficiency of capital utilization in the real economy and promote the high-quality development of enterprises.

Secondly, the results of this paper show that providing technological innovation financing support for enterprises is an effective way to improve their high-quality development, which has implications for fully understanding the positive impact of financial support for the high-quality development of real enterprises. Therefore, to better guide the interaction between financial institutions and real enterprises, and the establishment of a good financial support platform, can help to promote the technological innovation of enterprises, so as to promote their high-quality development.

References

[1] Han Xun, Li Jianjun. Financial mismatch, shadow banking of non-financial enterprises and economic "shifting from

real to virtual" [J]. Financial Research, 2020 (08): 93-111.
[2] Peng chao, Huang Zhigang. Causes and governance of economic "turning from real to virtual": Understanding the Financial System Reform of the 19th National Congress of the CPC [Z] / / World Economy: Vol. 41.2018:3-25.
[3] Du Yong, Xie Jin, and Chen Jianying. CEO financial background and the financialization of real enterprises [Z] / / China's industrial economy.2019: 136-154.
[4] Huang Xianhuan, Wang Cui. Shadow banking and surplus sustainability of non-financial enterprises [J]. Auditing and Economic Research, 2021,36 (04): 80-89.
[5] Si Dengkui, Li Xiaolin, Zhao Zhongkuang. Shadow banking and stock price crash risk of non-financial enterprises [Z] / / China's industrial economy.2021: 174-192.
[6] Li Jinglin, Yang Zhen, Chen Jin, et al. Research on the mechanism of ESG in promoting enterprise performance —— Based on the perspective of enterprise innovation [J]. Science and Science and Technology Management, 2021,42 (09): 71-89.
[7] Xi Longsheng, Zhao Hui. Mechanism and data test of enterprise ESG performance affecting the sustainability of earnings [Z] / / Management Review: Volume 34.2022:313-326.
[8] Li Zengfu, Feng Liuhua. Enterprise ESG Performance and Business Credit Acquisition [Z] / / Financial Research: Vol. 48.2022:151-165.
[9] Wang Sanxing, Wang Ziming. Enterprise ESG performance, innovation and total factor productivity [Z] / / macroeconomic research.2023: 62-74.
[10] Zhang Qia, Liu Zhiming. Does the governance of state-owned major shareholders promote the high-quality development of private enterprises [Z] / / Accounting monthly: Volume 45.2024:27-33.
[11] Yuan Xina, Lin Xiaoqing, Ding Meixia. Entrepreneurship, vertical network quality and high-quality development of manufacturing enterprises [J]. Journal of Guangdong University of Finance and Economics: 1-14.
[12] Liu Zhaomin. Technology market scale, financialization of enterprises and high-quality development of real economy [J]. Financial Theory and Practice, 2023 (10): 34-43.
[13] Yu Mei, Bian Jiangze. The logic, practical path and future prospect of the high-quality development of China's capital market service [Z] / / administrative management reform.2024: 54-62.
[14] Zhang Xuan, Liu Beibei, Wang Ting, et al. Credit rent-seeking, financing constraints and enterprise innovation [J]. Economic Research, 2017,52 (05): 161-174.
[15] Zhang Zhaoguo, Xu Yaqin, Cheng Juan. Business environment, innovation activity and high-quality enterprise development [J]. Soft Science of China, 2024 (01): 130-138.
[16] Chen Lishan, Fu Yuanhai. The dynamic characteristics of technological innovation affecting the high-quality development of enterprises under the condition of financing constraints [J]. China Soft Science, 2019 (12): 108-128.
[17] He Guosheng, Liu Xuan. Digital finance, entrepreneurship effect and high-quality development of the real economy [J]. Journal of Xi'an Jiaotong University (Social Science Edition): 1-17.
[18] Li Xiaoqing, He Weixuan. Digital innovation, business environment and high-quality development of enterprises — Based on the empirical evidence of listed companies in the new generation of information technology industry [J]. Science and Science and Technology Management, 2022,43 (11): 56-77.
[19] Shao Chuanlin. Regional Business environment and High-quality Development of Private Enterprises: Empirical Evidence from China [Z] / / Research on Economy and Management: Vol. 42.2021:42-61.