Will Financialization Cause Underinvestment?

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Abstract

In recent years, our country's real economy has increasingly shown a trend from real to virtual. This phenomenon stems from the fact that real enterprises have shifted their investment focus from main business to financial investment, deviating from their business objectives, and having a certain impact on the investment efficiency. This article explores the internal relationship and related transmission mechanisms between financialization and corporate underinvestment. Empirical research results show that financialization will squeeze out the investment scale of real enterprises, leading to insufficient investment in the main business. And further distinguished from the perspective of the term structure of financialization, found that short-term financialization has a more significant effect on exacerbating underinvestment. In addition, it is found that financing constraints, information asymmetry play a corresponding intermediary role in the chain of financialization's impact on underinvestment. The research conclusions of this article not only enrich the research on the economic effects of financialization and the influencing factors of investment efficiency, but also provide a certain enlightenment to our country's policy guidance of real enterprises to "de-virtualize to reality" and enhance the ability of financial services to serve the real economy.

Keywords

Financialization; Enterprise investment efficiency; Underinvestment; Internal transmission mechanism.

1. INTRODUCTION

The current economic development of China has clearly shown a phenomenon of "cold" in the real economy and "overheated" in the virtual economy, which has had a significant adverse effect on the high-quality development of China's real economy. The de-realization to the virtual is manifested as a financial phenomenon in which entity companies invest a large amount of corporate operating funds in the financial industry and reduce productive investment, thereby gradually deviating from their traditional production and business models (Epstein, 2005).

Regarding the research on the effect of corporate financialization, most of the existing literature results indicate that financialization will produce two different effects: the "reservoir effect" and the "crowding-out effect". The "reservoir effect" refers to the fact that by allocating financial assets with stronger liquidity and higher yield, a company can alleviate the difficulties of corporate financing constraints and provide funds for business operations (Stulz, 1996). While the "crowding-out effect" refers to the tendency of enterprises to allocate more financial assets based on speculative opportunities, this trend will crowd out productive investment, leading to insufficient funds for industrial investment (Orhangazi, 2008). Enterprises allocate capital between productive investment and financial product investment, from the above, it can be seen that both effects of financialization will have an impact on corporate industrial capital, so it will inevitably influence investment efficiency of enterprises.

As the main body of the national economy, the investment efficiency of the enterprise is not only related to the business performance and development prospects of the enterprise itself, but also related to the quality of the national economic growth. On the one hand, from the perspective of the enterprise itself, the investment decisions are at the core of the company's three major financial decisions, which plays a vital role in improving the efficiency of enterprise resource allocation. On the other hand, from the perspective of national economic development, as one of the "troikas" of our country's economic growth, efficiency of investment is crucial to achieving high-quality economic development.

Compared with the existing research results, the contingent contributions in this study may lie in the following two points. First, although the existing research have certain in-depth research and analysis on the economic effects and consequences of financialization, however, it is rarely carried out from the perspective of corporate investment efficiency. Second, this article not only studies the basic relationship between financialization and corporate underinvestment, but also explores the influencing factors and pathways of financialization on underinvestment.

The structure of the following content is as follows: Section 2 provides the theoretical analysis and hypothesis proposal; Section 3 presents the research design, including sample selection, variable definition and model design, etc.; Section 4 explains the empirical test result and robustness test; finally, Section 5 summarizes the research conclusions of this article and puts forward corresponding policy recommendations.

2. LITERATURE REVIEW AND HYPOTHESES

2.1. Motivation of Financialization

Combining the relevant research results of domestic and foreign scholars on financialization motives, it is found that there are two main reasons for the financialization of enterprises. One is the preventive reserve motive, the purpose of entity companies investing in financial assets with higher yields is to obtain sufficient liquidity, in order to prevent the impact of cash flow (Keynes, 1936), and for the purpose of realizing assets in a timely manner to make up for the shortage of capital flow when cash flow is insufficient in the future. Companies will also invest idle funds in more liquid financial assets (Song & Lu, 2015). The second is the motive of speculative arbitrage. The rate of return on financial assets is much higher than that of the physical industry, so entity companies invest in the financial industry to chase high profits in the financial sector. This behavior will gradually make the company deviate from its main business and focus on financial industry which will eventually lead to a hollowing out of the real economy (Wang et al., 2016).

The macro-level analysis on the motivations of financialization mainly analyze from the high interest rate differential between the manufacturing industry and the financial industry. Demir (2009) studied three major emerging markets of Argentina, Mexico and Turkey, found that how real companies in developing countries allocate funds between fixed assets and financial assets to form their investment portfolios mainly depend on the difference in yield between the two.

The research on the motivations of financialization at the micro level mainly focuses on corporate-level issues such as financing constraints, corporate governance, and operating risks. Theurillat et al. (2010) pointed out that industrial capitalization can broaden corporate financing channels and reduce financing costs, thereby alleviating financing constraints firms faced (Huang et al., 2020). Du et al. (2017) hold that there is a promotion effect of agency conflict among the factors that induce the financialization of entity enterprises, due to the short-sighted characteristics of management and the purpose of large shareholders for private gains, they are more inclined to choose financial assets to invest. The increase in business risks of the physical industry will reduce the investment of enterprises in order to avoid risks reasonably, the high

return of the financial industry just provides a good use channel for the remaining funds (Zhang and Zheng, 2018).

2.2. Research Hypothesis

2.2.1 The logical relationship between financialization and investment efficiency

From the research point of view that financialization promotes the improvement of corporate investment efficiency, it is mainly because financialization reduces underinvestment, which will ultimately improve investment efficiency. On the one hand, financialization builds a network of relationships between financial institutions and entities, reduces the degree of information asymmetry between the two, and helps companies obtain credit resources from financial institutions (Deng and Zeng, 2011; Jin et al., 2019). On the other hand, companies can Realize the sale of financial assets at any time when liquidity is insufficient to make up for the lack of liquidity (Hoshi et al., 1991).

From the perspective of financialization inhibiting the improvement of corporate investment efficiency, the existing research results are mainly divided into two categories. One is that the "reservoir effect" is dominant, financialization can play a role in mitigating financing constraints, but the increase in overinvestment caused by the mitigation effect is more significant than the reduction in underinvestment, therefore financialization will reduce corporate investment efficiency in general (Li and Ma, 2014; Hu et al., 2017; Hu et al., 2019). The second type of scholars believe that the "crowding-out effect" brought about by financialization is greater than the "reservoir effect". The "crowding-out effect" leads to a decrease in the investment of real industry, resulting in insufficient investment, and thereby reducing corporate investment efficiency (Shin, 2012; Krippner, 2005; Hu et al., 2019).

From the perspective of the non-linear relationship between financialization and corporate investment efficiency, it is mainly believed that whether financialization promotes or inhibits corporate investment efficiency is related to the degree of financialization. Appropriate financialization is conducive to the improvement of corporate investment efficiency, but excessive financialization will inhibit the improvement of investment efficiency (Zhang et al., 2018).

Combining with the analysis of the severity of China's current trend of "Off the real to the virtual", China's manufacturing industry has shown a clear trend of financialization. The amount of money that listed companies purchase bank wealth management products has increased year by year, so we predict that excessive financialization may have occurred and will lead to underinvestment of enterprises. In view of this, this article proposes hypothesis 1 on the relationship between financialization and corporate investment efficiency.

H1. Financialization will intensify underinvestment in companies.

2.2.2 Analysis of the term structure of financialization

According to the term structure of the financial asset investment, financialization can be further divided into long-term financialization and short-term financialization, and there may be differences in the impact of the two on the corporate underinvestment. First, the long-term and short-term distinction of the financialization reflects investment philosophy of the enterprise. The main purpose of short-term financialization is to rapidly improve short-term economic benefits through the allocation of financial assets. This indicates that the short-sighted preference of managers is stronger, which means entity business activities with long profit cycles are not sufficiently attractive. While the main purpose of the long-term financial asset allocation behavior of the entity enterprise is to form a stable and long-term occupation of capital, which means that the enterprise pays more attention to long-term interests, which is conducive to enhancing the enterprise's capital strength (Seo et al., 2012; Wu and Xiang, 2020). Second, compared with long-term financial assets, the yield of short-term financial assets is

susceptible to market impacts, with greater volatility in returns and high-risk levels, which will have an excessive impact on the long-term business activities of enterprises. In other words, if the financialization has strong short-term characteristics, its "crowding-out effect" may be amplified. In summary, this article proposes hypothesis 2 for the difference in the degree of intensify underinvestment between short-term and long-term financialization.

H2. Short-term financialization has a more significant effect on aggravating underinvestment.

2.2.3 Analysis of internal transmission mechanism

From the previous analysis, it can be seen that the "reservoir effect" of financialization can effectively alleviate the dilemma of corporate financing constraints, but does the capital get by investing financial products actually flow to the real industry to help the development of the real economy? Through the analysis of the following two points, it is believed that financialization will actually further aggravate the financing constraints of enterprises. First, most enterprises investing in financial assets are motivated by speculative arbitrage, therefore, although enterprises can obtain funds by allocating financial assets, they will reinvest the funds in the financial sector instead of feeding back the industry (Gu et al., 2020). Second, in terms of the characteristics of management and major shareholders, they will make decisions to invest in financial assets instead of real industries (Jensen, 1986).

Financial behavior can help companies smooth their profits, thereby enabling companies to smoothly hide negative news such as poor performance, and exacerbate information asymmetry between companies and investors. On the one hand, management needs to identify investment opportunities with high NPV based on valuable information and then make investment decisions. The reduction of information transparency may lead to risks such as adverse selection, and management's investment decisions become inefficiency (Chen et al., 2007; Biddle et al., 2009; Jin and Myers, 2006; Peng et al., 2018). On the other hand, external investors will become very cautious in investing in companies because they cannot obtain the true accounting and operating information of the company, then reducing the amount of investment in the company, and the reduction of funds may lead to underinvestment.

Combining the above theoretical analysis, this article puts forward Hypothesis 3 on the intermediary transmission mechanism of financialization on insufficient investment.

H3. Financialization causes underinvestment in enterprises by intensifying corporate financing constraints, enhancing information asymmetry.

3. RESEARCH DESIGN

3.1. Data Source and Sample Selection

This paper selects the data of A-share listed companies in Shanghai and Shenzhen from 2008 to 2019 as the initial sample of the research. In order to ensure the reliability and accuracy of the data, the initial research sample is processed as follows according to the research needs: (1) Exclude listed companies in financial industry and the real estate industry; (2) Excluded listed companies with special handling situations such as ST, *ST, S, S*ST in the sample selection time range of this article.; (3) Eliminate listed companies that have not allocated financial assets; (4) Eliminate samples of listed companies in the current year of IPO; (5) Eliminate missing data; (6) In order to eliminate the influence of extreme sample values on the regression results, all continuous variables included in the empirical measurement model are subjected to Winsorize processing at the 1% level.

In the end, this paper obtained a total of 17,959 observation samples from 2,540 listed companies in 12 years. The financial asset amount, asset-liability ratio, net profit rate of total assets and other relevant variable data used in this article are all derived from Wind, CSMAR database.

3.2. Variable Measures

(1) Dependent variable (Fin). Regarding the measurement of the level of financialization, this article draws on the research methods of Qi and Zhang (2018), Xie et al. (2014), uses corporate financial asset holdings to describe the degree of financialization. The degree of corporate financialization = (trading financial assets + net long-term equity investment + derivative financial assets + net loans and advances + net available-for-sale financial assets + net held-to-maturity investment + net investment real estate Amount)/total assets.

Analysis of the term structure of financialization: According to the investment term attributes of different financial asset classes, further dismantle financialization into long-term and short-term financialization. Among them, long-term financialization = (net long-term equity investment + net investment real estate + net held-to-maturity investment)/total assets; short-term financialization = (trading financial assets + derivative financial assets + loans and advances Net funds + net available-for-sale financial assets)/total assets.

(2) Independent variable (UnderInv). This article uses the inefficient investment level to measure, then refers to the residual measurement model of Richardson (2006) to measure the underinvestment level.

$$Inv_{i,t} = \beta_0 + \beta_1 TobinQ_{i,t-1} + \beta_2 Cash_{i,t-1} + \beta_3 Lev_{i,t-1} + + \beta_4 lnSize_{i,t-1} + \beta_5 Age_{i,t-1} +$$
$$\beta_6 Roa_{i,t-1} + \beta_7 Inv_{i,t-1} + \Sigma Year + \Sigma Industry + e_{i,t} \tag{1}$$

Take the residual $e_{i,t}$ of the model (1) as the proxy variable of the firm's inefficient investment, that is the level at which the firm's actual investment deviates from the optimal investment. When the residual $e_{i,t}$<0, it indicates that the company has underinvestment; when the residual $e_{i,t}$>0, it indicates that the company has overinvestment.

(3) Mediating variable.

Financing constraints indicators (KZ index). This article draws on the practices of Kaplan and Zingales (1997), Li and Xu (2015) to construct the KZ index to measure the financing constraints faced by enterprises. The method of constructing the KZ index is as follows: -3.014 × cash asset ratio -4.444 × operating cash flow ratio -62.626 × dividend +0.153 × asset-liability ratio. The larger the KZ index, the higher the degree of financing constraints faced by the enterprise.

Information asymmetry indicator (Syn). This article uses stock price synchronization to measure the degree of information asymmetry. The higher the stock price synchronization, the higher the degree of information asymmetry. Drawing studies from Morck et al. (2000), Bai et al. (2019), the following model is used to measure stock price synchronization:

$$R_{it,w} = \alpha_{it} + \gamma_{it} R_{mt,w} + \varepsilon_{it,w} \tag{2}$$

$R_{it,w}$ is the return rate of the stock i, $R_{mt,w}$ is the weekly return rate of the market index.

The goodness-of-fit R_{it}^2 of model (2) represents the impact of changes in stock returns on market conditions, and$(1-R_{it}^2)$represents the impact of company characteristics on changes in stock returns. Syn for stock price synchronization is as follows:

$$Syn_{it} = \ln[\frac{R_{it}^2}{1-R_{it}^2}] \tag{3}$$

3.3. Model Design

First, based on the theoretical analysis of the internal relationship between financialization and enterprise underinvestment, this paper constructs the following benchmark regression model (4) according to the research theme.

$$Under\mathrm{Inv}_{i,t} = \alpha_0 + \alpha_1 Fin_{i,t} + \Sigma\alpha CV_{i,t} + \varepsilon_{i,t} \tag{4}$$

In the above model, $Under\mathrm{Inv}_{i,t}$ is the underinvestment of the independent variable, and the core dependent variable is the level of financialization ($Fin_{i,t}$), which is measured by the share of financial asset holdings.

In the control variable group($CV_{i,t}$), the variables covered mainly include the total logarithm of assets(lnSize$_{i,t}$), the asset-liability ratio(Lev$_{i,t}$), and the return on assets Ratio(Roa$_{i,t}$), cash asset ratio (Cash$_{i,t}$), book-to-market value ratio(A$_{i,t}$), fixed asset ratio(Am$_{i,t}$), equity concentration(Equity$_{i,t}$), Whether the chairman and general manager are concurrently(Dual$_{i,t}$). At the same time, this paper further introduces dummy variables of the year and industry to control the time fixed effect and industry fixed effect. $\varepsilon_{i,t}$ is the random error term.

This article chooses financing constraint (KZ Index) and information asymmetry (Syn) to verify the possible intermediary transmission mechanism. Regarding the procedure setting of the intermediary effect test, this article uses the intermediary effect test procedure proposed by Wen et al. (2004) to investigate. Equations (5), (6) and (7) three empirical test equations constitute the intermediary effect test procedure, the model is as follows:

$$Under\mathrm{Inv}_{i,t} = \theta_0 + \theta_1 Fin_{i,t} + \Sigma\theta CV_{i,t} + v_{i,t} \tag{5}$$

$$Mediator_{i,t} = \eta_0 + \eta_1 Fin_{i,t} + \Sigma\eta CV_{i,t} + \omega_{i,t} \tag{6}$$

$$Under\mathrm{Inv}_{i,t} = \mu_0 + \mu_1 Fin_{i,t} + \mu_2 Mediator_{i,t} + \Sigma\mu CV_{i,t} + \mathcal{E}_{i,t} \tag{7}$$

4. RESULTS ANALYSIS

4.1. Descriptive Statistics

Table 1 lists the results of the descriptive statistical analysis of the relevant variables involved. From the data of the explained variables, it can be seen that 61% of the samples showed signs of underinvestment, reflecting the neglect of main business in most companies and thus reducing productive investment.

From the perspective of explanatory variable groups, the average number of financial asset holdings is 0.07, and the median is 0.03, indicating that the overall level of corporate financial assets China is not high. From the perspective of the dismantling of the term structure of financialization, the average of long-term financialization is 0.05, while the average of short-term financialization is 0.02, indicating that Chinese enterprises prefer to allocate financial assets with longer investment periods.

From the point of view of the control variable group, the average and median asset-liability ratio are both 0.44, which shows that Chinese enterprises are currently heavily indebted, which may impose financial constraints on enterprises' productive investment and lead to underinvestment. The average and median return on assets is only 0.04, which highlights the

decline in the ability of listed companies to create profits by assets, that means the decline in asset utilization efficiency, and there is still room for improvement in resource allocation.

Table 1. Descriptive statistics

Variable	N	mean	sd	min	P25	P50	P75	max
UnderInv	17959	0.61	0.49	0.00	0.00	1.00	1.00	1.00
Fin	17959	0.07	0.11	0.00	0.01	0.03	0.09	0.56
L_Fin	17959	0.05	0.08	0.00	0.00	0.02	0.06	0.45
S_Fin	17959	0.02	0.05	0.00	0.00	0.00	0.02	0.30
lnSize	17959	22.22	1.25	19.87	21.32	22.05	22.95	26.05
Lev	17959	0.44	0.20	0.05	0.28	0.44	0.59	0.86
Roa	17959	0.04	0.05	-0.15	0.02	0.04	0.06	0.19
Am	17959	0.23	0.17	0.00	0.10	0.19	0.32	0.73
Cash	17959	0.16	0.12	0.01	0.07	0.12	0.20	0.62
A	17959	1.00	0.95	0.11	0.40	0.69	1.23	5.16
Equity	17959	34.93	14.86	8.98	23.11	33.00	45.10	74.29
Dual	17959	0.23	0.42	0.00	0.00	0.00	0.00	1.00
KZ Index	17942	-1.64	1.68	-8.98	-2.18	-1.15	-0.54	0.42
Syn	17613	0.48	0.19	0.06	0.34	0.49	0.63	0.88

4.2. Regression Results

4.2.1 Baseline results

Table 2. Baseline regression result.

Variables	(1) UnderInv	(2) UnderInv
Fin	0.2329***	0.3207***
	(4.9357)	(6.7286)
lnSize		-0.0287***
		(-4.8661)
Lev		-0.1509***
		(-4.7553)
Roa		-0.8447***
		(-8.7891)
Am		0.1104***
		(2.7809)
Cash		0.5351***
		(13.3257)
A		0.0475***
		(5.7694)
Equity		0.0015***
		(4.5531)
Dual		-0.0360***
		(-3.4774)
_cons	0.6793***	1.3250***
	(27.0453)	(10.1060)
Year	Yes	Yes
Industry	Yes	Yes
N	17959	17959
R^2	0.0040	0.0311

Note: (1) ***, ** and * indicate statistical significance at the 1%, 5% and 10% level respectively;

(2) In the brackets are the robust t statistics after cluster processing of the company, the same as the table below.

In the benchmark regression results in Table 2, this paper conducts an empirical test on the relationship between financialization and corporate underinvestment. In the empirical test part, this paper adopts a stepwise regression method, in the initial regression, only time fixed effects and industry fixed effects are controlled, and then the control variable set is further included in regression to ensure the robustness of the test results.

It can be seen from the data in Table 2 that financialization has exacerbated the underinvestment of enterprises, and hypothesis 1 is confirmed. Specifically, in the empirical test that not include control variable set, the coefficient of financialization (Fin) on underinvestment (UnderInv) is 0.2329, which pass the 1% level of significance test. In the empirical test that contains the control variable set, the coefficient of influence of financialization (Fin) on underinvestment (UnderInv) was 0.3207, which also passed the 1% level of significance test. It can be explained that financialization has indeed exerted "crowding-out effect" to squeeze the industrial investment of enterprises, and as the level of financialization increases, the phenomenon of enterprise underinvestment will become more severe.

4.2.2 Term structure analysis

From the empirical results in Table 3, it can be seen that both short-term financialization and long-term financialization are significantly cause underinvestment, and short-term financialization has a more significant effect on aggravating underinvestment than long-term financialization, so hypothesis 2 is confirmed. The coefficient of short-term financialization (S_Fin) on enterprise underinvestment (UnderInv) is 0.3994, and long-term financialization (L_Fin) is 0.3331, both of which pass the 1% level of significance test, but short-term Financialization has a stronger effect on increasing the degree of enterprise underinvestment.

Table 3. Term structure analysis

Variables	(1) UnderInv	(2) UnderInv
S_Fin	0.3994***	
	(4.6969)	
L_Fin		0.3331***
		(5.3552)
lnSize	-0.0268***	-0.0272***
	(-4.5536)	(-4.6330)
Lev	-0.1761***	-0.1684***
	(-5.4780)	(-5.3416)
Roa	-0.8610***	-0.8640***
	(-8.9610)	(-8.9950)
Am	0.0714*	0.0868**
	(1.8084)	(2.2048)
Cash	0.4905***	0.5175***
	(12.3364)	(12.9400)
A	0.0467***	0.0475***
	(5.6897)	(5.7364)
Equity	0.0014***	0.0015***
	(4.4646)	(4.4868)
Dual	-0.0392***	-0.0363***
	(-3.7976)	(-3.5015)
_cons	1.3337***	1.3120***
	(10.2069)	(9.9796)
Year	Yes	Yes
Industry	Yes	Yes
N	17959	17959
R^2	0.0287	0.0299

4.2.3 Mediating effect test

(1) Test of the mediation effect of financing constraints

Table 4 lists the test results of the intermediary effect based on financing constraints. The empirical results show that financing constraints play a part of the intermediary transmission function between financialization and underinvestment. Specifically, first, the coefficient of financialization (Fin) on the degree of financing constraints (KZ index) is 0.5380, and significantly positive at the 1% level, indicating that financialization will aggravate the financing constraints. Secondly, the regression coefficient of financing constraint (KZ index) to the underinvestment of the enterprise (UnderInv) is 0.0170, and pass the significance test at the 1% level, this indicates that the higher the degree of financing restraint, the higher the degree of underinvestment. Finally, the regression coefficients of financialization (Fin) to underinvestment (UnderInv) were 0.3103, which passed the 1% level of significance test.

To sum up, according to the intermediary effect test procedure, it can be seen that financing constraints do perform part of the intermediary function in the chain of financialization and corporate underinvestment, which implies financialization will increase underinvestment by intensifying corporate financing constraints.

Table 4. Mediating effect test- financing constraints

Variables	(1) KZ Index	(2) UnderInv
KZ Index		0.0170***
		(4.8278)
Fin	0.5380***	0.3103***
	(3.9819)	(6.5052)
lnSize	-0.1354***	-0.0262***
	(-8.2244)	(-4.4256)
Lev	0.7534***	-0.1642***
	(7.9152)	(-5.1371)
Roa	-16.1253***	-0.5698***
	(-32.8862)	(-5.2325)
Am	-0.5028***	0.1190***
	(-5.0380)	(2.9943)
Cash	-5.0681***	0.6213***
	(-34.0965)	(14.0211)
A	0.1556***	0.0450***
	(8.3024)	(5.4407)
Equity	-0.0041***	0.0016***
	(-3.9817)	(4.7665)
Dual	-0.1002***	-0.0344***
	(-3.1300)	(-3.2971)
_cons	2.0031***	1.2476***
	(6.1633)	(7.1784)
Year	Yes	Yes
Industry	Yes	Yes
N	17942	17942
R^2	0.5531	0.0325

(2) The mediating effect test of information asymmetry

Table 5 lists the results of the intermediary effect test based on information asymmetry. The empirical results show that information asymmetry has played a part of the intermediary transmission function between financialization and corporate underinvestment. First, the

coefficient of financialization (Fin) on the asymmetry of information (Syn) is 0.0497, and the 1% level of significance test is passed, indicating that financialization will significantly improve the synchronization of stock prices, thus improve the degree of information asymmetry. Secondly, the regression coefficient of information asymmetry (Syn) to enterprise underinvestment (UnderInv) is 0.0529, and pass the significance test at the 1% level, which represents that the increase in information asymmetry will aggravate the degree of enterprise underinvestment. Finally, the regression coefficient of financialization (Fin) to underinvestment of enterprises (UnderInv) is 0.3313 and is significantly positive at the 1% level.

According to the analysis, it can be seen that information asymmetry assumes part of the intermediary function in the chain of financialization influencing underinvestment. That denotes financialization will increase underinvestment by improving the degree of information asymmetry.

In summary, Hypothesis 4 is supported by empirical testing.

Table 5. Mediating effect test- asymmetry

Variables	(1) Syn	(2) UnderInv
Syn		0.0529**
		(2.1830)
Fin	0.0497***	0.3313***
	(2.9933)	(6.8244)
lnSize	0.0344***	-0.0302***
	(15.0550)	(-5.0883)
Lev	-0.1379***	-0.1389***
	(-12.6757)	(-4.2929)
Roa	0.0240	-0.8309***
	(0.6948)	(-8.5076)
Am	0.0504***	0.1105***
	(3.4673)	(2.7416)
Cash	0.0109	0.5433***
	(0.6854)	(13.4181)
A	0.0345***	0.0449***
	(10.8287)	(5.3983)
Equity	-0.0000	0.0015***
	(-0.1970)	(4.6576)
Dual	-0.0034	-0.0341***
	(-0.9714)	(-3.2482)
_cons	0.2382**	1.2425***
	(2.4474)	(6.8279)
Year	Yes	Yes
Industry	Yes	Yes
N	17613	17613
R^2	0.3663	0.0314

4.3. Robustness Test

4.3.1 Endogeneity: IV-GMM Method.

Through the research of this article, financialization will have an impact on the underinvestment of enterprises, but underinvestment may in turn affect the financial behavior of enterprises, which will lead to endogenous problems caused by reverse causality. Therefore, this article uses the one-period lag (L1. Fin) and two-period lag (L2. Fin) of financialization (Fin) as instrumental variables. The instrumental variable-generalized moment estimation (IV-GMM) method was used to test the endogeneity, and the test results are shown in Table 6.

In order to examine the effectiveness of instrumental variables, this paper uses Kleibergen-Paap rk LM statistics to test unidentifiable problems, Kleibergen-Paap rk Wald F statistics to test weak instrumental variables, and Hansen J statistics to test over-identification problems. The results show that the above three problems do not exist. Therefore, the instrumental variables selected are effective. The second-stage test results show that after controlling the endogenous problems, financialization still exacerbates underinvestment, which is consistent with the previous conclusions.

Table 6. Endogeneity: IV-GMM method.

Variables	(1) UnderInv
Fin	0.1964***
	(4.0488)
lnSize	-0.0274***
	(-5.0827)
Lev	-0.1557***
	(-4.6859)
Roa	-0.8330***
	(-7.9010)
Am	0.1076***
	(3.0154)
Cash	0.5975***
	(14.0715)
A	0.0424***
	(5.8198)
Equity	0.0020***
	(6.4782)
Dual	-0.0337***
	(-3.0590)
_cons	1.2483***
	(10.6279)
Year	Yes
Industry	Yes
idstat	1601.255
Widstat	1.1e+04
Hansen J statistic	0.017
p-value of Hansen J statistic	0.8962
N	12336
R^2	0.0343

4.2.3 Exclude Special Years

The sample data selected in this article span the interval between 2008 and 2019. Considering that the impact of the financial crisis in 2008 may have an impact on corporate

investment decisions, the robustness test is performed after removing the sample observations from 2008 to 2009, and the test results are as shown in Table 7.

After excluding special years, the regression coefficient of financialization (Fin) on underinvestment (UnderInv) is 0.2965, passing the significance test of the 1% level. From table 7, the test results are consistent with the benchmark regression, and have not changed the conclusions of this paper.

Table 7. Exclude special years

Variables	(1) UnderInv
Fin	0.2965***
	(5.8077)
lnSize	-0.0252***
	(-4.0066)
Lev	-0.1443***
	(-4.3153)
Roa	-0.8156***
	(-8.0028)
Am	0.1215***
	(2.8924)
Cash	0.5480***
	(13.1432)
A	0.0450***
	(5.0948)
Equity	0.0015***
	(4.5619)
Dual	-0.0344***
	(-3.1613)
_cons	1.2497***
	(8.9467)
Year	Yes
Industry	Yes
N	15987
R^2	0.0306

5. CONCLUSIONS

Based on the sample data of China's A-share non-financial listed companies from 2008 to 2019, this paper deeply explores the logical relationship between financialization and corporate underinvestment, and further examines the internal influence mechanism between the two. It is found that financialization will aggravate the underinvestment of enterprises, and after further dismantling the term structure of financialization, it is concluded that compared with long-term financialization, short-term financialization has a more prominent effect on enterprise underinvestment. "Crowding-out effect" of financialization is mainly achieved by

worsening the dilemma of corporate financing constraints and reducing information transparency.

Combining the research conclusions drawn in the above article, based on the two main bodies of entity enterprises and government-related agencies, the following policy recommendations are made with certain feasibility.

Based on the comprehensive consideration of internal and external factors, enterprises should choose whether to allocate financial assets and the scale of investment in financial assets, coordinate the relationship between financial asset investment and industrial investment, and beware of underinvestment in enterprises. Optimize the structure of financial asset allocation, and allocate more long-term equity investments, investment real estate, held-to-maturity investments and other financial assets with longer investment periods.

The government should act as a good guide, cut off the motivation of enterprises to use financialization for speculative arbitrage at the source, guide real enterprises to "depart from the virtual to the real", enhance the ability of financial services to serve the real economy, and give full play to the government's macro-control and regulatory functions. Vigorously support the development of the physical industry, reduce the operating costs of physical enterprises and increase the rate of return on industrial investment through measures such as tax cuts, fee reductions, and technological innovation subsidies. Unblock financing channels, alleviate the difficulties of corporate financing constraints, improve my country's credit mechanism, alleviate credit discrimination, ease the information asymmetry between credit institutions and enterprises. Develop inclusive finance, and expand the coverage of financial services. Strengthen the supervision of corporate financial activities, strictly prevent financial speculation.

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