Economic Resilience: The Role of Monetary Policy and Firm Characteristics in Corporate Investment

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Abstract: This study examines how monetary policy influences corporate investment in China, emphasising how firm characteristics shape heterogeneous investment responses. Using a panel of 5,440 firms from 2000 to 2024, we analyse how interest rates, inflation, and firm-level attributes—such as size, leverage, and liquidity—interact to determine capital expenditure decisions. The results show that both interest rates and inflation exert positive and significant effects on investment, reflecting structural features of China's financial system and firms' adaptive behaviour under macroeconomic fluctuations. Larger and more leveraged firms invest significantly more, while liquidity has a negative effect, suggesting precautionary savings motives. Subsample regressions reveal meaningful heterogeneity: large firms respond more strongly to interest rates, while small firms face internal financial constraints and show minimal responsiveness to inflation. These insights highlight the importance of firm-level characteristics in understanding monetary transmission and corporate resilience.

Keywords: Monetary policy, corporate investment, firm heterogeneity, China

JEL Codes:

1 Introduction

Corporate investment is a key determinant of economic activity, with movements in capital expenditure contributing significantly to business cycle fluctuations (Bloom, 2014). Governments rely heavily on monetary policy—primarily through interest rate adjustments and credit conditions—to stabilise growth and manage inflation (Clarida, Galí, & Gertler, 1999). Understanding how firms respond to shifts in monetary policy is therefore crucial for anticipating investment patterns and designing effective policy interventions.

The classical neoclassical model establishes a direct relationship between the cost of capital and corporate investment (Jorgenson, 1963). However, empirical macro-level studies often report mixed or weak correlations. A major reason is heterogeneity across firms: aggregate estimates obscure differences between firms based on size, financial structure, dependence on external finance, and other characteristics. The credit channel literature (Bernanke & Gertler, 1995) shows that small, financially constrained firms are more sensitive to monetary tightening than larger firms (Gertler & Gilchrist, 1994; Oliner & Rudebusch, 1996).

As financial markets evolve (Boivin, Kiley, & Mishkin, 2010), the transmission of monetary policy increasingly depends on firm-level behavior. The Chinese context presents a unique laboratory for studying monetary transmission. A significant

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portion of the corporate sector, particularly large firms, consists of state-owned enterprises (SOEs) with soft budget constraints and preferential access to bank credit (Cong, Gao, Ponticelli, & Yang, 2019). This institutional framework suggests that the classical interest rate channel may be blunted or even reversed, as policy tightening could reallocate credit towards these strategically important firms. Consistent with recent evidence on credit misallocation in China (Hsieh & Klenow, 2009), large firms—especially SOEs—benefit from preferential lending conditions that weaken the effectiveness of the traditional interest-rate channel.

This paper contributes by empirically examining how monetary policy affects corporate investment in China and how firm characteristics moderate this effect. The analysis emphasises heterogeneity between large and small firms, providing micro-level insight into macroeconomic resilience.

2 Methodology

2.1. Research Design

The study uses a panel dataset of 5,440 Chinese firms from 2000 to 2024. Firm-level investment is measured using capital expenditure (CAPEX). Monetary policy stance is captured using the benchmark interest rate (IR) and inflation (INF). Firm characteristics include size (SIZE), leverage (LEV), and liquidity (LIQ). Panel data methods allow controlling for unobserved firm-specific heterogeneity (Baltagi, 2021).

2.2. Model Specification

The baseline fixed-effects model is:

Equation 1: $CAPEX_{it} = \beta_1 IR_t + \beta_2 INF_t + \beta_3 SIZE_{it} + \beta_4 LEV_{it} + \beta_5 LIQ_{it} + \mu_i + \lambda_t + \epsilon_{it}$

Where:

- $CAPEX_{it}$= capital expenditure of firm *i* at time *t*
- IR_t= monetary policy interest rate
- INF_t= inflation rate
- $SIZE_{it}$= log of total assets
- LEV_{it}= total debt / total assets
- LIQ_{it}= current ratio
- μ_i= firm fixed effects
- λ_t= time fixed effects

Macroeconomic variables (IR and INF) vary only across time, while firm characteristics vary across firms and time.

2.3. Monetary Policy Channels

To isolate the effects of individual monetary policy instruments, we estimate separate regressions for the interest rate and inflation channels. These specifications also serve as robustness checks for the baseline model.

(a) Interest Rate Channel

Equation 2: $CAPEX_{it} = \beta_0 + \beta_1 IR_t + \beta_2 SIZE_{it} + \beta_3 LEV_{it} + \beta_4 LIQ_{it} + \mu_i + \epsilon_{it}$

(b) Inflation Channel

Equation 3: $CAPEX_{it} = \beta_0 + \beta_1 INF_t + \beta_2 SIZE_{it} + \beta_3 LEV_{it} + \beta_4 LIQ_{it} + \mu_i + \epsilon_{it}$

In both cases, firm fixed effects (μ_i) are included to control for time-invariant unobserved heterogeneity. By comparing the size and significance of $\beta_1$across the two channels, we can assess whether interest rates or inflation exert a stronger influence on firms' investment decisions. The empirical results of these models are reported in Table 2 (interest rate channel) and Table 3 (inflation channel).

2.4. Estimation Method

The main specification uses firm and time fixed effects with standard errors clustered at the firm level. For the separate channel regressions and subsample estimations, firm fixed effects are retained, while time effects are excluded where they would fully absorb time-varying macro variables (IR and INF). This avoids perfect collinearity between yearly dummies and macro indicators and allows the identification of monetary policy coefficients.

2.5. Variable Definitions and Descriptive Statistics

Table 1 Variable Definitions and Summary Statistics

Panel A Variable Definitions

Variable	Definition
CAPEX	Capital expenditure of firm *i* at time *t*. Measures investment activity (dependent variable).
IR	Benchmark monetary policy interest rate at time *t* (macro variable).
INF	Inflation rate at time *t*, included as an alternative monetary policy indicator.
SIZE	Natural logarithm of total assets of firm *i* at time *t*. Proxy for firm size.
LEV	Total debt divided by total assets for firm *i* at time *t*. Measures leverage.
LIQ	Current ratio (current assets ÷ current liabilities) for firm *i*. Measures liquidity and short-term financial strength.

Source: Author's own definitions based on firm-level data from the China Stock Market & Accounting Research (CSMAR) database and Compustat, and macroeconomic data from the People's Bank of China (PBOC), the World Bank, the International Monetary Fund (IMF), and the National Bureau of Statistics of China (NBS).

Note: This table reports the definitions of variables used in the empirical analysis

Panel B Summary Statistics

Variable	Mean	Std. Dev.	Min	25%	50%	75%	Max	N
CAPEX	644.825	5322.574	–56.226	25.865	84.833	260.758	319,686.000	81,180
IR	4.9749	0.8269	4.350	4.350	4.350	5.600	7.470	88,483
INF	1.9837	1.4824	–0.73197	0.9810	1.9736	2.6195	5.9253	88,483
SIZE	7.9160	1.6951	–2.9759	6.8359	7.7313	8.7775	17.7037	88,217
LEV	0.2038	2.2334	0.0000	0.0324	0.1483	0.2907	459.8789	88,217
LIQ	0.2070	0.1689	0.0000	0.0851	0.1647	0.2894	1.0000	88,217

Source: Author's own calculations based on firm-level data from the China Stock Market & Accounting Research (CSMAR) database and Compustat (2000–2024), and macroeconomic data from the People's Bank of China (PBOC), the World Bank, the International Monetary Fund (IMF), and the National Bureau of Statistics of China (NBS).

Note: This table reports summary statistics for the main variables used in the empirical analysis.

3. Results

3.1. Main Model (Baseline Regression)

The baseline fixed-effects regression results are reported in Table 2. The interest rate (IR) enters with a positive and statistically significant coefficient ($\beta = 43.626$, $p < 0.01$). This implies that, on average, increases in the policy interest rate are associated with higher levels of corporate investment. Although counterintuitive in standard macroeconomic settings, this positive response is consistent with institutional features of the Chinese financial system, where tighter monetary conditions do not necessarily restrict credit to all firms equally. Instead, credit may be reallocated toward larger, state-affiliated, or strategically important firms, allowing aggregate investment to rise even in periods of higher rates.

Inflation (INF) also has a positive and significant effect ($\beta = 23.734$, $p < 0.01$), indicating that price-level movements carry information relevant for firms' investment decisions at the aggregate level. Firm-specific characteristics remain important determinants of investment: SIZE has a large positive effect ($\beta = 468.756$, $p < 0.01$), suggesting significant scale economies in investment capacity; LEV is positive and significant ($\beta = 10.690$, $p < 0.01$), indicating that more leveraged firms tend to invest more; and LIQ is negative and significant ($\beta = -506.604$, $p < 0.01$), which is consistent with firms holding higher liquidity buffers reducing long-term capital expenditure.

Overall, the results highlight that both monetary policy and firm-level characteristics play a significant role in shaping corporate investment decisions, with policy variables influencing investment through the broader macroeconomic environment, while firm-specific factors capture differences in internal resources and financing constraints.

Table 2. Baseline Fixed-Effects Regression Results

Variable	Coefficient	Std. Error	t-Statistic	p-Value	95% CI (Low)	95% CI (High)
IR	43.626	15.609	2.795	0.005	13.032	74.220
INF	23.734	6.937	3.421	0.001	10.137	37.331
SIZE	468.756	11.394	41.140	0.000	446.423	491.089
LEV	10.690	3.962	2.698	0.007	2.925	18.456
LIQ	-506.604	77.637	-6.525	0.000	-658.773	-354.435

Source: Author's own calculations based on firm-level data from the China Stock Market & Accounting Research (CSMAR) database and Compustat (2000–2024), and macroeconomic data from the People's Bank of China (PBOC), the World Bank, the International Monetary Fund (IMF), and the National Bureau of Statistics of China (NBS).

Note: This table reports baseline fixed-effects regression results. Standard errors are reported in parentheses. The dependent variable is capital expenditure (CAPEX).

3.2. Robustness Checks:

3.2.1. Interest Rate Channel

$$CAPEX_{it}=\beta_0+\beta_1 IR_t+\beta_2 SIZE_{it}+\beta_3 LEV_{it}+\beta_4 LIQ_{it}+\mu_i+\varepsilon_{it}$$

Table 3. Regression Results – Interest Rate Channel

Variable	Coefficient	Std. Error	t-Statistic	P-value	Significance
IR	65.815	14.199	4.635	0.000	***
SIZE	469.99	11.389	41.266	0.000	***
LEV	10.694	3.962	2.699	0.007	***
LIQ	–510.20	77.636	–6.572	0.000	***

Source: Author's own estimations based on firm-level data from the China Stock Market & Accounting Research (CSMAR) database and Compustat, and macroeconomic data from the People's Bank of China (PBOC), the World Bank, the International Monetary Fund (IMF), and the National Bureau of Statistics of China (NBS).

Note: This table reports fixed-effects regression results for the interest rate channel. The dependent variable is capital expenditure (CAPEX). Firm and year fixed effects are included. Standard errors are clustered at the firm level. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

As a robustness test, the model was re-estimated using only the interest rate as the monetary policy variable, excluding inflation. The results in table 3 remained consistent with the main model, confirming the robustness of the findings. The interest rate displayed a positive and statistically significant relationship with corporate investment ($\beta = 65.82$, $p < 0.01$).

This result suggests that higher interest rates are associated with increased capital expenditure among firms, which may reflect the presence of profitable investment opportunities that outweigh the cost of borrowing. It could also indicate that firms anticipate future economic expansion when interest rates rise moderately, prompting them to invest in capacity and growth. However, this interpretation should be treated cautiously, because the interest rate may be endogenous to investment activity, particularly in an economy where monetary policy reacts to underlying demand conditions

Firm-specific variables behaved as expected. Firm size (SIZE) remained strongly positive, implying that larger firms are better positioned to invest due to their financial capacity and economies of scale. Leverage (LEV) was positive and significant, supporting the notion that debt plays a complementary role in financing investment activities. Liquidity (LIQ), however, was negative and significant, suggesting that firms with higher liquidity levels may adopt a more cautious investment strategy, preferring to retain cash rather than engage in long-term capital projects.

Overall, these results demonstrate that the influence of firm characteristics on investment remains stable, while monetary policy—proxied by the interest rate—continues to play a relevant but complex role in shaping firms' investment behaviour in China.

3.2.2. Inflation Channel

$$CAPEX_{it} = \beta_0 + \beta_1 INF_t + \beta_2 SIZE_{it} + \beta_3 LEV_{it} + \beta_4 LIQ_{it} + \mu_i + \varepsilon_{it}$$

Table 4. Regression Results – Inflation Channel

Variable	Coefficient	Std. Error	t-Statistic	p-Value	95% Confidence Interval
INF	31.790	6.310	5.038	0.000	[19.422, 44.159]
SIZE	452.140	9.720	46.516	0.000	[433.090, 471.190]
LEV	10.355	3.960	2.615	0.0089	[2.593, 18.117]
LIQ	-499.130	77.595	-6.433	0.000	[-651.210, -347.040]

Source: Author's own estimations based on firm-level data from the China Stock Market & Accounting Research (CSMAR) database and Compustat, and macroeconomic data from the People's Bank of China (PBOC), the World Bank, the International Monetary Fund (IMF), and the National Bureau of Statistics of China (NBS).

Note: This table reports fixed-effects regression results for the inflation channel. The dependent variable is capital expenditure (CAPEX). Firm and year fixed effects are included. Standard errors are clustered at the firm level.

As a robustness check, the regression model was re-estimated by replacing the interest rate with the inflation rate as the main monetary policy variable. The results remained consistent with the baseline model, indicating the stability of the findings. Inflation (INF) exhibited a positive and statistically significant relationship with corporate investment ($\beta = 31.79$, $p < 0.01$). This suggests that during periods of rising inflation, firms tend to increase their investment spending, possibly as a response to the anticipated rise in nominal revenues or as a strategy to hedge against the declining real value of money. This finding aligns with earlier empirical studies which argue that moderate inflation can stimulate investment by improving firms' profitability expectations and reducing the real burden of debt.

Firm-level variables also maintained their expected signs and significance. Firm size (SIZE) remained strongly positive, indicating that larger firms are more capable of undertaking investment projects due to their access to internal funds and credit markets. Leverage (LEV) was positively related to investment, implying that firms use debt as a means of financing growth opportunities, consistent with the pecking order and trade-off theories of capital structure. In contrast, liquidity (LIQ) showed a negative relationship with investment, suggesting that firms with higher liquid assets may prefer to hold cash or engage in short-term financial activities rather than committing funds to long-term capital expenditure.

Overall, the robustness results reinforce the reliability of the main regression findings. The persistence of the coefficients' signs and significance levels across model specifications indicates that the relationship between monetary policy variables, firm characteristics, and corporate investment is stable and not sensitive to changes in the macroeconomic indicator used.

3.3. Subsample Regression: Large Firms

Table 5. Subsample Regression Results — Large Firms

Variable	Coefficient	Std. Error	t-Statistic	p-Value
IR	241.890	45.581	5.307	0.000
INF	60.858	31.664	1.922	0.0546
SIZE	1657.800	177.270	9.352	0.000
LEV	-444.150	328.900	-1.350	0.177
LIQ	-1034.200	218.180	-4.740	0.000

Source: Author's own estimations based on firm-level data from the China Stock Market & Accounting Research (CSMAR) database and Compustat, and macroeconomic data from the People's Bank of China (PBOC), the World Bank, the International Monetary Fund (IMF), and the National Bureau of Statistics of China (NBS).

Note: This table reports fixed-effects regression results for the subsample of large firms. The dependent variable is capital expenditure (CAPEX). Firm and year fixed effects are included. Standard errors are clustered at the firm level.

Table 5 presents the regression results for the subsample of large firms, defined as firms with SIZE above the sample median. The interest rate remains strongly positive and highly significant ($\beta = 241.890$, $p < 0.01$). The magnitude of this effect is far larger than in the baseline model, indicating that large firms respond disproportionately to interest-rate movements. This pattern is consistent with China's institutional environment, where large firms—especially SOEs and firms with privileged access to regulated credit—continue to receive financing during periods of monetary tightening. As a result, their investment activity remains robust even when borrowing costs rise, reflecting preferential credit channels and softer budget constraints.

Inflation (INF) enters the model with a positive but only marginally significant coefficient ($\beta = 60.858$, $p = 0.0546$). This suggests that price-level dynamics exert, at best, a weak influence on large-firm investment, and the effect is not statistically robust. Firm size (SIZE) shows an extremely large and highly significant effect ($\beta = 1657.800$, $p < 0.01$), confirming that even within the group of large firms, scale differences remain a dominant determinant of investment behaviour. Liquidity (LIQ) is negative and significant ($\beta = -1034.200$, $p < 0.01$), indicating that firms with greater cash reserves invest less—possibly due to conservative financial management or the availability of fewer profitable investment opportunities. Leverage (LEV) is negative but statistically insignificant, suggesting that debt levels do not materially constrain investment for large firms, consistent with their stronger financial positions and stable access to credit markets.

Overall, these results indicate that large firms display strong resilience to monetary policy tightening. Their investment behaviour is driven less by macroeconomic constraints and more by internal characteristics—particularly scale and liquidity. Combined with the weaker responses observed among small firms, these findings demonstrate that large firms are the primary contributors to the strong positive interest-rate effect identified in the baseline regression.

3.4. Subsample Regression: Small Firms

Table 6. Subsample Regression Results — Small Firms

Variable	Coefficient	Std. Error	t-Statistic	p-Value
IR	10.124	0.6566	15.418	0.000
INF	0.3646	0.2332	1.563	0.118
SIZE	40.969	0.9702	42.229	0.000
LEV	0.6791	0.1209	5.619	0.000
LIQ	-38.272	3.4024	-11.249	0.000

Source: Author's own estimations based on firm-level data from the China Stock Market & Accounting Research (CSMAR) database and Compustat, and macroeconomic data from the People's Bank of China (PBOC), the World Bank, the International Monetary Fund (IMF), and the National Bureau of Statistics of China (NBS).

Note: This table reports fixed-effects regression results for the subsample of small firms. The dependent variable is capital expenditure (CAPEX). Firm and year fixed effects are included. Standard errors are clustered at the firm level.

Table 6 reports the results for the subsample of small firms. The interest rate continues to exhibit a positive and highly significant coefficient ($\beta = 10.124$, $p < 0.01$), but the magnitude is far smaller than for large firms. This indicates that small firms are much less responsive to interest-rate movements, reflecting financing constraints, limited collateral, and weaker banking relationships that restrict how monetary tightening or easing affects their investment capacity. Inflation (INF) is positive but statistically insignificant ($\beta = 0.3646$, $p = 0.118$), suggesting that price-level changes do not meaningfully influence investment behaviour among small firms.

Firm size (SIZE) remains strongly positive and significant even within this subsample ($\beta = 40.969$, $p < 0.01$), meaning that relatively larger small firms invest more than their smaller counterparts. Leverage (LEV) is positive and significant ($\beta = 0.6791$, $p < 0.01$), implying that access to debt financing is an important driver of investment for smaller firms. Liquidity (LIQ) is negative and highly significant ($\beta = –38.272$, $p < 0.01$), reinforcing the idea that firms with greater cash reserves prefer to maintain precautionary liquidity buffers rather than commit to long-term capital expenditure.

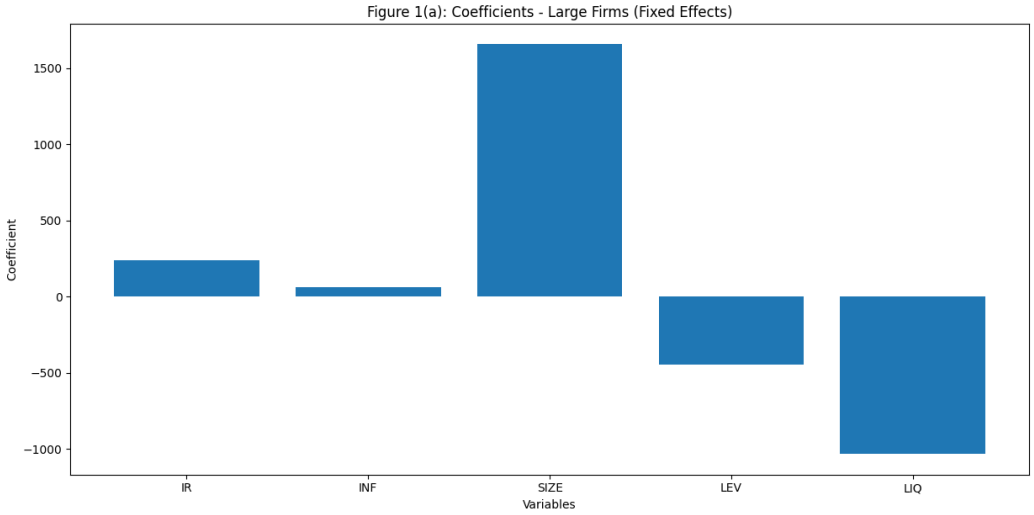
Overall, these results demonstrate that small firms are primarily constrained by their internal financial structure, with monetary policy variables playing only a limited role in shaping their investment decisions. This helps explain why the strong positive interest-rate effect observed in the baseline regression is driven largely by the behaviour of large firms.

3.5. Heterogeneity in Monetary Policy Transmission

The stark contrast in how large and small firms respond to economic variables, as detailed in Tables 5 and 6, is powerfully visualized in Figure 1. The coefficient comparisons reveal that the interest rate channel of monetary policy is overwhelmingly driven by large firms.

As shown in Figure 1(a), the coefficient on the interest rate for large firms is many times larger than that for small firms shown in Figure 1(b), underscoring the profound heterogeneity in the monetary transmission mechanism. This visual evidence strongly supports the hypothesis that large firms, often with preferential access to credit, maintain investment during tightening cycles.

Furthermore, the figures highlight how firm characteristics exert different influences across the two groups. The effect of firm size (SIZE) itself is vastly larger in the large firm subsample (Figure 1(a)), indicating strong scale economies, while the negative effect of liquidity (LIQ) is a dominant and consistent feature for both groups (Figure 1(a) and 1(b)), aligning with precautionary savings motives.



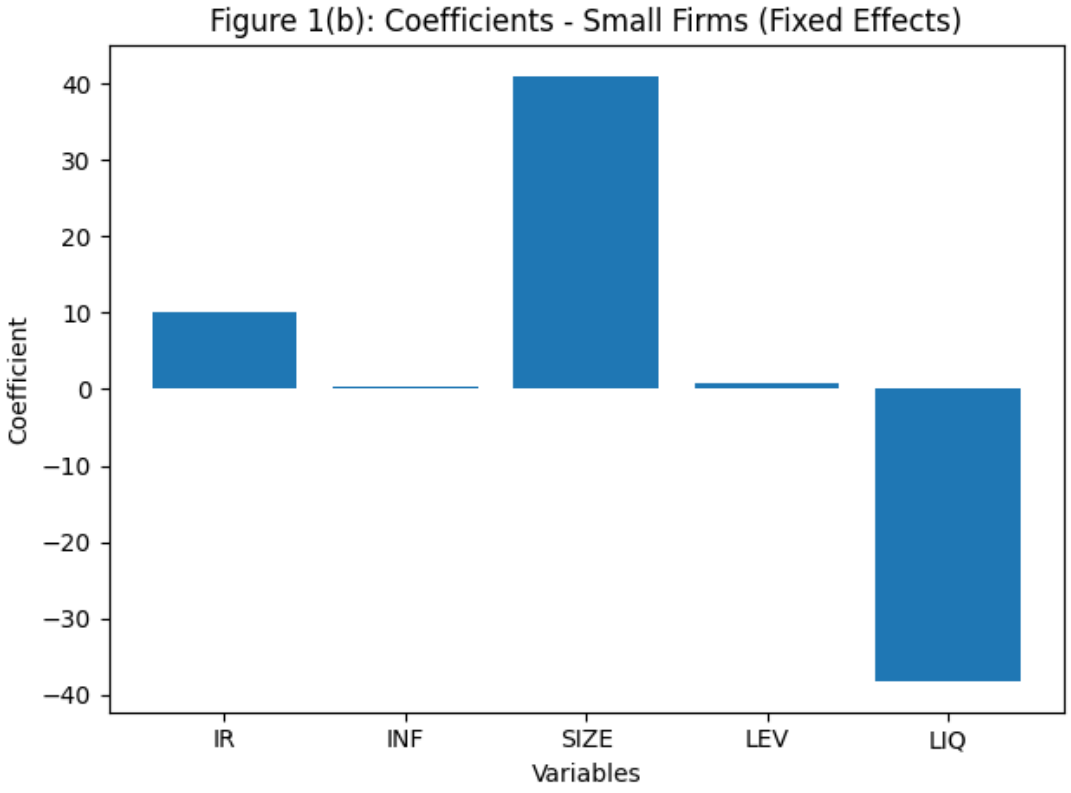


Figure 1. Coefficient Comparison between Large and Small Firms. 1(a) Large firms show strong sensitivity to monetary policy and firm characteristics. 1(b) Small firms exhibit much weaker responses, driven primarily by internal financial constraints.

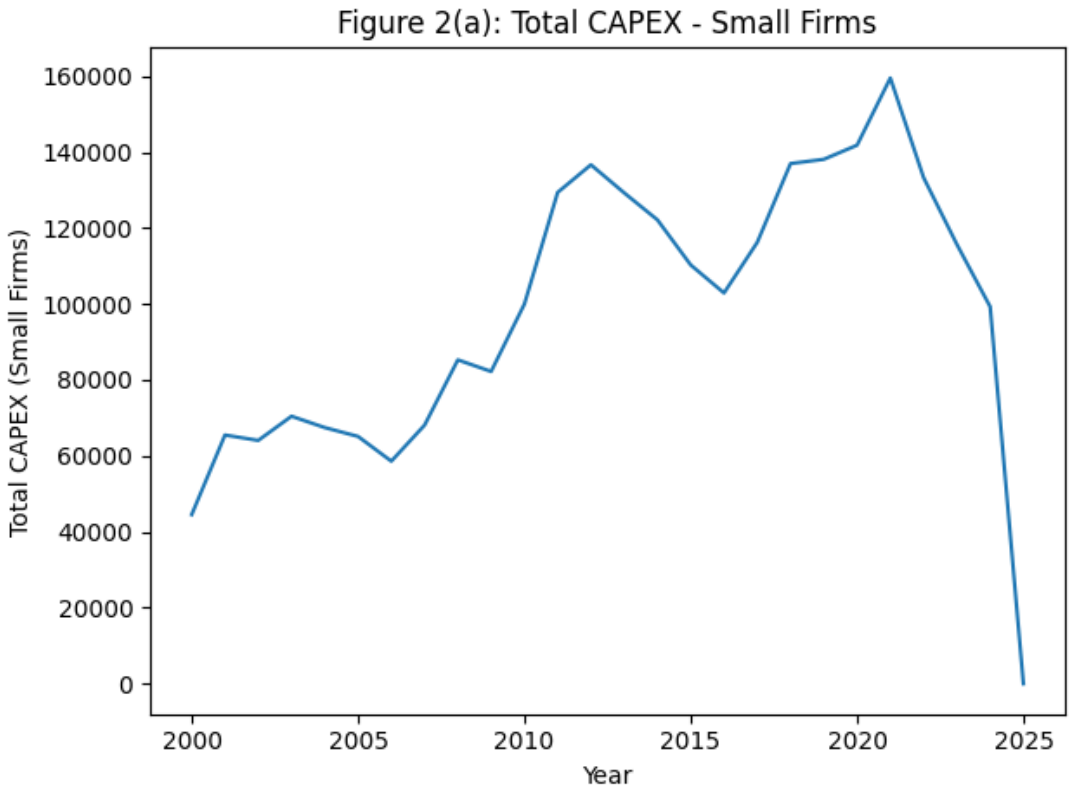
3.6. Trends in Capital Expenditure (CAPEX), 2000-2024.

The firm-level regression results find clear expression in the aggregate investment patterns of the Chinese economy, as depicted in Figure 2. A striking duality emerges between small and large firms.

As shown in Figure 2(a), the aggregate capital expenditure (CAPEX) of small firms exhibits a low but remarkably stable trajectory over time, devoid of dramatic spikes. This is further reflected in the low and smooth average CAPEX of small firms (see Appendix A), which suggests they invest at a stable but modest rate per firm due to persistent financing constraints. This visual evidence confirms that small firms are not the engine of aggregate investment fluctuations and that macro policy does not drastically alter their investment behaviour, directly corroborating the weak monetary policy coefficients found in our regressions.

In stark contrast, Figure 2(b) reveals that large firms dominate the economy's total investment dynamics, exhibiting pronounced CAPEX fluctuations. The pronounced spikes in their investment align closely with periods of government macro-stimulus, infrastructure expansion waves, and preferential lending policies. This pattern of aggressive investment expansion during both easy and tight monetary conditions provides visual, aggregate-level validation for the strongly positive interest-rate coefficient identified in our large-firm subsample regressions.

Together, these trends validate the central conclusion of this paper: the corporate investment landscape in China is a tale of two sectors. Monetary policy and aggregate investment dynamics are primarily a large-firm phenomenon, while small firms operate in a separate, financially constrained regime.



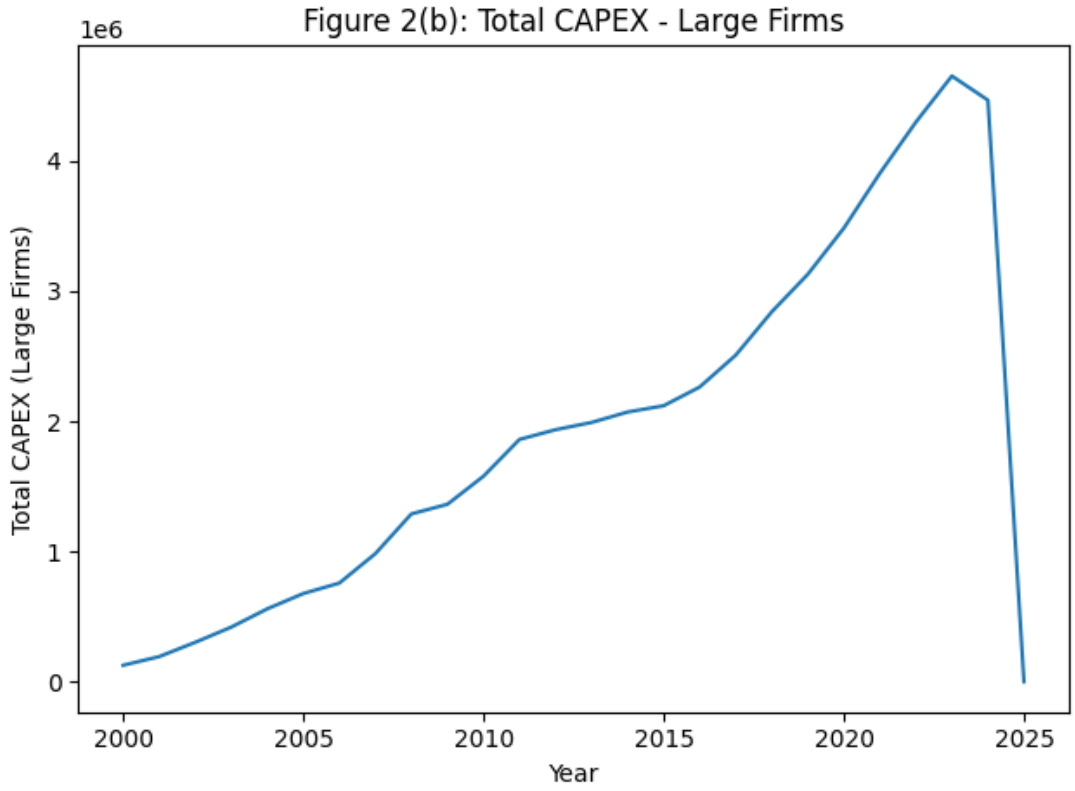


Figure 2. Aggregate Investment Trends by Firm Size. 2(a) Total CAPEX of small firms shows stable, low-volatility investment consistent with financial constraints. 2(b) Total CAPEX of large firms dominates aggregate investment with pronounced CAPEX fluctuations, corresponding to policy-driven cycles.

This visual stability is consistent with the regression findings, which show that although small firms do respond to monetary policy, the magnitude of their response is modest and therefore less visible in aggregate CAPEX patterns.

4 Discussion

The empirical results reveal a clear pattern of heterogeneity in how monetary policy affects corporate investment in China. While the baseline fixed-effects model shows that both interest rates and inflation are positively associated with capital expenditure, the subsample regressions demonstrate that these aggregate relationships mask substantial variation across firms.

4.1. Interest Rate Channel and Firm Size Asymmetry

The interest rate channel operates very differently across firm sizes. Large firms exhibit a strong positive response to interest-rate movements, consistent with their preferential access to bank credit, the presence of implicit guarantees, and generally softer budget constraints. These institutional advantages allow large firms to maintain or even expand investment during periods of monetary tightening, since credit allocation tends to remain favourable for them. In contrast, small firms display only a modest positive response to interest-rate changes, reflecting much tighter financial constraints, limited collateral, and greater reliance on internal funding sources. These differences indicate that the aggregate impact of interest rates on investment is shaped disproportionately by the behaviour of large firms.

4.2. Inflation Channel and Aggregate vs. Firm-Level Dynamics

Inflation is significant in the aggregate regression but loses significance entirely when the sample is divided by firm size. This pattern suggests that the inflation–investment relationship observed in the baseline model does not reflect a systematic behavioural mechanism at the firm level. Instead, the aggregate inflation effect may be capturing broader macroeconomic conditions—such as demand expectations or policy signals—that correlate with investment. Once firm heterogeneity is considered, inflation does not appear to directly influence capital expenditure for either small or large firms, indicating that price-level dynamics play a limited role in firm-level investment decisions.

4.3. Role of Firm Characteristics in Monetary Transmission

Firm-level characteristics meaningfully shape investment responses. Size consistently has a positive effect across all models, reflecting economies of scale, improved access to financing, and greater capacity to absorb risk. Leverage matters primarily for small firms, suggesting that access to external finance becomes a constraint mainly for financially weaker firms. Liquidity is negative and significant in every specification, implying that firms with larger cash reserves tend to behave cautiously, prioritizing liquidity buffers over long-term capital commitments. This pattern is consistent with firms operating under financial frictions, especially where future uncertainty is high.

4.4. Implications for Monetary Transmission in China

Taken together, the results indicate that monetary policy does not transmit uniformly across the corporate sector. The positive interest-rate effect observed in the baseline regression is driven disproportionately, though not exclusively, by large firms, whose preferential access to credit enables them to sustain investment even when borrowing costs rise. Large firms, particularly those with privileged access to the banking system, are the primary drivers of the positive interest-rate–investment relationship observed in aggregate data. Small firms remain financially constrained and are less responsive to macroeconomic policy signals, reducing their contribution to monetary transmission.

These findings carry several important policy implications. First, a monetary policy framework that relies heavily on aggregate tools such as interest-rate adjustments may reinforce existing structural advantages for large firms while having limited influence on smaller ones. Second, improving the transmission of monetary policy to small firms may require complementary measures, such as targeted SME credit facilities, credit guarantees, or differentiated reserve requirements. Finally, the presence of size-dependent transmission suggests that policymakers should consider firm heterogeneity when evaluating policy effectiveness and designing tools that promote more balanced investment behaviour across the economy.

5. Conclusion

This paper has examined how monetary policy and firm characteristics shape investment behaviour in China. The results show that both interest rates and inflation are positively associated with corporate investment, a pattern that departs from standard theoretical predictions. This finding reflects China’s institutional environment, where large and strategically important firms often continue to invest despite tighter monetary conditions, supported by preferential credit allocation, implicit guarantees, and expectations of strong nominal demand.

Firm characteristics play a central role in moderating these effects. Larger and more leveraged firms invest more aggressively, while higher liquidity is associated with reduced capital expenditure, consistent with precautionary motives in financially constrained settings. The subsample analysis highlights substantial heterogeneity: large firms account for

most of the positive aggregate response to monetary policy, whereas small firms—more financially constrained and reliant on internal funds—show limited sensitivity to inflation and only a modest response to interest-rate movements.

We recognise some important limitations. The positive correlation between interest rates and investment may partly reflect policy endogeneity, as the central bank may adjust rates in response to strong investment-led growth. While fixed effects mitigate some of these concerns, the results should be interpreted as robust correlations rather than strictly causal effects. Measurement error in capital expenditure (CAPEX) reporting may also introduce noise into firm-level estimates, and the macroeconomic variables (interest rate and inflation) are not firm-specific, which may understate variation in financial conditions across sectors.

Despite these limitations, the findings clearly indicate that monetary policy in China is transmitted unevenly across the corporate sector. Large firms disproportionately shape the aggregate investment response, while small firms remain constrained primarily by internal financial factors rather than macroeconomic policy signals. These results underscore the need for policymakers to consider firm heterogeneity when evaluating the effectiveness of monetary policy. A more targeted policy framework—one that accounts for differences in credit access and financial resilience—may enhance the transmission of monetary policy and support more balanced investment behaviour across the economy.

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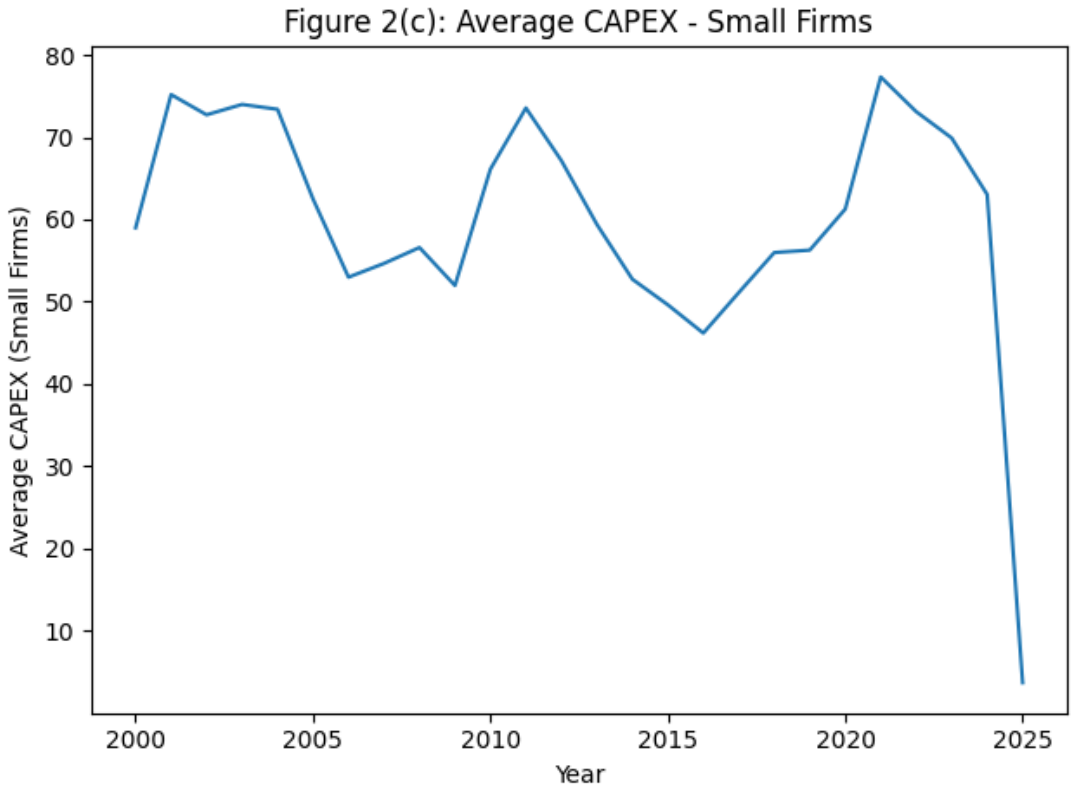
Appendix A. Additional Figures



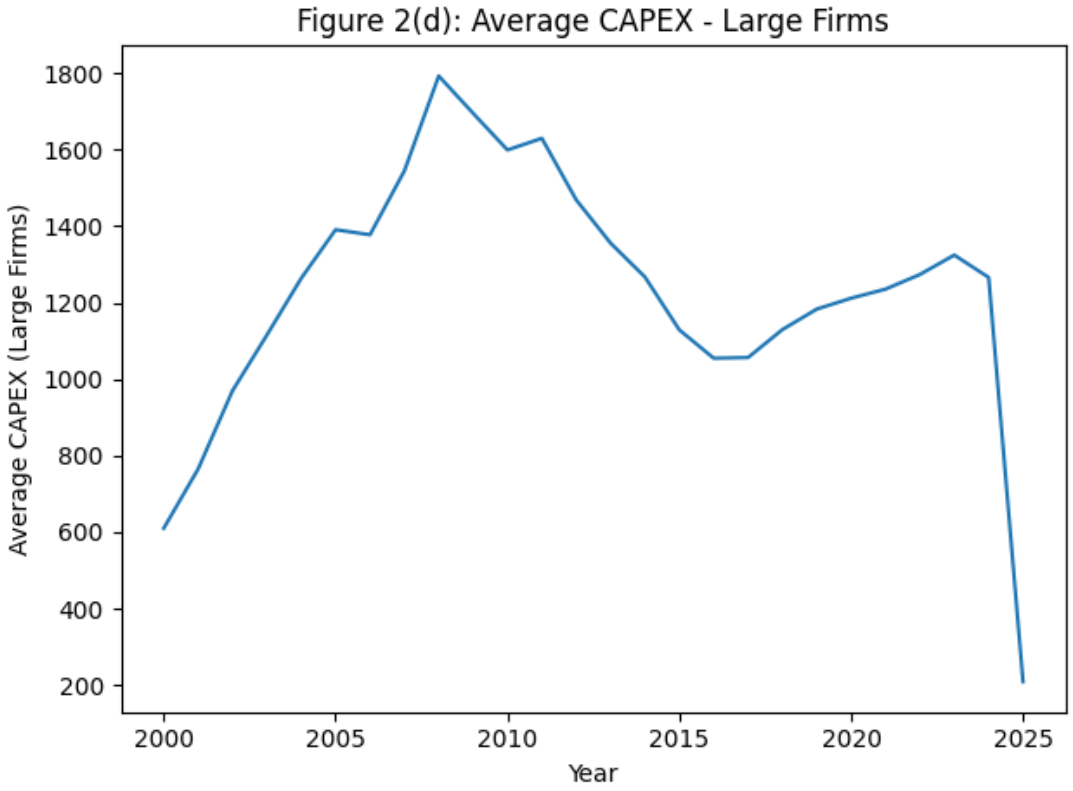


Figure A1. Average Capital Expenditure (CAPEX) per Firm.

(a) Average CAPEX for small firms is smooth and low, confirming persistent financing constraints and stable, modest investment rates per firm.

(b) Average CAPEX for large firms is higher and shows clear cyclicality, indicating strong responsiveness to monetary policy, credit expansions, and external shocks at the firm level.

Figures 2(c) and 2(d) show a relatively smooth and stable pattern in the CAPEX of small firms over time. This visual stability is consistent with the regression findings, which indicate that although small firms respond to monetary policy, the magnitude of their response is modest and therefore less visible in aggregate CAPEX trends.