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THE VIRTUAL DEGREE OF LEVERAGED CAPITAL WITHIN CHINESE ENTERPRISES

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Abstract

The transition of China's tangible real economy to an intangible economy, along with phenomena such as capital idling and shadow banking, has significantly altered the relationship between financial markets and actual enterprises. As leveraged capital flows into real enterprises, it is crucial to discern how much is allocated to operational endeavors versus financial market investments. Leveraging the logic of asset allocation and capital acquisition in real enterprises, we developed a model to discern the allocation of leveraged capital. Through descriptive analysis, we delineate the landscape of Chinese listed companies' utilization of leveraged capital for financial assets. Our findings reveal that the proportion of Chinese enterprises holding leveraged capital has steadily risen, surpassing 86.53%, with an increasing trend in leveraged enterprises utilizing capital for financial asset acquisition, growing from 35.02% to 79.12% annually. Among leveraged enterprises investing in financial assets, the portion of leveraged capital directed toward such investments escalates annually, from 20.44% to 46.37%. However, as leveraged capital increases, the ratio allocated to financial assets diminishes. Approximately 14.38% of all leveraged enterprises allocate more than 50% of their financial assets through leveraged capital, with the proportion of enterprises solely reliant on leveraged capital for financial asset purchases steadily increasing, reaching 23.35% in 2020, predominantly concentrated in the manufacturing sector. This research holds theoretical significance for understanding the dichotomy between the virtual and tangible applications of leveraged capital at the microlevel. It uncovers the logical mechanisms governing leveraged capital and disparate asset allocations, fostering opportunities for quantitative exploration of the interplay between finance and the tangible economy. Additionally, our insights provide valuable reference points for regulatory bodies seeking to fortify oversight over leveraged capital utilization.

Keywords: Leveraged Capital; Financial Assets; Degree of Virtuality; Shift from Real to Virtual.

1. INTRODUCTION

Financing should function as a medium for resource allocation in a market economy, facilitating the transfer of economic resources across time, regions, and industries. Its role should be to reduce circulation costs, enhance the operational efficiency of the real economy, and effectively support it, thereby reducing capital idling or the shift from the real to the virtual economy (Li, 2017). However, in reality, the widespread phenomenon of real enterprises using leveraged capital to purchase financial assets (Liu et al., 2014; Zhang, 2015) not only extends the chain of financial services for the real economy and raises financial costs but also increases the degree of financial mismatch. This situation forces many small and medium-sized enterprises to still seek capital through entrusted loans, shadow banking, and other channels (Sun and Jia, 2015; Li and Han, 2019). In fact, when real enterprises use leveraged capital to purchase financial assets, the relationship between the financial market and the real economy is distorted in two ways. First, after leveraged capital enters real enterprises, it is not invested in real operations but flows back to the financial market, leading to financial capital transitioning from the real to the virtual realm, causing capital idling. Second, real enterprises have more funds to invest in financial assets, intensifying the financialization of the Macroeconomy (Chen, 2015). All the above phenomena run counter to the original intention of the policy, which was for the financial market to better serve the real economy.

The allocation of leveraged capital between operating and financial assets in real enterprises remains unclear to regulators and investors, with a lack of in-depth research in academia. While some studies have developed indicators from a macro perspective to measure the extent to which capital moves from real to virtual (Zhang and Zhang, 2015; Sun et al., 2021), it is not scientifically sound to directly apply these indicators to analyze the movement of leveraged capital from real to virtual in microenterprises. Shin and Zhao (2013) and Wang et al. (2015) analyzed the co movement relationship between financial assets and leveraged capital based on financing pecking order theory and determined whether real enterprises used bank loans to engage in shadow banking activities. However, it should be noted that there is insufficient theoretical basis to identify the shadow banking activities of enterprises based solely on the correlation between different financial indicators and to estimate the lending ratio of leveraged capital of Chinese enterprises based on US corporate data. In this context, through theoretical analysis and model construction, we aim to study the degree of leverage capital in real enterprises and reveal the current status of Chinese real enterprises using leveraged capital to purchase financial assets through descriptive analysis. This study holds practical significance for evaluating the real economy from a micro perspective and assessing the level of financial services provided to the real economy. This approach is theoretically significant for in-depth exploration of related issues such as financial asset investment and leveraged capital investment in real enterprises.

Based on this, by applying the allocation logic of operating assets and financial assets of real enterprises, as well as financing pecking-order theory (Myers, 1984), we have derived a model to identify the investment direction of the leverage funds of enterprises. Using a sample of China's A-share nonfinancial listed companies from 2011 to 2020, we reveal the current status of Chinese real enterprises' leveraged capital investment through descriptive analysis.

Our findings show that, first, the number of Chinese listed companies holding financial assets and the scale of financial assets held by enterprises are increasing, as are the number and proportion of enterprises holding leveraged capital. Second, the proportion of enterprises that purchased financial assets with leveraged capital increased from 35.02% in 2011 to 79.12% in 2020, while approximately 44.54% of leveraged enterprises did not invest their leveraged capital in financial assets. However, as the scale of leveraged capital increases, the proportion of leveraged capital invested in financial assets decreases. Fourth, although the proportion of enterprises using leveraged capital to purchase financial assets is mostly less than 5%, the number of enterprises accounting for more than 5% of all enterprises is increasing annually. By 2020, the proportion of enterprises investing all their leveraged capital in financial assets reached 23.35%. Fifth, 1150 companies invested more than 5% of their leveraged capital in financial assets for three consecutive years, and 10 companies invested 100% of their leveraged capital in financial assets for 10 consecutive years.

Our contributions are as follows. First, the established identification model of leveraged capital investment expands the research boundary of leveraged capital and provides more possibilities for conducting correlation research on the logical relationship between capital and assets. It provides the possibility to explore the capital relationship between real enterprises and the financial market from a micro perspective and to evaluate the degree of leverage capital from real to virtual in China with objective data. Second, different from existing macro research focusing on the financial market, we quantify the financial relationship between micro individual enterprises and the financial market from the perspective of capital suppliers and demanders and, to a certain extent, answer the question of the degree and level of financial services for the real economy—whether it drives capital idleness or truly serves the real economy. Third, we attempt to reveal the operational logic between the capital and assets of real enterprises by studying capital investment, which will expand the existing research on capital structure and capital sources.

The next section presents the literature review and hypothesis development. Section 2 reviews the literature, Section 3 explains the theoretical model used to identify real enterprise leverage capital investment, Section 4 uses the constructed source data to analyze the degree of virtual leverage of Chinese real enterprises, and Section 5 concludes the paper and provides prospects for future research.

2. LITERATURE REVIEW

2.1 Proxy of capital from real to virtual

From a macro perspective, "from real to virtual" refers to the circulation of funds between banks, trusts, and other financial markets without being invested in the real economy. Real-to-virtual capital is an inevitable product of the supply-side structural imbalance of the real economy (Wang, 2018), which not only increases systemic financial risks but also increases the financing cost and difficulty of the real economy, inhibiting the transformation and upgrading of real enterprises (Zhang, 2022; Zhang et al., 2022; Li and Liang, 2017). The greater the degree of capital is from real to virtual, the greater the adverse impact it will have. Existing research measures the degree of capital from real to virtual from multiple perspectives and uses a variety of methods.

For example, some studies measure the degree of capital from real to virtual by calculating the ratio of broad money supply to GDP (M2/GDP), the ratio of commercial bank credit to total credit, and the ratio of credit obtained by private enterprises to total credit. Additionally, some studies measure the degree of capital from real to virtual by calculating the growth rate of broad money supply, the growth difference between narrow money supply and broad money supply, the growth difference between GDP and the consumer price index, and the proportion of profits from the financial industry in the total profits of enterprises (Zhang and Zhang, 2015; Wang, 2016; Li and Liang, 2017).

Other studies measure the degree of financial services to the real economy by assessing the proportion of the panfinancial industry's input to the country's real economy in the total input of the country's real economy or compiling the interdepartmental capital flow statement from the perspective of the relationship between finance and the real economy. This involves building indicators to monitor the flow of financial sector funds to the real economy, indirectly reflecting the degree of financial capital from real to virtual (Sun et al., 2020; Sun et al., 2021).

While the above studies explore the degree of capital from real to virtual from different perspectives, the diversity of observation angles leads to different measurement indicators. Whether different indicators can form consistent research conclusions and policy suggestions remains to be further discussed. Additionally, from the macro perspective, it is challenging to describe the degree to which microindividual enterprises derealize virtualization, making it difficult to effectively supervise individual enterprises' capital investment.

The purchase of financial assets by real enterprises is considered a micro manifestation of the economic transition from real to virtual. This implies that enterprises invest more funds in financial activities than in production and operational activities, resulting in profits from financial income rather than operational income (Dai et al., 2018). The purchase of financial assets helps enterprises increase liquidity, prevent capital chain rupture (Smith and Stulz, 1985; Stulz, 1996), adjust cash holdings (Zhang and Mu, 2018), reduce the leverage ratio (Wu and Chen, 2018), and

ease financing constraints (Yang et al., 2017). However, this can also lead enterprises to reduce innovation investment (Wang et al., 2016; Liu, 2017; Wang et al., 2017), decrease industrial investment such as fixed assets (Demir, 2009; Zhang and Zhang, 2016; Tori and Onaran, 2017), promote excessive corporate debt (Yuan and Guo, 2019), damage main business performance (Du et al., 2017), and reduce total factor productivity (Sheng et al., 2018; Huang and Wang, 2019).

Regarding the degree to which financial assets are purchased by microenterprises, existing studies primarily measure the proportion of current financial assets to total assets or the proportion of financial income to total income. This provides a relatively intuitive answer to the degree of "virtual" characterized by the purchase of financial assets by real enterprises, which is also very similar to the research theme of this paper. However, the financial assets measured by existing research do not distinguish whether the funds come from the surplus funds earned by the enterprise in the product factor market or the leveraged capital or equity funds raised in the financial market. We aim to study the virtual degree of leveraged capital, meaning not only that the purchased assets are virtual financial assets but also that the used funds are leveraged capital from the financial market rather than the surplus funds earned by the production and operation of enterprises. Therefore, although existing research has achieved rich results on the real-to-virtual transition of microenterprises, research on the degree of leverage of capital to virtual capital in microenterprises is still relatively insufficient. In fact, the investment of leveraged capital in real enterprises is related not only to the consequences of capital utilization by microenterprises but also to the overall benefits of financial services for the real economy. Therefore, research on the degree of virtual leverage of real enterprises will expand the breadth and depth of the existing financialization research.

2.2 Capital investment of micro enterprises

Given that the raised funds are the funds acquired by listed companies through the strict approval of regulatory authorities, many minority shareholders with information asymmetry are involved. Therefore, the use of raised funds is strictly regulated by government departments. To prevent a large amount of raised funds from being reinvested in the financial field, the China Securities Regulatory Commission (CSRC) stipulates that idle raised funds can purchase financial products under the premise of ensuring liquidity and safety. The "Guiding Opinions on Strengthening Supervision of Nonfinancial Enterprises' Investment in Financial Institutions," jointly issued by multiple departments in 2018, also clearly stipulates that enterprises' investment in financial institutions shall use their own funds and shall not invest with entrusted funds, debt funds, or "real debt of famous stocks," and other nonown funds. However, insufficient information disclosure and inadequate supervision have led to widespread fund substitution. For example, in July 2017, Yitong Century replaced 40% of the raised funds of 180.89 million yuan with its own funds and invested 127 million

yuan with its own funds to purchase financial products within two months. In July 2019, Huasen Pharmaceutical replaced 70% of the raised funds of RMB 214.5586 million with its own funds and subsequently invested another RMB 125 million of its own funds to purchase financial products.

Existing studies have found that it is common for listed companies to change the investment direction of raised funds on a large scale (Liu and Dai, 2004; Zhang and Zhai, 2005). Some companies will even keep the raised funds idle and invest them in other purposes, thus altering their investment (Liu and Dai, 2004). The data on the change in the number of raised funds and their amount are basically from the information publicly disclosed by listed companies, but listed companies often do not publicly disclose whether and how much of these funds are used to purchase financial assets to avoid supervision. Even if the listed company publicly discloses the investment of its raised funds, it may also replace the over raised funds with its own funds and then use them for activities not permitted by the regulation, such as dividend payments (Zhang et al., 2015). Therefore, the information publicly disclosed by listed companies is not sufficient to be the only basis for exploring the investment of leveraged capital.

The shadow banking of real enterprises refers to enterprises engaging in quasi-financial business with funds from various sources (Liu et al., 2014; Yan et al., 2018; Li and Han, 2019). Therefore, relevant studies on micro corporate shadow banking have explored the investment of leveraged capital to a certain extent. Shin and Zhao (2013) and Wang et al. (2015) used the co movement relationship between financial assets and leveraged capital and the theory of financing pecking order to determine whether entity enterprises use bank loans to engage in shadow banking, essentially discussing the direction of bank loans. Wang et al. (2015) used excess receivables to measure the amount of relending by Chinese enterprises using bank loans. This paper has made significant contributions to the discussion of the investment of financial funds such as bank loans and revealed the logical relationship between financial assets and leveraged capital to a certain extent. However, the author directly takes American enterprises as the standard for measuring the asset-capital relationships of Chinese enterprises, which lacks sufficient theoretical evidence. Regarding the quantification of the scale of shadow banking, existing research mostly obtains data directly from the accounting items that shadow banking may affect (Li and Han, 2019; Huang et al., 2021). However, this kind of quantitative method is based on the investigation of asset items that may be formed by shadow banking, and the funds involved also include enterprises' own funds. Therefore, such quantitative methods still do not directly address the scale of leveraged capital used by real enterprises to purchase financial assets.

In conclusion, the transition from real to virtual, both from the macro perspective and the microenterprise level, exhibits an internally consistent logical relationship, despite the differing observation perspectives. Research on the degree to which virtual enterprises operate can not only aid in understanding the motivation and economic consequences of different enterprises but also help regulatory authorities implement effective supervision from the perspective of individual enterprises.

However, the transition from real to virtual, characterized by the purchase of financial assets by microenterprises needs further exploration. The particularity of leveraged capital determines that the economic consequences of its virtual nature will be significantly different from those of self-owned surplus funds. However, after leveraged capital enters real enterprises from the financial market, how much is used for real operation, and how much is wasted in the form of purchasing financial assets? This is a "black box" that has not been fully explored. It is a theoretical problem to clearly distinguish the wasted scale of leveraged capital to purchase financial assets.

3. Identification of the degree of leveraged capital to virtual capital: model construction

Financial assets are assets formed by real enterprises' investments in the financial market. These assets differ from operating assets, which are formed by real enterprises through the trading of goods and services in the product market, and the two have different profit models and risk characteristics. In Preliminary Views on the Presentation of Financial Statements (Discussion Draft), the IASB and FASB (2008) mentioned that business activities should be divided into operating activities and investment activities for classified presentation. Stephen H. Penman (2007) divided corporate activities into operating activities and financial activities and then reconstructed traditional financial statement items according to operational and financial aspects. Thus, the classified presentation of operating assets and financial assets in the balance sheet, operating liabilities and leveraged capital, and operating income and financial income in the income statement are formed. Therefore, drawing on Stephen H. Penman's (2007) reconstruction idea of statement items, based on the allocation logic of operating assets and financial assets in enterprises, as well as the raising logic of operating liabilities, leveraged capital, and equity funds, we deduce the identification model of the scale of financial assets purchased by leveraged capital.

According to Stephen H. Penman's (2007) understanding of the nature of financial activities, financial assets are the funds temporarily deposited by enterprises through investment in the financial market to adjust the surplus and shortage of funds, and their ability to adjust to the surplus and shortage of funds is similar to that of leveraged capital. When the enterprise is short of funds, the leveraged capital will increase, and the financial assets will be disposed of to increase the available funds of the enterprise. When the capital is in surplus, enterprises will purchase financial assets or pay off leveraged capital to reduce financing costs and increase capital returns. Therefore, financial assets are items that are passively adjusted with the surplus and shortage of funds, and the degree of surplus and shortage of funds is largely affected by the management's willingness to purchase operating assets. When an enterprise increases the scale of operating assets due to continuous expansion, it will not only support the purchase of operating assets through leveraged capital or equity refinancing but also reduce the amount and time of remaining idle funds, thus reducing

the purchase of financial assets. When enterprises reduce the purchase of operating assets due to downsizing, they can not only pay off existing debts or even buy back shares but also have more idle funds to purchase financial assets. Therefore, although both operating assets and financial assets are enterprise assets, due to the different essential attributes of the two types of assets and their different status in the development of real enterprises, the purchase of operating assets and financial assets is superior and inferior. For real enterprises engaged in real operation, when they purchase assets, the financial arrangement for the purchase of operating assets takes priority over the financial arrangement for the purchase of assets.

Enterprises require funds to acquire assets, as demonstrated by the logic of the balance sheet. The right side of the balance sheet discloses the source of enterprise capital. In contrast to traditional financial statements, which categorize enterprise funds only into liabilities and owner equity, Zhang (2015) and Zhang and Qian (2020) introduced a four-part method: operating liabilities, leveraged capital, retained earnings, and shareholder input. Li et al. (2014) also noted that different liabilities exhibit heterogeneity. Therefore, when understanding enterprise capital from different angles, various methods of division arise. To deduce the degree of leverage capital to real and virtual capital, we divide enterprise capital according to the increasing order and use logic of funds from different sources as follows:

Operating Liabilities: Operating liabilities mainly stem from the commercial credit generated by delayed payment or collection in advance in the trading of goods and services. The emergence of operating liabilities reduces the current cash outflow of enterprises and involves low cost and low financial risk, making it a widely used source of funds for real enterprises. Operating liabilities and operating assets often occur simultaneously. For instance, when a company purchases raw materials on credit, operating liabilities arise as operating assets increase. However, except for deposits received, other operating liabilities do not bring incremental cash flow to the enterprise. Therefore, operating liabilities cannot be used to purchase other assets. These characteristics establish that operating liabilities are the exclusive source of funds for operating assets. Operating liabilities cannot be used to purchase financial assets, and they are also closely related to specific operating assets in terms of amount and time. Only when the operating liabilities cannot cover the purchase of operating assets will the enterprise use other incremental funds to meet the funding gap of operating assets after deducting operating liabilities. Despite the original shareholder input being the initial source of funds from the perspective of the capital accumulation process after the founding of an enterprise, once the enterprise uses operating liabilities in economic business, based on the close relationship between operating liabilities and operating assets and the characteristics of no incremental cash flow, its use order should take precedence over shareholder input and retained earnings attributable to shareholders' equity.

Internal Funds Comprising Shareholders' Input and Retained Earnings in Previous Years: Internal capital is the permanent capital belonging to shareholders, and

the financial risk is relatively small. When these internal funds are still available, the motivation and possibility for enterprises to borrow leveraged funds from the financial market or carry out equity refinancing are relatively small. Therefore, internal capital is an important source for enterprises to meet the funding gap of operating assets. Although the current year's shareholder input and internal capital together constitute shareholders' equity, the current year's shareholder input is the new equity financing of the enterprise. According to financing priority theory (Myers, 1984), among all the capital sources of an enterprise, the current shareholder input should be generated and used later. Therefore, we divide shareholders' equity into internal capital and current year shareholders' investment to distinguish between different raising and use orders.

Leveraged Capital: The development of the financial market enables enterprises to meet the capital gap by using leveraged capital and external funds invested by shareholders in the current year. Under the special institutional background of China, it is generally more difficult to increase shareholder investment than to increase leveraged capital. Therefore, when the operating liabilities and internal funds of enterprises cannot meet the capital needs of enterprises, according to the realistic background of China and the theory of financing pecking order, the increase and use of leveraged capital by enterprises take priority over the investment of shareholders in the current year.

Shareholder Investment in the Current Year: When the above three types of capital sources still cannot meet the capital demand, shareholder investment in the current year will be used to meet the capital gap of the enterprise. Among the above four types of capital sources, although the previous year's shareholder input and the current year's shareholder input and leveraged capital all belong to the funds raised by the enterprise from the financial market, the previous year's shareholder input, as a permanent capital of the enterprise, will rarely withdraw from the enterprise through delisting or share repurchase and change the scale of available capital of the enterprise and the financial relationship with the financial market. Leveraged capital and shareholders' investment reflect the financial relationship between the enterprise and the financial market in the current year, which not only dynamically changes the available capital scale of the enterprise but also affects the remaining capital supply in the financial market. Therefore, the shareholder input of the previous year, which is also considered the shareholders' equity, is classified as internal capital, and the increase and use of the shareholder input of the current year is put behind. (See Figure 1).

<table>
<tr><td rowspan="2">Operating assets</td><td>Operating liabilities</td></tr>
<tr><td>Internal capital</td></tr>
<tr><td rowspan="2">Financial assets</td><td>Leveraged capital</td></tr>
<tr><td>Current shareholder input</td></tr>
</table>

Figure 1. Simplified reconstructed balance sheet

In summary, according to financing pecking order theory (Myers, 1984) and corporate practice, enterprises prioritize operating liabilities and internal funds. When these funds are insufficient, external funds can be raised from the financial market by borrowing bank loans, issuing bonds, or equity refinancing. Once the capital demand for operating assets is met, the enterprise will utilize the remaining idle funds to purchase financial assets. Financial assets exhibit a remarkable feature of fast turnover and strong liquidity; thus, when there is a shortage of funds to purchase operating assets, the strong liquidity of financial assets can quickly meet part of the capital gap.

As a result, according to the willingness of enterprise management to allocate resources, the relative scale of operating assets and financial assets changes dynamically in different enterprises and in different periods, and the required funds also change accordingly. Meanwhile, operating liabilities, internal funds, leveraged capital, and shareholders' investment in the current year will also be dynamically adjusted with changes in the internal and external environment. However, the order of asset purchases and fundraising remains relatively stable. Accordingly, we use the simplified balance sheet in Figure 1 to reflect the logic of enterprise asset allocation and capital raising.

In the first case, operating assets are less than the sum of operating liabilities and internal funds. This implies that enterprises can meet the capital needs of operating assets only by relying on operating liabilities and internal funds, and they have idle funds left. If an enterprise has external funds such as leveraged capital and shareholders' investment in the current year, since the capital demand for operating assets has been met, these funds are essentially used to purchase financial assets.

In the second case, operating assets are more than the sum of operating liabilities and internal funds. This means that enterprises also need funds from other sources to meet the funding gap for purchasing operating assets, and at this time, enterprises must raise funds from the financial market. If the enterprise only has leveraged capital or a form of external capital invested by the current year's shareholders, the leveraged capital or the current year's shareholders' investment is first used to purchase operating assets. Its amount is the capital gap that cannot be met by operating liabilities and internal funds, namely, "operating assets - (operating liabilities + internal funds)", and the rest is used to purchase financial assets.

According to the financing pecking order theory, if an enterprise has two forms of external capital, leveraged capital and the current year's shareholder investment, leveraged capital will be raised first and used to meet the capital gap, and the remaining leveraged capital and all of the current year's shareholder investment will be used to purchase financial assets. If the leveraged capital still cannot meet the capital gap of the operating assets, the shareholder input of the current year will be used to meet the remaining capital gap of the operating assets, and the remaining shareholder input of the current year will be used to purchase financial assets. Table 1 shows the specific calculation methods of leveraged capital investment under different circumstances.

Table 1
Calculation model of leveraged capital and the amount invested by shareholders in the current year to purchase operating assets and financial assets

			Operating Assets	Financial Assets
The first case: operating assets ≤ operating liabilities + internal funds		Leveraged capital	0	All of the leveraged capital
		Shareholder input for the year	0	Total shareholder input for the year
The second case: operating assets > operating liabilities + internal funds	Only leveraged capital	Leveraged capital	Operating assets - (operating liabilities + internal funds)	Leveraged capital - [Operating assets - (operating liabilities + internal capital)]
	Only current year shareholders invest	Shareholder input for the year	Operating assets - (operating liabilities + internal funds)	Shareholders' input in the year -[Operating assets - (operating liabilities + internal funds)]
	At the same time, there are leveraged capital and shareholder investment of the current year, but operating assets ≤ operating liabilities + internal capital + leveraged capital	Leveraged capital	Operating assets - (operating liabilities + internal funds)	Leveraged capital - [Operating assets - (operating liabilities + internal capital)]
		Shareholder input for the year	0	Total shareholder input for the year
	At the same time, there are leveraged capital and shareholder investment of the current year, but operating assets ≤ operating liabilities + internal capital + leveraged capital	Leveraged capital	All of the leveraged capital	0
		Shareholder input for the year	Operating assets - (operating liabilities + internal funds + leveraged capital)	Shareholders' input in the year -[Operating assets - (operating liabilities + internal funds + leveraged capital)]

For example, suppose an enterprise has total assets of 50 million yuan, comprising 40 million yuan of inventory and 10 million yuan of trading financial assets. Liabilities amount to 20 million yuan, representing accounts payable of 5 million yuan and bank borrowings of 15 million yuan. Retained earnings and shareholder input from previous years total 30 million yuan, making the total liabilities and owners' equity 50 million yuan. Therefore, how many operating assets and financial assets are purchased by the above different forms of capital? Operating liabilities, internal funds, and leveraged capital account for 10%, 60%, and 30% of the total funds, respectively.

If the logic of asset allocation and capital raising is not considered and the capital sources of operating assets and financial assets are only allocated based on the overall capital structure according to the existing research on capital sources, then the sources of funding for the 40 million RMB inventory would be accounts payable of 4 million RMB (4,000 = 40,000 * 10%), internal funds of 24 million RMB (24,000 = 40,000 * 60%), and bank borrowings of 12 million RMB (12,000 = 40,000 * 30%). Financial assets of 10 million RMB would be funded by accounts payable of 1 million RMB, internal funds of 6 million RMB, and bank borrowings of 3 million RMB. In other words, there are 15 million RMB of bank loans, of which 12 million RMB are used to purchase operating assets and 3 million RMB are used to purchase financial assets.

However, accounts payable of 5 million RMB are formed naturally in the process of the enterprise buying operating assets on credit, which does not bring incremental funds to the enterprise. It can only be used to support the credit purchase of inventory but not to purchase financial assets. At the same time, enterprises will prioritize the use

of internal funds to purchase operating assets to maintain their main business operations and then borrow bank loans when funds are insufficient. Therefore, the inventory of 40 million RMB would be funded by accounts payable of 5 million RMB, internal funds of 30 million RMB, and bank borrowings of 5 million RMB. The remaining 10 million RMB of bank borrowing was used to purchase financial assets.

Therefore, if we directly define the source of financial assets and the specific investment of leveraged capital based on the overall capital structure, there will be a significant logical defect.

4. RESULTS AND ANALYSIS

How much of the leveraged capital raised by real enterprises is invested in the financial market in the form of purchasing financial assets? We utilize Chinese A-share real enterprises from 2011 to 2020 as samples. Using the identification model of the degree of leverage capital to virtual capital constructed above, we establish the source data of the leveraged capital investment of Chinese listed companies and conduct multidimensional descriptive analysis. This is done to reveal the objective status quo of leveraged capital investment of Chinese real enterprises. We chose 2011 as the starting year of the sample to eliminate the abnormal impact of the financial crisis in 2008 and the subsequent two years on corporate investment and financing behaviors.

4.1 Holdings of financial assets of listed companies in China

Existing research generally adopts two methods to measure the level of corporate financial asset holdings. The first is measured by the ratio of financial assets to total assets in the balance sheet (Demir, 2009; Liu et al., 2014; Song and Lu, 2015). The second is measured by the ratio of profit from financial assets to total profit in the income statement (Zhang and Zhang, 2016; Liu, 2017; Liu et al., 2018). Considering the very high volatility of financial asset profit, which is often the result of the influence of macro factors such as the market and industry and is not directly related to the operation and management decisions of enterprises, we adopt the first method to measure the scale of financial assets of enterprises.

As shown in Table 2, from 2011 to 2020, the number and proportion of listed companies holding financial assets show an overall upward trend, reaching 95.21% in 2020. In terms of breakdown, among the listed companies that purchase financial assets every year, the proportion of financial assets purchased by most enterprises is less than 5% of the total assets. However, the proportion of such enterprises among all enterprises holding financial assets decreased from 2011 to 2020, dropping from 91.44% in 2011 to 50.53% in 2020. Correspondingly, the proportion of enterprises with financial assets accounting for more than 5% of total assets among all enterprises holding financial assets increased from 2011 to 2020, especially in 2019 and 2020. For enterprises with financial assets accounting for more than 20%, the proportion of all enterprises holding financial assets will reach 12.82% in 2020. The above data show

that the number and proportion of listed companies holding financial assets in China are increasing, and the scale of financial assets held by enterprises is also increasing, mainly reflected in the gradual transformation from a small amount to a large amount of financial assets. As increasingly more enterprises purchase financial assets on a large scale, they will inevitably need more funds to move from real to virtual.

Table 2
The number and proportion distribution of financial assets held by enterprises of different sizes

Year		2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Number and proportion of enterprises holding financial assets		1226	1344	1396	2028	2170	0882379	2690	2804	3423	3675
		54.15	56.28	57.28	79.47	79.02	78.75	79.33	80.74	93.14	95.21
breakdown of enterprises holding financial assets	0 < Proportion of financial assets ≤ 5%	1121	1241	1289	1774	1816	1964	2216	2312	1862	1857
		91.44	92.34	92.34	87.48	83.69	82.56	82.38	82.45	54.40	50.53
	5% < Proportion of financial assets ≤ 10%	48	47	56	132	192	222	266	286	631	724
		3.92	3.50	4.01	6.51	8.85	9.33	9.89	10.20	18.43	19.70
	10% < Proportion of financial assets ≤ 20%	37	34	31	74	113	131	136	149	543	623
		3.02	2.53	2.22	3.65	5.21	5.51	5.06	5.31	15.86	16.95
	Percentage of financial assets > 20%	20	22	20	48	49	62	72	57	387	471
		1.63	1.64	1.43	2.37	2.26	2.61	2.68	2.03	11.31	12.82

Note: In the above table, the number above is the number of enterprises, and the number below is the proportion of enterprises in percentage style.

4.2 Holdings of leveraged capital of listed companies in China

As shown in Table 3, from 2011 to 2020, the proportion of enterprises holding leveraged capital fluctuates between 86.53% and 91.14%, indicating that most enterprises cannot meet their capital needs through operating liabilities and internal funds, thus necessitating the increase of leveraged capital in the financial market to compensate for it. In other words, the function of the financial market in financing funds is crucial for the development of real enterprises in China. Further detailed observation of enterprises holding leveraged capital (referred to as leveraged enterprises) reveals that the proportion of leveraged capital in the total assets of such enterprises is mostly between 20% and 50%. However, enterprises with leveraged capital accounting for more than 50% account for the smallest proportion among all leveraged enterprises, reaching the highest value only in 2011, with the proportion being only 7.76%. From the perspective of the change trend, the proportion of enterprises with leveraged capital accounting for more than 20% shows a gradual downward trend overall. For enterprises whose leveraged capital ratio is between 10% and 20%, it remains stable at approximately 20% over the years. However, enterprises with leveraged capital accounting for less than 10% of all leveraged enterprises account for more than 30% of all leveraged enterprises and show a steady upward trend. Therefore, although the proportion of enterprises with leveraged capital has remained stable at a high level of 86.53% over the years, the proportion of enterprises with high debt has gradually decreased. This change is largely related to China's "deleveraging" policy.

Table 3
The number and proportion distribution of leveraged capital and enterprises of different sizes

Year		2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Number and proportion of enterprises holding leveraged capital		1959	2077	2157	2326	2475	2657	2936	3124	3271	3448
		86.53	86.98	88.51	91.14	90.13	87.95	86.58	89.95	89.01	89.33
gmentation of leveraged enterprises	0 < Proportion of leveraged capital ≤ 10%	617	648	657	758	832	982	1059	1056	1152	1290
		31.50	31.20	30.46	32.59	33.62	36.96	36.07	33.80	35.22	37.41
	10% < Proportion of leveraged capital ≤ 20%	382	406	399	471	544	569	609	666	742	789
		19.50	19.55	18.50	20.25	21.98	21.42	20.74	21.32	22.68	22.88
	20% < Proportion of leveraged capital ≤ 50%	808	874	950	954	944	981	1128	1262	1228	1223
		41.25	42.08	44.04	41.01	38.14	36.92	38.42	40.40	37.54	35.47
	Proportion of leveraged capital > 50%	152	149	151	143	155	125	140	140	149	146
		7.76	7.17	7.00	6.15	6.26	4.70	4.77	4.48	4.56	4.23

Note: In the above table, the top number is the number of enterprises, and the bottom number is the proportion of enterprises in percentage style. Leveraged capital ratio = leveraged capital/total assets. According to the bar chart of the leveraged capital ratio, the mean value of the leveraged capital ratio is 0.2, and the distribution is right skewed. Therefore, we used 0.1, 0.2, and 0.5 as the cutoff points.

As demonstrated in Table 2 and Table 3 above, listed companies in China commonly hold both financial assets and leveraged capital. Given that leveraged capital constitutes the primary external capital raised by real enterprises from the financial market, it is crucial to assess the extent to which leveraged capital supports the gradual process of more enterprises purchasing a larger share of financial assets.

4.3 Leveraged capital and financial assets of real enterprises in China: a data analysis of the degree of virtuality

As shown in Table 4, 11.39% of the enterprises have no leveraged capital (Panel A), meaning that they are zero-leveraged enterprises. Among leveraged enterprises, 44.54% do not use leveraged capital to purchase financial assets (Panel B), indicating that these enterprises use all their leveraged capital to purchase operating assets. However, from the time series trend, the proportion of leveraged enterprises that do not use leveraged capital to purchase financial assets decreases from 64.98% in 2011 to 20.88% in 2020. Correspondingly, the proportion of leveraged enterprises with financial assets greater than 0, purchased by leveraged capital, increases annually, from 35.02% in 2011 to 79.12% in 2020 (Panel B). This trend shows that increasingly more leveraged enterprises have invested their leveraged capital in financial assets, moving from real to virtual.

In terms of segmentation, leveraged enterprises whose leveraged capital purchases financial assets greater than 0 are mainly those whose leveraged capital accounts for less than 50% (Panel C), which is basically consistent with the segmentation of leveraged enterprises in Table 3. Furthermore, regardless of the scale of leveraged capital, the proportion of enterprises using leveraged capital to purchase financial assets greater than 0 in this range significantly increased from 30% in 2011 to 70% in 2020 (Panel D), which is consistent with the proportion of enterprises purchasing financial assets greater than 0 in the overall leveraged enterprises. This

indicates that although the leverage scale of different enterprises varies greatly, the proportion of enterprises with financial assets greater than 0 purchased by leveraged capital in each range is relatively consistent.

In general, among all listed companies, leveraged enterprises account for 88.61% on average, and the proportion of leveraged enterprises that purchase financial assets with leveraged capital gradually increases from 35.02% to 79.12%, indicating that increasingly more leveraged enterprises purchase financial assets with their leveraged capital.

Table 4
Proportion and detailed distribution of enterprises purchasing financial assets with leveraged capital (%)

Year		2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	On average
Panel A: All enterprises	The proportion of companies holding leveraged capital	86.53	86.98	88.51	91.14	90.13	87.95	86.58	89.95	89.01	89.33	88.61
	The proportion of enterprises without leverage	13.47	13.02	11.49	8.86	9.87	12.05	13.42	10.05	10.99	10.67	11.39
Panel B: All leveraged enterprises	The proportion of enterprises whose financial assets are purchased with leveraged capital equal to 0	64.98	62.01	59.85	42.99	48.08	47.76	43.19	36.04	19.66	20.88	44.54
	The proportion of enterprises with leveraged capital purchasing financial assets greater than 0	35.02	37.99	40.15	57.01	51.92	52.24	56.81	63.96	80.34	79.12	55.46
Panel C: All leveraged enterprises	0 < Proportion of leveraged capital ≤ 10%	11.28	13.38	14.28	18.44	17.09	17.84	18.97	21.54	28.25	29.61	19.07
	10% < Proportion of leveraged capital ≤ 20%	6.58	7.22	6.95	11.09	10.14	10.65	11.48	13.44	18.19	18.47	11.42
	20% < Proportion of leveraged capital ≤ 50%	14.29	14.93	16.23	23.13	20.73	20.78	23.06	26.02	30.63	28.05	21.79
	Proportion of leveraged capital > 50%	2.86	2.46	2.69	4.34	3.96	2.97	3.3	2.94	3.27	2.99	3.18
Panel D: Leveraged enterprises of different leverage sizes	0 < Proportion of leveraged capital ≤ 10%	35.82	42.9	46.88	56.6	50.84	48.27	52.6	63.73	80.21	79.15	55.70
	10% < Proportion of leveraged capital ≤ 20%	33.77	36.95	37.59	54.78	46.14	49.74	55.34	63.06	80.19	80.74	53.83
	20% < Proportion of leveraged capital ≤ 50%	34.65	35.47	36.84	56.39	54.34	56.27	60.02	64.42	81.6	79.07	55.91
	Proportion of leveraged capital > 50%	36.84	34.23	38.41	70.63	63.23	63.2	69.29	65.71	71.81	70.55	58.39

According to Table 5, for enterprises utilizing leveraged capital to purchase financial assets, the average proportion of leveraged capital allocated to such purchases over the 10-year period is 28.83%. Over the observation period, this proportion consistently increased, notably surging in 2019 and 2020 amid the Sino-US trade tensions and the COVID-19 pandemic, reaching 43.5% and 46.37%, respectively.

Upon further examination by subdividing leveraged enterprises based on their capital scale, it is evident that as the proportion of leveraged capital increases, the portion allocated to purchasing financial assets decreases. For instance, enterprises with less than 10% leveraged capital allocate an average of 58.05% of their leveraged capital to financial asset purchases, while those with over 50% leveraged capital allocate only 4.31%. This trend suggests that leveraged enterprises do not significantly increase financial asset purchases as their leveraged capital scale grows. Notably, across different scales of leveraged capital, the proportion allocated to financial asset purchases generally increases annually, particularly in 2019 and 2020.

Analyzing by industry reveals considerable variation in the proportion of leveraged capital used for financial asset purchases. For instance, leveraged enterprises in the education, culture, and entertainment sectors allocate an average of 56.93% of leveraged capital to financial assets, followed by those in information transmission, software, and information technology services. Despite generally high levels of leveraged capital in the real estate industry, the proportion allocated to financial asset purchases is relatively low.

In summary, while most leveraged capital is directed toward purchasing operating assets, a longitudinal analysis indicates an overall upward trend in the proportion of leveraged capital allocated to financial assets over the observed decade. Horizontally, this proportion decreases with increasing leveraged capital scale and exhibits significant disparities across industries.

Table 5
Proportion of leveraged capital purchases of financial assets and detailed distribution among different capital sizes and industries (%)

Year		2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	On average
totality	The proportion of leveraged capital purchased in financial assets	20.44	21.06	19.78	23.40	27.94	29.10	28.33	28.33	43.5	46.37	28.83
Different scale of leverage funds	0 < Proportion of leveraged capital ≤10%	45.03	44.58	42.29	50.59	59.02	58.93	58.46	59.07	80.39	82.11	58.05
	10% < Proportion of leveraged capital ≤ 20%	13.15	12.42	12.98	17.74	22.25	21.44	22.81	20.29	39.22	40.96	22.33
	20% < Proportion of leveraged capital ≤ 50%	7.32	7.06	5.80	8.28	9.74	11.20	9.69	9.66	15.99	16.44	10.12
	Proportion of leveraged capital > 50%	5.86	3.37	2.17	2.87	3.56	2.74	4.54	5.23	6.25	6.50	4.31
Different industries	Agriculture, forestry, animal husbandry and fisheries	29.04	3.30	10.36	18.06	27.39	28.31	22.01	20.08	41.73	36.94	23.72
	Mining industry	12.64	17.78	11.69	13.60	15.99	17.46	16.81	15.84	26.67	27.10	17.56
	Manufacturing industry	19.72	19.25	18.40	22.75	27.46	28.33	27.17	27.11	45.73	49.64	28.56
	Electricity, heat, fuel and water production and supply industries	12.05	8.79	10.19	13.46	14.30	16.58	10.18	11.50	18.10	16.86	13.20
	Building industry	7.19	11.40	9.14	15.14	26.86	19.94	24.13	26.42	33.6	33.38	20.72
	Wholesale and retail trade	24.28	27.93	28.86	32.86	36.25	34.16	32.54	33.72	40.57	40.81	33.20
	Transportation, warehousing and postal services	23.41	18.81	12.64	19.98	24.26	25.43	26.68	20.67	34.6	34.98	24.15
	Information transmission, software and information technology services	30.36	33.58	29.88	34.52	44.28	44.12	46.36	43.06	52.05	57.66	41.59
	Real estate industry	15.74	12.55	13.10	15.55	17.29	15.87	17.00	16.00	20.95	22.40	16.65
	Education, culture and entertainment	34.85	55.52	48.35	55.11	55.32	68.10	59.92	56.40	67.59	68.09	56.93
	Social service industry	23.80	33.26	32.69	25.52	29.45	30.69	25.45	33.64	42.88	38.10	31.55
	synthesis	40.87	51.96	31.15	40.51	41.63	39.77	38.31	31.17	30.48	41.35	38.72

Table 6 provides a more detailed description of the relationship between all leveraged enterprises and financial assets, which is also an expansion of Table 4 based on the proportion of the purchase amount. Among the leveraged enterprises, 66.15% (44.54% + 21.61% = 66.15% in Table 6) have a proportion of their leveraged capital invested in financial assets of less than 5%. This includes 44.54% of the leveraged enterprises that invested in financial assets equal to 0% and 21.61% of the leveraged enterprises that invested in financial assets between 0% and 5%. However, this proportion of such enterprises shows a downward trend year by year, and by 2020, the proportion significantly decreased to 36.05% (36.05 = 20.88 + 15.17).

Consequently, for leveraged enterprises totaling 33.85% (33.83 = 12.21 + 7.27 + 2.82 + 1.3 + 10.26), the proportion of leveraged capital invested in financial assets is greater than 5%. Among them, leveraged enterprises, accounting for 14.38% (14.38 = 2.82 + 1.30 + 10.26), invested more than 50% of their leveraged capital in financial assets, and the proportion of such enterprises basically showed an increasing trend year by year. By 2020, the proportion significantly increased to 63.95% (63.95 = 17.63 + 13.63 + 6.53 + 2.81 + 23.35).

It is worth noting that for enterprises whose proportion of leveraged capital to purchase financial assets reached 100%, it increased from 4.03% in 2011 to 23.35% in 2020. On average, 10.26% of the leveraged enterprises completely invested leveraged capital in financial assets rather than purchasing operating assets.

Table 6
Proportions of leveraged enterprises in different ranges in purchasing financial assets with leveraged capital (%)

Year		2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	On average
The proportion of leveraged capital to purchase financial assets =0		64.98	62.01	59.85	42.99	48.08	47.76	43.19	36.04	19.66	20.88	44.54
Proportion of leveraged capital to purchase financial assets>0	0 < Proportion of leveraged capital to purchase financial assets ≤5%	19.04	21.62	23.88	27.94	22.51	20.59	22.85	26.22	16.23	15.17	21.61
	5% < Proportion of leveraged capital to purchase financial assets ≤20%	7.40	6.88	6.68	12.12	11.35	12.27	13.32	14.44	19.96	17.63	12.21
	20% < Proportion of leveraged capital to purchase financial assets ≤50%	2.81	2.94	3.01	6.53	5.98	7.15	8.00	8.42	14.19	13.63	7.27
	50% < Proportion of leveraged capital to purchase financial assets ≤80%	1.17	1.06	1.30	2.02	2.59	2.11	2.21	3.59	5.63	6.53	2.82
	80% < Proportion of leveraged capital to purchase financial assets < 100%	0.56	0.43	0.65	0.95	1.21	1.28	1.23	1.12	2.75	2.81	1.30
	Proportion of leveraged capital to purchase financial assets =100%	4.03	5.06	4.64	7.48	8.24	8.81	9.20	10.18	21.58	23.35	10.26
	Total	35.01	37.99	40.16	57.04	51.88	52.21	56.81	63.97	80.34	79.12	55.46

Table 7 further examines those enterprises that use all leveraged capital to purchase financial assets by industry. In terms of industry comparison, the number of enterprises that use all leveraged capital to purchase financial assets in the manufacturing industry is the largest, increasing from 40 in 2011 to 562 in 2020. This upward trend is evident both in the total sample and across different industries.

Table 7
Distribution of enterprises in different industries with all leveraged capital used to purchase financial assets

Year	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Total
Agriculture, forestry, animal husbandry and fishery Mining industry	1	0	0	1	4	5	2	3	10	10	36
Manufacturing industry	1	2	1	2	3	4	4	2	7	7	33
Production and supply of electricity, heat, fuel and water	40	58	52	97	115	140	154	185	486	562	1889
Construction industry	1	0	0	2	2	2	0	2	4	4	17
Wholesale and retail	0	2	0	3	6	6	5	5	15	11	53
Transportation and storage	10	10	16	22	22	19	24	24	38	35	220
And the postal service	8	5	4	7	9	8	10	7	11	11	80
Information transmission, software and information technology services	6	7	9	17	20	21	39	48	69	89	325
Real estate industry	2	2	2	7	5	2	3	4	6	8	41
Education, culture and entertainment	2	7	5	6	5	15	17	17	28	29	131
Social Services Industry	4	8	8	7	9	9	9	19	30	36	139
Synthesis	4	4	3	3	4	3	3	2	2	3	31
Total	79	105	100	174	204	234	270	318	706	805	2995

Table 8 further analyzes the proportion and duration of a single enterprise's purchase of financial assets with leveraged capital and shows that 1150 enterprises purchase financial assets with leveraged capital of more than 5% for three consecutive years, and 58 enterprises purchase leveraged capital of more than 5% for 10 consecutive years. There are 279 enterprises that have purchased 100% of financial assets with leveraged capital for three consecutive years, and 10 enterprises that have purchased 100% of financial assets with leveraged capital for 10 consecutive years.

Table 8
The number of enterprises that have used leveraged capital to purchase financial assets for consecutive years

	Three consecutive years	Five Consecutive Years	Eight Consecutive Years	Ten consecutive years
Enterprises with leveraged capital purchasing more than 5% of financial assets	1150	477	97	58
Enterprises with leveraged capital purchasing more than 20% of financial assets	680	267	56	38
Enterprises with leveraged capital purchasing more than 50% of financial assets	422	151	35	21
Enterprises with leveraged capital purchasing more than 80% of financial assets	320	116	23	12
Enterprises with leveraged capital purchasing 100% of financial assets	279	100	21	10

5. CONCLUSION AND IMPLICATIONS

5.1 Conclusions and inspiration

Drawing from the reconstruction of statements by Stephen H. Penman (2007), we formulate a model to identify the investment direction of the leverage funds of real enterprises according to the logic of allocating the operating assets and financial assets of real enterprises and the logic of raising funds from different sources. Furthermore, through descriptive analysis, we examined China's A-share real listed companies from

2011 to 2020 as samples, established source data on the leverage capital investment of micro individual enterprises, and revealed the objective status quo of the leverage capital investment of Chinese real enterprises. Our findings are as follows: (1) increasingly more real enterprises hold increasingly more financial assets, and the number and proportion of enterprises holding leveraged capital are also on the rise; (2) although an average of 44.54% of leveraged enterprises do not purchase financial assets with leveraged capital, the proportion of leveraged enterprises that purchase financial assets with leveraged capital increases annually, from 35.02% in 2011 to 79.12% in 2020. (3) For leveraged enterprises that purchase financial assets with leveraged capital, the proportion of leveraged capital invested in financial assets increases annually from 20.44% to 46.37%, but with the increase in leveraged capital, the proportion of leveraged capital invested in financial assets decreases. (4) Although 66.15% of leveraged enterprises invest less than 5% of their leveraged capital in financial assets, the proportion of such enterprises shows a significant downward trend from 2011 to 2020. Correspondingly, for 33.83% of leveraged enterprises, the proportion of leveraged capital invested in financial assets is greater than 5%, and the proportion of such enterprises shows a significant upward trend from 2011 to 2020. By 2020, 805 leveraged enterprises (accounting for 23.35%) had invested 100% of their leveraged capital in financial assets, and 279 leveraged enterprises had invested 100% of their leveraged capital in financial assets for three consecutive years.

The observed phenomenon has the following implications:

First, China's economy is in the transformation and upgrading stage of supply-side structural reform, with profit growth in traditional industries slowing down and emerging industries yet to be cultivated. In particular, the returns of China's financial industry are significantly greater than those of the real industry, which leads real enterprises to actively invest in the financial market and obtain a share of their profits by acting as shadow banks or purchasing financial assets. Therefore, an increasing number of real enterprises purchase increasingly more financial assets and use increasingly more leveraged capital to purchase financial assets. In this context, the government should continue to deepen supply-side structural reform, encourage innovation investment, accelerate industrial upgrading through innovation-driven methods, create more industrial investment opportunities, form new growth points in the real economy, and fundamentally change the investment of profit-seeking capital.
Second, compared with the characteristics of operating assets, such as slow turnover, poor liquidity, many links involved in the value chain, and high requirements for enterprise management, financial assets, such as fast turnover, low entry barriers, and low requirements for enterprise management, obviously have more investment advantages, especially when the external environment is uncertain. The rapid entry and exit of financial assets enable enterprises to invest in financial assets not only to avoid operational risks caused by long investment cycles but also to improve capital returns.

This makes financial asset investment an effective means for enterprises to avoid operational risks. However, real enterprises purchase financial assets with leveraged capital, which not only disturbs the normal financial order but also aggravates financial instability. Therefore, we should further strictly implement financial supervision policies, increase the punishment of private misappropriation of raised funds, and strictly supervise the profit-seeking behavior of enterprises using leveraged capital.

Third, the development of China's financial market is not perfect and cannot meet the capital needs of all enterprises. At the same time, the misallocation of funds in the financial market is widespread, and there are deviations in the supply and demand of funds. Enterprises with financing advantages do not invest funds in the real economy, which further aggravates the misallocation and maximum utilization of limited funds and runs counter to the original intention of the policy of financial services for the real economy. Therefore, it is necessary to deepen the reform of the financial industry, change the current situation in which the interest rate difference between the virtual economy and the real economy is too large, break the deadlock of financial excess monopoly profits, and reduce the degree of capital from real to virtual and capital idling.

In practice, enterprises may prefer equity financing between equity financing and leveraged financing, thus affecting the reliability of financing pecking order theory according to the logical reasoning of this paper. This paper distinguishes the order of raising and using the two types of funds according to the financing pecking order theory only when the enterprise has both leveraged capital and the current year's shareholders' investment. However, the logical reasoning and data analysis in this paper are based on the established balance sheet. The shareholder's investment in the current year must be the new capital in the current year, while the leveraged capital may have both the new capital in the current year and the outstanding debt in previous years, which makes the increase and use of leveraged capital better than the shareholder's investment in the current year. In addition, due to the strong liquidity of financial assets and short-term borrowing, the data will underestimate the amount of financial assets purchased by leveraged capital.

References

Chen, Y. 2015, Theoretical Innovation in Economics and Finance under the "New Normal", Economic Research Journal, 50(12): 8-10.

Demir, F. 2009, Financial Liberalization, Private Investment and Portfolio Choice: Financialization of Real Sectors in Emerging Markets, Journal of Development Economics, 88(2): 314-324.

Du, Y., Zhang, H. and Chen, J. 2017, The Impact of Financialization on Future Development of Real Enterprises' Core Business: Promotion or Inhibition, China Industrial Economics, (12): 113-131.

Huang, X., Wu, Q. and Wang, Y. 2021, Shadow Banking Development and Corporate Investment Behavior Choice: Industrial Investment or Financial Investment? Accounting Research, (1): 100-111.

Li J. and Han X. 2019, Nonfinancial Enterprises' Shadow Banking Business and Operating Risk, Economic Research Journal, 54(8): 21-35.

Li, X., Wang, Y. and Ye, L. 2014: The Heterogeneity Hypothesis of Debt and Capital Structure Reinterpreted, Accounting Research, (12): 3-10.

Li, Y. 2017, Contention on Finance Serving the Real Economy, Economic Research Journal, 52(6): 4-16.

Li, P. and Liang, J. 2017, Research on the Micro Path and Influence of Capital "from Real to Virtual", International Finance, (3): 29-36.

Liu, G. 2017, Financial Asset Allocations and the Firms' R&D Activity in China: Crowding-out or Crowding-in, Statistical Research, 34(7): 49-61.

Liu, G., Zhang, J. and Liu, Y. 2018, Financial Asset Allocation, Macroeconomic Conditions and Firm's Leverage, The Journal of World Economy, 41(1): 148-173.

Liu, J., Sheng, H. and Ma, Y. 2014, The Mechanism of Corporate Enterprises Participating in Shadow Banking Businesses and Its Model Analysis of Social-Welfare Net Loss, Journal of Financial Research, (5): 96-109.

Liu, S. and DAI, W. 2004, Research on Change of Committed Investment Project of Listed Company in China, Economic Research Journal, (5): 88-97.

Myers, S. C. 1984, Capital Structure Puzzle, Journal of Finance, 39(3): 575-592.

Penman, S. H. 2007. Financial statement analysis and security valuation, third edition, New York: McGraw-Hill Education.

Shin, H. S. and Zhao, L. Y. 2013, Firms as Surrogate Intermediaries: Evidence From Emerging Economies, Princeton Working Paper.

Smith, C. W. and Stulz, R. M. 1985, The Determinants of Firms' Hedging Policies, The Journal of Financial and Quantitative Analysis, 20(4): 391-405.

Song, J. and Lu, Y. 2015, U-shape Relationship between Noncurrency Financial Assets and Operating Profit: Evidence from Financialization of Chinese Listed Nonfinancial Corporates, The Journal of Financial Research, (6): 111-127.

Stulz, R. M. 1996, Rethinking Risk Management, Journal of Applied Corporate Finance, 9(3): 8-25.

Sun, G. and Jia, J. 2015, (5) Defining China's Shadow Banking and Assessing Its Scale-Seen in Term of the Creation of Credit Money, Social Sciences in China, (11): 92-110.

Tori, D. and Onaran, Ö. 2017, The Effects of Financialization and Financial Development on Investment: Evidence from Firm-Level Data in Europe, Greenwich Papers in Political Economy.

Wang, H., Cao, Y., Yang, Q. and Yang Z. 2017, Does the Financialization of Nonfinancial Enterprises Promote or Inhibit Corporate Innovation, Nankai Management Review, 20(1): 155-166.

Wang, H., Li, C. and Tang, T. 2016, The Driving Factors of Cross-industry Arbitrage and Its Impact on Innovation, China Industrial Economics, 11: 73-89.

Wang, Y., Liu, Z., Li, C. et al., 2015, Identifying the Shadow Banking Activities of Chinese Nonfinancial firms: Evidence from Consolidated Balance Sheets, Journal of Management World, 12: 24-40.

Wang, G, 2018: The Internal Mechanism of Finance Transfer from the Real Economy to the Fictitious Economy and Deepening Supply-side Structure Reform, China Industrial Economics, 7: 5-23.

Wu, J. and Chen, L. 2018: The Relationship between the Degree of Financialization of Non-Financial Enterprises and the Change in Leverage of Non-Financial Enterprises--Evidence of A-Stock Listed Companies and Non-Listed Bond-Issuing Companies, Financial Forum, 23(1): 3-15.

Yan, E., Sun, A., Chu, Y. and Chen X., 2018, Shadow Banking, Auditor Choice and Auditing Characteristics: Evidence from China, Nankai Business Review, 21(5): 117-127.

Zhang, C. and Zhang, B. 2016, The Falling Real Investment Puzzle: A View from Financialization, Economic Research Journal, 51(12): 32-46.

Zhang, C. and Zhang, B. 2015: Reconsidering Finance and Real Economy: The Perspective of Economic Financialization, Economic Perspectives, (6): 55-66.

Zhang, G. 2015, Holding Bank Ownership and Firms' Participation in the Shadow Banking: From the Perspective of Ownership Structure, South China Journal of Economics, (9): 16-40.

Zhang, L., Luo, T. and Yue, H. 2015, IPO Over Funding, Ownership Structure and Dividend Policy, Journal of Financial Research, 11: 142-158

Zhang, X. 2015, Debt and Shareholders' equity: Capital Introduction Strategy of Enterprises, Finance and Accounting, 21: 24-27.

Zhang, X. and Qian, A. 2020, Financial Statement Analysis (5th Edition·Three-dimensional Digital Textbook Edition), China Renmin University Press.

Zhang, W. and ZHAI, C. 2005, On the Motive of Changing Investment Projects of Raising Money through Public Offering, Accounting Research, 7: 19-24.

Zhang, Y. 2022, Origin and Original Mind: Questions of China's Capital Market, Beijing: Citic Press.