



The Impact of Capital Market Opening on the Corporates' Financialization

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Abstract. This paper studies the influence of the opening degree of the stock market represented by the stock market on the degree of financialization of corporates. Taking the Shanghai-Hong Kong Stock Connect as the experimental object, we find that the opening of the capital market can significantly improve the degree of financialization of corporates. After heterogeneity test and robustness test, the results are still valid. With the improvement of the degree of capital market opening and the difference of time, the effect of improving the financialization of corporates will be more obvious. In addition, with the active international trade, the influence of capital market on the financialization of different industries also changes with the change of influencing factors. The research of this paper proves that the development mode of “capital market opening intensifies corporate financialization” is still reasonable. This study also adds to the evaluation of the policy of capital market opening and is related to the research literature on the economic benefits of capital market opening.

Keywords: Capital market · financialization · economic development · international trade · real economy

1 Introduction

Financialization refers to the proportion of financial instruments used in total economic activity. Internationally, Bekaert and Harvey believe that financial opening includes the following seven aspects: capital account opening, stock market opening, financial sector reform, state fund issuance, privatization, free flow of cross-border capital and open international direct investment [2]. According to Kaminsky (et al.), financial opening mainly includes capital account opening, stock market opening and state fund issuance [3]. Like Kaminski, Schmukler believes that financial openness mainly includes capital account opening, stock market opening and domestic financial sector opening [3]. In China, along with regional and industrial reforms, the financial system played an important role in economic reform starting in the 1990s and gained momentum through market-oriented reforms, digital HP finance, financial regulation, and financial opening. Since 1997, the financial industry has been separately regulated and supervised. The aim is to break down barriers and implement national economic policy. Following

the bank's overseas listing in 2002 and the bank's shareholding reform in 2007, China Investment Corporation was established and the chinext was opened. By 2012, the RMB should be internationalized to address local government debt and strengthen financial infrastructure to defuse financial risks. By 2017, a Financial Stability and Development Committee will be established to steadily open the financial sector. Financial openness has had a profound economic and political impact on society. Through the unique process of financial reform, China will take the path of internal finance first and external finance opening, draw lessons from the financial crises in South Korea, Asia, and Russia, and form a mature and strong capacity for financial regulation.

While helping the economy develop rapidly, the opening of the capital market has brought great changes to the real economy. The real economy in this article refers to the total value of goods produced by a country and is the economy created on Earth by people using tools and ideas. As an economic model with concrete, dominant, carrier and decline, it draws lessons from and relies on virtual economy. The real economy matters because of what it means for financial services. First, in the formation of the payment system, finance can be regarded as part of the real economy. Second, we will provide working capital support for corporates [9, 10]. Third, we will support the innovative development of corporates. The opening of the capital market has both positive and negative impacts on the real economy. On the positive side, first, from the micro level, the opening of the stock market has facilitated the entry of foreign investment into the Chinese market, and the new capital injection has helped Chinese corporates improve their corporate financing situation [4]. Second, foreign institutional investors have been introduced to improve the operation and management of corporates. Third, it provides channels for corporates' international development [8]. From a macro perspective, the opening of the stock market improves the liquidity of the stock market [5]. And promote the internationalization of China's stock market. The adverse effect is that the rapid inflow and outflow of foreign funds may cause the volatility of the stock market [7]. Second, improve the infectivity of financial risks and make them vulnerable to financial crisis [6]. Finally, new challenges to financial regulation have been put forward, increasing the difficulty of supervision.

In fact, corporate' financialization is an important yardstick to measure the opening and development of the capital market. With the increasing proportion of financial instruments used, people's reliance on finance in daily life is also gradually increasing. Corporates' financialization not only is a kind of lay stress on capital operation corporates to take the way of the allocation of resources, through the application of corporate assets more to instead of traditional production and operating activities, investment also creates profit more from non-production business investment and capital operation as a result, in other words, the corporate the pursuit of pure capital appreciation rather than operating profits. Moderate corporates' financialization can improve the profitability of corporates and obtain more funds. Corporates can strengthen the connection between corporates through financial investment and obtain more information and physical resources. However, excessive financialization will bring adverse effects on the main business and the long-term development of the company. Specifically, excess profits can weaken the competitive pressure faced by the corporates but will further hinder the market competition. What is presented is the crowding out effect on corporate innovation, which is more

obvious when corporates lack internal cash. Moreover, the allocation of financial assets decreases the proportion of physical investment, which leads to the reduction of the available collateral of corporates. Therefore, how to make use of stock market resources to gain advantages in the process of corporate financialization with fierce competitions, seize the opportunity and gain more profits has triggered the discussion of many scholars.

Based on the existing literature, this paper proposes to adopt the robustness analysis and heterogeneity analysis, and take $Dum*time$, debt structure, corporate $flev$, industry type, assets and other control variables as entry points, this paper studies the direct effects of the opening of the securities market, and the efficiency on the development of real economy, and positive effects of firm innovation and the guidance of firm investment. At the same time, by studying the negative effects of stock price stability and risk premium, the paper aims to contribute to answer the question of relationship between stock market openness and corporate's financialization, thus, to provide a theoretical basis for corporates to improve their financial ability. Finally, the paper draws a conclusion through the experiment, summarizes the influencing factors and their effects, and puts forward some suggestions to promote high-quality, high-level, and sustainable development.

2 Hypothesis and Study Design

The opening of capital market is conducive to enhancing the attractiveness of China's capital market to foreign financial institutions, reducing financing costs and increasing the financial regulation function of corporates. On the other hand, it is also conducive to the clarification of corporate's property rights and the transformation of corporate operation mechanism, thus promoting the internationalization of domestic financial market. Bekaert and Harvey believes that Countries that go further in financial development will get an above-average financial development boost from stock market liberalization [2]. Therefore, I hypothesized:

H1: Capital market opening will strengthen the financialization of corporates.

However, After the opening of the capital market, the fluctuation of corporates has intensified, leading to more cautious investment in the market. At the same time, due to the obvious fluctuation of the price of financial assets, corporates are becoming less and less willing to invest in financial assets. Engelbert Stockhammer argues that in the context of the globalization of open capital markets, The liberalization of international capital flows has led to increased exchange rate volatility, often resulting in acute exchange rate crises. The development of securities markets and the financialization of companies will be hampered [1]. Thus, I hypothesized:

H2: Capital market opening will weaken the financialization of corporates.

Based on the above research basis and hypothesis, this paper constructs $dum*time$ as the core explanatory variable, iwp , corporates' $flev$, total liability, and assets of corporates as control variables. there are clear symbol definitions and variable explanations, as shown in Table 1.

Dependent variable: fin_{it} , Natural logarithm of one plus the number of finance assets. It is the sum of financial assets held for trading, financial derivatives, the sum of financial assets held for trading, financial derivatives, financial assets purchased under agreements to resell, available-for-sale financial assets, held-to-maturity investments, long-term receivables, interest receivable, and investment property. Scholars held different

Table 1. Variable Definition Table [Self-graphed]

Variable Type	Variable Symbols	Variable Name	Variable Meaning
Explained variables	<i>fin</i>	Finance	Level of corporate's financialization level
Core explanatory variables	<i>Dum*time</i>	dum*time Interactive items	The impact of capital market opening on the level of corporate's financialization
Control variables	<i>Iwp</i>	Net intangible assets	Net value of intangible assets divided by the total assets
	<i>flev</i>	Flow liability rate	Total current liabilities divided by total liabilities
	<i>lev</i>	Total liability	Total liability divided by the total assets
	<i>assets</i>	Assets of corporates	Log of total assets
Virtual variable	<i>Dum</i>	Virtual variables	<i>Dum</i> equals 1 for the firms listed in Shanghai-Hong Kong stock connect, while 0 otherwise.
	<i>time</i>	Virtual variables	<i>time</i> equals 1 for the year after 2014, while 0 otherwise.

opinions toward the variables that are affecting financialization of corporates, according to the study and design of this paper on the impact of capital market on the financialization of corporates, to assess the casual effect of the stock market effects on corporates' financialization, this paper follows Beck et al. (2010) to construct the dynamic DID model

$$Fin_{it} = \beta_0 + \beta_1 Dum + \beta_2 Time + \beta_3 Dum*Time + \beta_2 X_{it} + \varepsilon_{it} \quad (1)$$

Based on Eq. 1, considering the individual and time fixed effects of the model, this paper construct,

$$Fin_{it} = \beta_0 + \beta_1 Dum*Time + \beta_2 X_{it} + \mu_i + \lambda_t + \varepsilon_{it} \quad (2)$$

where, *fin* is the degree of financialization of the corporate, *Dum* is virtual variables of Stock Connect corporates, non-Stock Connect corporates, *time* is the virtual variables of time before 2014, time after 2014, *dum*time* is the impact of capital market opening on the level of corporate financialization, *X* is the control variable, Including *iwp*, *flev*, *lev*, and *assets*, β_0 , β_1 , β_2 , β_3 are the coefficients of core explanatory variables and control

variables respectively, representing the influence of variables changes on, t represents time effect, ε represents random interference.

3 Data Sources and Model Selection

3.1 Data Source

To deeply analyze the influencing factors of corporates' financialization, this chapter combines data availability and selects the data of corporates in different industries in Hong Kong and Shanghai, with a time span from 2008 to 2018. These data come from authoritative databases such as Wind database, CSMAR database, CCER database and RESSET database.

3.2 Benchmark Model Selection

According to the steps of panel model empirical analysis, this chapter first carries out ordinary linear square (OLS) model regression for corporate financialization data indicators. Based on OLS model, fixed effects (FE) regression was performed for OLS model with and without control variables. The specific results are shown in Table 2. The regression results show that the goodness of fit of fixed effects model after adjustment is 0.2058, which meets the requirements. The T-test results of time, assets, business *flev*, net intangible assets and total liabilities are significant. The fixed effects model plays an important role in explaining the influence of variables in the process of corporate financialization. However, in terms of the fixed effects of the control variables, the t test of *flev* is not significant, indicating that this index cannot explain the problems affecting the financialization of corporates.

Benchmark Estimates

This paper considers that the coefficient difference of the panel regression model is systematic, and the two-panel model is applied to the individual time fixed effects model. Therefore, this paper takes the individual time fixed effects model 2 as the benchmark model and conducts in-depth analysis based on the benchmark model to further explore the impact of the opening of the capital market on the accuracy of corporate financialization. Based on OLS model, the relationship between financial factors and capital market is further discussed from the level of individual fixed model. According to the individual fixed effects model 2, *dum* time*, *assets*, *lev*, *flev* and *iwp* have significant effects on firm financialization. These four items are all significant at the significance level of 1%, indicating that when the time is fixed or the individual is fixed, the increase of total liabilities, the increase of net intangible assets and the increase of current liabilities have a significant promoting effect on the financialization of corporates, which is in line with the law and characteristics of reality.

Heterogeneity

Heterogeneity refers to the analysis of whether the explanatory effects of explanatory variables on explained variables show different patterns in the subsample than in the

Table 2. Benchmark estimates [Self-graphed]

	(1)	(2)	(3)	(4)
	OLS	OLS	FE	FE
Corporate's financialization	Finance	Finance	Finance	Finance
Dum*time	0.3216*** (0.0530)	0.1041*** (0.0333)	0.1530*** (0.0501)	0.2058*** (0.0383)
dum	1.3898*** (0.0354)	-0.0395 (0.0249)		
time	0.3531*** (0.0287)	-0.1259*** (0.0214)		
assets		0.9729*** (0.0079)		1.0075*** (0.0255)
lev		-1.2830*** (0.0423)		-1.6327*** (0.0898)
flev		0.5999*** (0.0486)		0.1087 (0.0845)
iwp		-1.9199*** (0.1556)		-3.0886*** (0.3739)
year FE	No	No	YES	YES
firm FE	No	No	YES	YES
constant	19.4811*** (0.0214)	-1.0661*** (0.1801)	19.3559*** (0.0426)	-1.3518** (0.5616)
r2	0.2029	0.6421	0.1031	0.3227
F	1.2e+03	3.6e+03	72.5932	219.9844
N	14759	14574	14759	14574

Note: *, **, *** indicate significant at 10%, 5%, 1% level of significance, respectively

full sample, and whether the explanatory effects of explanatory variables on explained variables change significantly in the subsample. In view of the obvious industry characteristics of the impact of corporate financialization level and capital market opening on corporate financialization level, this paper focuses on grouping according to industry characteristics, in-depth analysis, and exploration of the impact of capital market opening on corporate financialization level.

By Industrial Characteristics

According to the nature of corporates and the regular characteristics of industries, this paper divides the corporates studied into non-state-owned corporates and state-owned corporates and run regression on the state-owned corporate model both with control

Table 3. Heterogeneity regression table [Self-graphed]

	(1)	(2)	(3)	(4)
	State-owned	State-owned with control Variables	Non-State-owned corporates	Non-State-owned corporates (with control variables)
Corporate's financialization	finance	finance	finance	finance
Dum*time	0.2346*** (0.0738)	0.3047*** (0.0590)	0.0494 (0.0752)	-0.0390 (0.0536)
assets		1.0175*** (0.0368)		1.0488*** (0.0344)
lev		-1.8486*** (0.1139)		-1.1138*** (0.1468)
flev		0.1172 (0.1200)		0.0583 (0.1098)
iwp		-3.5657*** (0.5341)		-2.5618*** (0.4575)
year FE	YES	YES	YES	YES
firm FE	YES	YES	YES	YES
Constant	18.8179*** (0.0783)	-1.4242* (0.7956)	19.9371*** (0.0480)	-2.5473*** (0.7611)
r2	0.0818	0.3070	0.1434	0.3720
F	36.8204	136.3398	41.3091	122.0325
N	8099	8027	6660	6547

Note: *, **, *** indicate significant at 10%, 5%, 1% level of significance, respectively

variables and without control variables. And the corporate industry is divided into manufacturing and non-manufacturing. Accordingly, individual fixed effects regressions were conducted, and the regression results are shown in Table 3.

As can be seen from the regression results in Table 3, assets, total liabilities, flev and net intangible assets also have different impacts on non-state-owned corporates and state-owned corporates. For state-owned corporates, assets, total liabilities, and net intangible assets have a significant impact on the financialization of corporates, while for non-state-owned corporates, these factors have a less significant impact. Comparing the influence of the core explanatory variable of state-owned corporates, dum*time is greatly influenced by the control variable in state-owned corporates, and the regression coefficient of the influence of dum*time on the level of financialization of corporates is 0.3047, but the influence coefficient of dum*time on the level of financialization of corporates in non-state-owned corporates is -0.0390. International projects have a significant positive driving effect on the financialization level of non-state-owned corporates.

In contrast, the regression coefficient of *iwp*'s influence on the financialization level of non-state-owned corporates is 0.4575, indicating that the influence of *iwp* on the financialization level of non-state-owned corporates is much greater than that of state-owned corporates. Therefore, state-owned corporates need to further explore and improve their ability to attract foreign investment, give full play to the positive role of state-owned capital in the financialization of corporates, and constantly promote high-quality economic development.

Robustness Test

The robustness of the model is defined as a relatively stable tendency of the significant explanatory variables of the model to influence explanatory variables, which does not change significantly with fluctuations. The robustness of the model is defined as a relatively stable tendency of the significant explanatory variables of the model to influence explanatory variables, which does not change significantly with fluctuations. There are various ways to test a model's robustness. The method chosen in this paper is to change the time shock. *Finance1* is collected equal to one plus Monetary fund plus net increase in cash and cash equivalents.

In addition, it can be seen from the models in Table 4 that the regression results of some fixed effect models are significant. Among them, *assets* play a positive role in promoting the corporate financialization. Therefore, corporates should further strengthen the input of total assets in the capital market and increase the accumulation of assets. In addition, in recent years, the capital market and evidence market have played a positive role in promoting the development of the level of corporate financialization, and the government has played an important and positive role in promoting the adjustment of industrial structure and macroeconomic development. However, net intangible assets, total liability and so on failed to form effective promotion. Therefore, corporates must further increase investment, openness, and financial support to help the positive promotion of financialization. To promote and optimize China's economic development, we will continue to improve and optimize the opening level of corporate financialization.

According to the regression results in Table 4, before the robustness analysis, the impact coefficient of *dum*time* variable on corporate financialization is 0.3201. After the time limit to 2014, the impact coefficient of *dum* variable on the level of corporate financialization decreases significantly, becoming 0.1539. From model OLS, the assets variable of corporates was 0.9728 and changed to 1.0076 after 2014. For corporates with control variable after 2014, the influence coefficient of *dum*time* variable on the level of corporate financialization is 0.1034 before 2014 and becomes 0.2056 after 2014. We find that it is significant at the significance level of 1%. It can be concluded that corporates are more affected by control variables after 2014, which is the time after capital market openness. The influence of *Dum*time* on the corporate financialization is not obvious, even small change, and the T-test results of these two coefficients are significant, no large data bias, no positive and negative regression coefficient alternation phenomenon. The influence coefficient of *assets* on corporate financialization is 0.9728 before 2014, and it becomes 1.0076 after 2014. The change of this coefficient is small, indicating that the regression model of *assets*' influence factors on corporate financialization level is robust. It is appropriate to use the individual fixed effect model to evaluate the impact

Table 4. Robustness regression table [Self-graphed]

	(1)	(2)	(3)	(4)
	OLS	OLS	FE	FE
Corporate's financialization	finance1	Finance1	Finance1	Finance1
Dum*time	0.3201*** (0.0530)	0.1034*** (0.0333)	0.1539*** (0.0500)	0.2056*** (0.0383)
dum	1.3904*** (0.0354)	-0.0388 (0.0249)		
time	0.3527*** (0.0287)	-0.1262*** (0.0214)		
assets		0.9728*** (0.0079)		1.0076*** (0.0255)
lev		-1.2838*** (0.0423)		-1.6365*** (0.0898)
flev		0.6023*** (0.0485)		0.1137 (0.0843)
iwp		-1.9158*** (0.1557)		-3.0833*** (0.3738)
year FE	YES	YES	YES	YES
firm FE	YES	YES	YES	YES
Constant	19.4812*** (0.0214)	-1.0662*** (0.1801)	19.3556*** (0.0427)	-1.3574** (0.5621)
r2	0.2029	0.6420	0.1033	0.3226
F	1.2e+03	3.6e+03	72.5960	219.6313
N	14761	14575	14761	14575

Note: *, **, *** indicate significant at 10%, 5%, 1% level of significance, respectively

of capital market on the level of corporate financialization, and it is feasible to explore the impact of capital market on the level of corporate financialization.

4 Research Conclusion and Future Recommendation

Since the level of corporate financialization is one of the key factors to measure high-quality economic development, this paper selects the relevant data of securities market corporates from 2008 to 2018 to measure the influence of control variables such as total assets, total liability, net intangible assets and flev on corporates financialization. Heterogeneity analysis and robustness analysis were carried out. The conclusions of the analysis are as follows: First, dum*time Interactive items have a significant impact on and

promote the level of corporates' financialization. Secondly, in terms of heterogeneity, $dum*time$ has a great impact on the financialization of state-owned corporates, and this impact also has differences in corporates. The influence on the financialization level of non-state-owned corporates increases and decreases with the difference of control variables. Third, $dum*time$ by increasing total assets, increasing intangible net assets, total liability to promote the improvement of the level of corporate financialization, in which the total assets play a more significant role. However, there is little correlation between the level of establishment and the degree of financialization in state-owned corporates. Based on the above research results, we can put forward the following policy recommendations.

At the national level, the first is to expand the advantages of opening the capital market, promote economic development and accelerate the degree of financialization; Second, we should improve corporates' ability to cope with the risks of rapid inflow and outflow of foreign capital, attract foreign capital, increase imports, promote exports through imports, and increase input for the steady growth and development of the market. Finally, we should adhere to the concept of sustainable and healthy development and further improve the profitability and financialization of state-owned corporates. We will promote the opening of the capital market and the formation of a new model of development, make domestic corporates more competitive in international trade, and achieve high-quality development of the national economy. From the perspective of corporates, one is to seize the opportunity of capital market opening, meet the market demand under the new situation, and realize the growth of corporates financialization level; Second, state-owned corporates should be encouraged to make full use of their background advantages, increase their capital profitability, actively carry out industrial transformation, follow the development trend of the international market, and give full play to the advantages brought by the opening up of the capital market to the growth of corporates' financial level. At the same time, there are still some questions worth further exploration. Under the background of the opening of the capital market, what causes the proportion of corporate financial assets in the total assets to rise? Why does this effect exist in non-state-owned corporates and is more significant than in state owned corporates?

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