Financialization, Government Subsidies, and Enterprise Technological Innovation: Empirical Evidence from Listed Manufacturing Firms

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Abstract: *This study examines the relationship between the financialization of non-financial enterprises and their technological innovation using panel data from A-share manufacturing firms listed on the Shanghai and Shenzhen stock exchanges from 2012 to 2018. Grounded in the theories of financing constraints and information asymmetry, our findings indicate that the financialization of Chinese manufacturing enterprises exhibits a "crowding out effect" rather than a "reservoir effect" on technological innovation. Specifically, financialization tends to impede corporate investment in technological innovation. Moreover, government subsidies significantly mitigate this crowding-out effect. The results serve as a cautionary note for financially-oriented manufacturing enterprises and offer policy recommendations for addressing the phenomenon of enterprise financialization.*

1. Introduction

"The international economic and financial crisis in 2008 taught us that letting capital chase profits will lead to a new crisis." Enterprises are investing more capital in the financial field and using financial means to expand financing channels. The proportion of financial income in the total profit of enterprises is increasing, and enterprise asset securitization and so on. All of these are micro-manifestations of the financialization of non-financial enterprises in recent years. Although the phenomenon of financialization in China is not as serious as that in developed countries such as Europe and the United States, since the financial crisis in 2008, the problem of financialization of enterprises has attracted more and more attention. Compared with the high rate of return of the financial industry, the market demand of the real industry tends to be saturated, the profit margin of the main business declines, and the profit-driven capital makes "excess" industrial capital flood into the financial industry, and the financial process of enterprises makes the real industry tend to be hollow. Yet industry is what makes a country's economy work. Separated from the industrial production, only by virtual financial capital operation is not a long-term solution. Take Tian Chen shares as an example. At the end of 2017, its financial assets available for sale accounted for 73% of the total assets and investment income accounted for 182.6% of the operating income. A large amount of financial investment has seriously affected the development of the main industry and evolved into a serious phenomenon of financialization of manufacturing enterprises. Rational use of financial market, effective allocation of financial capital, and guiding capital flow to enterprise innovation is the best choice for the benign development of manufacturing enterprises.

The study of enterprise financialization originates from the study of economic financialization, which is the micro-manifestation after economic financialization is refined, that is, the phenomenon that non-financial enterprises increase financial asset investment while reduce productive investment (Epstein, 2005). Domestic and foreign literature studies on enterprise financialization include its meaning, measurement method, historical background,

motivation, economic consequences and preventive measures, among which the motivation and economic consequences of enterprise financialization attract more attention.

Specifically, when the macro-economy is unstable, the main purpose for Chinese enterprises to hold financial assets is speculation, that is, to chase profits rather than precautionary savings (Jiang Chun, Li Wei, 2013; Peng Yuchao, Han Xun, etc., 2018). In addition, due to the existence of financing constraints and information asymmetry, some non-financial enterprises can also use entity intermediary theory to explain their motivation. Some enterprises have easy access to capital from banks, but their own capital utilization rate is low. They choose to transfer the capital obtained from banks to enterprises with difficulty in obtaining bank capital, and make a profit from it (Ma Ze, etc., 2018). Listed companies in the same industry with good operating conditions and stable growth of operating income have less financial investment (Zhang Jin and Hu Yiming, 2013). Song Jun and Lu Yang (2015) found a u-shaped relationship between the non-monetary financial assets held by the company and the company's operating rate of return. High-performing and low-performing companies tend to hold more financial assets; High performance companies are mainly manifested as surplus effect, while low performance companies are mainly manifested as substitution effect. The degree of financialization of non-state-owned holding enterprises is higher than that of state-owned holding enterprises, and there is an inverted u-shaped relationship between the degree of financialization and enterprise performance (Xiao Ming and Cui Chao, 2016).

The academic circle has not reached a conclusion on whether the financialization of enterprises has a positive or negative impact on the development of real economy. Starting from the micro-enterprise investment model, entity enterprises hold financial assets with the market arbitrage motive, which is helpful to improve the business performance of enterprises in the short term. However, in the long run, it will significantly inhibit the motivation of technological innovation and reduce the industrial investment rate of enterprises (Zhang Chengsi and Zhang Butan, 2016; Wang Hongjian, Cao Yuqiang, 2017). Moreover, the damaging effect of financialization on the future main business of entity enterprises is more serious in state-owned enterprises (Du Yong, Zhang Huan, Chen Jianying, 2017). In addition, Argentina, Mexico, Turkey, the United Kingdom and South Korea have also proved the negative impact of enterprise financialization on industrial investment (Demir, 2009; Seo, 2012; Akkemik et al., 2014; Tori & Onaran, 2016). Guo Liting (2017) made use of asymmetric evolutionary game model and found that the innovation investment of financialized extrusion enterprises in manufacturing industry would turn into "reservoir effect" with the easing of financing constraints and the improvement of business performance. Foreign scholars have also found that the easing of financing constraints can improve the level of investment (Denis & Sibilkov, 2010; Aivazian et al., 2005). However, Liu Tao (2018) studied the data of listed companies on Shanghai and Shenzhen stock exchanges and found that the "crowding out effect" of financialization on real investment would in turn aggravate financing constraints and further reduce investment efficiency. Relatively, some scholars believe that the financialization of enterprises is positive to the development of real economy. Kliman & Williams (2015) argued that the financialization of non-financial enterprises did not lead to a decrease in the investment rate of American real enterprises. Financialization of enterprises actually promotes real economic growth (Paul Sweezy, 1997). Based on the above literature, the research questions in this paper are: does the financialization of Chinese manufacturing enterprises promote or inhibit the technological innovation of enterprises? Furthermore, due to the special system of our country, government behavior has a great impact on enterprises. Therefore, the regulation variable -- government subsidy is introduced to observe whether government subsidy can regulate the relationship between the financialization of non-financial enterprises and the technological innovation of enterprises, so as to provide policy suggestions for the hollowing out of real enterprises.

2. Theoretical Analysis and Research Hypothesis

From the perspective of resource allocation, financialization of enterprises refers to the process in which enterprises participate in the financial market more and more frequently, shift the focus of business activities from the real production field to the financial investment field, and are influenced by the deepening financial activities. From the perspective of enterprise operation, financialization means that more and more enterprise profits come from non-entity production and operation business, namely financial investment. From the perspective of enterprise investment and financing, enterprise financialization is embodied in the increase of financial investment and payment to the financial market.

2.1 Financialization and Enterprise Technology Innovation

The influence of financialization on enterprise technology innovation is the "reservoir" theory and "investment substitution" theory. According to the "reservoir" theory, enterprises hold financial assets for the purpose of

liquidity reserves to prevent the risk of capital chain breakage caused by cash flow shocks (Hu Yiming et al., 2017). Since the liquidity of financial assets is better than that of fixed assets, it is particularly important to sell financial assets and obtain liquidity in time once enterprises are in financial difficulties, which can rapidly relieve the financial pressure of enterprises (Peng Yuchao et al., 2018). Secondly, investment and management of idle funds can alleviate the impact of financing constraints on the capital demand of enterprises, accumulate capital for future good investment opportunities, and reduce the impact of inflation. For whatever reason, money can't produce money in your hands, and it risks losing value, however, short-term investment and financing just meets the current needs of enterprises: it can not only enhance the liquidity of "surplus" funds, but also bring certain profits and returns to enterprises. At the same time, trading financial assets have the characteristics of short cycle and can be used as needed by enterprises. Financialized enterprises with such motivation tend to be characterized by a relatively high proportion of transaction financial assets, and there is a significant positive correlation between transaction financial assets and enterprise technological innovation. That is to say, the relationship between financialization and technological innovation supports the "reservoir" theory.

However, from the perspective of China's national conditions, it seems that the theory of "investment substitution" is more in line with the idea of most people, that is, the financialization of enterprises is a "crowding out effect" on enterprise technological innovation. The technological innovation of enterprises is characterized by large capital demand, long period, high uncertainty and positive externality, which means that enterprises will face high risks and asymmetric information and other problems in technological innovation. Referring to the current situation in China, the sources of corporate funds are from two aspects: one is external financing dominated by Banks; the other is internal financing. Under the constraints of modern financing, due to the high uncertainty of enterprise innovation, Banks are reluctant to lend funds and external financing is difficult, which means that Chinese enterprises mainly rely on internal funds for technological innovation. In the case of limited available funds, enterprises choose to use funds for financial investment will squeeze the enterprise technology innovation capital. Secondly, starting from the agency theory, owners and managers of enterprises are separated. Owners pay more attention to the value and long-term development of enterprises, and the long-term development of enterprises cannot be separated from constant technological innovation to cope with the fierce market competition environment, surpass competitors or maintain market position, so enterprise owners pay more attention to technology investment. Managers are often forced by shareholders to corporate performance pressure or for their own interests and some short-sighted behavior. Technological innovation is an activity with high risk, long cycle and continuous output, while the short financial investment cycle and high return on investment exactly meet the needs of managers and weaken the motivation of enterprises to carry out investment innovation. In addition, enterprise asset bubbles are also the possible consequences of excessive financialization of enterprises. Such short-term behavior will affect enterprises' understanding of the importance of technological innovation. Compared with the "reservoir" theory, the "investment substitution" theory is no longer only satisfied with transaction financial assets, but prefers investment real estate as investment financial assets. Therefore, in terms of financial statement data, there is a negative correlation between investment in investment financial assets and enterprise technological innovation. Based on the above analysis, the following hypothesis is proposed:

H1: Financialization of manufacturing enterprises has "reservoir effect" on enterprise technological innovation.

H2: Manufacturing enterprise financialization has "crowd out effect" on the enterprise technology innovation.

2.2 Financialization, Government Subsidies and Enterprise Technology Innovation.

Based on the analysis of hypothesis 2, in the case of insufficient funds, the investment substitution effect causes enterprises to replace long-term behaviors with short-term behaviors for financial capital operation. External financing constraints and limited internal funds are the reasons for insufficient funds. Therefore, enterprises prefer financial capital operation with low cost and high return rather than innovation activities with long cycle, high cost and uncertain income. Government subsidies directly provide financial support for enterprise innovation activities, thus weakening the substitution effect of financial capital and productive capital. As is known to all, under the current protection of intellectual property rights in China, it is difficult to absolutely protect the innovative achievements. Therefore, good innovative achievements often become a situation shared by competitors in the same industry at a low cost. Therefore, enterprises that take the lead in innovation activities not only have to pay high costs, but also face the risk of not being able to fully enjoy all the benefits brought by independent innovation.

Such "low cost performance" leads to high market risks for enterprises, so they have no incentive to invest in continuous innovation. The usual solution to this impasse is for the government to step in-subsidise companies to take on this extra risk. Of course, the government can not only "provide money", but also "provide help". Based on the theory of signal transmission, the government represents credit, security and policy guidance. When outside investors found that the government has also involved, virtually the safety signals to investors, that the project safe, reliable, profitable; In addition, government subsidies can be directly used as cash flow to improve the solvency of innovative enterprises and send positive financial signals to the market, which will greatly enhance the investment confidence of external investors, and then participate in investment, thus effectively easing the financing constraints faced by innovative enterprises. In general, government subsidies play a role of supplementing enterprise funds, weakening the impact of investment substitution effect on enterprise innovation, and providing a good prerequisite for enterprise innovation. Enterprise innovation investment is a better choice. Based on the above analysis, hypothesis three is proposed:

H3: In China, government subsidies can alleviate the inhibiting effect of financialization on technological innovation.

3. Research Design

3.1 Data Source and Sample Selection

This paper studies the relevant data of Shanghai and Shenzhen a-share manufacturing listed companies from 2012 to 2018. Data comes from CSMAR database and is processed as follows:(1) excluding ST company;(2) the samples with missing relevant data were eliminated; (3) in order to eliminate the influence of outliers, Winsorize the data of all continuous financial variables by 1% up and down. A total of 9329 samples were obtained. STATA14.0 was used for statistical analysis of the data.

3.2 Variable Definitions

Financialization of enterprises. There are two measurement methods for the study of financialization of enterprises. One is to use the correlation between current assets and current liabilities to identify (Wang Yongqin et al., 2015). When an enterprise's current assets and current liabilities change in the same direction, it indicates that the enterprise has engaged in financial investment activities. On the other hand, direct measurement is made by using items such as current asset investment disclosed in the data of listed enterprises (Demir, 2009), which is highly operable. Therefore, this paper adopts this measurement method. As measured by the proportion of non-monetary financial assets in total assets, non-monetary financial assets include five categories: transactional financial assets, saleable financial assets, hold-to-maturity investment, long-term equity investment and investment real estate. In addition, the transaction financial assets and investment financial assets mentioned in the article refer to the practice of Jin Shengwu (2017). The transaction financial assets include transactional financial assets, saleable financial assets and hold-to-maturity investment. Investment financial assets include investment real estate and long-term equity investment.

Government subsidies. The government subsidies mentioned in this paper refer to the official subsidies for enterprise innovation under the government subsidies, such as subsidies for scientific research and innovation, subsidies for science and technology projects, and subsidies for research and development projects. Specific data can be found in the research and development and innovation section of listed companies in the CSMAR database, or in notes to corporate financial statements. Other variables and definitions are shown in the Table 1.

Table 1: Variable Definition Table

	Variable	Sign	Measure
Explained variable	Enterprise technology innovation	RND	R&D investments/operating income
Explanatory variables	Financialization	Fin	Non-monetary financial assets / Total assets，non-monetary financial assets include transactional financial assets, saleable financial assets, hold-to-maturity investment, long-term equity investment and investment real estate.
	Transaction financialization	FT	Transaction financialization / Total assets，the transaction financial assets include transactional financial assets, saleable financial assets and hold-to-maturity investment.
	Investment financialization	FI	Investment financialization / Total assets，Investment financial assets include investment real estate and long-term equity investment.
Regulatory variable	Government subsidies	Subs	Government subsidies / operating income
Control variables	Cash recovery	CFO	Net cash flow from operating activities / The final total assets
	Scale of company	Size	Ln(The final total assets)
	Asset-liability ratio	Lev	Total liabilities/total assets
	Property net profit rate	ROA	Net profit / The final total assets
	Growth in the main business	Growth	(current operating income - last period operating income)/last period operating income =Ln (current period operating income) -Ln (last period operating income)
	Firm age	Age	Ln (year - year of establishment +1)
	Stock concentration	Shrcr3	The sum of the shares held by the top three shareholders
	Enterprise capital density	Fixed	The final fixed assets/total assets
	Year	Year	Control year variables

3.3 Model Building

To verify hypothesis 1 and hypothesis 2, model (1) is constructed:

$$RND = \alpha_0 + \alpha_1 Fin + \alpha_2 CFO + \alpha_3 Size + \alpha_4 Lev + \alpha_5 ROA + \alpha_6 Growth + \alpha_7 Age$$
$$+ \alpha_8 Shrcr3 + \alpha_8 Fixed + \sum Year + \mu \tag{1}$$

Firstly, all samples of Fin were tested. Replace it with transaction financial assets FT and investment financial assets FI, and put them into the model for test. If hypothesis 1 is true, the regression coefficient α_1 between FT and RND is significantly positive, that is, there is a "reservoir effect" between financialization of enterprises and technological innovation of enterprises. If hypothesis 2 is true, the regression coefficient α_1 between FI and RND is significantly negative, that is, there is a "crowding out effect" between financialization of enterprises and technological innovation of enterprises.

Meanwhile, model (2) and model (3) are constructed to test hypothesis 3:

$$RND = \alpha_0 + \alpha_1 Subs + \alpha_2 CFO + \alpha_3 Size + \alpha_4 Lev + \alpha_5 ROA + \alpha_6 Growth + \alpha_7 Age$$
$$+ \alpha_8 Shrcr3 + \alpha_8 Fixed + \sum Year + \mu \tag{2}$$

$$RND = \alpha_0 + \alpha_1 Fin + \alpha_2 Subs + \alpha_3 FinXSubs + \alpha_4 CFO + \alpha_5 Size + \alpha_6 Lev + \alpha_7 ROA$$
$$+ \alpha_8 Growth + \alpha_9 Age + \alpha_{10} Shrcr + \alpha_{11} Fixed + \sum Year + \mu \tag{3}$$

According to model (3), if hypothesis 3 is true, the cross coefficient α_3 between financialization and government subsidy is significantly positive, that is, government subsidy alleviates the inhibiting effect of financialization on enterprise technological innovation.

4. Empirical Analysis

4.1 Descriptive Statistics

Table 2 is the descriptive statistical results of all variables. As can be seen from the table, the R&D investment in

the manufacturing enterprise of operating income average of 0.0415, compared with the developed countries, we still have some room to improve. The minimum value of financialization is 0, and the maximum value is close to 0.377, indicating that the degree of financialization of manufacturing industry varies greatly. The maximum proportion of financial assets in the total assets is close to 37.7%, which is a large volume, among which the proportion of investment financial assets is significantly higher than that of transaction financial assets. The average value of government subsidies is close to 0.012, nearly a quarter of the total R&D input of enterprises, indicating that the government attaches great importance to the R&D input of China's manufacturing industry. The mean values of other control variables are basically equal to the median, indicating that they are normally distributed.

Table 2: Descriptive Statistics of Variables

Variables	Sample size	Average	SD	Minimum	Median	Maximum
RND	9,329	0.041526	0.032894	0	0.0355	0.1978
Fin	9,329	0.041689	0.068359	0	0.014881	0.376857
FT	9,329	0.013166	0.032827	0	0.000224	0.213153
FI	9,329	0.027802	0.051629	0	0.006931	0.294969
Subs	9,329	0.011733	0.017056	0	0.005995	0.103833
CFO	9,329	0.047472	0.064365	-0.13125	0.045224	0.22829
Size	9,329	21.88517	1.123739	19.91594	21.74325	25.32923
Lev	9,329	0.380764	0.19374	0.050889	0.366453	0.856165
ROA	9,329	0.04538	0.050958	-0.13314	0.041127	0.198659
Growth	8,535	0.167587	0.354845	-0.43683	0.111802	2.073767
Age	9,329	2.754855	0.342863	1.791759	2.772589	3.433987
Shrcr3	9,329	49.47301	14.78527	17.6948	49.2782	84.1877
Fixed	9,329	0.2307	0.133467	0.019794	0.205392	0.618089

4.2 Correlation Analysis

Table 3 makes a simple correlation test between variables. Among them, the correlation coefficient between financialization and technological innovation of enterprises is negative and significant at the level of 1%, which can preliminarily verify that financialization inhibits technological innovation of enterprises. The correlation coefficient between government subsidies and technological innovation of enterprises is significantly positive, indicating that government subsidies can promote technological innovation of enterprises to some extent. The positive and negative correlation coefficients of the control variables are all less than 0.5, so it can be considered that there is a low multicollinearity.

Table 3: Variable Correlation Statistics

	RND	Fin	FT	FI	Subs	CFO	Size	Lev	ROA	Growth	Age	Shrcr3	Fixed
RND	1												
Fin	-0.074***	1											
FT	-0.042***	0.641***	1										
FI	-0.070***	0.853***	0.169***	1									
Subs	0.343***	-0.036***	-0.034***	-0.032***	1								
CFO	-0.067***	-0.051***	-0.020*	-0.053***	-0.068***	1							
Size	-0.232***	0.130***	0.084***	0.117***	-0.145***	0.018*	1						
Lev	-0.288***	0.025**	-0.031***	0.054***	-0.091***	-0.169***	0.538***	1					
ROA	0.035***	-0.040***	-0.007	-0.048***	-0.029***	0.469***	-0.098***	-0.411***	1				
Growth	-0.005	-0.064***	-0.038***	-0.055***	-0.061***	-0.008	0.050***	0.017	0.226***	1			
Age	-0.133***	0.152***	0.121***	0.119***	-0.090***	0.01	0.180***	0.160***	-0.057***	-0.024**	1		
Shrcr3	-0.038***	-0.141***	-0.105***	-0.119***	-0.051***	0.130***	0.024**	-0.090***	0.203***	0.019*	-0.162***	1	
Fixed	-0.221***	-0.150***	-0.128***	-0.109***	-0.041***	0.161***	0.128***	0.216***	-0.214***	-0.111***	0.057***	-0.018*	1

Note: *** $p<0.01$, ** $p<0.05$, * $p<0.1$

4.3 Regression Analysis

Financialization and enterprise technology innovation. In order to verify hypothesis 1 and hypothesis 2, this paper uses OLS regression method to conduct regression on samples and obtain the results of model 1, model 2 and model 3. Model 1 is the regression of all financialized assets, and it can be seen that the coefficient of explanatory variable is -0.0445, which is significant at the level of 1%, indicating that financialization of enterprises has crowding out effect on enterprise technological innovation, which coincides with the research results of some scholars. Model 2 and model 3 respectively classify the specific subjects of financialized assets into transaction financial assets and investment financial assets for regression. It was found that the correlation coefficients were

significantly negative at the level of 1%. Hypothesis 2 was verified. Hypothesis 1 has not been verified, indicating that there is no "reservoir effect" in the financialization of China's manufacturing industry, but a serious "crowding out effect". From the perspective of coefficient value, the coefficient of transaction financial assets is -0.0817, while that of investment financial assets is -0.0410, indicating that transaction financial assets have a more obvious crowding out effect on technological innovation of enterprises, which may be related to the characteristics of transaction financial assets. Short term and strong liquidity can meet the liquidity demand of enterprises. The regression results of the control variables including cash recovery rate, company size, asset-liability ratio, net profit margin of assets, enterprise age, stock concentration and enterprise capital density are all significantly negative, basically in line with expectations.

Financialization of enterprises, government subsidies and technological innovation of enterprises. Hypothesis 3 added the moderating variable government subsidy, so model 4 tested how government subsidy alone affected enterprise technological innovation. The regression coefficient was 0.631 and significantly positive at the level of 1%, indicating that government subsidy played a positive guiding role in enterprise technological innovation and had a significant impact. Based on model 1 and model 4, model 5 cross-multiplies enterprise financialization and government subsidy to verify whether government subsidy alleviates the inhibiting effect of enterprise financialization on enterprise technological innovation. It can be seen from the results that the regression coefficient of cross multiplication term is significantly positive, that is, hypothesis 3 is verified, indicating that government subsidies can effectively alleviate the "crowding out effect" of financialization of Chinese manufacturing enterprises on enterprise technological innovation. The positive and negative direction of control variables are basically stable. The adjusted R^2 is about 0.25, indicating that regression has some explanatory power.

Table 4: Regression Analysis Results

VARIABLES	Model(1) RND	Model (2) RND	Model (3) RND	Model (4) RND	Model (5) RND
Fin	-0.0445*** (-9.609)				-0.0543*** (-8.971)
FT		-0.0817*** (-8.528)			
FI			-0.0410*** (-6.774)		
Subs				0.631*** (33.47)	0.582*** (26.06)
FinXSubs					1.682*** (3.589)
CFO	-0.0158*** (-2.675)	-0.0149** (-2.526)	-0.0160*** (-2.707)	-0.00449 (-0.768)	-0.00495 (-0.851)
Size	-0.00146*** (-4.209)	-0.00159*** (-4.616)	-0.00163*** (-4.724)	-0.00124*** (-3.580)	-0.000898*** (-2.583)
Lev	-0.0421*** (-19.29)	-0.0423*** (-19.35)	-0.0412*** (-18.87)	-0.0393*** (-18.22)	-0.0403*** (-18.72)
ROA	-0.0621*** (-7.591)	-0.0622*** (-7.584)	-0.0611*** (-7.452)	-0.0649*** (-7.888)	-0.0660*** (-8.056)
Growth	-0.00121 (-1.279)	-0.000907 (-0.958)	-0.000878 (-0.925)	0.000237 (0.256)	-0.000415 (-0.448)
Age	-0.0109*** (-10.78)	-0.0114*** (-11.31)	-0.0113*** (-11.19)	-0.0100*** (-10.24)	-0.00901*** (-9.168)
Shrcr3	-0.000134*** (-6.073)	-0.000125*** (-5.687)	-0.000125*** (-5.651)	-6.41e-05*** (-2.923)	-8.33e-05*** (-3.787)
Fixed	-0.0463*** (-18.08)	-0.0447*** (-17.60)	-0.0442*** (-17.35)	-0.0384*** (-15.29)	-0.0425*** (-16.72)
Constant	0.136*** (18.59)	0.138*** (18.92)	0.139*** (19.02)	0.112*** (15.09)	0.106*** (14.32)
Year	Control	Control	Control	Control	Control
Industry	Control	Control	Control	Control	Control
Observations	9,786	9,786	9,786	8,535	8,535
R-squared	0.151	0.149	0.147	0.247	0.255
Adj_R^2	0.149	0.148	0.145	0.246	0.253
F	115.4	113.9	111.8	186.3	171.3

Note: *** p<0.01, ** p<0.05, * p<0.1

4.4 Robustness Test

Since the influence of government subsidies on technological innovation of enterprises may be lagging behind, In this paper, data of the previous period of government subsidies are selected to replace data of the current period of

government subsidies to conduct robustness test on model 5. The test results are shown in Table 5. The results show that the cross coefficient between financialization and government subsidies is significantly positive, and the conclusion remains unchanged. From the control variables, the coefficients of each variable did not change substantially, and the regression results were robust.

Table 5: Regression Results of Robustness Test

VARIABLES	Model(6) RND
Fin	-0.0496***
	(-7.936)
ESubs	0.656***
	(27.49)
FinXESubs	0.811*
	(1.843)
CFO	-0.00658
	(-1.138)
Size	-0.000955***
	(-2.762)
Lev	-0.0365***
	(-16.99)
ROA	-0.0426***
	(-5.217)
Growth	0.000713
	(0.774)
Age	-0.00940***
	(-9.610)
Shrcr3	-9.23e-05***
	(-4.224)
Fixed	-0.0416***
	(-16.47)
Constant	0.107***
	(14.58)
Year	Control
Industry	Control
Observations	8,535
R-squared	0.263
Adj_R2	0.261
F	178.4

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

5. Conclusion and Policy Recommendations

The real economy is the foundation of a country's economic development. The increasing financialization of manufacturing enterprises has brought a huge impact on the development of real enterprises. The problem of non-financial enterprises' financialization crowding out the technological innovation resources of manufacturing industry has attracted attention from all walks of life. Innovation provides continuous power for enterprise development, so the government also attaches great importance to enterprise innovation. This paper studies the panel data of China's manufacturing industry in the last seven years with the method of measurement, finds that the financialization of non-financial enterprises inhibits enterprise technological innovation, and analyzes the differences between transaction financial assets and investment financial assets, and finds that the "crowding out effect" of transaction financial assets on enterprise technological innovation is more obvious. At the same time, the intervention power of Chinese government on enterprises cannot be ignored. Therefore, this paper selects government subsidies as the regulating variable and finds that government subsidies can significantly alleviate the

inhibition of enterprise financialization and enterprise technological innovation. Therefore, this paper argues that the government's innovation subsidy to manufacturing enterprises can be used as an alternative to deal with the phenomenon of financialization of manufacturing enterprises, but the specific degree of subsidy still needs to be further studied.

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