The Impact of China's Macroeconomic Indicators on the Scale of Private Equity Investment

Shaoxuan Wang

International School of Economics and Management, Capital University of Economics and Business, Beijing, China
32023200032@cueb.edu.cn

Abstract. This paper collects monthly data spanning 119 months from January 2016 to December 2025, employs a multiple linear regression model for empirical analysis, and ensures the rationality of model settings through correlation analysis and collinearity diagnosis. The research findings indicate: Firstly, there is a significant negative correlation between CPI and private equity scale, with an average decrease of 1.88 trillion yuan in private equity scale for every one percentage point increase in inflationary pressure. Secondly, Purchasing Managers' Index (PMI) also exhibits a significant negative impact, indicating that private equity financing has countercyclical characteristics. Thirdly, trade balance and new credit expansion significantly positively promote the expansion of private equity scale. Fourthly, Producer Price Index (PPI) has an insignificant impact. Fifthly, M2 is eliminated due to multicollinearity issues with other variables. The adjusted R-squared of the model is 0.413, indicating good overall explanatory power. This study is the first to incorporate six major macroeconomic indicators into a unified analytical framework, revealing that inflation level and economic prosperity are core factors affecting private equity investment. It provides a quantitative basis for policymakers to optimize the macroeconomic environment and for investors to conduct asset allocation.

Keywords: Private Equity Investment, Macroeconomic Indicators, Multiple Linear Regression.

1 Introduction

As the global economy keeps evolving and China's economic structure transforms continuously, private equity investment has grown into a crucial force propelling economic growth. On a microeconomic level, it helps enterprises pursue high-quality development [1]. From a macroeconomic standpoint, it supports the long-term and sustainable development of the economy [2]. In recent years, the total assets under management in China's private equity industry have kept expanding, and related investment activities have become more and more active [3]. Nevertheless, private equity investment is characterized by obvious volatility. Its scale growth is not an isolated phenomenon, but rather reflects the cyclical fluctuations of the macroeconomy and shifts in the policy environment [4]. Relevant research finds that macroeconomic

© The Author(s) 2026
L. C. Yoong (ed.), *Proceedings of the 2026 2nd International Conference on Financial Innovation and Marketing Management (FIMM 2026)*, Advances in Economics, Business and Management Research 408,
https://doi.org/10.2991/978-94-6239-801-6_13

swings, especially the uncertainty brought by economic policies, can cause a herd effect in the venture capital market and also influence companies' investment decisions. This shows that the behavior of private equity investment is affected by changes in the macroeconomy [5]. When the global economy faces shocks, private equity funds will adjust their investment portfolios significantly according to different industry features, which reflects their flexibility in coping with macroeconomic fluctuations [6]. Therefore, it is of great practical and theoretical value to explore which macroeconomic indicators act as the core driving factors for private equity investment.

Existing research both at home and abroad has laid a solid foundation for exploring the relationship between the macroeconomic environment and private equity investment. Some domestic scholars have carried out empirical studies based on data from the first quarter of 2007 to the third quarter of 2014, and found that Gross Domestic Product (GDP) and price indices are both positively correlated with private equity investment [7]. However, the data sample supporting this conclusion is quite outdated, and cannot reflect the industry's development trends and economic characteristics over the past decade. Meanwhile, most existing studies only focus on one or a small number of indicators, or use annual and quarterly data. They lack a comprehensive analysis of multi-dimensional monthly indicators such as Consumer Price Index (CPI), Purchasing Managers' Index (PMI), M2, Producer Price Index (PPI), trade balance and new credit volume, which makes it difficult to identify the correlation between macroeconomic fluctuations and private equity investment. For this reason, this research gap is exactly the starting point of this study.

In light of this, this study integrates six core indicators: CPI, PMI, M2, PPI, trade balance and new credit volume into its analytical framework. It plans to collect monthly time-series data from 2016 to 2025, and adopts a multiple linear regression model to systematically explore the impact of these six key macroeconomic indicators on the overall scale of private equity investment in China. This research carries important theoretical value. By constructing a multivariate regression model, it helps present a more comprehensive and detailed relationship between the macroeconomy and the private equity capital market. It also responds to academic discussions regarding how private equity investment adapts to macroeconomic fluctuations, and enriches the empirical evidence at the cross-section of financial economics and macroeconomics. From a practical perspective, the conclusions of this study can provide macro data-based quantitative references for both policymakers and market investors.

2 Research Design

2.1 Sample Selection and Data Sources

This study uses monthly data from January 2016 to December 2025 as the research sample. Data on private equity fund management scale for November 2025 is not available. Therefore, this study removes this month's data, making the total sample size 119. This study takes the private equity fund management scale released by the Asset Management Association of China as the proxy variable, which is measured in trillion yuan and reflects the scale of private equity investment. The preliminary selection of

macroeconomic indicators includes six core indicators: Consumer Price Index (CPI), Producer Price Index (PPI), Purchasing Managers Index (PMI), money supply (M2), trade balance (in billions of US dollars), and new credit volume (in billions of yuan). All data are sourced from the websites of the National Bureau of Statistics, the General Administration of Customs, the China Federation of Logistics and Purchasing, the People's Bank of China, and the Asset Management Association of China.

2.2 Variable Definition

The dependent variable is the management scale of private equity funds, reflecting the overall capital stock of the private equity investment industry. Regarding the six core explanatory variables, the national CPI measures changes in the price levels of consumer goods and services, the national PPI measures changes in the ex-factory prices of industrial products, PMI (manufacturing) reflects the prosperity of the manufacturing industry, M2 reflects market liquidity, the trade balance reflects external demand conditions, and the new credit volume represents the newly increased RMB loans by financial institutions, reflecting the extent of credit expansion.

2.3 Model Setting

Based on the above variables, the constructed multiple linear regression model is as follows:

$$PE_t=\beta_0+\beta_1 CPI_t+\beta_2 PPI_t+\beta_3 PMI_t+\beta_4 M2_t+\beta_5 Trade_Balance_t+\beta_6 Credit_t+\varepsilon_t \quad (1)$$

Where, PE_t is the management scale of the private fund in period t, and ε_t is the disturbance term.

3 Empirical Analysis

3.1 Correlation Analysis

Table 1. Pearson correlation analysis results between explanatory variables and dependent variables.

	the management scale of private equity funds
National CPI	-0.485**
National PPI	-0.132
PMI (manufacturing)	-0.248**
M2 (in billions of yuan)	0.914**
Trade balance (in billions of US dollars)	0.412**
new credit volume (in billions of yuan)	0.126

*p<0.05 **p<0.01

Before conducting regression analysis, this study first tested the correlation between variables to preliminarily explore the degree of association between various macroeconomic indicators and the management scale of private equity funds [4,8].

Table 1 shows that when looking at the relationship between the explanatory variables and the dependent variable, most macroeconomic indicators are clearly related to the size of private equity. Among them, M2 has the strongest positive connection with private equity scale. Its correlation coefficient is 0.914, and it is significant at the 1% level. Trade balance is also positively linked to private equity scale at the 1% significance level, with a coefficient of 0.412. On the other hand, CPI and PMI both show a significant negative correlation with private equity scale. Their coefficients are -0.485 and -0.248 respectively, and both pass the 1% significance test. National PPI and new credit volume, however, have a weaker correlation with private equity scale and do not pass the significance test.

Table 2. Pearson correlation analysis results between explanatory variables.

	National CPI	National PPI	PMI	M2	trade balance	new credit volume
National CPI	1					
National PPI	0.176	1				
PMI	-0.152	0.213*	1			
M2	-0.605**	-0.358**	-0.251**	1		
Trade balance	-0.232*	-0.097	-0.100	0.376**	1	
new credit volume	-0.005	-0.000	0.119	0.084	0.009	1

*p<0.05 **p<0.01

From Table 2, M2 has a fairly strong negative correlation with CPI ($r = -0.605$, $p < 0.01$), and it also shows significant low-to-medium correlations with both PPI and trade balance ($r = -0.358$, $p < 0.01$; $r = 0.376$, $p < 0.01$). This means M2 carries a lot of overlapping information with other variables. If this study keeps it in the model together with others, it may cause multicollinearity and make the results less reliable. To avoid this problem and make the model estimation more accurate, this study chooses to remove the M2 variable. After dropping M2, the absolute values of correlation coefficients among the remaining explanatory variables are all below 0.4, suggesting a low risk of collinearity. This makes it easier to observe the independent impact of each macro indicator on the dependent variable.Based on this, the new multiple linear regression model is as follows:

$$PE_t=\beta_0+\beta_1 CPI_t+\beta_2 PPI_t+\beta_3 PMI_t+\beta_4 Trade_Balance_t+\beta_5 Credit_t+\varepsilon_t \quad (2)$$

Where PE_t is the management scale of the private fund in period t, and ε_t is the disturbance term.

3.2 Analysis of Regression Results

Table 3. Results of linear regression analysis.

	Non-standardized coefficient		standardized coefficient	t	p
	Beta	standard error	Beta		
constant	243.593	33.034	-	7.374	0.000**
National CPI	-1.880	0.295	-0.480	-6.370	0.000**
National PPI	0.060	0.082	0.054	0.736	0.464
PMI	-0.931	0.217	-0.320	-4.285	0.000**
Trade balance	0.042	0.011	0.274	3.742	0.000**
New credit volume	0.000	0.000	0.162	2.276	0.025*
R^2	0.438				
adjustR^2	0.413				
F	F(5113) = 17.624, p = 0.000				
D-W value	0.463				

*p<0.05 **p<0.01

This study uses SPSS to conduct linear regression on the sample data, and the regression results are listed in Table 3. The adjusted R-squared of the model $R^2$is 0.413, and the F-value is 17.624 ($p<0.01$), which is statistically significant. This shows that the overall model is effectively constructed. To be specific, price level is the most important factor affecting the scale of private equity investment. CPI is significantly negatively correlated with private equity scale ($\beta=-1.880$, $p<0.01$). This may be due to the fact that inflation leads to expectations of tighter monetary policy, raises financing costs, and reduces investment enthusiasm. However, PPI does not pass the significance test ($p=0.464$), which means there is a weak correlation between upstream industrial product prices and private equity investment [9]. In terms of economic performance, PMI has a significant negative effect ($\beta=-0.931$, $p<0.01$). When the economy is booming, high-quality enterprises prefer traditional financing channels. Their demand for private equity decreases. When the economy is down, enterprises have fewer financing options and rely more on private equity capital [6]. External demand and credit factors have a positive promoting effect instead. This may be because the increase in foreign exchange brought by trade surplus improves market liquidity. The absolute coefficient of new credit volume is relatively small, meaning it has little influence on private equity investment.

3.3 Collinearity Diagnosis

To make sure the regression estimation results are reliable, this study did a collinearity diagnosis for these five explanatory variables, and the diagnosis results are shown in Table 4.

Table 4. Collinearity diagnostic results.

	VIF	tolerance
National CPI	1.140	0.877
National PPI	1.103	0.907
PMI	1.123	0.891
Trade balance	1.080	0.926
New credit volume	1.016	0.985

All the variance inflation factors of the explanatory variables are below 1.2, far lower than the critical value of 10. Meanwhile, all the tolerance values are higher than 0.877, well above the critical value of 0.1. This indicates that after removing the M2 variable, there is no severe multicollinearity issue among the remaining five variables in the model, and the regression estimation results are relatively robust.

4 Conclusion

Based on monthly data from 2016 to 2025, this study analyzes the impact of six macroeconomic indicators on the scale of private equity investment in China. The conclusions drawn are as follows: Firstly, inflation level is the core influencing factor. CPI has a significant negative correlation with private equity scale, indicating that rising inflation significantly inhibits the expansion of private equity scale. Secondly, economic prosperity also has a significant negative impact, confirming the countercyclical characteristics of the private equity market. Thirdly, external demand and credit expansion promote private equity investment. Among them, the trade balance has a significant positive impact, indicating that the increase in liquidity brought by trade surplus is conducive to private equity investment. The newly increased credit amount has a significant positive impact after controlling for other variables. Fourthly, the impact of industrial product prices is not significant, and PPI fails to pass the significance test, indicating that there is a weak correlation between upstream industrial product prices and private equity investment. Fifthly, M2 is eliminated due to collinearity issues, and its impact remains to be further explored.

Based on the research findings, policymakers need to manage inflation expectations, maintain a stable monetary policy, and leverage the countercyclical characteristics of private capital to guide it to support the real economy during economic downturns. Investors can use CPI and PMI as core early warning indicators, and appropriately adjust the allocation ratio of private assets during periods of high inflation or an overheated economy to avoid investment risks. This study provides a quantitative reference for policy formulation and investment allocation, but there are still limitations: the impact of M2 has not been explored, the research only focuses on the scale of private equity funds, and the multiple linear regression model does not fully consider the time series characteristics of variables. Looking at the D-W value of 0.463, there is indeed an autocorrelation problem in the model. But overall, the conclusions drawn this time are still helpful for people to understand the connection between macro indicators and private equity investment. As for the follow-up, I plan to shift the

perspective to provincial panel data and study the heterogeneous effects of macroeconomic characteristics across different provinces on private equity investment. This kind of expansion can also bring more quantitative reference values to the development of the private equity industry and the formulation of targeted macro policies.

References

1. Zhang, S., Xu, Z., Zhu, J., et al.: The impact of private equity investment on high-quality development of enterprises: a study based on the mediating effect of information asymmetry. China Soft Science (12), 132-145 (2024)
2. Du, Q., Li, Z., Du, M., et al.: Venture capital, innovation channels, and regional resource dependence: evidence from China. Journal of Environmental Management 352, 120034 (2024)
3. Wang, Y.: Private equity scale is expected to hit a new high with strong recovery momentum. China Securities Journal, A03 (2025-10-31)
4. Chen, X.: Research on the structural differentiation of venture capital industry under macroeconomic fluctuations. In: SHS Web of Conferences, vol. 225, p. 01017. EDP Sciences (2025)
5. Sun, Y., Fu, H.: Economic policy uncertainty and herding behavior in venture capital market: evidence from China. Pacific-Basin Finance Journal, 102803 (2025)
6. Wehking, M., Herberger, T.A.: Sector-based portfolio changes of private equity funds during economic shocks. Journal of Asset Management **26**(6), 697-706 (2025)
7. Li, D., Zhang, X.: An empirical study on the impact of macroeconomic factors on private equity investment. Times Finance (3), 6-7 (2018)
8. Cong, Y.: Research on the proportion of venture capital holdings and its changes on the short-term performance of enterprises. In: SHS Web of Conferences, vol. 225, p. 03014. EDP Sciences (2025)
9. Rossi, M., Capasso, A., Pereira, B., et al.: Exploring cross-country influences on private equity investment. Review of Accounting and Finance **24**(5), 659-682 (2025)

Open Access This chapter is licensed under the terms of the Creative Commons Attribution-NonCommercial 4.0 International License (http://creativecommons.org/licenses/by-nc/4.0/), which permits any noncommercial use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.

