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How Does Corporate Financialization Affect R&D Investment? — Empirical Evidence from the Perspective of Analyst Coverage

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Abstract. Against the backdrop of declining return on real investment and relatively rising returns from financial assets, corporate financialization may reshape the internal resource allocation of enterprises and affect long-term innovation activities. Using a sample of Chinese A-share listed manufacturing firms, this paper adopts firm fixed-effect and year fixed-effect models to examine the impact of corporate financialization on the intensity of R&D investment and its underlying mechanism. The study finds that corporate financialization significantly reduces R&D investment intensity. Mechanism analysis shows that financialization markedly cuts down the number of analyst forecast reports, the number of covering analysts and the number of distinctive research reports, and the deterioration of information environment serves as an important channel through which financialization affects R&D investment. Heterogeneity analysis indicates that the negative effect of financialization is more pronounced in small-scale enterprises, high-tech manufacturing enterprises and non-state-owned enterprises. The conclusion remains robust after replacing core variables, adjusting sample periods, controlling industry-by-year fixed effects and adopting alternative sample treatments. The results suggest that curbing excessive corporate financialization, optimizing long-term R&D financing and improving external information governance are essential conditions to raise the quality of innovation investment in the manufacturing sector.

Keywords: corporate financialization, R&D investment, analyst coverage, manufacturing enterprises, innovation investment

1. Introduction

The boundary between the real economy and the financial sector has grown increasingly blurred, and corporate financialization has become an important dimension for observing the direction of resource allocation in manufacturing industries. With falling returns in the real sector alongside rising relative returns of financial assets, a growing number of non-financial enterprises have diverted capital to the financial sector, and the linkage between their operational decisions and capital market trends keeps strengthening [1]. Financial assets can provide liquidity and revenue sources, yet they may also draw corporate capital and managerial attention away from productive

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investment, thus altering firms' long-term development paths. The 2023 Central Economic Work Conference proposed to promote high-quality development of manufacturing industry. Whether enterprises can continuously allocate resources to technological R&D forms the micro foundation for achieving this goal.

R&D projects generally require substantial upfront capital, with a long time lag between investment and output. Great uncertainties exist regarding technical feasibility and market acceptance, making R&D activities highly dependent on long-term capital sources [2]. In contrast, financial assets usually feature better liquidity and faster revenue realization. When enterprises raise the proportion of financial assets, limited internal funds may shift from R&D to financial investment, while managers' preference for short-term gains may be further amplified [3, 4]. Nevertheless, financial assets can also act as liquidity reserves amid capital shortages and smooth fluctuations in R&D investment [5]. Therefore, the impact of financialization on R&D investment depends on the relative strength of the capital allocation effect and the liquidity reserve effect.

Existing literature mostly investigates the economic consequences of corporate financialization from perspectives such as financing constraints, principal-agent conflicts and shifts in macroeconomic policies, while discussions about the role of information intermediaries in this process remain insufficient. As information intermediaries in capital markets, analysts undertake information transmission and perform external governance functions. Their continuous tracking and earnings forecasts help improve corporate information transparency and restrain managerial myopia [6]. Financialization may trigger changes in corporate information environment or adjustments in operational risks, thereby affecting analysts' willingness to cover firms. Changes in analyst coverage, in turn, influence corporate governance and R&D investment decisions. Accordingly, analyst coverage may act as a vital information channel linking corporate financialization and R&D investment.

Based on the above analysis, this paper uses Chinese A-share listed manufacturing companies as the sample to examine whether corporate financialization lowers R&D investment intensity, and further tests the mediating role of analyst coverage as well as differences across firm size, ownership and technological attributes. The marginal contributions of this paper lie in three aspects. First, this study focuses on R&D investment, the front-end stage of innovation, and expands the research boundary of how financialization affects corporate behaviours. Second, it introduces analyst coverage as an information-environment variable into the analytical framework, revealing the mediating effect of external monitoring between financialization and R&D investment. Third, it tests the heterogeneity of financialization's impacts from three dimensions: firm size, ownership type and technological attribute, providing empirical evidence for targeted policy design.

2. Theoretical analysis and research hypotheses

2.1. Definition of core concepts

Corporate financialization refers to the phenomenon that non-financial enterprises are increasingly integrated into the financial system and raise the holding ratio of financial assets [3, 7]. This paper uses the ratio of total financial assets to total assets as the measurement indicator. The baseline scope includes major items such as trading financial assets, derivative financial assets, debt investments, other equity instrument investments and investment real estate. Relevant accounts are unified across periods according to changes in accounting standards. The robustness test further adopts a narrow-scope proportion of financial assets to examine the influence of financial asset classification on results.

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R&D investment intensity measures the level of resource input of enterprises in technological innovation. This paper takes the ratio of R&D expenditure to total assets as the baseline indicator, and replaces it with the ratio of R&D expenditure to operating revenue and its logarithmic form in the robustness test.

2.2. Corporate financialization and R&D investment: the capital allocation mechanism

The impact of corporate financialization on R&D investment is first reflected in capital allocation among different investment projects. R&D projects require continuous capital injection and feature long return cycles and high uncertainty [2]. In contrast, financial assets usually have better liquidity and shorter revenue realization cycles. When enterprises increase the allocation of financial assets, part of funds will be withdrawn from R&D fields, making R&D activities face tighter capital constraints.

Besides altering the direction of capital allocation, financialization may reshape managers' decision preferences. Returns from financial investment emerge rapidly, while the delivery of R&D achievements requires long-term technological accumulation and market verification. Under performance assessment pressure, managers may prefer financial assets with shorter investment return cycles, which is harmful to maintaining the continuity and stability of R&D investment. Accordingly, the crowding-out effect of capital and managerial short-termism jointly affect corporate R&D decisions.

Financial assets may also serve the function of liquidity reserve. That is, enterprises allocate financial assets when cash flow is sufficient and liquidate such assets amid shortages of R&D funds to smooth fluctuations in R&D investment [5]. When the reservoir effect dominates, financialization may support R&D investment; when the crowding-out and short-termism effects are stronger, financialization will restrain R&D investment. Combined with the long-term and high-risk features of R&D activities in manufacturing enterprises, this paper proposes:

H1: The higher the degree of financialization of manufacturing enterprises, the lower the intensity of R&D investment.

2.3. Information environment channel: the mediating role of analyst coverage

Analysts act as an information bridge between enterprises and investors. They form judgements on corporate value through site visits, interpretation of financial statements and earnings forecasts, and deliver such judgements to the market via research reports. Higher analyst coverage corresponds to greater corporate information transparency and stronger external supervision, and managers' behaviours deviating from long-term value are more likely to be constrained [6].

Corporate financialization may affect analyst coverage by changing the intelligibility of operational information, the adequacy of information disclosure and expectations for future growth. Gains and volatility of financial assets complicate the interpretation of corporate operating performance. Managers' disclosure strategies regarding the purposes and income composition of financial investments may affect external stakeholders' evaluation of firms' long-term development directions. After analyst coverage decreases, external information supervision and pressure from market evaluation weaken, managerial short-term decisions tend to persist, and R&D investment is further affected. Therefore, this paper proposes:

H2: Corporate financialization restrains corporate R&D investment by weakening analyst coverage.

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2.4. Heterogeneity in firm characteristics and research hypotheses

Firm size and technological attributes affect the magnitude of the effect of financialization on R&D investment. Small and medium-sized enterprises have limited available funds, relatively inadequate internal supervision mechanisms and weaker risk resistance capacity. The crowding-out effect of financial investment on R&D budgets tends to be more prominent. High-tech manufacturing enterprises impose stricter requirements on the continuity of R&D activities and stronger technological path dependence. Once R&D funds shrink, innovative projects will suffer more direct impacts. Thus, the negative effect of financialization is expected to be stronger among small-scale enterprises and high-tech manufacturing enterprises. On this basis, this paper puts forward:

H3a: Compared with large-scale enterprises, the negative impact of financialization on R&D investment is stronger for small-scale enterprises.

H3b: Compared with non-high-tech manufacturing enterprises, the negative impact of financialization on R&D investment is stronger for high-tech manufacturing enterprises.

3. Research design

3.1. Data source and sample construction

This paper takes Chinese A-share listed manufacturing firms as the initial sample. Corporate financial, R&D investment and corporate governance data are mainly obtained from the CSMAR database. During sample processing, ST, *ST and PT firms are excluded; firm-year observations with missing key variables are deleted. Continuous variables are winsorized at the 1% and 99% two-tailed levels to mitigate the impact of extreme values on estimation results. Given that the new accounting standard for financial instruments in 2018 revised several financial asset accounts, this paper matches relevant items across years under a unified standard, and adjusts the sample period and financial asset measurement in robustness analysis. The final sample consists of 21,593 firm-year observations.

3.2. Variable definitions

The dependent variable is R&D investment intensity (*RD*), and the baseline indicator is the ratio of R&D investment to total assets. The core explanatory variable is the degree of corporate financialization (*Fin*), measured by the ratio of total financial assets to total assets. The mediating variable is analyst coverage (*Analyst*), measured respectively by the logarithm of the number of analyst forecast reports, the logarithm of the number of covering analysts, and the logarithm of the number of distinctive research reports. Control variables include firm size (*Size*), asset-liability ratio (*Lev*), profitability (*ROA*), growth (*Growth*), cash holdings (*Cash*), firm age (*Age*), shareholding ratio of the largest shareholder (*Top1*) and fixed asset ratio (*PPE*). Variable definitions are shown in Table 1.

Table 1. Definitions of main variables

Variable Category	Symbol	Variable Name	Definition
Dependent Variable	RD	R&D investment intensity	R&D investment / Total assets

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Table 1. (continued)

Core Explanatory Variable	Fin	Degree of corporate financialization	Total broad financial assets / Total assets
Alternative Explanatory Variable	Fin_N	Narrow-measure financialization degree	Total narrow-scope financial assets / Total assets
Mediating Variable	Analyst	Analyst coverage	Logarithms of forecast report quantity, number of covering analysts and number of distinctive research reports
Control Variable	Size	Firm size	Natural logarithm of total assets
Control Variable	Lev	Asset-liability ratio	Total liabilities / Total assets
Control Variable	ROA	Profitability	Return on total assets
Control Variable	Growth	Growth	Growth rate of operating revenue
Control Variable	Cash	Cash holdings	Cash and cash equivalents / Total assets
Control Variable	Age	Firm age	Natural logarithm of firm establishment years
Control Variable	Top1	Ownership concentration	Shareholding ratio of the largest shareholder
Control Variable	PPE	Fixed asset ratio	Fixed assets / Total assets

3.3. Model specification

To test the effect of corporate financialization on R&D investment intensity, this paper constructs a model with firm fixed effects and year fixed effects:

$$RD_{it} = \alpha + \beta Fin_{it} + \gamma' X_{it} + \mu_i + \lambda_t + \varepsilon_{it}$$

Where RD_it denotes the R&D investment intensity of firm i in year t; Fin_it represents the degree of corporate financialization; X_it refers to firm-level control variables; μ_i and λ_t stand for firm fixed effects and year fixed effects respectively; ε_it is the random disturbance term. Standard errors are clustered at the firm level. The core coefficient β reflects the relationship between corporate financialization and R&D investment intensity. A significantly negative β indicates that financialization is associated with declining R&D investment.

The information environment channel is tested via the following model:

$$Analyst_{it} = \alpha + \theta Fin_{it} + \gamma' X_{it} + \mu_i + \lambda_t + \varepsilon_{it}$$

Where Analyst_it takes the logarithms of the number of analyst forecast reports, covering analysts and distinctive research reports in turn. If θ is significantly negative, a higher level of financialization is accompanied by reduced analyst coverage. The baseline regression and channel test results jointly provide empirical evidence for the information environment mechanism.

Heterogeneity analysis conducts group regressions according to firm size, ownership nature and high-tech manufacturing attributes, and compares core coefficients under identical control variables

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and fixed-effect settings. Robustness analysis examines estimation results through variable replacement, sample period adjustment, fixed effect expansion and alternative sample treatments.

3.4. Robustness tests

Four types of specifications are adopted for robustness tests. First, the narrow-scope financial asset ratio replaces the baseline financialization indicator to rule out the influence of financial asset classification. Second, observations in 2018 are excluded to reduce the impact of accounting standard revisions on financialization measurement. Third, industry-by-year fixed effects are added to the baseline model to control for annual common shocks at the industry level. Finally, the model is re-estimated following the original sample processing scheme, and a one-period lagged financialization indicator is supplemented to examine the dynamic relationship.

4. Empirical results and analysis

4.1. Descriptive statistics and correlation analysis

The mean value of R&D investment intensity (*RD*) is 4.72%, with a standard deviation of 4.03%, a minimum value of 0 and a maximum value of 49.13%. This indicates substantial disparities in R&D investment among listed manufacturing firms. The mean of corporate financialization degree (*Fin*) is 4.22%, the median is 1.03%, and the standard deviation is 7.44%. The mean exceeds the median and the distribution is right-skewed, which implies that most firms hold a low share of financial assets while a small number of firms maintain high allocation ratios. The average firm size is 22.15, the average asset-liability ratio is 40.04%, the average return on total assets is 3.53%, and the average operating revenue growth rate is 13.34%. Pearson correlation tests show that *Fin* is significantly and negatively correlated with *RD*, offering descriptive evidence for the baseline regression.

4.2. Baseline regression results

Table 2 presents the baseline regression results. The estimated coefficient of corporate financialization degree is −0.0076 and significant at the 1% level, suggesting that higher financialization corresponds to lower R&D investment intensity. Under conventional econometric interpretation for proportional variables, a one-percentage-point rise in the financialization ratio reduces R&D investment intensity by roughly 0.0076 percentage points. This result supports the capital allocation and managerial short-termism mechanisms, and Hypothesis H1 is verified.

Table 2. Baseline regression results

Variable	R&D Investment Intensity (RD)
Corporate financialization degree (Fin)	−0.0076***(0.0024)
Firm size (Size)	−0.0024***(0.0004)
Asset-liability ratio (Lev)	−0.0029**(0.0015)
Return on total assets (ROA)	0.0037(0.0023)
Operating revenue growth (Growth)	0.0004*(0.0002)
Cash holdings (Cash)	−0.0061***(0.0013)

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Firm age (Age)	−0.0015***(0.0005)
Fixed asset ratio (PPE)	0.0032*(0.0018)

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Table 2. (continued)

Firm fixed effects	YES
Year fixed effects	YES
Observations	21,593
Adjusted R^2	0.7906

Notes: Standard errors clustered at the firm level are reported in parentheses. *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.

4.3. Information environment channel test

Table 3 examines the impact of corporate financialization on analyst coverage. The estimated coefficients of *Fin* for the logarithm of the number of analyst forecast reports, the logarithm of the number of covering analysts, and the logarithm of the number of distinctive research reports are −0.5212, −0.5470 and −0.6120, which are significant at the 5%, 1% and 1% levels respectively. Higher financialization is significantly associated with reduced analyst coverage. This finding suggests that financialization may affect firms' long-term R&D decisions by weakening the external information environment and monitoring constraints, which supports Hypothesis H2.

Table 3. Information environment channel test: analyst coverage

Variable	Log of Number of Forecast Reports	Log of Number of Covering Analysts	Log of Number of Distinctive Research Reports
Corporate financialization degree (Fin)	−0.5212**(0.2440)	−0.5470***(0.2028)	−0.6120***(0.1680)
Firm size (Size)	1.1043***(0.0412)	0.9293***(0.0345)	0.5954***(0.0314)
Asset-liability ratio (Lev)	−0.9919***(0.1406)	−0.7955***(0.1187)	−0.3646***(0.1104)
Return on total assets (ROA)	1.9290***(0.1864)	1.6649***(0.1579)	3.5610***(0.1963)
Operating revenue growth (Growth)	−0.1495***(0.0234)	−0.1270***(0.0203)	0.1887***(0.0242)
Cash holdings (Cash)	0.3101**(0.1449)	0.2573**(0.1203)	0.3906***(0.1157)
Firm age (Age)	−0.0926(0.0609)	−0.0647(0.0507)	−0.0683(0.0449)
Fixed asset ratio (PPE)	0.5699***(0.1801)	0.5114***(0.1532)	−0.5510***(0.1566)
Firm fixed effects	YES	YES	YES
Year fixed effects	YES	YES	YES
Observations	21,593	21,593	21,593
Adjusted R^2	0.7396	0.7435	0.6988

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Notes: Standard errors clustered at the firm level are reported in parentheses. Each column adopts one of the three analyst coverage indicators as the dependent variable. *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.

4.4. Heterogeneity analysis

Table 4 shows that the effect of financialization on R&D investment differs across firm characteristics. When grouped by firm size, the core coefficient for small-scale firms is −0.0131, while that for large-scale firms is −0.0051; the former has a larger absolute value. Grouped by ownership, the coefficients for state-owned enterprises and non-state-owned enterprises are −0.0052 and −0.0106 respectively, and the negative coefficient for non-state-owned enterprises is statistically significant. Grouped by technological attributes, the coefficient for high-tech manufacturing firms is −0.0083, and that for non-high-tech manufacturing firms is −0.0059. Overall, firms facing tighter capital constraints, higher reliance on R&D, or relatively limited external governance resources are more sensitive to resource allocation changes induced by financialization. Hypotheses H3a and H3b are supported.

Table 4. Heterogeneity analysis

Grouping Dimension	Group	Coefficient of Fin	Observations	Adjusted R^2
Firm size	Small-scale firms	−0.0131(0.0082)	3,964	0.7950
Firm size	Large-scale firms	−0.0051*(0.0026)	10,157	0.8150
Ownership	State-owned enterprises	−0.0052(0.0033)	10,614	0.7870
Ownership	Non-state-owned enterprises	−0.0106*** (0.0033)	10,756	0.8240
Technological attribute	High-tech manufacturing	−0.0083*** (0.0027)	18,192	0.7843
Technological attribute	Non-high-tech manufacturing	−0.0059(0.0040)	3,401	0.7446

Notes: Standard errors clustered at the firm level are reported in parentheses. All models in each group control for firm fixed effects, year fixed effects and control variables. *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.

4.5. Robustness tests

Table 5 reports the results of robustness tests. When the narrow-measure financialization indicator is adopted, the core coefficient is −0.0055 and significant at the 5% level. After excluding observations for 2018, the core coefficient is −0.0088 and significant at the 1% level. After adding industry-by-year fixed effects, the core coefficient is −0.0089 and significant at the 1% level. Re-estimation following the original sample processing scheme yields a core coefficient of −0.0084, significant at the 1% level. When the one-period lagged financialization indicator is further used, the estimated result remains negative. The core conclusion holds under alternative variable measurements, sample periods and model specifications.

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Table 5. Robustness tests

Test Specification	Coefficient of Fin	Standard Error	Observations	Adjusted R^2
Substitute with narrow-measure financialization indicator	−0.0055**	0.0025	21,593	0.7904
Exclude observations of 2018	−0.0088***	0.0027	19,498	0.7842
Control for industry-by-year fixed effects	−0.0089***	0.0023	21,590	0.7976
Estimate under original sample processing scheme	−0.0084***	0.0024	21,030	0.7955

Notes: All columns control for firm fixed effects, year fixed effects and control variables. Standard errors are reported in the estimation results in the main text. *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.

5. Conclusions and policy implications

5.1. Main conclusions

Using a sample of Chinese A-share listed manufacturing firms, this paper examines the impact of corporate financialization on R&D investment intensity and its underlying mechanism. Baseline regression results show that a higher level of corporate financialization significantly reduces R&D investment intensity, and there exists evident tension in resource allocation between financial asset holdings and firms' long-term innovation investment. Mechanism analysis reveals that corporate financialization significantly cuts down the number of analyst forecast reports, the number of covering analysts and the number of distinctive research reports. Reduced analyst coverage weakens the external information environment and governance constraints, and the information environment channel serves as an important transmission path through which financialization affects R&D investment. Heterogeneity analysis indicates that the negative impact of financialization is more pronounced in small-scale enterprises, high-tech manufacturing enterprises and non-state-owned enterprises. The core findings remain robust after replacing the financialization indicator, adjusting the sample period, adding industry-by-year fixed effects and adopting alternative sample treatments.

5.2. Policy implications

For enterprises, financial asset allocation should be incorporated into long-term development strategies and internal governance systems. Firms shall set the scale of financial investment reasonably, prevent short-term financial gains from crowding out R&D funds, and include the continuity of R&D investment, long-term value of R&D projects and innovation outputs into managerial performance evaluation. Financial institutions should optimize the maturity structure of financing according to the return cycles and risk characteristics of manufacturing R&D projects, and expand credit support for long-term R&D projects of high-tech firms and small and medium-sized enterprises. Regulators shall further improve preferential tax policies for R&D, innovation subsidies and financing guarantee policies to guide financial resources toward real-sector innovation. Meanwhile, authorities need to strengthen information disclosure requirements for corporate financialization and external supervision in capital markets, so as to improve the transparency of firms' long-term investment decisions.

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5.3. Limitations and future research directions

The sample of this paper mainly consists of A-share listed manufacturing companies. The conclusions reflect manufacturing firms with mandatory public disclosure requirements and certain financing capacity. Future research may extend the sample to non-listed firms, small and medium-sized enterprises and enterprises of different ownership types, to further explore the relationship between corporate financialization and R&D investment among broader firm groups. In terms of research content, subsequent studies may adopt indicators such as corporate innovation patents, product quality and technology commercialization to extend the analysis from R&D input to innovation output. For identification strategies, exogenous shocks including financial regulatory policies, revisions to financial asset accounting standards or regional differences in financial supply can be used to better identify the causal effect of corporate financialization on innovation activities. Regarding mechanism exploration, scholars may also examine the joint effects of managerial incentives, financing constraints and information disclosure quality.

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