

## Share Repurchase and Financialization:Evidence from China

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**Key words:** repurchase; financialization; reservoir effect; Investor sentiment; financial constraint; economics consequences

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He Ren: He Ren was responsible for the initial conception and implementation of the article, as well as undertaking the writing and data processing tasks.

Shi Zheng: Shi Zheng provided valuable assistance, including but not limited to data collection and the construction of key variables.

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### 1 Introduction

The uncertainty of the economic environment in recent years has made the real economy of listed companies underperform in terms of profits. However, the advantage of the financial industry in making profits has made more and more enterprises rely on financial investment to obtain a higher rate of return on capital, prompting firms to move towards the process of financialization. Financialization may manifest both the "reservoir" effect and the "crowding out" effect. The "reservoir" effect is reflected in holding financial assets for precautionary reserve funds to prevent firms from being short of funds due to illiquidity to avoid uncertainty. The "crowding out" is reflected in management's excessive pursuit of profit maximization for profit-seeking motives. Compared to the natural economy investment cycle, high-yield financial investment is long, has slow returns, and becomes a means of corporate arbitrage speculation, in the long run, to inhibit the development of the real economy. Admittedly, the real economy is the lifeblood of a country's economic pillars; excessive financial investment and ignoring the healthy development of the real economy will lead to the problem of "deconstruction to virtual". Investment in financial assets should become a tool for enterprises to serve the development of the entity rather than an arbitrage option.

Share repurchase has become essential for listed companies to distribute dividends to shareholders, optimize long-term incentive mechanisms and improve corporate governance structure. As a necessary institutional arrangement to stabilize the share price of listed companies, promote incremental capital inflow into the market and enhance the vitality of the capital market, the regulators are improving and revising the implementation rules for share repurchase. Share Repurchase refers to repurchasing the Company's issued and outstanding shares following specific procedures and distributing dividends to shareholders instead of cash dividends, which can be used to improve the capital structure (Almeida et al., 2016). Previously,

the dividend policy of listed companies mostly used cash dividends, and few companies achieved benefit distribution through a Share repurchase. After several abnormal share price fluctuations, the capital market's attitude towards the share repurchase system has gradually changed from opposition to support. With the continuous liberalization of the control of share repurchase, companies have gradually grasped the autonomy of share repurchase. They can flexibly use share repurchase to match the regular operation of the Company or even become a means of "rescuing the market". Nowadays, more and more companies are using share repurchases to give back to investors in the interest of shareholders, to prevent over-investment in the capital market and to curb irrational share price fluctuations. Share repurchases will also have a significant impact on corporate financialization decisions.

The share repurchase system originated in the United States in the 1970s and has been widely practiced, with companies using it as an alternative to dividend policy to a certain extent in order to avoid the high tax burden of cash dividends. Until the 1980s, share repurchase activities had become increasingly frequent and a common way of market value management for listed companies. China's share repurchase behavior is subject to the implementation rules of the Company Law due to the existence of multiple legal restrictions in the capital market, the narrower scope of the repurchase situation and inconvenient decision-making procedures, coupled with the lack of a transparent system of treasury stock in China, listed companies have not been highly motivated to repurchase their shares for many years. The multiple governance functions have yet to be effectively played. Therefore, to establish a sound and complete share repurchase system and enhance the positive role of share repurchase in promoting resource allocation, optimizing management decisions and stabilizing the capital market, the 4th Amendment Decision of the Company Law was adopted in October 2018. It further specifies the use of share repurchase and simplifies the share repurchase procedure, and the share repurchase behavior has been given greater discretion under the new legal system. Since the development of the epidemic situation has led to a downturn in share prices in the capital market, in April 2022, the China Securities Regulatory Commission (CSRC) jointly issued the Circular on Further Supporting the Healthy Development of Listed Companies in order to promote the pragmatic enhancement of the quality of listed companies and to safeguard the stability of the capital market.

Compared to the U.S. capital market, where the source of funds for buybacks mainly comes from borrowing rather than profits (Fiebiger, 2016), Share repurchases in the Chinese capital market mainly use own funds. Some scholars have argued that borrowed funds are the most critical source of funds to drive the financialization process of firms (Kliman & Williams, 2014). This paper will combine the perspective of frequent share repurchases by enterprises in the capital market to systematically analyze the mechanism of influence on the financialization of enterprises and verify whether it motivates their financial investment decisions. The study concludes that share repurchases by listed companies increase the level of financialization, and the effect of share repurchases on financial asset allocation is more significant when economic policy uncertainty is high, stock market sentiment is generally positive, and

audit quality is low. Mechanistic tests point out that Share repurchases, in turn, enhance firms' financialization levels through paths such as catering to high investor sentiment and exacerbating financing constraints. The scalability test finds that firms hold financial assets mainly for "reservoir" rather than "arbitrage" motives. The impact of share repurchases on firms' financialization comes into play when the shares are used only for equity incentives.

The possible research contributions of this paper include: First, the research on share repurchase focuses on foreign research hypotheses, and there is yet to be much theoretical evidence in China. The article enriches the theoretical research on the economic consequences of share repurchase in China's institutional context; Second, the study of corporate financialization is a critical topic that has been paid attention to, and the existing literature pays more attention to the economic consequences of financialization, and the influencing factors are mainly focused on the macro level. Based on the behavioral perspective of a share repurchase, this paper supplements the theoretical literature on the influencing factors of financialization and clarifies the influencing mechanism; Thirdly, it verifies the motivation of share repurchase to promote the allocation of financial assets, which provides theoretical support for listed companies to play the effect of "reservoir" in their investment in financial assets.

## **2 Literature Review and Research Hypotheses**

### **2.1 Literature Review on Share Repurchase and Financialization**

The importance of share repurchasing as a form of dividend has been increasing, but there are few domestic studies on share repurchasing. Most of the existing results focus on the findings of foreign studies, forming the dividend substitution hypothesis, the control market hypothesis, the management incentive hypothesis, the signaling hypothesis and the free cash flow hypothesis (Brennan & Thakor, 1990; Dittmar et al., 2000; Cheng et al., 2015; Vermaelen et al., 2019). Share repurchases can convey share price information, rationally utilize free cash flow, regulate the capital structure, and prevent malicious merger and acquisition behavior in the capital market and leveraging (Chan et al., 2004; Comment and Jarrell, 1991). Scholars have already explored its economic consequences from the perspectives of market long- and short-term returns (Ilona et al., 2012), firm value (Michael et al., 2020), corporate innovation (Wang et al., 2021), and safeguarding creditors' interests (Michelle et al., 2020). We will further extend to the impact on financial investment decisions.

The motives of enterprises for financial investment can be categorized as "reservoir" and "arbitrage" motives. On the one hand, enterprises holding financial assets can be used for preventive reserves to prevent a shortage of funds leading to illiquidity and affecting the efficiency of the real economy. It is because the cash flow it owns cannot meet its development or its financing constraints are high. On the other hand, the enterprise's cash flow is relatively abundant, but it also chooses to hold financial assets for long-term arbitrage, which leads to the enterprise's "real to virtual".

### **2.2 Theoretical analysis and research hypothesis**

Share repurchase behavior may not only inhibit the over-financialization of enterprises due to "profit-seeking" motives but also enhance the "reservoir" effect of enterprises' rational allocation of financial assets.

On the one hand, share repurchases can inhibit the financialization of enterprises. When the enterprise allocation of financial assets investment out of "profit-seeking", enterprises are more inclined to over-allocate financial assets to obtain financial returns, and therefore, most of the actual business investment is squeezed out of the situation. Generally speaking, financial investment and entity investment are regarded as a process of mutual substitution, when the enterprise in the financial investment project allocation of more resources will lead to entity investment being weakened, to a certain extent, damage to the long-term development of enterprises, the enterprise financial embodied in the "extrusion" effect at this time is more significant than due to the preventive reserve The "reservoir" effect of financial assets. As a kind of market value management behavior, Share repurchase is widely used to maintain the long-term value of enterprises and establish an internal long-term incentive mechanism. Share repurchases reduce the number of outstanding shares in the capital market and increase the net assets per share to reward investors positively. It not only directly boosts the share price but also enhances investors' confidence in the long-term development prospects of the enterprise. If the enterprise over financialization "squeezes out" entity investment, it will increase the operational risk and cause share price volatility, damaging investors' interests. Therefore, there are incentives to curb financialization after Share repurchases: Share repurchases are committed to enhancing investors' long-term confidence and actively safeguarding their interests. At the same time, the short-term gains from financial investment are insufficient compared to the long-term prospects of the enterprise's share price. To protect their interests, external investors will pay more attention to the long-term development of the enterprise that repurchases its shares, forming an external supervision and governance effect, which, to a certain extent, helps to urge the management to operate diligently and prevent excessive financialization. The fundamental reason for the excessive financialization decision led by the profit-seeking motive of enterprises is the existence of agency conflicts within enterprises. Management is more willing to invest in financial assets for opportunistic motives to obtain excess returns, and high returns enhance management's short-term performance to neglect the long-term value of real investment. After Share repurchases, companies primarily use the shares for equity incentives and employee share ownership plans. As a significant source of management incentives, Share repurchases promote the synergistic alignment of the personal interests of management and other insiders with the interests of shareholders and the firm's overall value and curb the management's tendency to become overly financialised.

On the other hand, Share repurchases can promote corporate financialization. For one thing, the financialization of enterprises invests to a certain extent to improve the liquidity of funds to alleviate the financing constraints and the inefficiency of investment in the real economy. The allocation of financial assets for "reservoir" motives can benefit the real economy in the short term and promote the service of the

real economy. Based on this, share Repurchase, as an actively practiced market value management tool, plays an essential role in promoting the quality of listed companies and maintaining the stability of the capital market. From this perspective, share repurchase and financial investment play a "reservoir" effect of the same objective function. Instead, share repurchase decisions will not inhibit enterprises from short-term financial asset allocation. Secondly, most of the funds for share repurchases in China come from own funds and bank borrowings. To maintain enterprise value and boost share price, enterprises repurchase shares to reduce free cash flow. In the face of better investment projects, they may need help to meet the investment opportunities, such as increasing the cost of exogenous financing and exacerbating the financing constraints. In this regard, short-term financial asset allocation can prevent reserve funds to prevent the emergence of entity underinvestment situations. Thirdly, catering theory finds that irrational investors over-attended financialised investments due to the ease of obtaining high returns. To cater to investor sentiment, firms will have more incentives to allocate financial assets. When corporate management recognizes that a firm's share price is undervalued in the capital market, it will buy back shares to appeal to investor sentiment to boost the share price and stabilize investor confidence in its long-term investment. The more favorable the long-term development prospects of the enterprise whose shares are repurchased by investors, the higher the investor sentiment in the market. In addition, Share repurchases are widely used in equity incentive schemes to increase the correlation between management compensation and share price, with higher share price being a visual indication of better business performance and higher compensation for management. Share repurchases will likely increase agency conflicts due to opportunistic motives for personal self-interest, incentivizing management to increase financial investments to generate excess returns. As there may be positive or negative effects of Share repurchases on the mechanism of financialization, this paper proposes competing hypotheses:

H1a: Share repurchases can significantly inhibit corporate financialization;

H1b: Share repurchases can significantly contribute to corporate financialization.

### **3 Research Design**

#### **3.1 Sample Selection and Data**

This paper takes the listed companies that have announced buyback proposals and implemented Share repurchases as the research object, and the sample time interval is 2007-2020. The data on financial indicators and control variables are all from the CSMAR database, while the data on share repurchase are mainly from the CSMAR "Share Repurchase" database, and the RESSET database is used as a control for cross-checking in order to maintain the integrity of the data. If a company makes multiple buybacks within a year, the data are combined, and only the companies that carry out Share repurchases are retained. We finally obtained a total of 31,601 observations. Since the object of study is the level of financialization of enterprises, enterprises with abnormal impact on investment in financial assets, such as ST, PT and \*ST, and listed companies in the financial and real estate industries, were

excluded from the sample screening process. Listed companies with insolvency (gearing ratio greater than 1), abnormal data on financialization level and missing data on critical variables are further excluded, and the continuous variables are all subjected to Winsorize 1% up and down.

### 3.2 Model design and variable definition

In order to verify the impact of the Share repurchase on corporate financialization, the following regression model is used for hypothesis verification:

$$\text{Fin}_{i,t} = \delta + \beta * \text{Repurchase}_{i,t} + \alpha_2 \text{Controls}_{i,t} + \text{Year}_i + \text{Ind}_t + \delta_{i,t} \quad (1)$$

Fin is the explanatory variable, reflected as the firm's financialization level, including Fin1 and Fin2. We measure Fin1 as the ratio of total financial assets such as trading financial assets, available-for-sale financial assets, investment properties, held-to-maturity investments, loans and advances issued and derivative financial assets to total assets. The robustness test is measured by the dummy variable Fin2, whether the enterprise has a financialization phenomenon. If the enterprise implements financialization, Fin2 is defined as 1. Otherwise, it is 0. Repurchase is an explanatory variable representing whether the enterprise implements share repurchase. If the enterprise decides to share Repurchase in the current fiscal year, Repurchase is defined as 1. Otherwise, it is 0. The latter is measured by the share RepurRatio, the proportion of total share capital accounted for by share repurchase in the current fiscal year, which is used as the robustness test indicator. Controls represent the control variables. The control variables include firm size, gearing ratio, return on total assets, fixed asset ratio, growth, share balance, board size, independent director ratio, and shareholders' equity. Year and Ind represent the year and industry fixed effects. The definitions of the critical variables involved in the paper and the description of the formulas are shown in Table 1.

## 4 Empirical results

### 4.1 Summary statistics

The Summary statistics of the main variables are shown in Table 2. The standard deviation and mean of Repurchase are 0.12 and 0.32, respectively, and the maximum and minimum of RepurRatio are 0.29 and 0, respectively, indicating that different listed companies carry out share repurchase as well as the size of the Repurchase varies. The mean value of Fin1 is 0.03, and the maximum is 0.39, reflecting the different levels of financialization of listed companies in China. Combined with Fin2 indicators, about 71% of China's listed companies have the phenomenon of financialization, and investment in financial assets is a typical behavior among listed companies.

**Table 2 Summary statistics**

VarNames	Obs	Mean	SD	Min	Median	Max
<i>Fin1</i>	31601	0.030	0.070	0	0	0.390
<i>Fin2</i>	31601	0.710	0.450	0	1	1
<i>Repurchase</i>	31601	0.120	0.320	0	0	1



<i>RepurRatio</i>	31601	0.230	1.670	0	0	0.29
<i>size</i>	31601	22.03	1.260	19.81	21.85	25.96
<i>lev</i>	31601	0.410	0.200	0.050	0.410	0.860
<i>Roa</i>	31601	0.0400	0.060	-0.220	0.0400	0.200
<i>Fixasstratio</i>	31601	0.230	0.160	0	0.190	0.710
<i>Growth</i>	31601	0.300	0.700	-0.630	0.130	4.560
<i>SharesBalance</i>	31601	0.730	0.610	0.030	0.560	2.840
<i>Boardsize</i>	31601	8.670	1.730	5	9	15
<i>IndDirectoratio</i>	31601	0.370	0.050	0.310	0.330	0.570

## 4.2 Baseline regression results

Table 3 shows the results of the baseline regressions. Repurchase is regressed on *Fin1* using a fixed effects model. Columns (1) and (2) show the regression results with and without adding control variables, respectively. Column (1) The regression coefficient for Repurchase without adding the relevant control variables is 0.009, which is significant at the 1 percent level. After adding control variables, the regression coefficient of Repurchase is 0.010, which is still significant and positive at the 1% level. It indicates that firms that implement share repurchases increase the level of financialization. Regardless of the empirical results, the regression result of Repurchase on *Fin1* is robust, and hypothesis H1 is proved.

**Table 3 Baseline regression results**

	(1)	(2)
	<i>Fin1</i>	<i>Fin1</i>
<i>Repurchase</i>	0.009*** (6.11)	0.010*** (7.12)
<i>size</i>		-0.004*** (-2.83)
<i>lev</i>		-0.024*** (-4.39)
<i>Roa</i>		-0.042*** (-4.49)
<i>Fixasstratio</i>		-0.047*** (-7.60)
<i>Growth</i>		-0.000 (-0.45)
<i>SharesBalance</i>		-0.008*** (-5.26)
<i>Boardsize</i>		0.000 (0.48)
<i>IndDirectorRatio</i>		0.002 (0.15)
<i>Year</i>	Yes	Yes
<i>Ind</i>	Yes	Yes
<i>Constant</i>	0.027***	0.140***

	(14.83)	(4.60)
<i>Observations</i>	31,601	31,601
<i>Adj-R<sup>2</sup></i>	0.065	0.078

### 4.3 Endogeneity tests

#### (1) Propensity score matching method

We use the propensity score matching method to mitigate endogeneity bias. Variables with values as similar as possible to those taken by the treatment group were matched in the control group according to the nearest-neighbor 1:1 and 1:3 matching methods. Table 4 Shows The results. The Repurchase coefficients for columns (1) and (2) in PlanB are significantly positive at the 1% level.

**Table 4 Endogeneity tests**

PlanA: PSM										
	PSM 1: 1					PSM 1: 3				
	Mean		%bias	T-test		Mean		%bias	T-test	
	<i>Treated</i>	<i>Control</i>		<i>t</i>	<i>p&gt; t </i>	<i>Treated</i>	<i>Control</i>		<i>t</i>	<i>p&gt; t </i>
<i>size</i>	22.30	22.27	2.5	1.02	0.310	22.30	22.28	1.1	0.45	0.654
<i>lev</i>	0.390	0.381	4.5	1.95	0.051	0.390	0.385	2.6	1.13	0.260
<i>Roa</i>	0.044	0.044	-0.2	-0.08	0.933	0.044	0.045	-1.4	-0.58	0.563
<i>Fixassetratio</i>	0.184	0.184	0.0	0.01	0.991	0.184	0.181	1.9	0.89	0.372
<i>Growth</i>	0.292	0.290	0.3	0.12	0.906	0.292	0.293	-0.1	-0.03	0.976
<i>SharesBalance</i>	0.901	0.893	1.4	0.55	0.579	0.901	0.884	2.8	1.12	0.262
<i>Boardsize</i>	8.309	8.295	0.9	0.39	0.694	8.309	8.302	0.4	0.19	0.852
<i>IndDirectoratio</i>	0.380	0.379	1.6	0.68	0.497	0.380	0.379	0.9	0.35	0.723

  

PlanB: Regression Results		
	(1)	(2)
	PSM 1: 1	PSM 1: 3
	<i>FinI</i>	<i>FinI</i>
<i>Repurchase</i>	0.009*** (5.38)	0.008*** (5.73)
<i>Controls</i>	Yes	Yes
<i>Year</i>	Yes	Yes
<i>Ind</i>	Yes	Yes
<i>Constant</i>	0.002 (0.10)	0.003 (0.17)
<i>Observations</i>	6,887	11,965
<i>Adj-R<sup>2</sup></i>	0.096	0.097

#### (2) Heckman two-stage method

Heckman's two-stage method solves the possible sample selection bias problem. We use Ave\_Ratio as the exclusivity constraint variable for whether to implement share repurchase (Repurchase). Table 5 shows the regression results. The regression coefficient of Ave\_Ratio in column (1) is 0.832, which is significantly positive at a 1% level, indicating that the average value of share repurchase ratio in the same industry

in the same year has a significant impact on the decision of this enterprise to implement repurchase behavior. The selection of variables meets the requirements. The regression coefficient of Repurchase in column (2) is 0.041, which is still significantly positive at the 1% level, indicating that the conclusion has not changed after mitigating endogeneity bias.

**Table 5 Endogeneity tests**

	(1)	(2)
	The First Period	The Second Period
	<i>Repurchase</i>	<i>FinI</i>
<i>Repurchase</i>		0.041*** (4.30)
<i>Imr</i>		-0.017*** (-3.28)
<i>Ave_Ratio</i>	0.832*** (37.87)	
<i>Controls</i>	Yes	Yes
<i>Year</i>	Yes	Yes
<i>Ind</i>	Yes	Yes
<i>Constant</i>	-4.721*** (-22.37)	0.156*** (5.01)
<i>Observations</i>	31,591	31,591
<i>Adj-R<sup>2</sup></i>	-	0.078

### (3) 2SLS instrumental variable method

We use Ave\_Ratio as the instrumental variable of share repurchase for 2SLS two-stage regression. Table 6 shows the regression results. The coefficient of Ave\_Ratio in column (1) 0.519 is significantly positive at a 1% level, the F-value is greater than 10, and the variable selection satisfies correlation and homogeneity. The coefficient of Repurchase in column (2) is 0.001, which is significant at the 10% level, indicating that the conclusion that share repurchase promotes the level of financialization remains unchanged. In summary, the conclusions of this paper are reliable after various endogeneity tests.

**Table 6 Endogeneity tests**

	(1)	(2)
	<i>Repurchase</i>	<i>FinI</i>
<i>Ave_Ratio</i>	0.519*** (4.49)	
<i>Repurchase</i>		0.001* (1.86)
<i>Controls</i>	Yes	Yes
<i>Year</i>	Yes	Yes
<i>Ind</i>	Yes	Yes
<i>Constant</i>	-2.232*** (-3.88)	0.037*** (4.57)

<i>Observations</i>	31,591	31,591
<i>Adj-R<sup>2</sup></i>	0.054	0.081

#### 4.4 Robustness Tests

After the implementation of share repurchase, the behavior of enterprises is likely to be unable to reflect the impact on the level of corporate financialization in the short term, so this part of the article will lag one period of the explanatory variables and all the control variables. Table 7 shows the regression results. With a repurchase coefficient of 0.009 at the 1% level, which is significantly positive, the conclusion remains unchanged.

Re-validation is carried out by replacing whether the enterprise implements share repurchase behavior with the share repurchase ratio (RepurRatio) and the level of financialization with a dummy variable (Fin2). Table 7 shows the results, where the coefficient of RepurRatio in column (1) is 0.001, which is significantly positive at the 5% level. The Repurchase coefficient in column (2) is 0.492 and is significantly positive at the 1% level. The conclusions are robust regardless of the metric used.

Considering the share repurchase behavior of listed companies in China, there has been a relatively significant increase only since 2014, and after the release of the new repurchase regulations in 2018, the share repurchase in the capital market has ushered in another wave of boom. Therefore, the window period is changed to 2014-2020 and 2018-2020 respectively. Table 7 shows the regression results. The regression coefficients of Repurchase in Column (1)-Column (2) are 0.009 and 0.006, respectively. Both are significantly positive at the 1% level. The conclusion remains consistent.

As both Shanghai and Shenzhen A-share stocks produced large fluctuations in 2015, it may have an external impact on enterprises' financialization levels. In addition, the main driving force of the real economy enterprises is mainly concentrated in the manufacturing industry, and the trend of financialization in the manufacturing industry is more economically significant. Table 7 shows the regression results. The Repurchase regression coefficients in columns (1)-columns (2) are significantly positive at the 1% level whether the 2015 sample is excluded or only the sample of the manufacturing industry is used, which are 0.011 and 0.009, respectively. The conclusion that share Repurchase promotes the enterprise's financialization level remains unchanged.

In summary, the article's conclusions remain robust after various robustness tests.

**Table 7 Robustness Tests**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Lag period		Replace variables	Replace variables	2014-2020	2018-2020	Exclude 2015	Manufacture re sample
	<i>FFin1</i>	<i>Fin1</i>	<i>Fin2</i>	<i>Fin1</i>	<i>Fin1</i>	<i>Fin1</i>	<i>Fin1</i>
<i>Repurchase</i>	0.009*** (5.10)			0.009*** (5.91)	0.006*** (2.81)	0.011*** (7.25)	0.009*** (5.75)
<i>RepurRatio</i>		0.001**					

(2.36)							
<i>Repurchase</i>			0.492***				
			(6.40)				
<i>Controls</i>	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<i>Year</i>	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<i>Ind</i>	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<i>Constant</i>	0.108***	0.121***	-	0.156***	-0.176*	0.137***	0.125***
	(3.58)	(4.00)	-	(2.90)	(-1.91)	(4.52)	(3.99)
<i>Observations</i>	27,424	31,601	19,453	20,293	10,088	29,222	19,791
<i>Adj-R<sup>2</sup></i>	0.071	0.075	-	0.042	0.035	0.080	0.093

## 5 Further analyses

### 5.1 Mechanistic Tests

Research on investor sentiment in behavioral finance confirms that irrational investors' lack of value judgment on corporate fundamentals, financial condition and operating results affects the mispricing of corporate value and breeds irrational investor sentiment. Catering theory finds that irrational investors over-attended financialised investments due to the ease of obtaining high returns and that firms will be more motivated to allocate financial assets and increase financial investments to cater to investor sentiment. The higher the investor sentiment, the higher the firm's financialization level. Furthermore, when the enterprise management identifies that the enterprise share price is undervalued in the capital market, in order to boost the share price to stabilize the investors' confidence in the long-term investment of the enterprise, it will carry out market value management through Share repurchase to cater for the investment sentiment. Investors are optimistic about the long-term development prospects of the firms with Share repurchases, which enhances the high investor sentiment in the market. Therefore, this part conducts the following test to validate this mechanism. We use the decomposition of Tobin'Q to measure investor sentiment (Sent). The return on net assets, sales growth rate, gearing ratio and firm size are regressed on Tobin'Q, and the residuals are the proxy variables for investor sentiment (Sent). Table 8 shows the regression results. Column (1) reveals the impact of share repurchase on investor sentiment, and the coefficient of Repurchase is 0.113, which is significantly positive at the 1% level, indicating that share repurchase prompts high investor sentiment, which in turn enhances the level of corporate financialization.

Share repurchases can raise share prices by boosting investor sentiment on the one hand. However, on the other hand, they can also exacerbate financing constraints, resulting in capital appropriation. We use the SA and KZ indexes to measure financing constraints simultaneously to confirm the robustness of the mechanism test results. Since the SA index is a negative indicator, it is treated as an absolute value (SA). Table 8 shows the regression results. In Columns (2)-column (3), where the Repurchase coefficients are significantly positive at the 1% level for both AbsSA and KZ, indicating that listed companies increase their financing constraints after repurchasing the shares of their firms, which further leads to an increase in the level

of financialization. Most of the sources of funds used by firms to carry out share repurchases are mainly own funds and bank borrowings. The repurchase behavior reduces the free cash flow of endogenous financing. There may be requirements such as the inability of firms to satisfy investment opportunities, increasing the cost of exogenous financing, and exacerbating financing constraints.

**Table 8 Mechanistic Tests**

	(1)	(2)	(3)
	<i>Sent</i>	<i>SA</i>	<i>KZ</i>
<i>Repurchase</i>	0.113*** (5.16)	0.010*** (5.16)	0.238*** (6.57)
<i>Controls</i>	Yes	Yes	Yes
<i>Year</i>	Yes	Yes	Yes
<i>Ind</i>	Yes	Yes	Yes
<i>Constant</i>	1.433** (2.12)	2.844*** (34.95)	12.259*** (13.74)
<i>Observations</i>	28,228	31,386	28,021
<i>Adj-R<sup>2</sup></i>	0.052	0.879	0.391

## 5.2 Heterogeneity tests

With the gradual increase in economic policy uncertainty, firms face macroeconomic risks that are difficult to avoid. The greater the uncertainty, the greater the volatility of share prices in the capital market, and the higher the risk of operating and financial shortages firms face. Firms increase their allocation of financial assets as a precautionary reserve. In addition, under uncertainty, firms are more likely to stabilize their share prices through Share repurchases and simultaneously release the signal that their share prices are undervalued, which enhances investors' confidence in the long-term investment of firms. Therefore, this paper predicts that the impact of share repurchases in enhancing firms' financialization level is more significant under higher economic policy uncertainty. Drawing on Baker et al. (2016), the economic uncertainty index (Epu) is used for the measure, defining a higher group if it is greater than the median Epu and a lower group otherwise. The regression results are shown in column (1)-column (2) of Table 9. The Repurchase coefficient in column (2) is 0.01 in the high economic policy uncertainty group, which is significantly positive at the 1% level, while it is not significant in the low group. The test of difference between groups shows a t-value of 2.14, which is significant at a 5 percent level, indicating a significant difference between the low and high economic uncertainty groups. Share repurchases' effect on promoting financial asset allocation is significant when economic policy uncertainty is high.

As a standard market value management tool in the capital market, share repurchase is inextricably linked to stock market sentiment. Share repurchase decisions largely stem from undervalued share prices and are undertaken to boost share prices and enhance investor confidence. Therefore, stock market sentiment may have a heterogeneous effect on the level of corporate financialization of firms

undertaking Share repurchases. We define the stock market sentiment indicator (GuShi) following the positive and negative monthly average market returns during the year. If the monthly average market return of the year is greater than 0, reflecting the overall market trend is good, defined as the stock market sentiment is good (bull market), or else it is defined as the stock market sentiment is poor (bear market), the regression results are shown in Table 9 Columns (3)-(4) shown. The results show that the effect of share repurchase on firms' financialization level is significantly positive regardless of stock market conditions. Share repurchase's effect on firms' financialization level is significantly positive regardless of the stock market situation.

In contrast, the effect of share repurchase is more significant when the stock market situation is better (bull market). Specifically, in the better stock market (bull market) group, the Repurchase regression coefficient is more significant at 0.011 after the test of intergroup differences in the T-value of 6.88, indicating that the coefficient of the two groups is significantly different. Implementing the share repurchase decision led to a 0.3 percent boost in the promotion effect compared to firms that did not implement share repurchase during better stock market conditions (bull market). The economic significance of the results may be reflected in the fact that management is more inclined to implement share repurchase decisions for market value management when the stock market sentiment is generally positive, and thus, the mechanism of influence on firms' financialization is more robust.

High-quality auditing, as an effective governance mechanism for external monitoring, significantly dampens corporate financialization. When the market share price is undervalued, firms are more inclined to hire high-quality auditors to improve the reliability of accounting information, thus increasing investor confidence and long-term investment in the firm. The higher the quality of external audits of firms that implement Share repurchases, the more likely they are to reduce the degree of internal and external information asymmetry and strengthen the incentives for market value management. Therefore, the level of audit quality will also make a difference in the mechanism by which the share repurchase decision affects the firm's financialization level. In order to verify the idea of this paper, a regression test is conducted by constructing the audit quality variable (Audit). Specifically, when a firm is audited by an international "Big 4" accounting firm, it is defined as a high audit quality group. Otherwise, it is a low audit quality group. The regression results are shown in columns (5)-(6) of Table 9, where the Repurchase regression coefficient of 0.011 is significantly positive at the 1 percent level for the low audit quality group. At the same time, it is not significant for the high audit quality group, with a t-value for the between-groups test of 16.5, which suggests that Audit quality, as an external governance mechanism, can mitigate the impact of share repurchases on financial investment.

**Table 9 Heterogeneity tests**

(1)	(2)	(3)	(4)	(5)	(6)
Low-Epu	High-Epu	Low-stock market quotation	High-stock market quotation	Low-Audit Quality	High-Audit Quality

<i>Repurchase</i>	0.002 (0.78)	0.010*** (6.17)	0.008*** (4.28)	0.011*** (6.06)	0.011*** (7.24)	-0.004 (-0.68)
<i>Controls</i>	Yes	Yes	Yes	Yes	Yes	Yes
<i>Year</i>	Yes	Yes	Yes	Yes	Yes	Yes
<i>Ind</i>	Yes	Yes	Yes	Yes	Yes	Yes
<i>Constant</i>	0.158*** (3.84)	0.087** (2.26)	0.151*** (4.30)	0.140*** (4.03)	0.145*** (4.55)	0.207 (1.15)
<i>Observations</i>	14,007	17,594	10,448	21,153	29,784	1,817
<i>Adj-R<sup>2</sup></i>	0.063	0.062	0.112	0.072	0.080	0.057

## 6 Extensive analysis

### 6.1 Identifying motives for financialization

For the motive of "reservoir" of preventive reserve funds, financial assets can be used as a tool for storing liquidity, and enterprises tend to invest in financial assets to obtain income in order to cope with the shortage of funds and to prevent the cash flow shortage caused by the break of the capital chain. It can also improve investment efficiency as a response to good investment opportunities in advance to avoid the risk of uncertainty. For the motive of "profit-seeking", the long-term allocation of financial assets by enterprises may be aimed at the excessive pursuit of book income, and there is speculative profit-seeking behavior. In this case, crowding out industrial investments is more likely to occur.

This section classifies financial assets into ShortFin and LongFin according to their liquidity. We measure ShortFin by the ratio of trading financial assets to total assets. In contrast, We measure LongFin by the ratio of the sum of derivative financial assets, net loans and advances, available-for-sale financial assets, net held-to-maturity investments and net investment properties to total assets. We predict that a positive coefficient in the regression of share repurchases on LongFin indicates that share repurchases encourage firms to allocate more short-term (long-term) financial assets, reflecting the "reservoir" motivation for holding financial assets ("profit-seeking" motivation). (the "profit-seeking" motivation). Table 10 shows the regression results. Columns (1)-(2) represent the impact of share repurchase on financial investment. Only when enterprises allocate financial assets to short-term investment (ShortFin), the regression coefficient is 0.004 and is significant at the 5 percent level. In contrast, long-term financial investment (LongFin) regression results are insignificant. Therefore, when firms engage in Share repurchases, it significantly increases the level of financialization of the firms since they stockpile financial assets for short-term precautionary motives rather than engaging in arbitrage.

**Table 10 Identifying motives for financialization**

	(1)	(2)
	<i>ShortFin</i>	<i>LongFin</i>
<i>Repurchase</i>	0.004** (2.30)	-0.000 (-0.02)
<i>Controls</i>	Yes	Yes
<i>Year</i>	Yes	Yes



<i>Ind</i>	Yes	Yes
<i>Constant</i>	0.108*** (4.92)	0.238*** (3.89)
<i>Observations</i>	21,389	8,897
<i>Adj-R<sup>2</sup></i>	0.254	0.102

## 6.2 Differentiating the use of Share repurchases

When a listed company judges that there is a severe undervaluation between the enterprise value and the prevailing share price in the market, Share repurchases can reduce the supply of shares in the market in order to enhance the earnings per share and achieve the purpose of promoting the return of the share price to a reasonable level. Being able to release the signal to investors that the Company's share price is undervalued, it is widely used to maintain corporate value and stabilize the share price (Vermaelen, 1981). When repurchased shares are used for equity incentive plans and employee share ownership plans, they can be used as an essential source of implementing incentives for management and internal employees, establishing a long-term incentive mechanism within the enterprise, and promoting synergistic alignment of self-interests with the interests of the enterprise (Kim & Ng, 2018). In addition, the repurchased shares can be used as a convertible bond financing tool, which can be canceled to enhance earnings per share to reward investors positively. This section conducts a split-sample test by distinguishing the use of repurchases. It classifies the entire sample into equity cancellation-based repurchases (Cancellation, 107 firms, or 16.9%) and equity incentive-based repurchases based on the use of repurchases as stipulated in the Companies Act. (Incentive, 452 firms, 71.3%), Convertiblebond type buybacks (Convertbond, 21 firms, 3.3%) and Maintenance of Value type buybacks (Value, 54 firms, 8.5%). After re-engaging in the regression, Table 11 shows the empirical results. Only in column (2) the regression coefficient of Incentive is 0.012 is significantly positive at a 1% level, and the rest of the groups are not significant, although the coefficient is still. The results indicate that the effect of the financialization of firms plays a role when shares repurchased by listed companies are used only for equity incentive schemes.

**Table 11 Differentiating the use of Share repurchases**

	(1)	(2)	(3)	(4)
	<i>Fin1</i>	<i>Fin1</i>	<i>Fin1</i>	<i>Fin1</i>
<i>Cancellation</i>	0.003 (0.52)			
<i>Incentive</i>		0.012*** (3.95)		
<i>Convertbond</i>			0.015 (1.22)	
<i>Value</i>				0.009 (1.27)
<i>Controls</i>	Yes	Yes	Yes	Yes
<i>Year</i>	Yes	Yes	Yes	Yes

<i>Ind</i>	Yes	Yes	Yes	Yes
<i>Constant</i>	0.120*** (3.96)	0.122*** (4.04)	0.120*** (3.96)	0.120*** (3.96)
<i>Observations</i>	31,601	31,601	31,601	31,601
<i>Adj-R<sup>2</sup></i>	0.074	0.075	0.074	0.074

## 7 Conclusion

As an effective means of market value management in the capital market, share repurchase is widely used to maintain corporate value and enhance the quality of listed companies, further promoting the long-term healthy development of enterprises. This paper selects the sample data of actual share repurchases by listed companies from 2007 to 2020 and empirically tests the impact of share repurchases on financial investment decisions. Share repurchases significantly promote the financialization of enterprises, and the effect is more significant when economic policy uncertainty is high, stock market sentiment is generally positive, and audit quality is low. Share repurchases increase firms' financialization by appealing to high investor sentiment and increasing financing constraints. In addition, firms hold financial assets mainly for short-term financial asset allocation for "reservoir" motives rather than long-term "arbitrage". Repurchase shares only affect firms' financialization when used for equity incentives. The conclusions complement the theoretical results on share repurchases and corporate financialization, exploring new perspectives for share repurchases to optimize financial investment decisions. However, We only found the influence mechanism of share repurchase on financial decision-making, and share repurchase, as a market value management behavior in the capital market, should become a valuable means to enhance the quality of listed companies and safeguard the interests of investors. In the future, enterprises need to actively carry out share repurchases to play the market function and comprehensively improve the resource allocation efficiency of enterprises.

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