

The impact of macroeconomic policy on the financialisation of the real economy: From the perspective of joint fiscal and monetary policy

Zhuwei Li^{1*}

Yirao Han²

Yu Zhang³

^{1,2,3}School of Economics and Management, Dalian University of Technology, Dalian, 116023, China.

¹Email: 54acwu@163.com

²Email: Hanyirao@dlut.edu.cn

³Email: 2319542545@qq.com

Abstract

The purpose of this study is to examine the impact of macroeconomic policies, especially fiscal and monetary policies, on the financialisation of the real economy. The panel data models are employed to explore how national policies could curb the adverse trend of financialisation. The empirical analysis reveals that fiscal and monetary policies are significantly correlated with the degree of financialization. Specifically, tight fiscal policies and loose monetary policies tend to deepen the financialization of the real economy, while the opposite can alleviate it. It is recommended to formulate differentiated fiscal policies and adopt structural monetary policies to mitigate the financialization of the real economy. These insights can guide policymakers in designing strategies that promote the healthy development of the real economy.

Keywords:

Corporate tax burden

Macro policy

Money growth rate

Real manufacturing sector

Transition from real to virtual economy.

JEL Classification:

E52; E62; G38.

Copyright:

© 2024 by the authors. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>)

Publisher:

Scientific Publishing Institute

Received: 26 April 2024

Revised: 13 June 2024

Accepted: 28 June 2024

Published: 9 July 2024

( Corresponding Author)

Funding: This research is supported by Humanities and Social Science Fund of Ministry of Education of China (Grant number: 23YJA790013), National Natural Science Foundation of China (Grant number: 71971046), the key project of National Natural Science Foundation of China (Grant number: 71731003) and the major project of National Social Science Foundation of China (Grant number: 19ZDA094).

Institutional Review Board Statement: Not applicable.

Transparency: The authors confirm that the manuscript is an honest, accurate, and transparent account of the study; that no vital features of the study have been omitted; and that any discrepancies from the study as planned have been explained. This study followed all ethical practices during writing.

Competing Interests: The authors declare that they have no competing interests.

Authors' Contributions: All authors contributed equally to the conception and design of the study. All authors have read and agreed to the published version of the manuscript.

1. Introduction

The phenomenon of financialisation in the real economy is demonstrated by non-financial enterprises investing excessive funds in the financial sector, resulting in the accumulation of significant profitable financial assets by these enterprises. Capital allocation can lead to financial bubbles, amplify leverage in the financial and real estate industries, cause industrial distortions, create an illusion of high returns in finance across society,

neglect financial risks, and lead to over-financialisation and the hollowing out of the real economy. It is important to avoid such risks and ensure a balanced approach to capital allocation. When credit expansion significantly exceeds that of the real economy in terms of scale and speed, it can trigger financial crises, such as the 2008 financial crisis in the United States, or even economic crises.

In recent years, Chinese enterprises have exhibited a chaotic phenomenon of mindlessly focusing on their main business and engaging in excessive financial expansion¹. This is specifically demonstrated through the virtualisation, bubbling, and speculation of corporate investment behaviours. To maintain stable and positive economic development and prevent the financialisation of the real economy, the China Banking and Insurance Regulatory Commission (CBIRC) has implemented a series of financial system rectification measures². Additionally, the government has outlined specific requirements for the relationship between the real economy and the financial system. On 5 March 2021, the Premier of the State Council of China proposed at the Fourth Session of the 13th National People's Congress that financial institutions should focus on serving the real economy. On 8 July 2021, the State Council Information Office introduced 12 measures by the central bank to encourage financial institutions to further benefit the real economy. On 18 February 2022, the National Development and Reform Commission, along with twelve other departments, issued a notice outlining several policies aimed at promoting stable growth in the industrial economy.

Although measures and requirements have curbed the trend of Chinese enterprises shifting from the real to the virtual economy, it is still important to remain vigilant and take preventive measures. The COVID-19 pandemic has highlighted the significance of the healthy development of the real economy. Some countries' economic growth policies blindly focus on developing the service and financial sectors, leading to 'deindustrialization.' This approach is unstable and can cause domestic supply chain disruptions, affect the normal economic cycle, and widen the wealth gap. China's economy was able to recover quickly and even achieve positive growth during the pandemic, thanks in part to its developed and comprehensive real economy system, especially the manufacturing sector. However, it is important to take the current trend of Chinese enterprises moving from reality to virtuality seriously and regulate it effectively. The financialisation of the real economy can have a 'crowding-out effect'³ on real investment, which can negatively impact corporate development and hinder long-term economic stability. The study will investigate the relationship between different macroeconomic policies and the financialisation of the real economy within a multi-pronged macro policy framework. In the post-pandemic era, it is of great significance for China to implement scientific and reasonable macro policy regulation.

While existing literature comprehensively discusses the causes and harms of financialisation in the real economy, few scholars have examined the impact of fiscal and monetary policies in conjunction. This is an important area of research that requires further attention. This paper adopts a joint perspective of fiscal and monetary policies, using financial models as a basis and empirical methods as tools. The study selects A-share listed manufacturing companies as samples to verify the impact of these two types of macroeconomic policies on the financialisation of the real economy. Scientific suggestions are proposed to prevent the 'crowding out' of the real economy and curb the shift from real to speculative investments through comparative analysis of the effects of the two policies.

The study shows a positive correlation between the corporate tax burden, the inflation-adjusted growth rate of money supply, and the degree of corporate financialisation. This relationship changes when controlling for time effects. Furthermore, the degree of corporate financialisation shows a significant positive correlation with internal characteristics such as operational management efficiency, net cash flow from operating activities, and growth potential. On the other hand, financial leverage is significantly negatively correlated. These findings suggest that tight fiscal policies and loose monetary policies can deepen the financialisation of the real economy, whereas the opposite may mitigate or curb the level of financialisation. Furthermore, when considering time factors, it appears that monetary policy has a stronger effect than fiscal policy. Additionally, the internal characteristics of companies also influence the degree of financialisation. To stimulate economic development at this stage, it is recommended that the government continue to implement favourable fiscal policies, such as tax reductions and fee cuts, and adopt quantitative easing monetary policies.

¹ Between 2014 and 2019, China's financial industry output value accounted for 7.3% to 8.5% of GDP, a higher ratio than that of developed countries such as the United States, the United Kingdom, and Japan. However, this does not necessarily imply that China's financial market is more mature or advanced. Instead, it may indicate the presence of a bubble in China's financial market. During this period, financial irregularities were frequent, and a structural imbalance emerged between the real economy and the virtual economy.

² In 2018, CBIRC intensified its efforts to address persistent issues in eight major areas. In 2019, it focused precisely on key areas such as corporate governance, the implementation of macroeconomic policies, credit management, and shadow banking to ensure the banking industry's ecosystem was purified and operated in a prudent and compliant manner. In 2020, the policy of 'housing is for living, not for speculation' was implemented, and financial support for the real economy was increased, particularly for small, medium, and micro enterprises. This effectively corrected the trend of funds being diverted from real to speculative uses.

³ The 'crowding-out effect' is when companies allocate too much funding to the financial sector. This is because financial investments offer high returns, financial products are highly liquid, and financial products are virtual in nature. This makes financial speculation more attractive than investing in the main business operations of the real economy. The pursuit of profit through financialisation in the real economy can lead to resource misallocation and hinder the development of core business operations.

2. Literature Review

2.1. Literature on the Motives for Financialisation of the Real Economy

Corporate financialisation, epitomizing the broader trend of economic financialisation, represents a shift within non-financial corporations from a focus on primary business investments towards an increased allocation in financial investments, enhancing their reliance on financial activities and elevating the role of financial assets in their total assets (Orhangazi, 2008). Scholars have conducted extensive research on the motivations behind the financialisation of the real economy. The first prevalent view is the “substitution effect”, which regards financial investments as alternative investment opportunities for companies. Differences in returns and risks between financial and real assets lead rational agents, driven by inherent risk aversion and profit-seeking motives, to weigh both types of assets (Tang & Zhang, 2019; Zhong, Al-Duais, & Peng, 2023). To mitigate operational risks, firms reduce investments in real assets in favour of investing in financial assets (Zhao & Su, 2022). Driven by profit motives, firms prefer investing in the rapidly growing and high-return sectors of finance and real estate, as the high profit distribution characteristic of the financial sector can offset declines in real sector profits (Laplume, Harrison, Zhang, Yu, & Walker, 2022; Ojo, Dabara, & Ajayi, 2021). Moreover, the heterogeneity of corporate ownership influences financialisation motives differently. Zhang and Zheng (2020) develop an investment portfolio model for Chinese real enterprises, discovering post-financial crisis motivational divergence between state-owned and non-state-owned enterprises in financial investments: state-owned enterprises are driven by profit gaps, while non-state-owned enterprises allocate to financial assets to avoid the relative risk of fixed assets. In conclusion, substitution effect drives firms to shift from irreversible fixed asset investments to financial assets they perceive as “lower risk, higher return, and reversible,” contributing to financialisation. The second perspective is the “reservoir effect”, where non-financial corporations view financial investments as a lower-cost financing channel for precautionary savings (Chu, Cheng, Chen, & Li, 2024; Su & Liu, 2021). Wan, Zhang, and Lin (2023) studying from a perspective of lost political connections, conclude that firms engage in precautionary savings to meet future funding needs, deepening corporate financialisation and noting differences between non-state and state-owned enterprises. Beyond precautionary saving motives, “speculative arbitrage” is identified as a third potential motive for Chinese firms increasing financial assets (Gu, Liu, Ma, & Wang, 2022; Huang, Luo, & Peng, 2021; Shi & Yang, 2021) with agency problems mainly inducing speculative financialisation motives (Jiang, Shen, & Cai, 2022). Liu, Tang, and Zhang (2023) find that managerial moral hazard issues induce speculative financialisation, and stronger corporate governance effectively suppresses it.

2.2. Literature on the Consequences of Financialisation of the Real Economy

With the increasing financialisation of the real economy, whether this financialisation benefits economic growth has become a widely discussed topic across various sectors. Scholars have embarked on exploring the consequences of financialisation in the real economy. It is generally believed that financialisation produces negative effects, such as reducing the efficiency of corporate real investment, inhibiting the accumulation of industrial capital, impeding corporate innovation and development, and even weakening economic growth (Davis, 2017; Jiang et al., 2022). Some researchers, starting from the perspective of financial asset investment crowding out firm's fixed asset investment, have discovered a significant negative correlation between corporate financialisation and long-term real investment (Shu, Zhang, & Zheng, 2020; Trivedi, 2014) while being positively related to corporate governance capabilities (Leng, Liu, Xiao, & Hou, 2023). Xu and Xuan (2021) argue that corporate financialisation, by crowding out firms' patent applications and R&D⁴ expenditures, hinders the development potential of companies' core businesses, thereby limiting future profitability. Chen, Wang, and Jia (2023) highlight the role of managerial myopia in financialisation, with managers focusing only on short-term high profits while neglecting the company's long-term innovative growth capability. Su and Liu (2021) taking China as a representative of emerging economies, find that financialisation in the manufacturing sector severely inhibits corporate innovation in emerging economies. Huang, Cui, and Chan (2022) believe that financialisation has a negative, nonlinear effect on corporate operational performance, with financialisation in China showing a trend of deepening over the long term. Other scholars have explored the relationship between financialisation and green environmental investment, empirically testing the negative correlation between financialisation and green innovation using data from Chinese listed companies, finding that financialisation crowds out the funds needed for corporate green innovation, which is detrimental to sustainable corporate development (Tao, Chen, & Li, 2021; Yang & Chen, 2023). Tomaskovic-Devey, Lin, and Meyers (2015) studying financialisation in the United States, find that the cost of capital gains from financialisation requires labour and the state to bear, with the added value from labour and the state transferred to the benefit owners of companies, thereby hindering overall economic development. However, some scholars believe that financialisation does not always play a negative role. Yu, Yu, Ye, and Wang (2024) discover a positive U-shaped relationship between corporate financialisation and the bond issuance spread, finding in the study of this relationship's internal mechanism that corporate financialisation reduces the credit spread of corporate bond issuance by improving corporate operational performance. Gong, Gong, and Jiang (2023) find that corporate financialisation can

⁴ Research and Development (R&D) refers to a systematic and creative process undertaken by companies to generate new knowledge, innovate, and develop new products, services, or processes.

improve corporate investment efficiency by easing financing constraints. Kwateng, Amanor, and Tetteh (2022) believe that corporate financialisation can promote the development of its main business. On one hand, companies can protect themselves from uncertain business risks and use financial resources to develop investment opportunities. On the other hand, financial assets can increase corporate profits and attract attention to their core business. Some studies argue that the direction of the impact of financialisation depends on the degree of financialisation (Li & Wang, 2021) distinguishing between financialisation and over-financialisation (Wang, Hao, Fang, Wu, & Ma, 2023). Xie, Du, and Wu (2022) argue that an optimal level of financialisation promotes sustained corporate innovation, whereas excessive financialisation levels crowd out sustained innovation. They also construct an optimal financialisation deviation, proposing that there exists an optimal level of financialisation for non-financial firms; deviation from this optimal level would result in the misallocation of corporate resources and reduced efficiency of corporate capital allocation. Liu and He (2023) propose that the relationship between financialisation and corporate innovation is not simply suppressive but exhibits a significant inverted U-shape, with only excessive financialisation hindering R&D investment.

2.3. Literature on the Impact of Macroeconomic Policies on the Financialisation of the Real Economy

Unlike other countries, Chinese firms possess unique determinants of capital structure, with investment decisions more influenced by government policies than investment opportunities (Jiang et al., 2022; Wu, Pan, & Chen, 2022). Thus, macroeconomic policies play a crucial role in the financialisation of Chinese companies. Zhang and Zheng (2020) find that quantitative monetary policies have a stronger driving effect on financialisation, particularly in state-owned enterprises. Hou, Tang, and Teng (2021) show that the Labor Contract Law of the People's Republic of China accelerates corporate financialization, underscoring regulatory policy influences. Chu et al. (2024) discover that the Broadband China policy significantly reduces corporate financialisation. In terms of industrial policy, Cao et al. (2022) analyze the impact of industrial policy on non-financial corporations, noting that such policies decrease financialization levels, especially in more marketized regions with robust government fiscal capacities. Their study suggests that accommodative monetary policy increases corporate financialization, while industrial policies reduce it. However, tax policy impacts on financialization remain underexplored.

In summary, since the 2008 financial crisis, scholars have investigated the drivers and consequences of excessive financialization in the real economy. They have also explored how industrial and monetary policies affect financialization from a macroeconomic perspective. However, previous studies have typically examined individual policies without considering the combined effects of fiscal and monetary policies. Moreover, research on tax policy is limited and inconsistent. This paper examines the joint impact of fiscal and monetary policies on corporate financialization, comparing their effects and offering targeted policy recommendations.

3. Mechanism Analysis and Status Analysis

3.1. Mechanistic Analysis of the Role of Macroeconomic Policies in the Financialisation of the Real Economy

3.1.1. Analyzing the Mechanism of Fiscal Policy on the Financialisation of the Real Economy

Fiscal policy⁵ encompasses a range of tools designed to manage economic activity, it is the tax policy⁶ that stands out as having the most profound and direct influence on the operational and strategic decisions of businesses. This impact is manifested in how companies manage their finances, plan their investments, and strategize for growth, ultimately influencing the state of macroeconomic activity and facilitating control over the degree of financialisation of the real economy. Given the pronounced impact of tax policy within the realm of fiscal policy on businesses, this paper focuses on examining the influence of tax policy on enterprises, using tax policy as a proxy for fiscal policy. For example, if taxes and fees on businesses increase, they may choose to invest more in financially lucrative sectors to maintain their cash flow, while reducing investments in the real economy. This could lead to a shift in investment priorities. This shift can result in financial assets 'crowding out' real assets, leading to a decline in the proportion of profits from primary business operations and an intensified degree of financialisation. From a macroeconomic perspective, non-financial corporations within society, burdened by a relatively high tax obligation, may pivot their capital allocations towards the financial sector, where the return on investment is perceived to be higher. This strategic redirection results in a more pronounced phenomenon of 'hollowing out' within the real economy. This exacerbates the circulation of capital without productive investment and the shift of tangible enterprises towards speculative financial activities. Conversely, reducing tax and fee burdens is associated with a decreased degree of financialisation among firms. This acts as a deterrent against the progression of the real economy's shift from real to virtual. Figure 1 illustrates how tax policy controls the degree of financialisation of the real economy.

⁵ Fiscal policy constitutes a government's strategic use of its expenditure, taxation, and borrowing to influence the nation's economic activity, with the overarching aim of achieving macroeconomic stability, stimulating growth, and reducing unemployment. Fiscal policy can be categorized into two types: expansionary, which involves increasing government spending or reducing taxes to boost economic activity, and contractionary, which involves decreasing government spending or increasing taxes to cool down the economy.

⁶ Tax policy, which includes adjustments in tax rates such as corporate income tax, value-added tax and sales tax, directly affects a company's bottom line by altering its cost structure and after-tax profits.

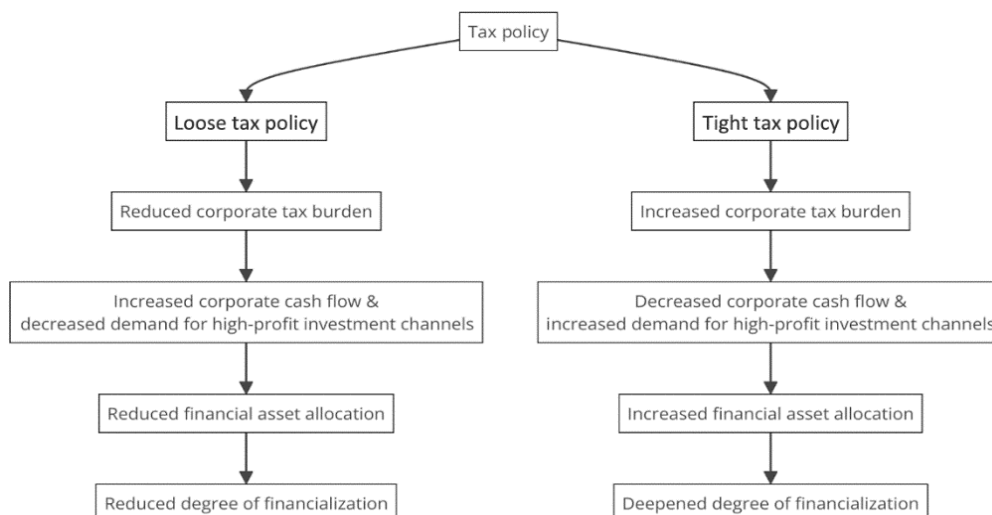


Figure 1. The mechanism of tax policy in controlling the degree of financialisation of the real economy.

3.1.2. Analyzing the Mechanism of Monetary Policy on the Financialisation of the Real Economy

To improve funds management, corporations often allocate funds to financial assets, which can generate investment motives due to the prospect of excess returns. The degree of financialisation within firms is significantly influenced by regulatory measures of monetary policy. Expansionary monetary policy not only creates a more favourable external environment for corporate investment in financial assets but also eases financing constraints for firms. This can lead to credit surpluses in low-financing-constraint firms, which can inhibit the development of primary business activities in the real economy, resulting in a stronger trend towards speculative activities. Conversely, contractionary monetary policies may compel firms to reduce their financial asset holdings to minimize losses, which could decrease the level of corporate financialisation. To avoid financial risks, the real economy may redirect more funds towards tangible investments, thereby reducing the allocation to financial investments and lessening the 'crowding out' of real economy capital. In summary, Figure 2 illustrates the mechanism of monetary policy in controlling the degree of financialisation of the real economy.

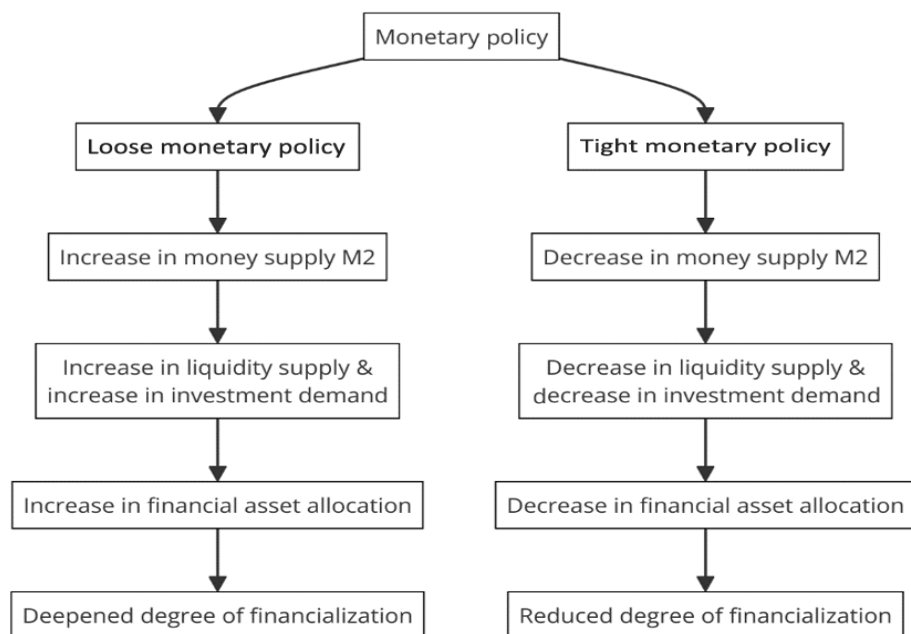


Figure 2. The mechanism of monetary policy in controlling the degree of financialisation of the real economy.

3.2. Analysis of the Current Status of the Financialisation of the Real Economy

3.2.1. Analysis of the Overall Status of Financialisation of Manufacturing Enterprises in China

This paper analyses the current state of financialisation in the real economy of China's manufacturing enterprises from 2012 to 2022⁷. Figures 3 and 4 illustrate the comprehensive analysis. The subsequent section

⁷ The latest data available at the time of writing.

delves into the financialisation status of manufacturing enterprises listed on the Shanghai Stock Exchange A-shares.

Figure 3 illustrates the increasing size of financial assets held by China's manufacturing enterprises since 2012, indicating a rise in the absolute number of assets allocated to the financial domain. This suggests that China's financial sector can support the real economy, but also highlights the intensification of the financialisation process within the real economy.

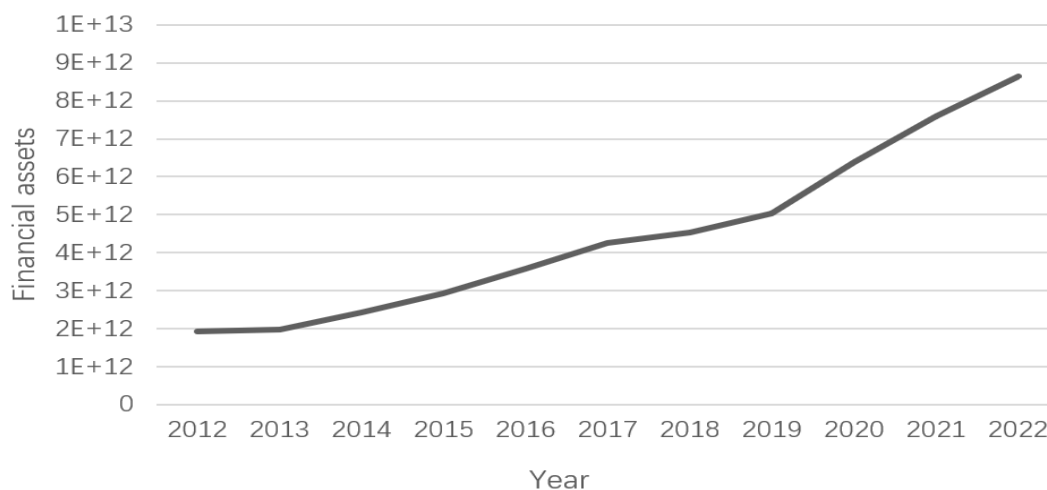


Figure 3. Line chart of financial asset scale of manufacturing enterprises (RMB: Yuan).

Source: Original data from the China stock market & accounting research (CSMAR) database, same below.

Figure 4 illustrates a gradual decline in the fixed asset ratio of manufacturing enterprises in China⁹. Meanwhile, the proportion of profits from financial activities within these enterprises is increasing, despite fluctuations. From 2013 to 2015, China implemented a monetary policy that was both prudent and moderately loose.¹⁰ During this period, the country's stock market experienced significant growth¹¹, attracting substantial capital to the financial markets. As a result, the proportion of profits from financial activities within enterprises increased rapidly, while the fixed asset ratio slightly declined. It is worth noting that the former exceeded the latter, and the gap between them widened progressively, reaching its peak in 2015. There has been a significant rise in the financialisation of manufacturing companies, resulting in a 'crowding out' effect on investments in productive capital. After the stock market bubble burst in the latter half of 2015¹², many enterprises adjusted their financial asset allocations. This led to a swift decline in the proportion of financial activities. Between 2016 and 2017, China implemented measures to reduce credit, rectify financial disorder, curb excessive expansion of financial institutions, and enhance financial regulation. These measures led to a decrease in the proportion of profits from financial activities. However, the fixed asset ratio remained low during this period due to difficulties in resolving issues related to corporate fund operations, highlighting the issue of 'hollowing out' in China's real economy. Starting in 2018, many enterprises increased their allocation of financial assets to buffer against losses from external shocks, amid challenges such as China-US trade frictions. As a result, the proportion of profits from financial activities rose. Meanwhile, China implemented macroeconomic policies aimed at supporting the real economy, including substantial tax cuts and fee reductions to assist enterprises in overcoming difficulties. As a result, the overall impact on China's real economy was minimal. However, by the end of 2019, the COVID-19 pandemic had a severe impact on the capital market, resulting in a significant reduction in enterprises' allocation of financial assets to support real operations. China intensified its efforts to promote financial institutions that benefit the real economy and issued supportive policies. Despite significant impacts on enterprises during this period, they managed to maintain a low rate of decline in the fixed asset ratio. As the pandemic receded and the economy gradually recovered, enterprises' allocation to financial assets began to rise again.

⁸ Renminbi (RMB) refers to the official currency of the People's Republic of China, which is issued by the People's Bank of China.

⁹ Since the size of fixed assets is equivalent to the backbone of the real economy, there will not be a massive decline, but only small fluctuations.

¹⁰ Specific policies include lower reserves and lower interest rates, as well as flexibility in the use of monetary policy instruments.

¹¹ 2015 was the most active year for China's stock market.

¹² It dropped from over 5,000 to over 2,500.

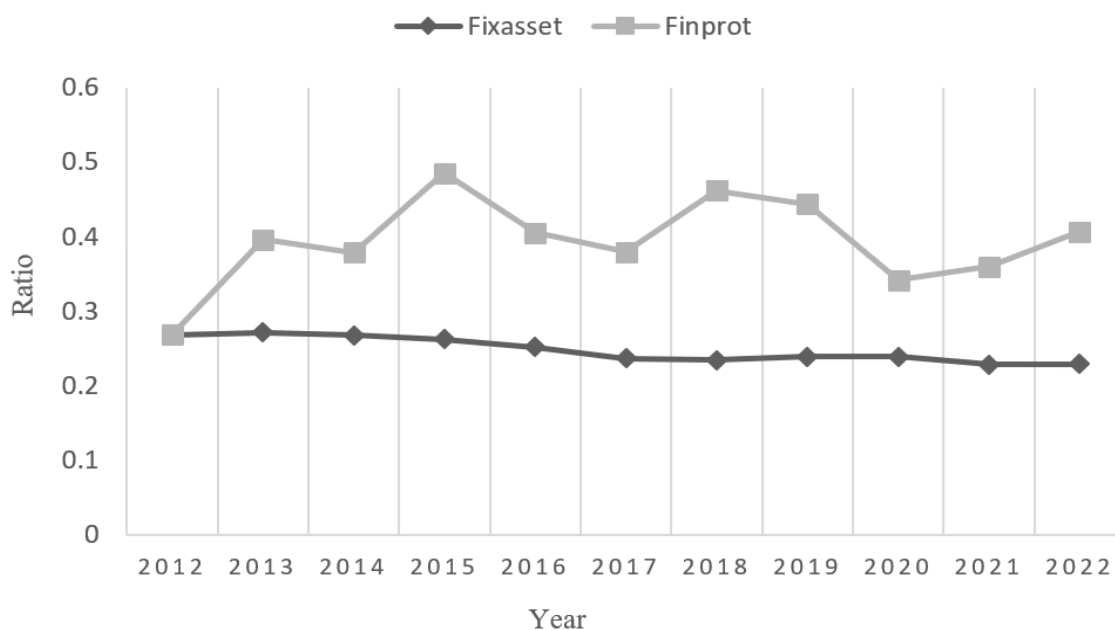


Figure 4. Comparative line chart of average fixed asset ratio and profit ratio from financial activities of manufacturing enterprises.

Note: Fixasset represents the mean value of fixed asset ratio for manufacturing firms, where firm fixed asset ratio = Net fixed assets/total assets. Finprot represents the share of profits from financial activities of manufacturing firms, where the share of profits from financial activities of firms = (Investment income + gains from changes in fair value + foreign exchange gains)/total profits.

3.2.2. Further Status Analysis of the Financialisation of the Sample Companies

This paper examines the current state of financialisation among listed manufacturing enterprises on the Shanghai Stock Exchange A-shares, as illustrated in Figure 5. The figure shows an upward trend in the proportion of financial assets to total assets within the sample enterprises, which reflects the overall trend of financialisation in China's manufacturing enterprises. Moreover, the level of financialisation observed among the sampled enterprises exceeds that of the broader manufacturing sector, indicating increased financialisation and greater volatility among these firms. In addition, it is worth noting that state-owned holding companies make up a significant portion of the market value within the sample, accounting for almost half of the A-share market value of the sampled enterprises. This suggests a relatively higher degree of financialisation and greater volatility among state-owned holding companies.

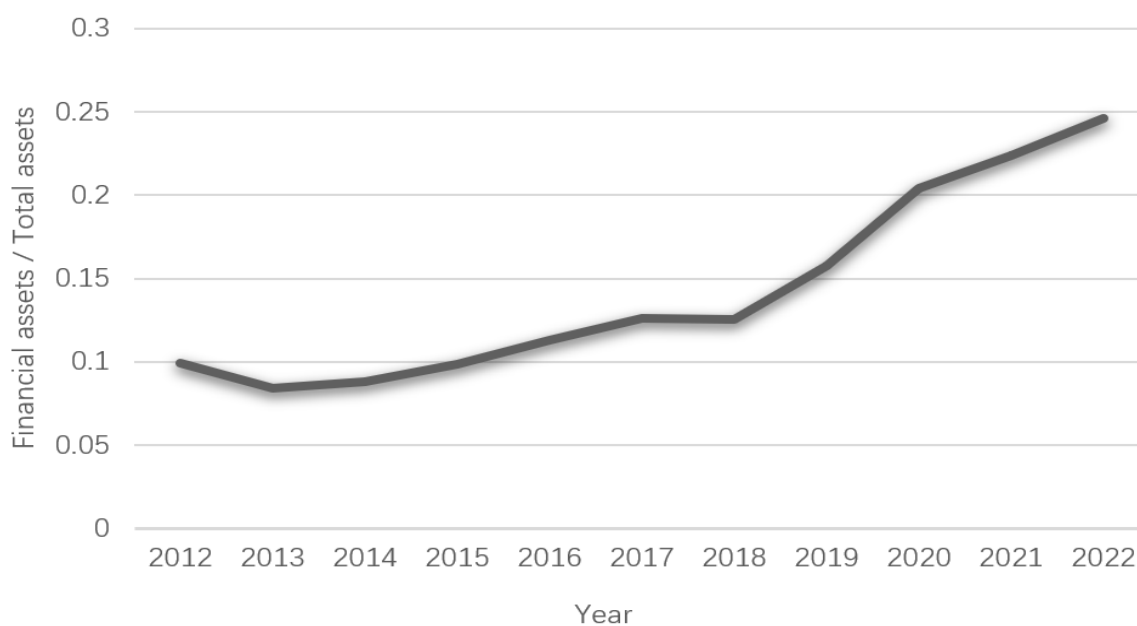


Figure 5. Proportion of financial assets to total assets in listed manufacturing enterprises on the Shanghai stock exchange A-shares.

In summary, the analysis of the manufacturing sector and examination of the sample enterprises demonstrate that the degree of financialisation in China's real economy has deepened. The high returns on financial assets and the increase in taxes and fees have attracted a substantial amount of capital, leading

manufacturing enterprises to allocate funds to the financial sector in pursuit of immediate high returns. It is important to note that this is an objective evaluation and not a subjective one. The shift from fundamental business operations to financial engagements has resulted in a widespread problem of 'hollowing out' in the real economy. This issue requires urgent and efficient resolution.

4. Empirical Findings

4.1. Sample Data

4.1.1. Research Sample and Data Sources

The annual data from manufacturing firms listed on the Shanghai A Stock Exchange¹³ between 2012 and 2022 are selected as research samples representing China's real economy. The data are sourced from the China Stock Market & Accounting Research (CSMAR) database and the World Bank Open Data. Adhering to principles of rigor and reliability, the data are processed using the following criteria: First, firms classified as ST are excluded; second, firms with outlier observations are removed; third, firms missing key variable data are excluded; fourth, performing Winsorize shrinkage of 1% and 99% on sample data to mitigate the effects of extreme values. This process resulted in a final sample of 1,074 firms and 6,225 annual observations, meeting the requirements for panel data empirical modelling.

4.1.2. Variable Definition

Drawing on existing research experience, the relevant variables are designed and defined. The degree of financialisation of non-financial corporations under the narrow definition of financial assets (*Fin*)¹⁴ is selected as the dependent variable. The tax burden of enterprises under the actual tax burden method (*TB*) serves as a proxy for tax policy indicators, and the money supply growth rate adjusted for inflation (*m2G*) serves as a monetary policy indicator¹⁵, both of which are independent variables. Control variables include corporate leverage (*Lev*), management efficiency (*ME*), corporate cash flow (*CCF*), and corporate growth (*Grow*), among others. For the definitions of the variables, see Table 1.

Table 1. Relevant variables and definitions.

Variable type	Variable name (Symbol)	Variable definition	Expected direction
Dependent variable	Degree of corporate financialisation (<i>Fin</i>)	(Monetary funds + Trading financial assets + Derivative financial assets + Net receivable premiums + Net buy-back financial assets + Net loans and advances issued + Net available-for-sale financial assets + Net held-to-maturity investments + Net investment properties + Net interest receivable + Net dividends receivable)/Total assets	/
Independent variables	Corporate tax burden (<i>TB</i>)	(Income tax + Business tax and surcharges)/Operating revenue	+
	Growth rate of money supply excluding the effect of inflation (<i>m2G</i>)	Broad money growth rate m2-GDP growth rate	+
Control variables	Financial leverage (<i>Lev</i>)	Total liabilities/Total assets	-
	Management efficiency (<i>ME</i>)	Corporate overheads/Operating revenue	-
	Corporate cash flow (<i>CCF</i>)	Net cash flows from operating activities/Operating revenue	+
	Corporate growth (<i>Grow</i>)	(Total assets at the end of the period - Total assets at the beginning of the period)/ Total assets at the beginning of the period	+

4.2. Modelling and Data Processing

4.2.1. Model Construction

To assess the impact of two macroeconomic policies, tax policy and monetary policy, on the financialisation of the real economy, two panel data models are constructed with reference to the existing researches, as shown in Equations 1 and 2.

$$Fin_{it} = \alpha_0 + \alpha_1 TB_{it} + \alpha_2 Lev_{it} + \alpha_3 ME_{it} + \alpha_4 CCF_{it} + \alpha_5 Grow_{it} + u_i + \varepsilon_{it} \quad (1)$$

¹³ Manufacturing enterprises listed on the Shanghai A Stock Exchange predominantly consist of large, mature, and stable corporations. In comparison to growth-oriented and small-to-medium-sized enterprises listed on the Shenzhen A Stock Exchange, these companies are more representative of the broader trends in the real economy.

¹⁴ Drawing upon the methodologies of Song and Lu (2015); Zhang and Zhang (2016) and Liu (2017) they categorize corporate financial assets into two types: "broad financial assets" and "narrow financial assets", employing the latter in the design of financialisation variables. The study finds that the net amount of long-term bond investments for all sample firms is either zero or missing. Consequently, this variable is not considered in the empirical analysis.

¹⁵ Following the approach of Yang, Liu, and Wang (2017) this study selects the rate of money supply growth adjusted for inflation, *m2G*, as the measure of monetary policy. The rationale is as follows: (a) Measurability. It is possible to obtain data on M2 and conduct corresponding analyses to derive the growth rates of M2 and GDP;(b) Relevance. This indicator is closely related to the objectives of monetary policy and can promptly reflect the looseness or tightness of monetary policy.

$$Fin_{it} = \beta_0 + \beta_1 m2G_{it} + \beta_2 Lev_{it} + \beta_3 ME_{it} + \beta_4 CCF_{it} + \beta_5 Grow_{it} + u_i + \varepsilon_{it} \quad (2)$$

The meanings of the indicator variables and parameters in the two models are shown in Table 2.

Table 2. Definition of model indicators and parameters.

Indicators and parameters	Definition
Fin_{it}	The degree of financialisation of firm i in year t.
TB_{it}	The tax burden of firm i in year t.
$m2G_{it}$	The growth rate of the money supply adjusted for inflation for firm i in year t.
Lev_{it}	The financial leverage of firm i in year t.
ME_{it}	The management efficiency of firm i in year t.
CCF_{it}	The corporate cash flow of firm i in year t.
$Grow_{it}$	The growth rate of firm i in year t.
α_1	The impact level of the firm's tax burden on its degree of financialisation.
β_1	The impact level of monetary policy on the firm's degree of financialisation.
$\alpha_2 (\beta_2)$	The correlation between the firm's degree of financialisation and its financial leverage.
$\alpha_3 (\beta_3)$	The correlation between the firm's degree of financialisation and its management efficiency.
$\alpha_4 (\beta_4)$	The correlation between the firm's degree of financialisation and its corporate cash flow.
$\alpha_5 (\beta_5)$	The correlation between the firm's degree of financialisation and its growth rate.
$u_i + \varepsilon_{it}$	The composite disturbance term, where the random variable u_i represents the intercept term for individual heterogeneity, and ε_{it} is the disturbance term varying across individuals and time.

4.2.2. Descriptive Statistics

Descriptive statistics of the sample data are shown in Table 3.

Table 3. Descriptive statistics.

Variable	Obs.	Mean	Std. dev.	Min.	Max.
<i>Fin</i>	6,225	0.218	0.144	0.025	0.700
<i>TB</i>	6,225	0.028	0.031	0.008	0.204
<i>m2G</i>	6,225	0.051	0.024	0.020	0.093
<i>Lev</i>	6,225	0.426	0.200	0.062	0.900
<i>ME</i>	6,225	0.076	0.047	0.010	0.279
<i>CCF</i>	6,225	0.088	0.132	-0.387	0.487
<i>Grow</i>	6,225	0.179	0.305	-0.252	1.700
Sample size	1,074	1,074	1,074	1,074	1,074

Table 3 illustrates a significant variance in the degree of financialisation among the sampled firms, with the minimum value at 0.0249 and the maximum value at 0.7000. This text describes the phenomenon of excessive financial asset allocation within firms, where a significant portion of capital is invested in the financial sector, 'crowding out' considerable funds that could have been allocated to physical investment, thereby adversely affecting the development of the firms' core business. The standard deviation of the firms' tax burden is not very large, which aligns with China's tax incentive policies designed to support the real economy. Furthermore, the standard deviation of the growth rate of the money supply, adjusted for inflation, is relatively small, approximately 0.0241. This is consistent with China's prudent monetary policy. The control variables show significant differences in financial leverage, management efficiency, cash flow, and firm growth. These differences can be attributed to the diverse nature of the firms themselves.

4.2.3. Pre-Inspection

When processing panel data, it is necessary to first conduct a Hausman test¹⁶ to determine whether to select a fixed-effects¹⁷ model or a random-effects¹⁸ model for regression analysis. The test results are presented in Table 4.

Table 4. Hausman test results.

Objective	Model	Test statistic	P-value	Conclusion
Test for random effects	Test model 1	179.270	0.000	Reject null hypothesis
	Test model 2	171.160	0.000	Reject null hypothesis

¹⁶ The null hypothesis of the Hausman test posits that the individual effects in the random-effects model are uncorrelated with the explanatory variables.

¹⁷ The fixed-effects model assumes that the individual effects across cross-sectional units can be accounted for by variations in the intercept term.

¹⁸ The random-effects model divides the intercept term, which reflects cross-sectional differences in the variable intercept model, into constant and random components. It uses the random variable component to represent the impact of variables reflecting cross-sectional differences that are omitted from the model.

Based on the Hausman test results, both Test Model 1 and Test Model 2 have test statistics of 179.2700 and 171.1601, respectively, with P-values of 0.0000. These results reject the null hypothesis, indicating a preference for fixed effects over random effects. Consequently, a fixed-effects model with variable intercepts was chosen for the regression analysis.

4.2.4. Empirical Analysis

To ensure accuracy and persuasiveness of the empirical results, this study has established six model testing patterns based on Equations 1 and 2. Specifically, Model 1 and Model 4 utilize the corporate tax burden (*TB*) and the inflation-adjusted rate of money supply growth (*m2G*) as explanatory variables, respectively, without incorporating any control variables, employing fixed-effect models with variable intercepts for the tests. Models 2 and 5 incorporate additional control variables for similar tests to Models 1 and 4, respectively. Models 3 and 6 further advance on Models 2 and 5 by conducting mixed OLS¹⁹ tests. This approach is used to examine the impact of two macroeconomic policies, tax policy and monetary policy, on the financialisation of the real economy. The specific empirical results are presented in Table 5.

Table 5. Empirical results on the impact of tax policy and monetary policy on the financialisation of the real economy.

Dependent variable	The degree of corporate financialisation <i>Fin</i>					
	Model 1 FE	Model 2 FE	Model 3 OLS	Model 4 FE	Model 5 FE	Model 6 OLS
<i>TB</i>	0.696*** (0.082)	0.278*** (0.081)	0.405*** (0.070)			
<i>m2G</i>				0.092* (0.049)	0.224*** (0.047)	0.444*** (0.067)
<i>Lev</i>		-0.212*** (0.013)	-0.229*** (0.010)		-0.228*** (0.013)	-0.246*** (0.010)
<i>ME</i>		-0.074* (0.040)	-0.096** (0.037)		-0.073* (0.039)	-0.068* (0.038)
<i>CCF</i>		0.083*** (0.012)	0.069*** (0.015)		0.088*** (0.011)	0.092*** (0.015)
<i>Grow</i>		0.062*** (0.005)	0.109*** (0.007)		0.064*** (0.005)	0.109*** (0.007)
Constant	0.198*** (0.003)	0.287*** (0.007)	0.285*** (0.007)	0.219*** (0.003)	0.290*** (0.007)	0.278*** (0.007)
Simple size	6,225	6,225	6,225	6,225	6,225	6,225
R ²	0.014	0.101	0.236	0.001	0.103	0.235

Note: ***, **, * indicate significant at the 1 per cent, 5 per cent, and 10 per cent levels, respectively.

Values in parentheses are standard errors of the parameter estimates.

As deduced from Table 5 both the corporate tax burden (*TB*) and the rate of money supply growth adjusted for inflation (*m2G*) exert a significant positive effect on the degree of corporate financialisation (*Fin*). Specifically, all the corporate tax burden (*TB*) pass the significance test at the 1% level, while the inflation-adjusted rate of money supply growth (*m2G*) meet the significance criteria at both the 10% and 1% levels. More precisely, before incorporating control variables, the impact coefficient of tax policy on corporate financialisation is 0.6960, and that of monetary policy is 0.0923, both significantly positive, with the impact of tax policy being stronger than that of monetary policy²⁰. After controlling for variables, the coefficient of impact for tax policy on corporate financialisation is 0.2781, and for monetary policy, it is 0.2240. Both remain significantly positive, with tax policy having a slightly greater impact than monetary policy, although the difference between them is minimal. After conducting OLS testing, the impact coefficient of tax policy on corporate financialisation is 0.4050, while that of monetary policy is 0.4441. Both coefficients are significantly positive, but the impact of tax policy is slightly less than that of monetary policy. These results are consistent with each other.

The findings indicate that corporate financialisation is positively correlated with higher tax burdens and a more relaxed monetary policy. This suggests that both tightening tax policy and loosening monetary policy contribute to the financialisation of the real economy. Excessive tax burdens can decrease corporate tax revenue and constrain operations, leading firms to seek investment channels with higher returns. Similarly, an excessively lenient monetary policy provides businesses with more liquid assets and lower financing costs. This abundance of funds available for allocation, combined with the allure of bullish investment markets and profit-chasing, induces companies to allocate more capital to financial markets. This eventually leads to a

¹⁹ Ordinary Least Squares (OLS) is a statistical method for estimating the parameters in a linear regression model, which minimizes the sum of the squared differences between the observed dependent variable values and those predicted by the linear model.

²⁰ This outcome stems from the different mechanisms through which these policies exert their influence. After accounting for individual differences among companies, tax policy directly affects the operating profits of the entire manufacturing sector, whereas monetary policy impacts the loan costs and investment returns of these businesses. Given the substitutability of financing methods—ranging from bank loans to public fundraising—the effect of monetary policy is not as direct as that of tax policy, hence the relatively lower coefficient values.

disproportionately high allocation of financial assets compared to core business activities, resulting in the 'hollowing out' of enterprises.

Regarding the empirical results for the control variables, the interpretation provided is as follows: First, the correlation coefficient between corporate financial leverage (Lev) and the degree of corporate financialisation (Fin) is negative and has passed the significance test at the 1% level, indicating that lower financial leverage is associated with a higher degree of financialisation. Second, the correlation coefficient between corporate management efficiency (ME) and the degree of corporate financialisation (Fin) is negative, and it has only passed the significance tests at the 10% and 5% levels, suggesting that companies with higher management efficiency have a lower degree of financialisation. Third, the correlation coefficient between corporate cash flow (CCF) and the degree of corporate financialisation (Fin) is positive and has passed the significance test at the 1% level, indicating that a higher level of cash holdings is associated with a higher degree of financialisation. Lastly, the correlation coefficient between corporate growth ($Grow$) and the degree of corporate financialisation (Fin) is positive and has passed the significance test at the 1% level, indicating that higher corporate growth is associated with a higher degree of financialisation.

4.3. Robustness Tests

4.3.1. Adoption of a Two-Way Fixed Effects Model

A robustness test is conducted using a "two-way fixed effects" model²¹, as outlined in Equations 3 and 4, with the results presented in Table 6.

$$Fin_{it} = \alpha_0 + \alpha_1 TB_{it} + \alpha_2 Lev_{it} + \alpha_3 ME_{it} + \alpha_4 CCF_{it} + \alpha_5 Grow_{it} + \lambda_t + u_i + \varepsilon_{it} \quad (3)$$

$$Fin_{it} = \beta_0 + \beta_1 m2G_{it} + \beta_2 Lev_{it} + \beta_3 ME_{it} + \beta_4 CCF_{it} + \beta_5 Grow_{it} + \lambda_t + u_i + \varepsilon_{it} \quad (4)$$

Table 6. Robustness test results using two-way fixed effects model.

Dependent variable	Degree of corporate financialisation Fin			
	Model 1	Model 2	Model 3	Model 4
TB	0.997*** (0.073)	0.446*** (0.070)		
$m2G$			4.207*** (0.423)	1.818*** (0.368)
Lev		-0.219*** (0.010)		-0.232*** (0.009)
ME		-0.021 (0.038)		0.019 (0.039)
CCF		0.0513*** (0.0152)		0.078*** (0.015)
$Grow$		0.105*** (0.007)		0.107*** (0.007)
Constant	0.169*** (0.007)	0.275*** (0.009)	-0.060* (0.031)	0.180*** (0.029)
Sample size	6,225	6,225	6,225	6,225
R^2	0.099	0.258	0.054	0.250
Individual fixed effect	Containment	Containment	Containment	Containment
Time fixed effect	Containment	Containment	Containment	Containment

Note: *** and * indicate significant at the 1 per cent and 10 per cent levels, respectively. Values in parentheses are standard errors of the parameter estimates.

The results of the robustness test indicate that, after controlling for time variables, the correlation remains significant, the degree of corporate financialisation (Fin) maintains a positive relationship with the corporate tax burden (TB) and the rate of money supply growth adjusted for inflation ($m2G$), passing the 1% significance test, aligning with the empirical analysis findings. After controlling for time effects, the coefficients increased, confirming the model's appropriateness and robustness. The robustness test results also reveal that, upon incorporating time fixed effects, there is a significant increase in the coefficients for tax and monetary policies, with the change in the coefficient for monetary policy being greater than that for tax policy. After excluding the impact of time variation, changes in the degree of corporate financialisation are more attributable to monetary policy. This is because monetary policy can affect a company's financing costs, which in turn can influence the main business revenue through available cash flow. Additionally, monetary policy can affect the returns on financial assets and investment opportunities, thereby influencing a company's speculative motives.

²¹ The two-way fixed effects refer to considering both individual fixed effects and time fixed effects, where λ_t is regarded as a unique intercept term for period t , and is interpreted as the effect of "period t " on the dependent variable Fin .

4.3.2. Alternative Financialisation Measure

Utilizing an alternative measure for the degree of corporate financialisation, specifically, the degree of corporate financialisation (Fin^*) = (Net trading financial assets + Net derivative financial assets + Net receivable insurance premiums + Net buy-back financial assets + Net loans and advances issued + Net available-for-sale financial assets + Net held-to-maturity investments + Net long-term equity investments + Net investment real estate) / Total assets, a two-way fixed effects model was employed for panel regression. The results are presented in Table 7.

Table 7. Robustness test results with alternative financialisation measure.

Dependent variable	Degree of corporate financialisation Fin^*			
	Model 1	Model 2	Model 3	Model 4
<i>TB</i>	0.351*** (0.051)	0.233*** (0.052)		
<i>m2G</i>			2.511*** (0.210)	2.074*** (0.200)
<i>Lev</i>		-0.062*** (0.005)		-0.069*** (0.005)
<i>ME</i>		-0.106*** (0.029)		-0.126*** (0.030)
<i>CCF</i>		0.019* (0.011)		0.005 (0.011)
<i>Grow</i>		0.007 (0.006)		0.008 (0.006)
Constant	0.010*** (0.003)	0.036*** (0.005)	-0.134*** (0.014)	-0.083*** (0.014)
Sample size	6,225	6,225	6,225	6,225
R ²	0.074	0.102	0.055	0.096
Individual fixed effect	Containment	Containment	Containment	Containment
Time fixed effect	Containment	Containment	Containment	Containment

Note: *** and * indicate significant at the 1 per cent and 10 per cent levels, respectively. Values in parentheses are standard errors of the parameter estimates.

After replacing the measure of financialisation, Fin^* still exhibits a significant positive relationship with both the corporate tax burden (*TB*) and the rate of money supply growth adjusted for inflation (*m2G*), with the latter having a larger coefficient. The results confirm that higher levels of financialisation are associated with stricter tax policies and more lenient monetary policies, which is consistent with the empirical analysis. This suggests that there is a causal connection between tax policies, monetary policies, and financialisation.

5. Research Findings and Policy Recommendations

5.1. Conclusions

This paper examines the financialisation of Chinese manufacturing enterprises listed on the Shanghai A-share market. A panel regression model is constructed to test the impact of two macroeconomic policies, fiscal policy and monetary policy, on corporate financialisation. The model employs a fixed effects approach with variable intercepts. The study aims to provide a systematic exploration of the relationship between macroeconomic policies and the financialisation of the real economy in China.

The main research findings are as follows:

First, a heavier tax burden can encourage enterprises to allocate more towards financial assets, which suggests a direct relationship between the degree of corporate financialisation and the overall tax burden. Firms with heavier tax burdens tend to exhibit higher levels of financialisation. Therefore, implementing tax reduction and fee cuts policies can help to lessen the corporate tax burden and reduce the degree of corporate financialisation.

Second, in an economic environment with more lenient monetary policies, enterprises tend to increase the scale of financial asset allocation. This shows a direct relationship between the degree of corporate financialisation and the leniency of monetary policies. Therefore, adopting moderately tight monetary policies could increase the cost of funds for enterprises, limiting their allocation to financial assets and reducing their investment income. This, in turn, would suppress the demand for financialisation and lower the degree of financialisation in the real economy.

Third, prior to considering time differences, the results indicate that fiscal policy has a slightly greater impact on corporate financialisation than monetary policy. However, after incorporating a time fixed effects model, the impact of monetary policy significantly surpasses that of fiscal policy. Both tax reductions and restrictive monetary policies can curb the degree of corporate financialisation, but the impact of monetary policy

is greater. Thus, when the degree of corporate financialisation is high, the government can use restrictive monetary policies for a more pronounced effect.

Finally, the financialisation of enterprises is also influenced by their internal characteristics. For example, companies with lower financial leverage, lower management efficiency, greater net cash flows from operating activities, and better growth potential tend to exhibit a higher degree of financialisation. Therefore, adjusting the internal characteristics of enterprises can help to reduce their degree of financialisation.

5.2. Policy Recommendations

Financialisation can have a negative impact on corporate performance. Maintaining a stable economic order, slowing the process of economic detachment from reality towards virtuality, and supporting the healthy development of the real economy are topics of common concern for the Chinese government and real economy enterprises. The study suggests that China is currently experiencing a process of financialisation of the real economy. This involves the gradual transfer of funds from real enterprises to financial channels, resulting in a significant 'hollowing out' phenomenon. Additionally, the study highlights the significant impact of macroeconomic policies, such as fiscal and monetary policies, on the level of corporate financialisation. Therefore, adjusting fiscal and monetary policies to reduce the detachment from reality towards virtuality in the real economy and facilitate the healthy development of enterprises is a viable approach.

Based on this, the paper proposes the following policy recommendations:

First, it is recommended that the government continues to implement fiscal policies that are favourable for tax and fee reduction to alleviate the level of financialisation in the real economy. Consideration could be given to formulating differentiated fiscal policies and deepening tax system reforms. Developing differentiated fiscal policies involves creating tax policies based on the unique characteristics of different enterprises or industries. This guides different types of enterprises to allocate more funds towards developing their main businesses. Secondly, by deepening tax policy reform, enterprises are encouraged to reduce operating costs, which facilitates their engagement in real economic activities. Additionally, incorporating income from non-core business financial investments into the taxable scope guides enterprises to reduce the proportion of financial asset allocation.

Second, when the government implements quantitative easing monetary policies to stimulate economic development, it is important to understand the extent of the easing. In the current situation, where a large amount of monetary funds flow into the financial and real estate sectors, it is crucial to deepen financial supply-side reform, coordinate the relationship between finance and the real economy, and formulate more precise and targeted monetary policies. Structural monetary policies should be effectively utilized to guide funds towards the real economy. This will ensure that support funds directly reach small and medium-sized enterprises, effectively addressing the difficulties and high costs of financing for them. On the other hand, regulating the financial market more strictly, controlling the capital utilization behaviour of large enterprises and non-bank financial institutions, effectively reducing financial risks, and guiding the normalization of fund flows. Conversely, when implementing restrictive monetary policies, it is essential to understand the level of restriction, create targeted adjustment plans, and pay attention to the overall changes in financial market fund flows to prevent systemic financial risks while avoiding detachment from reality towards virtuality in the real economy.

References

- Cao, W., Chen, C., Jiang, D., Li, W., & Zhang, Y. (2022). Industrial policy and non-financial corporations' financialization: Evidence from China. *The European Journal of Finance*, 28(4-5), 397-415. <https://doi.org/10.1080/1351847x.2021.1918204>
- Chen, C., Wang, T., & Jia, X. (2023). Short-termism in financial decision-making: Uncovering the influence of managerial myopia on corporate financial asset allocation through MD&A textual analysis. *International Review of Financial Analysis*, 90, 102900. <https://doi.org/10.1016/j.irfa.2023.102900>
- Chu, Z., Cheng, M., Chen, X., & Li, W. (2024). Corporate financialization during broadband upgrade. *Finance Research Letters*, 59, 104747. <https://doi.org/10.1016/j.frl.2023.104747>
- Davis, L. E. (2017). Financialization and investment: A survey of the empirical literature. *Journal of Economic Surveys*, 31(5), 1332-1358. <https://doi.org/10.1111/joes.12242>
- Gong, C. M., Gong, P., & Jiang, M. (2023). Corporate financialization and investment efficiency: Evidence from China. *Pacific-Basin Finance Journal*, 79, 102045. <https://doi.org/10.1016/j.pacfin.2023.102045>
- Gu, L., Liu, Z., Ma, S., & Wang, H. (2022). Social trust and corporate financial asset holdings: Evidence from China. *International Review of Financial Analysis*, 82, 102170. <https://doi.org/10.1016/j.irfa.2022.102170>
- Hou, Q., Tang, X., & Teng, M. (2021). Labor costs and financialization of real sectors in emerging markets. *Pacific-Basin Finance Journal*, 67, 101547. <https://doi.org/10.1016/j.pacfin.2021.101547>
- Huang, B., Cui, Y., & Chan, K. C. (2022). Firm-level financialization: Contributing factors, sources, and economic consequences. *International Review of Economics & Finance*, 80, 1153-1162. <https://doi.org/10.1016/j.iref.2022.04.007>
- Huang, J., Luo, Y., & Peng, Y. (2021). Corporate financial asset holdings under economic policy uncertainty: Precautionary saving or speculating? *International Review of Economics & Finance*, 76, 1359-1378. <https://doi.org/10.1016/j.iref.2019.11.018>

- Jiang, F., Shen, Y., & Cai, X. (2022). Can multiple blockholders restrain corporate financialization? *Pacific-Basin Finance Journal*, 75, 101827. <https://doi.org/10.1016/j.pacfin.2022.101827>
- Kwateng, K. O., Amanor, C., & Tetteh, F. K. (2022). Enterprise risk management and information technology security in the financial sector. *Information & Computer Security*, 30(3), 422-451. <https://doi.org/10.1108/ics-11-2020-0185>
- Laplume, A. O., Harrison, J. S., Zhang, Z., Yu, X., & Walker, K. (2022). Evidence of an inverted U-shaped relationship between stakeholder management performance variation and firm performance. *Business Ethics Quarterly*, 32(2), 272-298. <https://doi.org/10.1017/beq.2021.19>
- Leng, T., Liu, Y., Xiao, Y., & Hou, C. (2023). Does firm financialization affect optimal real investment decisions? Evidence from China. *Pacific-Basin Finance Journal*, 79, 101970. <https://doi.org/10.1016/j.pacfin.2023.101970>
- Li, Z., & Wang, Y. (2021). Is there a moderate range of impact of financialization on corporate R&D? *Plos One*, 16(6), e0253380. <https://doi.org/10.1371/journal.pone.0253380>
- Liu, G. (2017). Financial asset allocation and enterprise R&D innovation: "Crowding out" or "crowding in." *Statistical Research*, 34(7), 49-61.
- Liu, L., & He, J. (2023). Does financialization affect firm R&D investment? Evidence from China. *Finance Research Letters*, 58, 104311. <https://doi.org/10.1016/j.frl.2023.104311>
- Liu, Z., Tang, H., & Zhang, C. (2023). Corporate governance, moral hazard, and financialization. *International Review of Economics & Finance*, 88, 318-331. <https://doi.org/10.1016/j.iref.2023.06.042>
- Ojo, O., Dabara, D. I., & Ajayi, M. T. A. (2021). Performance of commercial and residential real estate investments in Ibadan property market, Nigeria. *Property Management*, 40(2), 169-191. <https://doi.org/10.1108/pm-07-2020-0046>
- Orhangazi, Ö. (2008). Financialisation and capital accumulation in the non-financial corporate sector: A theoretical and empirical investigation on the US economy: 1973-2003. *Cambridge Journal of Economics*, 32(6), 863-886. <https://doi.org/10.1093/cje/ben009>
- Shi, X. Z., & Yang, Z. (2021). Corporate financialization and innovation —A review from the perspective of industrial policies. *Science Research Management*, 42(4), 147-157.
- Shu, J., Zhang, C., & Zheng, N. (2020). Financialization and sluggish fixed investment in Chinese real sector firms. *International Review of Economics & Finance*, 69, 1106-1116. <https://doi.org/10.1016/j.iref.2018.12.008>
- Song, J., & Lu, M. (2015). U-shaped relationship between non monetary financial assets and operating returns: Evidence from the financialization of listed non-financial companies in China. *Finance Research*, 6, 111-127.
- Su, K., & Liu, H. (2021). Financialization of manufacturing companies and corporate innovation: Lessons from an emerging economy. *Managerial and Decision Economics*, 42(4), 863-875. <https://doi.org/10.1002/mde.3278>
- Tang, H., & Zhang, C. (2019). Investment risk, return gap, and financialization of non-listed non-financial firms in China*. *Pacific-Basin Finance Journal*, 58, 101213. <https://doi.org/10.1016/j.pacfin.2019.101213>
- Tao, L., Chen, L., & Li, K. (2021). Corporate financialization, financing constraints, and environmental investment. *Sustainability*, 13(24), 14040. <https://doi.org/10.3390/su132414040>
- Tomaskovic-Devey, D., Lin, K.-H., & Meyers, N. (2015). Did financialization reduce economic growth? *Socio-Economic Review*, 13(3), 525-548. <https://doi.org/10.1093/ser/mwv009>
- Trivedi, S. R. (2014). Financialisation and accumulation: A firm-level study in the Indian context. *Procedia Economics and Finance*, 11, 348-359. [https://doi.org/10.1016/s2212-5671\(14\)00203-2](https://doi.org/10.1016/s2212-5671(14)00203-2)
- Wan, L., Zhang, P., & Lin, Q. (2023). The loss of political connections and corporate financialization. *Finance Research Letters*, 57, 104201. <https://doi.org/10.1016/j.frl.2023.104201>
- Wang, L., Hao, N., Fang, H., Wu, M., & Ma, X. (2023). A model for measuring over-financialization: Evidence from Chinese companies. *Finance Research Letters*, 51, 103427. <https://doi.org/10.1016/j.frl.2022.103427>
- Wu, F., Pan, F., & Chen, J. (2022). Financialization under state entrepreneurialism in China. *Regional Studies*, 56(8), 1237-1243. <https://doi.org/10.1080/00343404.2022.2051471>
- Xie, Z., Du, J., & Wu, Y. (2022). Does financialization of non-financial corporations promote the persistence of innovation: Evidence from A-share listed manufacturing corporations in China. *Eurasian Business Review*, 12(2), 229-250. <https://doi.org/10.1007/s40821-021-00193-x>
- Xu, X., & Xuan, C. (2021). A study on the motivation of financialization in emerging markets: The case of Chinese nonfinancial corporations. *International Review of Economics & Finance*, 72, 606-623. <https://doi.org/10.1016/j.iref.2020.12.026>
- Yang, J., & Chen, S. (2023). Corporate financialization, digitalization and green innovation: A panel investigation on Chinese listed firms. *Innovation and Green Development*, 2(3), 100068. <https://doi.org/10.1016/j.igd.2023.100068>
- Yang, Z., Liu, F., & Wang, H. J. (2017). Corporate allocation of transactional financial assets: Cash reserves or speculative behavior? *Management Review*, 29(2), 13-25.
- Yu, Z., Yu, K., Ye, Y., & Wang, C. (2024). Corporate financialization and the spread of issuing bonds. *Finance Research Letters*, 59, 104798. <https://doi.org/10.1016/j.frl.2023.104798>
- Zhang, C., & Zheng, N. (2020). Monetary policy and financial investments of nonfinancial firms: New evidence from China. *China Economic Review*, 60, 101420. <https://doi.org/10.1016/j.chieco.2020.101420>
- Zhang, C. S., & Zhang, B. T. (2016). The mystery of the declining rate of industrial investment in China: A financialization perspective. *Economic Research Journal*, 51(12), 32-46. <https://doi.org/10.1016/j.frl.2022.102898>
- Zhao, Y., & Su, K. (2022). Economic policy uncertainty and corporate financialization: Evidence from China. *International Review of Financial Analysis*, 82, 102182. <https://doi.org/10.1016/j.irfa.2022.102182>
- Zhong, H., Al-Duais, Z. A. M., & Peng, B. (2023). The impact of idiosyncratic risk on corporate financialisation—Evidence from China. *International Review of Financial Analysis*, 86, 102491. <https://doi.org/10.1016/j.irfa.2023.102491>