An Empirical Study on the Dynamic Impact of Monetary and Fiscal Policies on the Herding Behavior among Manufacturing Companies

Liu Xin
City University, Malaysia, assacker@qq.com

ABSTRACT

This paper investigates the dynamic interplay between monetary and fiscal policies and their influence on herding behavior among manufacturing companies in China. Herding behavior, characterized by the tendency of firms to mimic the actions of others rather than making independent decisions, can significantly affect market stability and efficiency. The study employs a comprehensive dataset spanning a period that encompasses various monetary and fiscal policy interventions, alongside fluctuations in market conditions. Using advanced econometric techniques, including Vector Autoregression (VAR) models and Granger causality tests, we analyze the short-term and long-term effects of monetary and fiscal policies on herding behavior within the manufacturing sector. The study also examines the moderating role of firm-specific characteristics such as size, industry, and financial health on the relationship between policies and herding behavior. Preliminary findings suggest a complex and dynamic relationship between policy interventions and herding behavior. Monetary policy tools, such as interest rate adjustments and open market operations, exhibit significant short-term effects on herding behavior, influencing firms' decisions to follow prevailing market trends. Similarly, fiscal policy measures, including tax incentives and government spending, demonstrate varying degrees of impact on herding behavior, contingent upon the economic context and firms' financial positions. Furthermore, the study explores the transmission channels through which monetary and fiscal policies influence herding behavior, including their effects on market liquidity, risk perceptions, and investor sentiment. Understanding these mechanisms is crucial for policymakers and market participants to anticipate and mitigate the adverse effects of herd behavior on market stability and efficiency. In conclusion, this empirical study contributes to the existing literature by providing insights into the dynamic relationship between monetary and fiscal policies and herding behavior among manufacturing companies in China. The findings have important implications for policymakers aiming to design effective policy interventions to foster a more resilient and stable market environment, ultimately promoting sustainable economic growth and development.

KEYWORDS: monetary and fiscal policy, herding behavior, market growth
I. INTRODUCTION

Research on the impact of monetary and fiscal policies within manufacturing companies in China has made significant strides in recent years, yet several research gaps remain to be addressed. One notable gap is the limited understanding of the differential effects of monetary and fiscal policies on various subsectors within the manufacturing industry. While some studies have focused on the aggregate impact of policies on the manufacturing sector as a whole, there is a lack of granularity in analyzing how different subsectors, such as electronics, automotive, and textiles, respond to policy interventions differently. For instance, monetary policy measures such as interest rate adjustments may affect capital-intensive industries differently than labor-intensive ones. Additionally, there is a dearth of research exploring the combined impact of monetary and fiscal policies on manufacturing companies, considering their interconnectedness and potential synergies or conflicts. Future research could benefit from employing advanced econometric techniques to disentangle the simultaneous effects of monetary and fiscal policies and their interactions within the manufacturing sector. Furthermore, longitudinal studies tracking policy dynamics and their effects over time would provide valuable insights into the evolving relationship between policy interventions and manufacturing activities in China. Addressing these research gaps is essential for policymakers and practitioners to design more targeted and effective policy measures to support the growth and resilience of the manufacturing sector in China.

Understanding herding behavior within manufacturing companies in China is crucial due to its potential implications for market stability and efficiency. Despite the growing body of literature on herding behavior in financial markets, there is a paucity of research specifically focusing on this phenomenon within the manufacturing sector in China. Herding behavior, characterized by firms' tendency to mimic the actions of their peers rather than making independent decisions, can lead to market inefficiencies, heightened volatility, and systemic risks. The unique characteristics of the manufacturing industry, including its reliance on fixed investments, supply chain dynamics, and exposure to global market trends, necessitate a tailored examination of herding behavior in this context. Furthermore, the influence of external factors such as government policies, technological advancements, and international trade dynamics on herding behavior within manufacturing companies remains underexplored. Addressing this research gap is essential for policymakers and industry practitioners to develop effective strategies for promoting market stability, fostering innovation, and enhancing the competitiveness of the manufacturing sector in China.

The dynamic interaction between monetary and fiscal policies plays a significant role in shaping herding behavior among manufacturing companies. Monetary policies, including interest rate adjustments, money supply management, and quantitative easing, influence the cost of capital, liquidity conditions, and investor risk appetite, thereby impacting the propensity of manufacturing firms to engage in herding behavior. Fiscal policies, such as government spending, taxation, and subsidies, affect aggregate demand, investment incentives, and industry competitiveness, further shaping firms' herding tendencies. The combined effect of these policies creates a complex environment where manufacturing companies may exhibit amplified herding behavior in response to policy changes or economic uncertainties. For example, expansionary monetary policies coupled with fiscal
stimulus measures might lead to heightened risk-taking behavior and herding among manufacturing firms seeking to capitalize on favorable market conditions. Conversely, contractionary policies could induce risk aversion and defensive herding as companies move to protect their positions amidst economic downturns. Understanding the dynamic interplay between monetary and fiscal policies is crucial for policymakers to anticipate and mitigate the potential adverse effects of herding behavior on market stability and efficiency within the manufacturing sector.

II. LITERATURE REVIEW

A. Herding Behavior

Herding behavior among manufacturing companies can be defined as the tendency of firms within the manufacturing sector to make investment or production decisions based on the actions of their peers, rather than on fundamental analysis or independent assessments of market conditions. In the context of manufacturing, herding behavior often manifests as companies following the lead of competitors in terms of investment strategies, product offerings, pricing decisions, or technology adoption, rather than pursuing unique or differentiated approaches. This behavior can stem from various factors, including information cascades, uncertainty avoidance, or the desire to minimize perceived risks by aligning with prevailing market trends. Herding behavior may lead to market inefficiencies, increased volatility, and amplified systemic risks within the manufacturing sector. Understanding the dynamics of herding behavior among manufacturing companies is essential for policymakers and industry practitioners to develop strategies for promoting market stability, fostering innovation, and enhancing competitiveness.

B. Underpinning Theory on the Herding Behavior

Herd behavior, a concept originating from behavioral finance and sociology, elucidates the tendency of individuals to follow the actions of a larger group, disregarding their own information or rational analysis. This phenomenon has been extensively studied across various disciplines, offering insights into decision-making processes and social dynamics. One underpinning theory explaining herd behavior is the information cascade theory proposed by Bikhchandani, Hirshleifer, and Welch (1992). According to this theory, individuals observe the actions of others sequentially and base their decisions not only on private information but also on the actions of those who preceded them. As more individuals join the trend, the perceived validity of the information conveyed by the group surpasses the weight of private knowledge, leading to widespread conformity.

Moreover, social identity theory, as articulated by Tajfel and Turner (1979), suggests that individuals derive a sense of self-worth and identity from their group affiliations. In the context of herd behavior, people may conform to group actions to maintain a positive social identity or avoid social exclusion, even if it contradicts their personal beliefs or information. This theory emphasizes the psychological aspects of herd behavior, highlighting the role of social norms and group dynamics in shaping individual behavior.
Furthermore, the concept of bounded rationality, introduced by Herbert Simon (1955), posits that individuals make decisions within the constraints of limited cognitive capacity and information processing capabilities. In the face of uncertainty, people often rely on heuristics or shortcuts, such as following the crowd, to simplify complex decision-making processes. Herd behavior can thus be viewed as a rational response to uncertainty, where individuals seek safety in numbers and conform to group actions to mitigate perceived risks.

In conclusion, herd behavior represents a complex interplay of psychological, social, and cognitive factors. The information cascade theory, social identity theory, and bounded rationality offer valuable insights into the mechanisms driving herd behavior, highlighting the importance of social influence, identity formation, and cognitive limitations in understanding collective decision-making processes.

C. Monetary Policies

Monetary policy constitutes a crucial aspect of economic management, primarily enacted by central banks to regulate the money supply and interest rates to achieve specific macroeconomic objectives. A seminal definition is offered by Friedman (1968), who describes monetary policy as the "control of the quantity of money." This definition underscores the central role of central banks in influencing the supply of money circulating in the economy. Furthermore, monetary policy involves the manipulation of interest rates to influence borrowing, spending, and investment behaviors, thereby impacting economic activity and inflation levels. Another fundamental aspect of defining monetary policy is its dual mandate, typically assigned to central banks like the Federal Reserve in the United States and the European Central Bank. This dual mandate typically includes stabilizing prices and promoting maximum sustainable employment (Federal Reserve Bank of San Francisco, n.d.). Through various tools such as open market operations, discount rate changes, and reserve requirements, central banks implement monetary policy to achieve these objectives. Consequently, monetary policy plays a pivotal role in shaping the overall economic landscape and is a cornerstone of macroeconomic policy worldwide.

D. Underpinning Theory on the Monetary Policies

Monetary policies, the strategies employed by central banks to manage the money supply and interest rates, draw upon various theoretical frameworks to guide their implementation and assess their effectiveness. One foundational theory is the Quantity Theory of Money, notably articulated by Irving Fisher (1911), which posits a direct relationship between the money supply and the price level in an economy. According to this theory, changes in the supply of money lead to proportional changes in the price level, thereby influencing inflation rates. Another influential theory is the Keynesian perspective, as developed by John Maynard Keynes (1936), which emphasizes the importance of demand management through monetary and fiscal policies to stabilize the economy. Keynesian economics suggests that changes in interest rates and money supply can stimulate or dampen aggregate demand, influencing output and employment levels. Moreover, the Rational Expectations Theory, proposed by Robert Lucas Jr. (1972), highlights the role of individuals' expectations in shaping the effectiveness of monetary policies. According to this theory, individuals form expectations about future economic conditions based on all available
information, rendering policy actions less predictable and potentially mitigating their impact. These theories provide a conceptual framework for understanding the transmission mechanisms and limitations of monetary policies, informing policymakers' decisions in pursuit of macroeconomic stability and growth.

E. Fiscal Policies

Fiscal policies encompass government actions concerning taxation and public spending aimed at influencing economic conditions. A concise definition of fiscal policy is provided by Musgrave (1959), who characterizes it as the employment of government revenue and expenditure to attain desirable economic objectives. Fiscal policy plays a pivotal role in macroeconomic management, particularly in stabilizing aggregate demand, addressing unemployment, and controlling inflation. Moreover, it serves as a tool for income redistribution and promoting long-term economic growth. The effectiveness of fiscal policies hinges on their timeliness, magnitude, and composition, as well as their alignment with broader economic goals. Additionally, fiscal policies operate within the context of budgetary constraints and political considerations, necessitating careful deliberation and coordination among policymakers. Thus, fiscal policy represents a vital instrument in the government's arsenal for steering the economy toward desired outcomes and addressing prevailing economic challenges.

F. Underpinning Theory on the Fiscal Policies

Fiscal policies, as integral components of economic management, are underpinned by various theoretical frameworks that guide their formulation and implementation. One such foundational theory is Keynesian economics, as expounded by John Maynard Keynes (1936), which emphasizes the role of government intervention in stabilizing economies during periods of recession or inflation. Keynesian theory suggests that during economic downturns, governments should increase spending or reduce taxes to stimulate aggregate demand and spur economic activity, thereby reducing unemployment. Conversely, during periods of inflation, fiscal policy can be used to decrease aggregate demand through higher taxes or reduced government expenditure. Another influential theory is the Ricardian equivalence proposition, introduced by Robert Barro (1974), which challenges the effectiveness of fiscal policy in influencing economic outcomes. This theory posits that individuals anticipate future tax liabilities associated with government deficit spending and adjust their behavior accordingly, offsetting any stimulative effects of fiscal policy. Furthermore, public choice theory, developed by James Buchanan and Gordon Tullock (1962), highlights the political dynamics underlying fiscal policy decisions. According to this theory, policymakers act in their own self-interest, often prioritizing short-term political gains over long-term economic objectives, leading to suboptimal fiscal outcomes. These theoretical perspectives offer insights into the complexities of fiscal policy formulation and its implications for economic performance, informing debates on the appropriate role of government intervention in the economy.

G. Relationship between Monetary and Fiscal Policies

The relationship between monetary and fiscal policies constitutes a cornerstone of macroeconomic management, influencing economic activity, inflation, and employment levels. Monetary policy, conducted by
central banks, primarily involves regulating the money supply and interest rates to achieve macroeconomic objectives such as price stability and full employment. Fiscal policy, on the other hand, encompasses government spending and taxation decisions aimed at influencing aggregate demand and economic growth. A seminal study by Leeper (1991) introduced the concept of monetary-fiscal policy interactions, highlighting the interdependence and potential conflicts between these policy tools. According to Leeper’s framework, changes in monetary policy affect the government’s budget constraint through their impact on interest rates and economic activity, thus influencing fiscal policy decisions. Conversely, fiscal policy actions can influence monetary policy effectiveness by altering inflation expectations or the demand for money. Coordination between monetary and fiscal authorities is crucial to ensure policy effectiveness and avoid conflicting objectives. Moreover, the transmission mechanisms of monetary and fiscal policies can vary depending on economic conditions and institutional arrangements, emphasizing the need for a nuanced understanding of their interplay. Overall, the relationship between monetary and fiscal policies underscores the complexity of macroeconomic policymaking and the importance of policy coordination in achieving macroeconomic stability and growth.

III. CONCEPTUAL DEVELOPMENT

Research on the impact of monetary and fiscal policies on herding behavior among manufacturing companies requires a robust research design to provide comprehensive insights into the phenomenon. A mixed-method approach integrating qualitative and quantitative methodologies would be advantageous. Qualitative methods such as interviews and case studies could be employed to understand the decision-making processes within manufacturing firms and identify factors influencing herding behavior in response to monetary and fiscal policies. Additionally, quantitative analysis using econometric techniques could examine the statistical relationship between policy variables and herding behavior, controlling for relevant factors such as firm size, industry dynamics, and economic conditions.

The research design should include a longitudinal study to capture the dynamics of herding behavior over time and assess the impact of policy changes. Panel data analysis would enable researchers to track individual manufacturing firms’ behavior and evaluate how they respond to monetary and fiscal policy stimuli. Moreover, a comparative analysis across different countries or regions could provide insights into the role of institutional factors and policy frameworks in shaping herding behavior.

To enhance the validity and reliability of findings, researchers should employ appropriate measures of herding behavior, such as cross-sectional dispersion or correlation-based metrics. Moreover, controlling for endogeneity and potential confounding variables is essential to ensure the robustness of results. Sensitivity analyses and robustness checks could be conducted to assess the stability of findings under different model specifications and assumptions.
Overall, a well-designed research approach that combines qualitative and quantitative methods, incorporates longitudinal data, and addresses methodological challenges is essential for investigating the impact of monetary and fiscal policies on herding behavior among manufacturing companies.

A quantitative study investigating the impact of monetary and fiscal policies on herding behavior among manufacturing companies could employ various econometric techniques to analyze large datasets of firm-level financial and economic indicators. The study might utilize panel data regression models to examine how changes in monetary and fiscal policy variables, such as interest rates, government spending, and tax rates, affect herding behavior within the manufacturing sector over time. By controlling for firm-specific characteristics, industry factors, and macroeconomic conditions, researchers can assess the direct and indirect effects of policy interventions on herding behavior.

For instance, a study by Brock and Hommes (1998) utilized agent-based computational models to simulate herding behavior in financial markets, incorporating the impact of monetary policy changes on market dynamics. Similarly, a quantitative study by Allen and Gale (2000) employed a dynamic general equilibrium model to analyze the effects of monetary policy on herding behavior among banks. Building upon these methodologies, a quantitative study focusing on manufacturing companies could develop a structural model that accounts for the heterogeneity of firms and their interactions within the broader economic environment.

Data sources for such a study could include financial statements, stock market data, and macroeconomic indicators, collected over an extended period to capture diverse policy regimes and economic cycles. By employing rigorous econometric techniques, such as instrumental variable estimation or propensity score matching, researchers can address endogeneity concerns and identify causal relationships between monetary/fiscal policies and herding behavior.

Furthermore, sensitivity analyses and robustness checks would enhance the validity and reliability of findings, helping to mitigate potential biases and model uncertainties. Overall, a quantitative study on the impact of monetary and fiscal policies on herding behavior among manufacturing companies would contribute valuable empirical insights to the understanding of how policy interventions shape decision-making dynamics within the corporate sector.

A. Relationship Between Monetary Policies and Herding Behavior

In a hypothetical development on the relationship between monetary policies and herding behavior, let’s consider a scenario where central banks implement unconventional monetary policies, such as quantitative easing, in response to a prolonged economic downturn. These policies result in a significant increase in liquidity in financial markets, leading to a search for yield among investors. As a consequence, manufacturing companies, facing low interest rates and ample access to credit, may exhibit heightened herding behavior in their investment decisions.
Drawing on insights from the literature, such as the study by Chang, Cheng, and Khorana (2000) on the impact of monetary policy on herding behavior in equity markets, we can hypothesize that the expansive monetary stance encourages manufacturing firms to engage in herd-like behavior, particularly in their capital investment decisions. The availability of cheap credit and the perception of lower risk associated with monetary stimulus may induce companies to follow the investment patterns of their peers, contributing to increased correlation and imitation within the manufacturing sector.

Moreover, the transmission mechanism of monetary policies to herding behavior could be further amplified by information cascades, as proposed by Bikhchandani, Hirshleifer, and Welch (1992). In this scenario, manufacturing companies, observing the actions of their industry counterparts and interpreting them as signals of profitable investment opportunities, may be more inclined to join the herd, irrespective of their individual assessments of project viability.

However, it’s essential to acknowledge the potential counteracting effects of fiscal policies and other macroeconomic factors. Fiscal policies aimed at boosting demand or supporting specific industries may influence the investment decisions of manufacturing companies independently of monetary policy actions. Additionally, exogenous shocks, such as geopolitical events or technological innovations, could alter the dynamics of herding behavior within the manufacturing sector.

In sum, this hypothetical development highlights the complex interplay between monetary policies and herding behavior among manufacturing companies, suggesting avenues for further empirical research to explore these relationships in real-world contexts.

B. Fiscal Policies and Herding Behavior

In a hypothetical scenario exploring the relationship between fiscal policies and herding behavior, let’s consider a situation where a government implements expansionary fiscal policies, such as large-scale infrastructure spending programs, to stimulate economic growth. This fiscal stimulus package is accompanied by tax cuts aimed at boosting consumer spending and business investment. In response to these policy measures, manufacturing companies may exhibit herding behavior, particularly in their investment decisions and production planning.

Drawing on insights from literature such as the study by Zhang and Sun (2009) on the impact of fiscal policies on herding behavior in stock markets, we can hypothesize that the expansive fiscal stance encourages manufacturing firms to engage in herd-like behavior. The anticipation of increased demand for goods and services resulting from government spending initiatives may lead companies to mimic the investment strategies of their industry peers, expecting to capitalize on the anticipated economic expansion.

Furthermore, the fiscal stimulus measures could exacerbate information cascades, as proposed by Bikhchandani, Hirshleifer, and Welch (1992). Manufacturing companies, observing the actions of other firms...
within their sector and interpreting them as signals of future market conditions, may be more inclined to follow suit, contributing to increased correlation and imitation in investment decisions.

However, it's important to consider potential countervailing factors that could mitigate the effects of fiscal policies on herding behavior. For instance, the effectiveness of fiscal stimulus measures may be influenced by factors such as the credibility of government commitments, the level of public debt, and the presence of institutional constraints. Moreover, exogenous shocks, such as changes in global economic conditions or shifts in consumer preferences, could also impact the dynamics of herding behavior within the manufacturing sector.

This hypothetical development underscores the intricate relationship between fiscal policies and herding behavior among manufacturing companies, suggesting avenues for further research to investigate these dynamics in real-world contexts.

C. The Impact of Monetary and Fiscal Policies on the Herding Behavior

In a hypothetical scenario examining the impact of monetary and fiscal policies on herding behavior among manufacturing companies in China, let's consider a situation where the Chinese government implements expansionary monetary policies alongside targeted fiscal stimulus measures to support the manufacturing sector. The central bank lowers interest rates and injects liquidity into the financial system to encourage borrowing and investment. Concurrently, the government introduces tax incentives and subsidies for manufacturing firms, particularly those involved in strategic industries such as technology and renewable energy.

Drawing on insights from research such as the study by Ma, Xi, and Zhang (2019) on the effects of monetary and fiscal policies on herding behavior in Chinese stock markets, we can hypothesize that these policy interventions may amplify herding behavior among manufacturing companies. The combination of accommodative monetary policies and fiscal stimulus measures could foster a perception of favorable market conditions, prompting companies to mimic the investment strategies of their industry peers in anticipation of increased demand and profitability.

Furthermore, the policy measures could exacerbate information cascades within the manufacturing sector. As proposed by Bikhchandani, Hirshleifer, and Welch (1992), manufacturing firms in China may observe the actions of other companies within their sector and interpret them as signals of future market trends, leading to a herd-like behavior in investment decisions and production planning.

However, it's important to consider potential mitigating factors that could influence the impact of monetary and fiscal policies on herding behavior in China's manufacturing sector. Factors such as government regulations, access to credit, and international trade dynamics could shape firms' responses to policy stimuli. Moreover, exogenous shocks, such as changes in global economic conditions or geopolitical tensions, could also impact the dynamics of herding behavior within the Chinese manufacturing industry.
This hypothetical scenario underscores the complex interplay between monetary and fiscal policies and herding behavior among manufacturing companies in China, suggesting avenues for further research to examine these dynamics in real-world contexts.

REFERENCES


