

Breaking the Stereotype: How Corporate Financialization Can Boost R&D Investment

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Abstract: As Enterprise Financialization refers to the process in which enterprises obtain funds through financing channels to support their business and development activities. This financing channel can include bank loans, bond issuance, stock issuance and other forms. And the purpose of Enterprise Financialization is to improve the efficiency of capital utilization. However, the hypothesis in our research is that the extent to which corporate Financialization increases R&D spending may depend on a variety of factors. And we figure that a rise in R&D spending results from a 1% increase in finalization. This finding confirms the theory that finalization and R&D positively correlated.

Keywords: corporate finance, financialization, R&D investment

1. Introduction

Enterprise Financialization refers to the process in which enterprises obtain funds through financing channels to support their operation and development activities. Such financing channels can include bank loans, bond issues, stock issues and other forms. The purpose of enterprise financialization is to improve the efficiency of capital utilization, reduce financing costs, and enhance the competitiveness and profitability of enterprises. The development of enterprise Financialization is a long historical process. In the past, companies mainly relied on their own capital and bank loans for financing. However, with the development of market economy and the continuous improvement of financial market, the forms and ways of enterprise financialization are also changing. Nowadays, enterprises can raise funds through stock issues, bond issue, private equity and other ways, which not only improve the financing efficiency of enterprises, but also provide enterprises with more financing options. The advantage of enterprise Financialization is that it can improve the efficiency of capital utilization. By obtaining funds through financing channels, enterprises can make better use of funds, expand production scale, improve production efficiency, increase product variety and quality, so as to improve their competitiveness and profitability. In addition, corporate Financialization can also reduce financing costs. Through the selection of various financing methods, enterprises can choose the most suitable financing methods, so as to reduce financing costs and improve financing efficiency. However, there are drawbacks to corporate financialization. First of all, the financialization of enterprises may increase the financial risk of enterprises. Enterprises need to bear certain financial

risks to obtain funds through financing channels. If enterprises fail to repay or pay interest on time, their financial conditions may deteriorate. Secondly, the Financialization of enterprises may lead to changes in the ownership structure of enterprises. Corporate financing through stock issuance and other ways may lead to changes in the ownership structure of enterprises, thus affecting the management and decision-making of enterprises.

Then there is still something we need to figure out is that the relationship between the RD and the FE. And we control the variables which are the InTA, cash flow NDTs, then we use the multi factor model to do the regression. Finally, we work out the problem.

2. Literature Review and Hypothesis Development

The earliest germination of corporate financialization can be traced back to the end of the 20th century. At that time, some powerful companies invested capital in the financial sector and made profits after discovering that investment in the real industry often failed to obtain rich returns. Financialization has squeezed the operating space of the real industry, and it cannot be ignored in the operation of enterprises. G. Arrighi put forward the concept of enterprise financialization for the first time, thinking that this is a mature process of transforming capital accumulation [1].

The trend of corporate financialization is often tied to the concept of shareholder primacy, which can lead to a short-term focus and a lack of emphasis on environmental and social responsibility. Numerous studies have shown that increasing the degree of corporate financialization can cause companies to become more short-term oriented. Xu and Guo state that this short-term focus can weaken a company's long-term operating performance [2]. This is because companies may prioritize short-term profits over long-term investments in research and development or other activities that may benefit the company in the long run. In addition, Li et al. found that increasing the degree of corporate financialization can also reduce a company's environmental and social responsibility [3]. This is because the motivation of shareholder primacy may conflict with the goal of being socially responsible. For example, a company may choose to cut costs by ignoring environmental regulations or labor standards in order to increase profits and shareholder value. Moreover, the government has not put forward rigid environmental and social responsibility requirements for enterprises, which has led enterprises to unscrupulously put the short-term interests of shareholders above their social responsibilities, therefore harming the long-term benefit of society. Furthermore, the finding of Feng et al. suggests that employee ownership plans can reduce the degree of corporate financialization [4]. These plans give employees a stake in the company's success and may encourage them to think more about the long-term health of the company, rather than just short-term profits. This conclusion also reversely shows that increasing the degree of financialization of enterprises will make them lose the pursuit of long-term development, which will also affect the interests of employees.

Although it is undeniable that these researches on the impact of corporate financialization on society have great significance, they are only limited to discussing the negative significance of corporate financialization on long-term development. In reality, one thing often has two sides.

There is evidence to suggest that financialization can benefit companies in the long term by providing them with additional resources that can be used to support innovation and research and development (R&D) activities. By using financial strategies such as stock buybacks, debt issuance, or divestitures, companies can generate cash that can be reinvested in innovation initiatives. This can help to create a cycle of innovation and growth, where successful innovation generates returns that can be used to fund further innovation.

Companies that prioritize financialization may be more likely to invest in R&D if they believe it can help to generate returns that can be used to support financial strategies such as stock buybacks or dividends. Additionally, companies that are under pressure to maintain high stock prices may invest in new technologies or products that can boost their earnings and increase investor confidence.

However, the extent to which corporate financialization increases R&D spending may depend on a variety of factors, including a company's total assets, net cash flow, non-debt tax, net fixed assets, inventory, and idle resources. Therefore, this paper believes that the increase in the degree of financialization of enterprises (referring to the proportion of financial assets to total assets) will increase the R&D expenses of enterprises and stimulate innovation. Studying this question could fill a gap in research on the long-term positive effects of corporate financialization.

3. Methodology

3.1. Sample

In this paper, all A-share listed companies from 2007 to 2020 are selected as samples, and the samples are processed according to the following. We eliminate observations that (1) Exclude financial service companies (2) Exclude abnormal listed companies (3) Remove companies with missing data (4) Variables that are too high (> 99%) and too low (< 1%) have been excluded. Our original data is from CSMAR and WIND, which is finished manually by the author.

3.2. Variable

1) Financialization of Enterprises (FE): This paper refers to the measurement method of Du and uses the ratio of transaction financial assets to total assets to define corporate financialization. Different from previous studies, this paper uses transactional financial assets as the denominator, because transaction financial assets refer to debt securities and equity securities that enterprises intend to obtain profits through active management and trading [5]. Such securities are frequently bought and sold by companies hoping to profit from short-term price changes. The proportion of transaction financial assets in total assets can better reflect the degree of financialization of an enterprise, so it can better demonstrate its impact on enterprise R&D and innovation.

2) Research and Development (RD): Represents an enterprise's R & D innovation ability and level, expressed by the ratio of its R & D innovation investment to its operating revenue.

3) Control variable: Control variables are InTA (Total Assets of Ln); cflow (Net Cash Flow/Total Assets); NDTs(Non-debt Tax); tang(equal to (Net Fixed Assets + Net Inventory) / Total Assets); unobslack (Idle resource)

3.3. Model

To verify the research hypothesis proposed above, the following model to be verified is constructed

$$RD_{it} - I = \beta_0 + \beta_1 FE_{it} + \beta_2 CV_{it} + \gamma_i + \Omega t + \varepsilon_{it}$$

In the above model, RD is the R&D innovation level of the enterprise; FE represents the degree of financialization of each enterprise, and is the ratio of transactional financial assets to total assets. CV is the control variable. The individual and year-fixed effects were also controlled, expressed by γ_i and Ωt , respectively. ε_{it} stands for residual.

4. Results

4.1. Descriptive Statistics

The descriptive statistics for the variables utilized in this investigation are shown in Table 1. All publicly traded companies from 2007 through 2020 are included in the sample for this study, yielding a total sample size of 34,753 companies. The financialization (FE) variable's mean value is 0.0126,

while its standard deviation is 0.0460. The lowest and maximum values of the FE variable, which has a range from 0 to 0.301, correspond to the minimum and maximum ratios of business financial assets to total assets, respectively. The research and development investment (RD) variable has a mean value of 0.0432 and a standard deviation of 0.0412. The RD variable ranges from 0.000128 to 0.231, with the minimum and maximum values representing the minimum and maximum ratios of R&D investment to operating income, respectively.

Log total assets (lnTA), net cash flow divided by total assets (cflow), non-debt tax shield (NDTS), asset tangibility (tang), and underutilized company resources are the control variables in this study (unobslack). These variables' respective means were 22.07, 0.0471, 0.0271, 0.368, and 1.020. These variables' standard deviations varied from 0.0194 to 1.877.

Table 1: Descriptive analysis of variables.

	(1)	(2)	(3)	(4)	(5)
VARIABLES	N	mean	sd	min	max
FE	34,753	0.0126	0.0460	0	0.301
RD	19,380	0.0432	0.0412	0.000128	0.231
lnTA	34,753	22.07	1.362	19.43	26.36
cflow	34,753	0.0471	0.0746	-0.194	0.260
NDTS	31,991	0.0271	0.0194	0.000490	0.108
tang	34,254	0.368	0.184	0.0132	0.808
unobslack	23,809	1.020	1.877	0.0178	12.20
Number of id	2,844	2,844	2,844	2,844	2,844

4.2. Correlation Analysis

The correlation matrix for the variables utilized in this investigation is displayed in Table 2 below. Financialization and R&D innovation are positively correlated and statistically significant ($r = 0.147$, $p 0.001$), demonstrating a beneficial link between the two. Large companies are less likely to spend in R&D, according to the negative and statistically significant association between RD and lnTA ($r = -0.308$, $p 0.001$). The negative and statistically significant association between RD and cflow ($r = -0.00700$, $p 0.001$) shows that businesses with larger cash flow are less likely to invest in R&D. Although there is a poor association between RD and NDTS ($r = -0.135$, $p = 0.000$), it is not statistically significant. The negative and statistically significant association between RD and tang ($r = -0.312$, $p 0.001$) suggests that companies with more tangible assets may be less inclined to invest in R&D. Positive and statistically significant link between RD and unobslack ($r = 0.360$, $p 0.001$) shows that companies are less inclined to invest in R&D when there are more idle resources. The positive and statistically significant association between R&D and unobslack ($r = 0.360$, $p 0.001$) shows that businesses are more inclined to invest in R&D when there are more idle resources.

Table 2: Correlation analysis of variables.

RD	FE	lnTA	cflow	NDTS	tang	unobsl~k	
RD	1						
FE	0.147***	1					
lnTA	-0.308***	0.061***	1				
cflow	-0.00700	0.031***	0.032***	1			
NDTS	-0.135***	-0.109***	0.046***	0.266***	1		
tang	-0.312***	-0.183***	0.147***	0.043***	0.346***	1	
unobslack	0.360***	0.198***	-0.265***	0.069***	-0.139***	-0.386***	1

4.3. Regression Results

Table 3 displays the findings of the regression analysis. The dependent variable in the regression model is RD, the independent variable is FE, and the control variables are lnTA, cflow, NDTs, tang, and unobslack. The model additionally includes individual and yearly fixed effects to account for unobserved variability.

The regression analysis's findings show a strong and positive correlation between financialization and R&D spending. Particularly, a rise in R&D spending results from a 1% increase in financialization. A 0.014 rise in R&D expenditure is specifically correlated with every 1% increase in financialization, and this correlation is substantial at the 1% level. This finding confirms the theory that financialization and R&D spending are positively correlated.

The regression analysis also included some control variables. The findings support earlier research in that lnTA and cflow have a negative relationship with R&D spending. Specifically, a 1% rise in lnTA is related with a 0.004 drop in R&D investment, while a 1% increase in cflow is connected with a 0.027 decrease in R&D investment. These findings imply that larger companies are more likely than smaller companies to invest in R&D. These findings imply that larger businesses and businesses with higher cash flows may be less inclined to spend in R&D since they may have alternative options to make a profit. The variable unobslack, which measures idle resources, is positively related to R&D investment, suggesting that firms with more idle resources may have a greater ability to invest in R&D. However, both NDTs and tang are not significantly related to R&D investment.

Table3: Regression result.

VARIABLES	(1) y
FE	0.014** (2.57)
lnTA	-0.004*** (-6.28)
cflow	-0.027*** (-6.72)
NDTS	-0.034 (-1.46)
tang	0.004 (1.50)
unobslack	0.002*** (9.55)
Constant	0.087*** (4.09)
Observations	9,284
Number of id	2,844
R-squared	0.053
id FE	YES
Year FE	YES

5. Conclusion

We use regression to verify the hypothesis: firm financialization can increase firm R&D expenditure. The traditional view is that excessive corporate financialization causes firms to pour money into the financial sector at the expense of R&D and innovation, but we believe that proper corporate financialization can actually benefit companies in the long run by providing them with additional

resources to support innovation and R&D activities. By using financial strategies such as share buybacks, debt issuance or divestitures, companies can generate benefits that can be reinvested in areas of research and development and innovation. This helps to create a cycle of innovation and growth, in which the returns from successful innovation can in turn be used to finance firms, and the excess benefits from firms' financialization can in turn be used to fund further innovation.

It is suggested that the company from a long-term perspective, under the premise of risk control, appropriate use of financial assets for investment or hedging, to accumulate funds, at the same time to control the degree of enterprise financialization, control the proportion of financialization, to use part of the income for research and development and innovation, improve the company's product competitiveness, so as to form a good cycle of financialization and innovation.

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References

- [1] Arrighi G. (1994). *The Long Twentieth Century: Money, Power, and the Origins of Our Times* [J]. *American Political Science Association*, 89(4): 427-436.
- [2] Xu, S., & Guo, L. (2021). *Financialization and corporate performance in China: Promotion or inhibition?* *Abacus*. <https://doi.org/10.1111/abac.12213>
- [3] Li, Z., Wang, Y., Tan, Y., & Huang, Z. (2020). *Does corporate financialization affect corporate environmental responsibility? An empirical study of China*. *Sustainability*, 12(9), 3696. <https://doi.org/10.3390/su12093696>
- [4] Feng, Y., Yu, Q., Nan, X., & Cai, Y. (2022). *Can employee stock ownership plans reduce corporate financialization? evidence from China*. *Economic Analysis and Policy*, 73, 140–151. <https://doi.org/10.1016/j.eap.2021.11.002>
- [5] Du Y., Xie J, Chen J. (2019). *CEO's Financial Background and the Financialization of Entity Enterprises*[J]. *China Industrial Economics*, No.374(05):136-154.DOI:10.19581/j.cnki.ciejournal.2019.05.008.