Corporate financial investment's effects on corporate innovation

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Abstract:

This study develops an analytical model on the impact of corporate financialization and corporate R&D expenditure based on the micro perspective of firms, and uses data from A-share listed companies to test and assess the fixed-effect model and IV-GMM test, respectively. The findings indicate that business financialization has a considerable negative impact on company R&D investment, and that as corporate financialization levels rise, corporate.

Keywords: Financialization, R&D investment, financial investment, Enterprise Innovation

Introduction

Between 2008 and 2018, the Chinese real estate industry experienced significant expansion, prompting the industry to place greater emphasis on innovation and R&D. Chinese real estate developers have begun to look at corporate innovation as a way to differentiate themselves in a highly competitive market. The Chinese government has also stimulated innovation in the industry by providing financial incentives and support policies to companies engaged in R&D. Hence, Chinese real estate companies have invested heavily in R&D, particularly in green building technologies, energy efficiency, and smart home technologies. New goods and services that set businesses apart from their rivals and draw in more clients have resulted from this. This financial investment has three different effects on business innovation, namely: facilitation, disincentive, and uncertainty of facilitation or disincentive. Financial investment has a facilitating effect on a firm when it facilitates innovation by hiring technical staff and acquiring cutting-edge technology or other intellectual property, leading to the development of new products or business models that give the firm a competitive advantage in the business sector. Uncertainty of the facilitating or inhibiting effect is when a firm is exposed to external factors such as market fluctuations or changes in the regulatory environment. For example, uncertainty about future demand for a product or service may discourage a firm from investing in innovation, thereby creating a disincentive effect. However, uncertainty can also create opportunities for firms to innovate as they begin to adapt to changing circumstances. In such cases, corporate financial investment may act as a catalyst, enabling firms to invest in new ideas or technologies that help them cope with uncertainty and thus make them stronger. However, this paper argues that significant corporate investment in innovation does not have a catalytic effect on corporate innovation. On the contrary, using regression models, it is concluded that there is a significant disincentive for firms to invest financially in innovation. This is due to the fact that some firms only seek short-term returns at the expense of long-term beneficial innovation activities, which can lead to a decline in R&D capabilities. This article comes to the conclusion that corporate financial investment has a detrimental impact on corporate innovation in real estate based on the analysis of data from a large number of real estate companies.

2. Literature review

The state is gradually attaching importance to the development of enterprises everywhere, and in the "National Medium and Long Term Science and Technology Development Plan" (2006-2020), it is proposed to establish a technological innovation system with enterprises as the mainstay. Innovation in firms has therefore become a key element of business development. a study by Theurillat, Corpataux, and Crevoisier (2010) examined the evolution and changes in investment in the Swiss real estate market between 1992 and 2005. The findings suggest that financialization has enabled a centralized allocation of resources and increased the core business of resources available for investment. At the same time, improved financial investment performance can enhance corporate credit ratings and support corporate finance, thus indirectly promoting STI investment. According to Yang Songling et al.'s study of listed companies in Shanghai and Shenzhen, the financialization of non-financial firms can help to solve the problem of shortage of funds in the R&D process and mitigate the high risks and uncertainties associated with innovative activities. (Yang Songling et al, 2021). In addition, the profits generated by financial investments can reduce the pressure on managers to achieve short-

term performance targets, thus promoting sustained R&D investment. It follows that while corporate innovation is certainly a factor in economic development, this does not mean that there is a positive impact on the focused pursuit of corporate financialization. The majority of studies report that corporate financial investment has a negative effect on corporate innovation. According to Hongjian Wang et al. in their empirical study, it was found that the financialization of firms can only enhance firm performance in short-term periods. However, in the long term, this model can greatly inhibit firms from making technological innovations (Wang Hongjian et al., 2017). Zhongyi Xiao et al. conducted a study from 2007 to 2017, investigating how corporate financialization influenced research and development (R&D) investments in non-financial publicly traded firms listed on China's A-share markets in Shanghai and Shenzhen. They came to the conclusion that corporate financialization significantly "crowds out" innovation R&D investment of non-financial listed companies in various contexts.(Xiao Zhongyi, et al, 2021).

3. Experiment and analysis

The experiments in this paper measure a firm's financial investment by using its share of financial assets and the expansion and decline in firm size, and its innovation by using its investment in research and development (R&D). Descriptive statistical analysis, regression analysis, IV-GMM test, and sub-sample regression analysis were used. The combined results of the study indicate that corporate financial investment has a negative effect (crowding out) on corporate innovation.

Explanatory variables: Financial assets: (trading financial assets; net investment properties; net long-term equity investments; net available-for-sale financial assets; net held-to-maturity investments)

Financial assets as a percentage = (trading financial assets + net investment properties + net long-term equity investments + net available-for-sale financial assets + net held-to-maturity investments) / total assets

Control variables: total assets; gearing ratio; current assets; profitability

Explanatory variables: corporate innovation investment

R&D investment rd (research and development investment/operating revenue)

Financial assets fina (financial assets/total assets)

Enterprise size size (ln total assets)

Gearing ratio lev (total liabilities/total assets)

Current assets lqsize (ln current assets)

Profitability roa (net profit/total assets)

3.1 Descriptive statistical analysis

Table1. Descriptive statistical analysis

Variable	Obs	Mean	Std. Dev.	Min	50% Percent	Max
rd	16,876	0.025	0.038	0	0.009	0.239
fina	16,876	0.063	0.104	0	0.021	0.578
size	16,876	21.788	1.344	10.842	21.656	28.509
lev	16,876	0.515	2.015	-0.195	0.441	142.718
lqsize	16,876	21.125	1.360	10.842	21.025	27.556
roa	16,876	0.041	0.567	-64.819	0.040	20.788

The descriptive statistical analysis shows that the mean value of research and development (R&D) investment is 0.025 and the standard deviation is 0.038, with the standard deviation greater than the mean, indicating that the enterprises' R&D investment is highly discrete, and the level of research and development (R&D) investment varies more obviously among different enterprises. It can be seen through the 50% quantile that more than 50% of the enterprises have made R&D investment, and the comparison of the extreme values shows that some enterprises have not made research and development (R&D) investment The average level of financialisation of the enterprises is 0.5%, while the ratio of research and development (R&D) investment to operating revenue of some enterprises has reached 23.9%, which is a high level.

The mean financialisation level of enterprises is 0.063 and the standard deviation is 0.104. The large standard deviation and the mean indicate that the financialisation level of enterprises is highly discrete, and the difference in the financialisation level of different enterprises is more obvious. have a higher level of financial asset allocation.

3.2 Regression analysis

Table 2. Fixed effects regression results

Variable	rd	rd
fina	-0.0060**	-0.0102***
	(-2.12)	(-3.36)
size		0.0016**
		(2.27)
lev		-0.0001
		(-0.65)
lqsize		-0.0022***
		(-3.45)
roa		-0.0004
		(-1.44)
Industry	Control	Control
Years	Control	Control
_cons	0.0239***	0.0359***
	(6.64)	(4.54)
R^2	0.1228	0.1238
F	63.90***	57.13***
N	16876	16876

Note: * represents significance, * is significant at the 10% level, ** is significant at the 5% level and *** is significant at the 1% level.

The table 1 illustrates that in the combined regression, the coefficient for the effect of corporate financialization on corporate research and development (R&D) investment is -0.0102, signifying statistical significance at the 1% level. This finding suggests a substantial and adverse association between corporate financialization and corporate R&D investment. Among the control variables, enterprise size exhibits a statistically significant positive relationship with R&D investment, while enterprise liquid asset size demonstrates a significant negative relationship with R&D investment.

3.3 IV-GMM test

Table 3. IV-GMM test

Variable	rd
fina	-0.0185***
	(-5.39)
size	-0.0100***
	(-14.02)
lev	-0.0045***
	(-11.82)
lqsize	0.0070***
	(10.08)
roa	-0.0047***
	(-4.34)
Industry	Control
Years	Control
_cons	0.0976***
	(5.78)
R^2	0.3470
F	196.31***
N	11463

Note: * represents significance, * is significant at the 10% level, ** is significant at the 5% level and *** is significant at the 1% level.

The results of the iv-gmm test using lag-1 and lag-2 fina

as instrumental variables are shown in Table 3. The results of regression indicate that after the IV-GMM regression using instrumental variables, the effect of corporate financialisation on corporate research and development (R&D) investment remains significant and negative, i.e. indicating that the model is robust.

3.4 Sub-sample regression

Table 4. Sample regressions for 2010 and beyond

Variable	rd
fina	-0.0117***
	(-3.06)
size	0.0017**
	(2.00)
lev	-0.0008***
	(-3.07)
lqsize	-0.0030***
	(-3.98)
roa	-0.0022***
	(-3.20)
Industry	Control
Years	Control
_cons	0.0557***
	(5.36)
R^2	0.1004
F	38.14***
N	13998

Note: * represents significance, * is significant at the 10% level, ** is significant at the 5% level and *** is significant at the 1% level.

Table 4 presents the outcomes of subsequent regression analyses conducted after narrowing down the sample to the year 2010. The results in Table 4 substantiate that, despite the reduction in sample size, the impact of financialization on corporate research and development (R&D) expenditures remains substantial and unfavorable.

4. Conclusion

From an overall perspective, corporate financial investment has certain positive effects, but it also has some substantial negative effects on the innovative growth of real estate firms. When businesses allocate significant capital to the financial market, it can diminish their incentive to invest in research and development (R&D) and innovation. This, in turn, constrains the pace and scope of their progress in emerging fields and ultimately erodes their competitive edge in innovation. Therefore, enterprises need to focus not only on the short-term returns of financial investments but also on their own long-term innovation capabilities and development potential. Only by continuously improving the level of corporate innovation will they be able to achieve more sustainable growth and long-term competitive advantage.

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