mathematics

MDPI

Article

Did Institutional Investors' Behavior Affect U.S.-China Equity Market Sentiment? Evidence from the U.S.-China Trade Turbulence

Shu-Ling Lin [1,*] and Jun Lu [2]

1 Department of Information and Finance Management, College of Management, National Taipei University of Technology, Taipei 10608, Taiwan
2 College of Management, National Taipei University of Technology, Taipei 10608, Taiwan; lujun3@mail.ntut.edu.tw or aborigine.lu@gmail.com
* Correspondence: shuling@ntut.edu.tw or shulingntut@gmail.com

Received: 7 May 2020; Accepted: 8 June 2020; Published: 10 June 2020

Abstract: In the current situation of U.S.-China trade turbulence, this study focuses on quarterly panel data from May 2016 to September 2019 in order to verify the effectiveness of feedback trading strategy and smart money theory in stabilizing U.S.-China securities markets and to understand the role of institutional investors' behavior, to come up with suggestions for improving and perfecting the market mechanism in stabilizing the U.S.-China securities markets. In this study, we adopt the generalized method of moments (GMM) to perform dynamic panel data analysis and discuss the changes in professional institutional investors' behavior and equity market sentiment in the U.S. and China during the trade turbulence, and then analyze whether that behavior will suppress local stock market sentiment. Through empirical research, we found that institutional investors on both sides of the trade turbulence have a different impact on the stability of the local securities market. The behavior of institutional investors in the United States has played a role in stabilizing equity market sentiment in accordance with feedback trading strategy and smart money theory. However, the behavior of institutional investors in China is the opposite.

Keywords: U.S.-China trade turbulence; institutional investors; equity market sentiment; feedback trading strategy; smart money theory; dynamic panel data analysis

1. Introduction

According to Timothy Fiore, chair of the Institute for Supply Management (ISM) Manufacturing Business Survey Committee, "Respondents expressed slightly more concern about U.S.-China trade turbulence, but trade remains the most significant issue, indicated by the strong contraction in new export orders" [1].

From 6 July 2018, when the Trump administration officially imposed a 25% tariff on USD 34 billion worth of Chinese exports to the United States, the United States and China had official tariff turbulence for one year [2–4]. According to a report issued by the American Institute for Supply Management (ISM), the Purchasing Managers Index (PMI) fell from 58.7 in May 2018 to 47.8 in September 2019, hitting a low in June 2009 [5]. Although people's concerns are not great, the data have shown that trade friction is the most important issue and has brought great uncertainty to the global economy.

During the period of uncertain economic risk brought about by trade turbulence, every one of Trump's tweets affects the hearts of investors, as the two parties involved in this trade turbulence, the U.S. and China, are the two most important economies in the world. Their social attributes, market structure, and policies and regulations are very different. The U.S. market is mainly composed of rational institutional investors, while the proportion of institutional investors in the Chinese

market is small. As an active investor [6], does institutional investor's rationality show the role of stewardship [7–9] in the different market environments of both parties in the trade turbulence? That is to say, when the equity market sentiment is overconfident or excessively negative, institutional investors have a restraining effect, which stabilizes the market's emotional volatility, reduces the risks in the financial market, and plays a role in stabilizing the financial markets of both parties.

Previous research on asset pricing focused on basic factors that affect asset prices, company-specific factors, and factors across the economy. However, recent studies have used investor psychology to explain asset price behavior [10,11]. On the one hand, it is believed that there is almost no correlation with investor sentiment, so the offset of sentiment has no effect on market prices. On the other hand, it is thought that investors have reached a consensus that their views will not be offset, which will become an integral part of the pricing process.

By measuring changes in investor sentiment, investors can quickly capture news events that affect the market, and this measure of sentiment can largely explain changes in stock market indices. [12]. Thus, can the investment sentiment of professional institutional investors also affect the sentiment of the equity market? Can changes in institutional ownership of listed companies also quickly capture the impact of news events on the equity market? In fact, some researchers [13] have suggested that changes in the price of a group of assets may trigger changes elsewhere, especially in the short term, because this change in investor sentiment leads to a shift in market attitude toward risk. This shift in risk attitude, better than any other fundamental factor, explains the short-term changes in asset prices [14].

Institutional investors are large-scale professional investment institutions that are fully engaged in investment management and operations by experts in the investment field. They have advantages in capital scale, technology, and information, so they can make relatively rational decisions compared to retail investors. In addition, institutional investors are well versed in national political and economic policies and regulations and are experienced and powerful, so the economic rationality of institutional investors leads to the decision to invest with the goal of maximizing the interests of shareholders or fund holders.

The feedback trading strategy and the herd effect theory in behavioral finance explain the advantages of institutional investors in terms of information. When the information in the transaction is valuable, the feedback trading strategy will return the price to the fundamentals [12–14]. In addition, rational institutional investors will also show the smart money effect; they have the ability to transfer new funds to performers who perform well in the future [15]. Based on the feedback trading strategy and smart money theory, against the special background of the U.S.-China trade war and the characteristics of institutional investors, we consider the impact of market sentiment on future investment willingness and market risk. This study is interested in whether institutional investors will affect the sentiment of the stock market, because the United States and China represent the two major developed and developing countries, respectively. Therefore, this study is also particularly interested in whether institutional investors have different investment behaviors under different market mechanisms.

The purpose of this project is to study institutional investors from 2 May 2016, when Trump made comments on China's trade practices during his campaign for the Republican presidential nomination, until September 2019, with the Purchasing Managers Index (PMI) hitting a low in June 2009. The focus is on whether institutional investors affected market risk attitudes during this three-year period, and whether institutional investors in the U.S. and Chinese stock markets have significantly different influences on sentiment in their respective markets. This is an interesting topic. This study can help us better understand the role of institutional investors in trade and conduct more complete academic research on institutional investors. This paper can fill the research gap regarding institutional investors during trade turbulence. Academically, it contributes to the research of different types of institutional investors. In addition, in terms of market sentiment, studying changes in market sentiment from the perspective of institutional investors can help us better understand the determinants of market sentiment. This research takes trade turbulence as the research background and makes up for the

lack of empirical research on trade turbulence in the academic field. In addition, this project studies the stock markets in the U.S. and China, making our research more representative of developed and developing countries.

For this study, we used quarterly panel data covering the period May 2016 to September 2019 to test the relationship between institutional ownership and equity market sentiment in the U.S. and Chinese stock markets. The panel data were collected from the S&P Capital IQ database, and we used dynamic panel data estimation to get the best estimates. Through this research, we hope to better understand how institutional investors can influence market stability under different economic conditions. In addition, this study can help us more clearly understand the role of institutional investors in the equity market. Understanding the performance of institutional investors in the stock market from different perspectives will help to improve and update financial market mechanisms.

This study found that institutional investors in the U.S. stock market have suppressed market sentiment. However, institutional investors in China have the opposite behavior and have not suppressed market sentiment. Furthermore, in the U.S., high-value companies bear higher risk, while in China, large-scale companies bear higher risk.

The paper is organized as follows: Section 2 presents a review of the literature and the hypotheses of this project. Section 3 introduces the research methods, data, and variables. Section 4 presents the empirical results and robustness verification. Section 5 concludes the paper.

2. Literature Review and Hypothesis

During the trade turbulence between the two largest world economies, it is worth noting that investors are more concerned about President Trump's tweets. Each of his tweets affects market trends. Market sentiment changes with the occurrence of news events, which affects the pricing of capital [12,14]. Institutional investors, as rational investors based on their professional characteristics and information advantages, and based on feedback trading strategy and smart money theory, are bound to have a certain impact on market sentiment.

When there is news that affects the market, the market will generate sentiment due to the decision of investors to converge [16]. This market sentiment puts overconfident or overly negative investors at risk [17]. However, for non-information reasons, individual investors will show the behavior of buying slow and selling fast [18]. However, institutional investors have more information about markets and companies. They will choose well-managed companies [19]. While improving the quality of information in the domestic stock market, they significantly reduce transaction costs and risk exposure [20]. Professional institutional investors can strengthen the supervision of corporate governance [21], which plays an important role [6]. The management of institutional investors involves voting and communicating with companies in terms of strategy, performance, risk, and capital structure [22]. It is generally believed that institutional investors understand these situations better than individual investors [23]. West [24] emphasized that the increased content of price information will reduce the volatility of stock returns.

Academically, scholars have found that individual and institutional investors differ in their attributes and behaviors. Individual investors usually adopt a positive feedback trading strategy [25,26]. Unlike individual investors, institutional investors have advantages in capital scale, technology, and information, so they can make relatively rational decisions relative to retail investors. Prior empirical studies also confirm that institutional investors pursue a negative feedback trading strategy [27–29]. DeLong et al. [30] noted that the feedback of traders' trading activities can cause prices to exceed fundamentals, undermine price stability, and threaten the efficiency of financial markets. However, if the information inferred from other people's transactions is valuable, although herding and feedback transactions can cause prices to deviate from fundamentals, this may also cause prices to tend to fundamentals [31–33].

The literature on the smart money effect [34–37] mainly discusses the selection capabilities of mutual fund investors as a whole. The smart money theory holds that institutional investors make

judgments and decisions based on sufficient information about the market or the stocks they have. Rational institutional investors will also show the smart money effect; they have the ability to transfer new funds to performers who perform well in the future [15]. Generally speaking, the smart money theory can dilute the irrational behavior of some ordinary investors.

This study posits that institutional investors are different from ordinary individual investors in making more cautious decisions, collecting more comprehensive information, and using more advanced technology. Based on feedback trading strategy, smart currency theory, and the professional judgment characteristics of institutional investors, it is assumed that they are different from individual investors in their investment sentiment and have a depressing effect on overall market sentiment, avoid overconfidence and over-negativity caused by irrational emotions, and reduce the risks. Thus, this study supposes that the relationship between institutional investors and market sentiment is negative. The proposed hypothesis is as follows:

Hypothesis 1 (H1). *During periods of U.S.-China trade turbulence, institutional investors have a negative effect on equity market sentiment.*

Another hypothesis of this study is that the financial environments of the United States and China are different. In the United States, rational institutional investors are the main components of the market, while irrational investors account for a higher proportion in China and there are very few institutional investors. The market structure dominated by individual investors is also one of the main reasons for the low liquidity and high volatility in the Chinese market [38]. Many studies have mentioned that the status and concentration of equity in China are characteristic of the Chinese market, and state-owned equity is still the main feature [39,40]. Quota restrictions for qualified foreign institutional investors have also caused the Chinese market to consist of mostly domestic institutional investors [38,41]. These are the differences between the American and Chinese market environments.

In addition, in developed countries such as the United States, independent institutional investors, as active investors, are more concerned about corporate governance because they have less of a business relationship with the companies they invest in. They like to collect information, they have fewer restrictions on investment, and their income and management costs mainly depend on performance [42,43]. However, in the Chinese market environment, institutional investors pay attention to corporate governance, but also to changes in national development policies, and reduce the return volatility and idiosyncratic risks of stocks during financial crises to stabilize the market [7–9]. Thus, based on the differences in the market environment of the two parties of the trade turbulence and the differences in the behavior of institutional investors, this study supposes that the institutional investors of the U.S. and China had significantly different influences on their respective market sentiments. The proposed hypothesis is as follows:

Hypothesis 2 (H2). *During periods of U.S.-China trade turbulence, the investment behaviors of Chinese and American institutional investors have significantly different influences on their respective market sentiments.*

The assumptions proposed in this study mean that when news that affects market sentiment occurs, rational institutional investors can accurately determine the direction of the market based on their own information and technical advantages. They adopt a negative feedback trading strategy and smart currency strategy that are different from those of individual investors to affect equity market sentiment and suppress the overconfidence and over-negativity of equity market sentiment, and thus reduce market risk due to trade turbulence. Their leadership in corporate governance can play a positive role in stabilizing stock market sentiment so as to make a positive contribution to market stability. Furthermore, due to the different economic characteristics and market systems of the United States and China, this study concludes that institutional investors behave differently in their respective market environments.

3. Methodology

This section describes the variables and research methods used in the study. The panel data used were collected from the S&P Capital IQ database. This study selected quarterly panel data covering the period May 2016 to September 2019 and examined public companies held by institutional investors listed on the U.S. stock market (New York Stock Exchange and Nasdaq Stock Market) and China's A-shares market (Shenzhen Stock Exchange and Shanghai Stock Exchange).

The data structure of the study combines longitudinal time series and cross-sections of time series. Because the dataset of this study has a larger cross-section and a shorter sequence time, dynamic panel data estimation was used to obtain the best estimates. To make the results more robust, this study used the generalized method of moments (GMM). In addition, the Sargan test was performed to solve endogenous problems.

Furthermore, we would like to demonstrate the technique developed by Bandopadhyaya and Jones [12] to construct the Equity Market Sentiment Index (EMSI) for the S&P 500 and CSI 300 indices. As one of the best representatives of the U.S. stock market, the S&P 500 is an index that measures the performance of the stocks of 500 large American companies listed on the U.S. stock exchange. For the Chinese financial market, the CSI 300 is a component stock index that measures the performance of 300 A-share listed companies in the Shanghai and Shenzhen markets. Finally, in order to test the relationship between institutional ownership and equity market sentiment, this study applies the follow regression model to the panel estimation:

$$\mathrm{EMSI}_{\mathrm{u},t} = \alpha \mathrm{EMSI}_{\mathrm{u},t-1} + \beta_1 * \mathrm{IO}_{i,t} + \beta_2 * Con_{i,t} + \gamma_2 F2_i + \ldots + \gamma_n Fn_i + \varepsilon_{i,t}, \tag{1}$$

$$\mathrm{EMSI}_{\mathrm{c},t} = \alpha \mathrm{EMSI}_{\mathrm{c},t-1} + \beta_1 * \mathrm{IO}_{i,t} + \beta_2 * Con_{i,t} + \gamma_2 F2_i + \ldots + \gamma_n Fn_i + \varepsilon_{i,t}, \tag{2}$$

where $\mathrm{EMSI}_{\mathrm{u},t}$ and $\mathrm{EMSI}_{\mathrm{c},t,}$ are the equity market sentiment index for the S&P 500, u = 1 … 500, and CSI 300, c = 1 … 300, at time t; $t-1$ is lag by one period; $\mathrm{IO}_{i,t}$ is the proportion of shares held by institutional ownership for stock i at time t; $Con_{i,t}$ represents firm-level control variables; β_0, β_1, β_2, γ_2, …, γ_n, δ_2, …, δ_T are unknown coefficients; $F2_i \ldots Fn_i$ are $n-1$ firm binary indicators where $F2_i = 1$ if $i = 2$ and $F2_i = 0$ otherwise, and so forth; and $\varepsilon_{i,t}$ is an error term.

3.1. Equity Market Sentiment Index

We would like to demonstrate the technique developed by Bandopadhyaya and Jones [12] to construct the EMSI for firms in the S&P 500 and CSI 300. The S&P 500 is an index that measures the performance of the stocks of 500 large American companies listed on the U.S. stock exchange. The CSI 300 is a component stock index that measures the performance of 300 A-share listed companies in the Shanghai and Shenzhen markets in China. Using data from the period May 2016 to September 2019, this study computed quarterly returns for securities in the S&P 500 and CSI 300. For each security, we also calculated the historical volatility for each quarter of the sampling period, which is the average standard deviation of quarterly returns for the first five quarters. Then, the quarterly rate of return is ranked and the historical volatility is ranked to calculate the Spearman rank correlation coefficient between each company's quarterly rate of return and its rate of historical volatility, multiplied by 100. The EMSI is calculated as follows:

$$\mathrm{EMSI}_{\mathrm{u,c}} = \frac{\sum\left(\mathrm{R}_{\mathrm{u,c,r}} - \overline{\mathrm{R}}_{\mathrm{r}}\right)\left(\mathrm{R}_{\mathrm{u,c,v}} - \overline{\mathrm{R}}_{\mathrm{v}}\right)}{\left[\sum\left(\mathrm{R}_{\mathrm{u,c,r}} - \overline{\mathrm{R}}_{\mathrm{r}}\right)^2 \sum\left(\mathrm{R}_{\mathrm{u,c,v}} - \overline{\mathrm{R}}_{\mathrm{v}}\right)^2\right]^{\frac{1}{2}}} \times 100; -100 \leq \mathrm{EMSI} \leq +100, \tag{3}$$

where $\mathrm{EMSI}_{\mathrm{u,c}}$ represents the sentiment of the two markets—$\mathrm{EMSI}_{\mathrm{u}}$ represents the U.S. market (S&P 500) and $\mathrm{EMSI}_{\mathrm{c}}$ represents the Chinese market (CSI 300); $\mathrm{R}_{\mathrm{u,c,r}}$ and $\mathrm{R}_{\mathrm{u,c,v}}$ are the rank of quarterly returns and historical volatility for security u and c, respectively; and $\overline{\mathrm{R}}_{\mathrm{r}}$ and $\overline{\mathrm{R}}_{\mathrm{v}}$ are the population mean return and historical volatility rankings, respectively.

3.2. Institutional Ownership

This study defines total institutional ownership (Total_IO) as the total number of shares held by all institutions in the U.S. and Chinese capital markets. Following prior studies [42–44], we classified institutional ownership by the type of relationship investors have with companies and whether they have potential business connections with the companies they invest in, divided into two groups, independent institutional ownership (Indep_IO) and gray institutional ownership (Gray_IO).

Almazan, Hartzell, and Starks [42] believe that independent institutional ownership (Indep_IO), including hedge fund managers, investment managers, sovereign wealth funds, and venture capital (VC)/private equity (PE) firms, pays more attention to monitoring corporate governance and the management behavior of invested companies. These institutions are more likely to gather information and face fewer regulatory restrictions on their investments [42]. They have fewer potential business relationships with the companies they invest in.

By contrast, gray institutional ownership (Gray_IO) includes banks, insurance companies, family offices/trusts, real estate investment trusts (REITs), corporate pensions, government pensions, union pensions, charitable foundations, educational/cultural endowments, and unclassified funds. These institutions have more current or potential business relationships with the companies they invest in [42]. They hold shares without reacting to management operations and pay little attention to monitoring corporate governance [45].

According to the classification method, this study classifies U.S. and Chinese institutional investors by the type of relationships with the firm, as independent institutional ownership ($\text{Indep_IO}_{u,c}$) and gray institutional ownership ($\text{Gray_IO}_{u,c}$), where u means U.S. market and c means Chinese market.

1. Independent institutional ownership ($\text{Indep_IO}_{u,c}$): institutional ownership by independent institutions (a1: hedge fund managers; a2: investment managers; a3: sovereign wealth funds, and a4: VC/PE firms) as a percentage of shares outstanding:

$$\text{Indep}_{\text{IO}_{u,c}} = \frac{\sum_{a=1}^{4} I_a}{\text{shares outstanding}}. \tag{4}$$

2. Gray institutional ownership ($\text{Gray_IO}_{u,c}$): institutional ownership by gray institutions (b1: banks, b2: insurance companies, b3: family offices/trusts, b4: REITs, b5: corporate pensions, b6: government pensions, b7: union pension sponsors, b8: charitable foundations, b9: educational/cultural endowments, and b10: unclassified funds) as a percentage of shares outstanding:

$$\text{Grey}_{\text{IO}_{u,c}} = \frac{\sum_{b=1}^{10} G_b}{\text{shares outstanding}}. \tag{5}$$

3.3. Control Variables

In this study, according to Bandopadhyaya and Jones, Baur and Lucey, and Baur and McDermott [12,46,47], variables that measure firms are firm-level variables including market capitalization (SIZE) and the price-to-earnings ratio (P/E):

1. Market capitalization (SIZE): the logarithm of quarterly market capitalization:

$$\text{SIZE}_{u,c} = \log(\text{market capitalization}). \tag{6}$$

2. Price-to-earnings ratio (P/E): the current share price relative to its quarterly earnings per share (EPS):

$$\text{P/E}_{u,c} = \frac{\text{market value per share}}{\text{earnings per share}}. \tag{7}$$

4. Empirical Results

4.1. Descriptive Statistics

The research data include quarterly data of 3252 U.S. firms and 3678 Chinese firms with stocks held by institutional investors listed on the U.S. stock market (New York Stock Exchange and Nasdaq Stock Market) and China's A-shares market (Shenzhen Stock Exchange and Shanghai Stock Exchange). The data cover the period from May 2016 to September 2019 and were collected from the S&P capital IQ database.

First, we graphed the EMSI of the two countries obtained by Equation (3), shown in Figures 1 and 2. According to the definition of Bandopadhyaya and Jones [12], the EMSI is risk-neutral between −10 and 10, moderately risk-averse between −10 and −30, and moderately risk-seeking between 10 and 30.

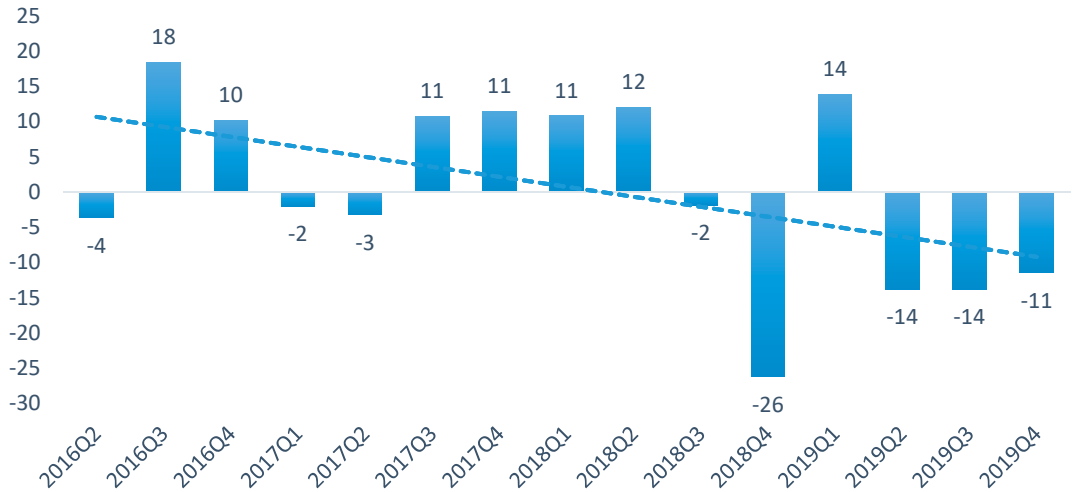

Figure 1. Trend of Equity Market Sentiment Index (EMSI) for S&P 500: May 2016 to September 2019.

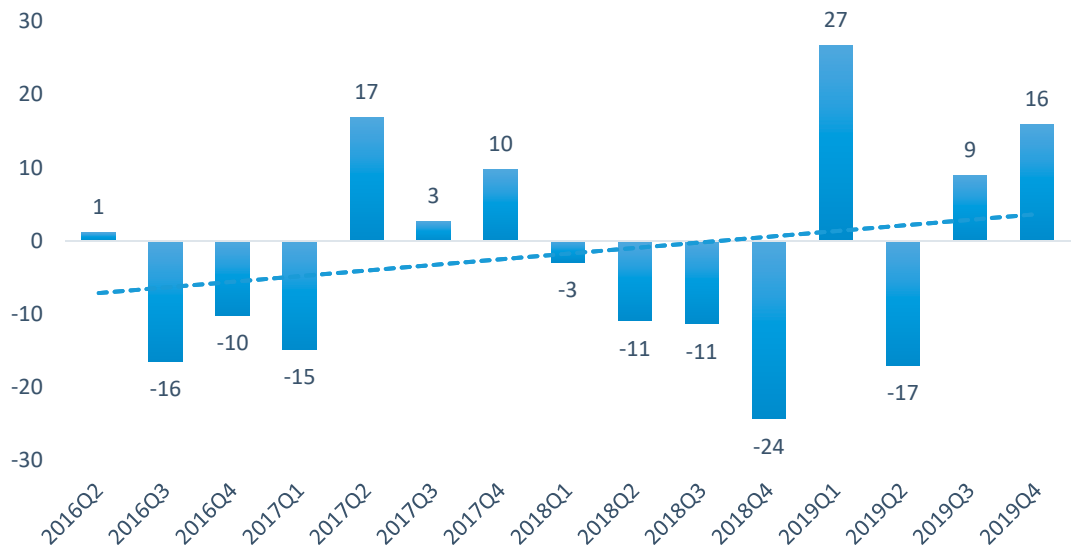

Figure 2. Trend of EMSI for CSI 300: May 2016 to September 2019.

Figures 1 and 2 show the equity market sentiment in the U.S. and Chinese stock markets, respectively. As can be observed from Figure 1, the EMSI of the U.S. market is mostly in the moderately risk-seeking range of 10 to 30. This shows that investors are full of confidence in the U.S. market, but at the same time, the trend of the EMSI is slowing down, indicating that equity market sentiment

has been suppressed. During the trade turbulence, the volatility of U.S. equity market sentiment is relatively stable, and investment sentiment in the U.S. market is improving. These phenomena are also reflected in the descriptive statistical analysis in Table 1, which shows that the mean value of the EMSI of the S&P 500 is 0.530, and the standard deviation is 12.584.

Table 1. Descriptive statistics of independent variables in U.S. market data. VC/PE, venture capital/private equity; REIT, real estate investment trust.

Variables	No. of Obs.	Minimum	Maximum	Mean	Std. Dev.
Dependent variable					
EMSI of S&P 500	36,077	−26.231	18.369	0.530	12.584
Institutional ownership variables (%)					
Total institutions ($Total_IO_u$)	36,077	0.001	100.000	62.926	27.764
Independent institutions ($Indep_IO_u$)	36,077	0.000	98.620	57.048	26.574
Hedge fund managers	36,077	0.000	54.050	4.628	4.667
Investment managers	36,077	0.000	96.350	51.903	25.243
Sovereign wealth funds	36,077	0.000	6.160	0.064	0.339
VC/PE firms	36,077	0.000	17.030	0.454	0.880
Gray institutions ($Gray_IO_u$)	36,077	0.000	97.513	5.881	5.255
Banks	36,077	0.000	86.100	2.267	2.514
Charitable foundations	36,077	0.000	41.470	0.128	1.041
Corporate pensions	36,077	0.000	29.720	0.265	0.921
Educational/cultural endowments	36,077	0.000	59.870	0.100	1.414
Family offices/trusts	36,077	0.000	94.040	0.740	2.182
Government pensions	36,077	0.000	31.640	1.873	1.830
Insurance companies	36,077	0.000	25.490	0.125	0.937
REITs	36,077	0.000	80.940	0.277	2.586
Unclassified	36,077	0.000	63.760	0.096	1.184
Union pension sponsors	36,077	0.000	9.870	0.010	0.198
Firm-level control variables					
Log market capitalization ($SIZE_u$)	36,077	1.320	13.950	7.926	1.909
Price-to-earnings ratio (P/E_u)	36,077	0.010	299.300	30.832	36.332

Note: (1) This table reports the number of observations, minimum, maximum, mean, and standard deviation of variables for the sample of all firms held by institutional investors and listed on the U.S. stock market. These firms are distributed in the New York Stock Exchange and Nasdaq Stock Market. (2) Definitions of all variables are listed in the Methodology section. (3) The sample data cover the period May 2016 to September 2019. (4) The 0.000 values in the table do not mean that values are equal to zero, but denote values less than 0.0001.

Figure 2 shows the sentiment index of the Chinese equity market. During the trade turbulence, the sentiment index is mostly within the moderately risk-averse range of −10 to −30, indicating that investors in the Chinese equity market are not optimistic about the current market situation. Table 2 shows that the mean value of the EMSI of the CSI 300 is −1.431. Since the Chinese market is mainly composed of irrational individual investors, irrational investment behavior makes the volatility of the equity market sentiment more violent. Table 2 also shows that the standard deviation of the EMSI of the CSI 300 is 14.716, while that the EMSI of the S&P 500 is 12.584. From the values in Q2 2017 and Q1 2019 in Figure 2, a sudden increase in risk-seeking sentiment after risk-averse sentiment can be observed. However, the rising trend of risk-seeking sentiment indicates that in the Chinese market, the sentiment of the market has not been suppressed. The sentiment of the entire market is unstable, accompanied by high-risk investment sentiment.

Table 2. Descriptive statistics of independent variables for Chinese market data.

Variables	No. of Obs.	Minimum	Maximum	Mean	Std. Dev.
Dependent variable					
EMSI of CSI 300	43,954	−24.346	26.747	−1.431	14.716
Institutional ownership variables (%)					
Total institutions ($Total_IO_c$)	43,954	0.001	86.180	9.468	8.660
Independent institutions ($Indep_IO_c$)	43,954	0.000	82.350	7.723	7.260
Hedge fund managers	43,954	0.000	4.250	0.024	0.200
Investment managers	43,954	0.000	80.010	5.788	6.678
Sovereign wealth funds	43,954	0.000	9.520	0.892	1.254
VC/PE firms	43,954	0.000	21.030	1.019	2.084
Gray institutions ($Gray_IO_c$)	43,954	0.000	60.347	1.742	4.032
Banks	43,954	0.000	59.600	0.513	1.661
Charitable foundations	43,954	0.000	11.560	0.009	0.228
Corporate pensions	43,954	0.000	9.210	0.013	0.228
Educational/cultural endowments	43,954	0.000	53.210	0.103	1.834
Family offices/trusts	43,954	0.000	1.380	0.000	0.017
Government pensions	43,954	0.000	4.780	0.056	0.209
Insurance companies	43,954	0.000	38.310	0.238	1.463
REITs	43,954	0.000	42.950	0.034	0.931
Unclassified	43,954	0.000	57.930	0.775	2.677
Union pension sponsors	43,954	0.000	0.088	0.000	0.001
Firm-level control variables					
Log market capitalization ($SIZE_c$)	43,954	4.138	12.797	7.080	1.002
Price-to-earnings ratio (P/E_c)	43,954	1.370	299.600	55.536	52.742

Note: (1) This table reports the number of observations, minimum, maximum, mean, and standard deviation of variables for the sample of all firms held by institutional investors and listed in Chinese A-shares. These firms are distributed in the Shanghai Stock Exchange (SSE) and Shenzhen Stock Exchange (SZSE). (2) Definitions of all variables are listed in the Methodology section. (3) Sample data cover the period May 2016 to September 2019. (4) The 0.000 values in the table do not mean that they are equal to zero, but denote that the values are less than 0.0001.

Table 1 reports the basic statistical characteristics of the independent variables of data in the U.S. market. Subsequently, we will use the mean value of variables to explain the phenomena in the U.S. market. As shown in Table 1, the mean value of total institutional ownership is 62.926%, which means that of the 36,077 observations in the U.S. market, institutional investors hold more than half of the company's equity. Among the total institutions, independent institutions have a proportion of 90.659% (i.e., 57.048/62.926), whereas gray institutions have a proportion of 9.346% (i.e., 5.881/62.926).

Table 2 reports the basic statistical characteristics of the independent variables of data in the Chinese market. We will also use the mean value of variables to explain the phenomena. As shown in Table 2, the mean value of total institutional ownership is 9.468%, which means that of the 39,016 observations in the Chinese market, institutional investors hold less than 10% of the companies' equity. Among the total institutions, independent institutions have a proportion of 81.569% (i.e., 7.723/9.468) and gray institutions have a proportion of 18.399% (i.e., 1.742/9.468).

Comparing the data of Tables 1 and 2, it can be found that in both markets, independent institutional investors are the main institutional investors. The U.S. market is mostly composed of institutional investors, while the Chinese market is mostly composed of retail investors. Zhang [38] believes that the market structure dominated by individual investors is also one of the main reasons for the low liquidity and high volatility in the Chinese market. This is one of the main differences between China and the United States in this study, which is also the reason for Hypothesis 2.

4.2. Spearman Correlation between Variables

Tables 3 and 4 present the Spearman correlation among variables in this study. Because the data of the variables show a non-normal distribution, we used Spearman rank correlation to analyze the correlation coefficients between variables. It can be seen from Table 3 that institutional ownership is negatively correlated with equity market sentiment in the U.S. stock market. However, Table 4 shows that in the Chinese stock market, the relationship between institutional ownership and equity market sentiment is just the opposite, and they have a positive correlation.

Table 3. Spearman rank correlation coefficients among variables of the U.S. market.

Variables	EMSI of S&P 500	Total_IO_u	Indep_IO_u	Gray_IO_u	$SIZE_u$	P/E_u
EMSI of S&P 500	1					
Total_IO_u	−0.0038	1				
Indep_IO_u	−0.0032	0.9797	1			
Gray_IO_u	−0.0009	0.4737	0.3506	1		
$SIZE_u$	0.0010	0.3735	0.3457	0.4236	1	
P/E_u	0.0407	0.1614	0.1673	−0.0017	0.0916	1

Note: (1) This table presents the Spearman rank correlation of U.S. market variables. (2) EMSI of the S&P 500 is the measure of the Equity Market Sentiment Index of the U.S. market. (3) Total_IO_u, Indep_IO_u, and Gray_IO_u, denote total, independent, and gray institutional ownership, respectively. (4) $SIZE_u$ and P/E_u are U.S. firm control variables. (5) Definitions of all variables are listed in the Methodology section.

Table 4. Spearman rank correlation coefficients among variables of the Chinese market.

Variables	EMSI of CSI 300	Total_IO_c	Indep_IO_c	Gray_IO_c	$SIZE_c$	P/E_c
EMSI of CSI 300	1					
Total_IO_c	0.0124	1				
Indep_IO_c	0.0147	0.9224	1			
Gray_IO_c	0.0116	0.4777	0.2107	1		
$SIZE_c$	0.0020	0.4482	0.4351	0.3331	1	
P/E_c	0.0021	−0.1459	−0.1337	−0.1821	−0.2415	1

Note: (1) This table presents Spearman rank correlation of Chinese market variables. (2) EMSI of CSI 300 is the measure of the Equity Market Sentiment Index of the Chinese market. (3) Total_IO_c, Indep_IO_c, and Gray_IO_c, denote total, independent, and gray institutional ownership, respectively. (4) $SIZE_c$ and P/E_c are Chinese firm control variables. (5) Definitions of all variables are listed in the Methodology section.

This suggests that there are significant differences in the investment behavior of Chinese and American institutional investors in terms of their respective market sentiments. American institutional investors pursue the feedback trading strategy and have a negative effect on the equity market sentiment. Chinese institutional investors do not use the same strategy, and they have a positive effect on their own equity market sentiment.

4.3. Dynamic Panel Data Estimation Results

Because the dataset of this study has a larger cross-section and a shorter time series, we used a dynamic generalized method of moments (GMM) estimator to estimate the model and to investigate the dynamic relationship between institutional ownership and stock market sentiment. We conducted GMM analysis on the two markets, and the analysis results are shown in Tables 5 and 6.

Table 5 reports the dynamic GMM estimation results of the U.S. market, where the dependent variable is the EMSI of the S&P 500. First, we analyzed the relationship between total institutional ownership and equity market sentiment, then divided institutional ownership into two groups, independent and gray ownership, to observe the relationship between them an equity market sentiment. In all regressions, the results show that the coefficient of Total_IO_u is negative (−0.4284)

and statistically significant at the 0.1% level, and the coefficients of Indep_IO_u and Gray_IO_u are negative (−0.4160 and −0.5561, respectively) and significant at the 0.1% level. The coefficients for the institutional ownership variables are significantly negatively correlated with equity market sentiment. This means that when the proportion of institutional investor ownership increases, market sentiment will decrease, so that market sentiment is within a reasonable risk range and the outlook will not be overestimated. This result is consistent with the results of the Spearman rank correlation analysis in Table 3. This supports the feedback trading strategy and smart money theory.

Table 5. Dynamic generalized method of moments (GMM) estimation results for U.S. market.

Variables	EMSI of S&P 500			
	Coeff.	***p*-Value**	**Coeff.**	***p*-Value**
EMSI S&P 500 ($t-1$)	−0.0632 ***	0.0000	−0.0633 ***	0.0000
	(0.001)		(0.001)	
Total_IO_u	−0.4284 ***	0.0000		
	(0.026)			
Indep_IO_u			−0.4160 ***	0.0000
			(0.027)	
Gray_IO_u			−0.5561 ***	0.0000
			(0.073)	
$SIZE_u$	−1.7934 ***	0.0002	−1.7904 ***	0.0001
	(0.476)		(0.472)	
P/E_u	0.0207 ***	0.0000	0.0207 ***	0.0000
	(0.004)		(0.004)	
Firm fixed	yes		yes	
J-statistic	2821.19		2824.71	
Prob (J-statistic)	0.0000		0.0000	

Note: (1) This table presents the results of the dynamic GMM for the EMSI of the S&P 500. (2) Total_IO_u, Indep_IO_u, and Gray_IO_u denote total, independent, and gray institutional ownership in the U.S. market, respectively. (3) Definitions of all independent variables are listed in the Methodology section. (4) Quarterly sample data cover the period May 2016 to September 2019. (5) *** indicates that coefficients are significant at the 0.1% level. (6) The values of robust standard errors corresponding to coefficients are shown in parentheses.

Table 6. Dynamic GMM estimation results for the Chinese market.

Variables	EMSI of CSI 300			
	Coeff.	***p*-Value**	**Coeff.**	***p*-Value**
EMSI CSI 300 ($t-1$)	−0.2959 ***	0.0000	−0.2956 ***	0.0000
	(0.001)		(0.001)	
Total_IO_c	0.4205 ***	0.0000		
	(0.032)			
Indep_IO_c			0.4603 ***	0.0000
			(0.033)	
Gray_IO_c			0.3949 ***	0.0013
			(0.123)	
$SIZE_c$	5.3405 ***	0.0000	5.2461 ***	0.0000
	(0.269)		(0.270)	
P/E_c	−0.0387 ***	0.0000	−0.0389 ***	0.0000
	(0.003)		(0.003)	
Firm fixed	yes		yes	
J-statistic	3410.79		3411.97	
Prob (J-statistic)	0.0000		0.0000	

Note: (1) This table presents the results of dynamic GMM for the EMSI of CSI 300. (2) Total_IO_c, Indep_IO_c, and Gray_IO_c denote total, independent, and gray institutional ownership of the Chinese market, respectively. (3) Definitions of all independent variables are listed in the Methodology section. (4) Quarterly sample data cover the period May 2016 to September 2019. (5) *** indicates that coefficients are significant at the 0.1% level. (6) The values of robust standard errors corresponding to coefficients are shown in parentheses.

This result is like those of previous scholars [22,23]; institutional investors understand the situation of the company and the market better than individual investors. Based on professional judgment and information advantages, institutional investors pursue the feedback trading strategy and have a negative effect on the equity market sentiment. This proves that hypothesis H1 is true in the U.S. market. Thus, it can be explained that institutional investors in the U.S. stock market have suppressed market sentiment. Institutional investors adopt a negative feedback trading strategy to neutralize the overconfidence caused by irrational traders due to the positive feedback effect. As shown in Figure 1, this result is reflected in the phenomenon that the sentiment trend in the U.S. market is less volatile and moving downward.

In the same way, Table 6 reports the dynamic GMM estimation results for the Chinese market, where the dependent variable is the EMSI of the CSI 300. In all regressions, the coefficients for the institutional ownership variables are significantly positively correlated with equity market sentiment, and the coefficients of $Total_IO_c$, $Indep_IO_c$, and $Gray_IO_c$ are positive (0.4205, 0.4603, and 0.3949, respectively) and statistically significant at the 0.1% level. This means that when institutional investors increase, market sentiment will also increase, leading to increased market risk caused by excessive confidence or negativity. This result is also consistent with the results of the Spearman rank correlation analysis in Table 4. The relationship between institutional investors and market sentiment in the Chinese market is contrary to the U.S. results. In the Chinese market, institutional investors do not only consider the basic situation of the market and the company; they also pay attention to the policy and development environment of the entire country. For them, there is more uncertainty in the Chinese market [7–9]. This result does not support the feedback trading strategy and smart money theory.

This result proves that the hypothesis H2 is true; there are significant differences in the investment behavior of Chinese and U.S. institutional investors in terms of their respective market sentiments. Meanwhile, it proves that hypothesis H1 is false in the Chinese market. Thus, it can be explained that institutional investors in the Chinese stock market have not suppressed market sentiment. They do not adopt a negative feedback trading strategy to stabilize market sentiment like institutional investors in the U.S. market. In Figure 2, we can see that the sentiment trend in the Chinese market is volatile and moving upward.

The results also provide further information about the firm-level control variable. In the U.S. market, the coefficient of firm size is −1.7934, which is negatively correlated with equity market sentiment and has statistical significance at the 0.1% level. This means that the greater the company's capital scale, the more the market sentiment tends toward avoiding risk, and the risk is relatively small. In the Chinese market, the coefficient of firm size is 5.3405, which is positively correlated with equity market sentiment and has statistical significance at the 0.1% level. This means that the larger the company's capital scale, the more the market sentiment tends toward risk-seeking, and the risk is higher. In terms of firm value, the coefficient of the P/E ratio of American firms is 0.0207, which is positively correlated with equity market sentiment and has statistical significance at the 0.1% level. This means that the higher the company's value, the higher the market risk, and the sentiment is risk-seeking. In the Chinese market, the coefficient of the P/E ratio is −0.0387, which is negatively correlated with equity market sentiment and has statistical significance at the 0.1% level. This shows that the higher the company's value, the lower the market risk, and the sentiment shows a trend of avoidance. The results suggest that in the U.S., high-value companies bear higher risks, while in China, large-scale companies bear higher risks.

Finally, in order to test the validity of instrumental variables, we used the Sargan test to test the over-identified restrictions in GMM estimation. The J-statistics provided in Tables 5 and 6 indicate that the model is effective and does not cause over-identification.

In order to test the robustness of the results, we further performed dynamic GMM analysis on the lagging period of the data. Tables 7 and 8 show the results of the robustness test for the U.S. and Chinese markets, respectively. The results in Table 5 are consistent with the results in Table 7; the coefficients for the lagging period of the institutional ownership variables are significantly negatively correlated with equity market sentiment. The coefficients of Total_IO_u(−1) and Indep_IO_u(−1) are negative (−0.2905 and −0.3014, respectively) and statistically significant at the 0.1% level. It shows that the impact of institutional investor ownership on market sentiment during the lagging period is consistent with the previous results shown in Table 5. Institutional ownership has a negative effect on market sentiment through a negative feedback trading strategy, so market sentiment will not be overconfident and cause a crisis due to positive feedback trading strategy effects.

Table 7. Robustness test of U.S. market using lagging dynamic GMM.

Variables	EMSI of S&P 500			
	Coeff.	***p*-Value**	**Coeff.**	***p*-Value**
EMSI S&P 500(−1)	−0.0274 ***	0.0000	−0.0273 ***	0.0000
	(0.002)		(0.002)	
EMSI S&P 500(−2)	−0.0918 ***	0.0000	−0.0916 ***	0.0000
	(0.001)		(0.001)	
Total_IO_u	−0.1405 ***	0.0000		
	(0.023)			
Total_IO_u(−1)	−0.2905 ***	0.0000		
	(0.027)			
Indep_IO_u			−0.1207 ***	0.0000
			(0.024)	
Indep_IO_u(−1)			−0.3014 ***	0.0000
			(0.028)	
Gray_IO_u			−0.3552 ***	0.0000
			(0.067)	
Gray_IO_u(−1)			−0.1670	0.0569
			(0.088)	
$SIZE_u$	5.3046 ***	0.0000	5.3080 ***	0.0000
	(0.464)		(0.466)	
P/E_u	0.0136 **	0.0017	0.0140 **	0.0014
	(0.004)		(0.004)	
P/E_u(−1)	0.0137 ***	0.0006	0.0131 **	0.0011
	(0.004)		(0.004)	
Firm fixed	yes		yes	
J-statistic	2682.6		2679.97	
Prob (J-statistic)	0.0000		0.0000	

Note: (1) This table presents robust results of lagging dynamic GMM for the EMSI of the S&P 500. (2) Total_IO_u, Indep_IO_u, and Gray_IO_u denote total, independent, and gray institutional ownership of the U.S. market, respectively. (3) (−1) and (−2) indicate lags to be included. (4) Definitions of all independent variables are listed in the Methodology section. (5) Quarterly sample data cover the period May 2016 to September 2019. (6) *** and ** indicate coefficients are significant at the 0.1% and 1% levels respectively. (7) The values of robust standard errors corresponding to coefficients are shown in parentheses.

Similarly, the results of Table 6 are consistent with the results of Table 8; the coefficients for the lagging period of the institutional ownership variables are significant positively correlated with equity market sentiment. The coefficients of Total_IO_c(−1), Indep_IO_c(−1), and Gray_IO_c(−1) are 0.2687, 0.2261, and 0.4468 and statistically significant at the 0.1% level. In the Chinese market, institutional investors have not adopted a negative feedback trading strategy to stabilize market sentiment. Therefore, based on the above conclusion, the results of the lagging period test prove that the results of this study are robust.

Table 8. Robustness test of the Chinese market using lagging dynamic GMM.

Variables	EMSI of CSI 300			
	Coeff.	***p*-Value**	**Coeff.**	***p*-Value**
EMSI CSI 300(−1)	−0.2736 ***	0.0000	−0.2726 ***	0.0000
	(0.002)		(0.002)	
EMSI CSI 300(−2)	0.0526 ***	0.0000	0.0529 ***	0.0000
	(0.002)		(0.002)	
$Total_IO_c$	0.4109 ***	0.0000		
	(0.038)			
$Total_IO_c(-1)$	0.2687 ***	0.0000		
	(0.035)			
$Indep_IO_c$			0.4898 ***	0.0000
			(0.040)	
$Indep_IO_c(-1)$			0.2261 ***	0.0000
			(0.036)	
$Gray_IO_c$			0.1952	0.1470
			(0.135)	
$Gray_IO_c(-1)$			0.4468 ***	0.0005
			(0.129)	
$SIZE_c$	7.1444 ***	0.0000	7.0698 ***	0.0000
	(0.331)		(0.334)	
P/E_c	0.0207 ***	0.0000	0.0200 ***	0.0000
	(0.004)		(0.004)	
$P/E_c(-1)$	−0.0718 ***	0.0000	−0.0717 ***	0.0000
	(0.004)		(0.004)	
Firm fixed	yes		yes	
J-statistic	3361.39		3360.88	
Prob (J-statistic)	0.0000		0.0000	

Note: (1) This table presents the robust results of the lagging dynamic GMM for the EMSI of the CSI 300. (2) $Total_IO_c$, $Indep_IO_c$, and $Gray_IO_c$, denote total, independent, and gray institutional ownership of the Chinese market, respectively. (3) (−1) and (−2) indicate lags to be included. (4) Definitions of all independent variables are listed in the Methodology section. (5) Quarterly sample data cover the period May 2016 to September 2019. (6) *** indicates that coefficients are significant at the 0.1% level. (7) The values of robust standard errors corresponding to coefficients are shown in parentheses.

5. Conclusions

This paper discusses the changes in professional institutional investors' behavior and equity market sentiment in the U.S. and China during the trade turbulence. Empirical research was conducted to verify the effectiveness of the feedback trading strategy and smart money theory in stabilizing the U.S. and Chinese securities markets, and to understand the role of institutional investors' behavior to come up with suggestions for improving and perfecting the market mechanism of stabilizing the U.S. and Chinese securities markets.

We selected quarterly panel data covering the period May 2016 to September 2019 and constructed the Equity Market Sentiment Index (EMSI) for two groups of stock, the S&P 500 and CSI 300, using GMM to perform dynamic panel data analysis and to examine public companies held by institutional investors listed in the U.S. stock market (New York Stock Exchange and Nasdaq Stock Market) and China's A-shares market (Shenzhen Stock Exchange and Shanghai Stock Exchange).

We found that institutional investors in the U.S. stock market have suppressed market sentiment. This result supports these investors acting as rational investors in the market. They use negative a feedback strategy and smart money theory to stabilize the market sentiment in the U.S. stock market and act as stewards. However, institutional investors in China behave in the opposite manner and have not suppressed market sentiment. Compared with the situation in the United States, institutional investors do not act as stewards in the Chinese market. Their performance in the financial crisis was not as good as expected. In a regulated market like China, access to information is limited, and there is no way to make their behavior conform to the theory of smart money. In terms of strategy, they are

more inclined to use a positive feedback strategy, which does not play a positive role in stabilizing market sentiment. Furthermore, in the U.S., high-value companies bear higher risks, while in China, large-scale companies bear higher risks.

The results of this paper are particularly important for studying institutional ownership amid trade turbulence. The findings from the paper suggest that institutional investors behave differently in markets on both sides of trade turbulence. Due to the differences in national political and economic policies and regulations in various countries, institutional investors' judgments of the market will be affected by these factors.

This study also has clear policy implications for the government. Compared with the U.S. financial market, which has a well-developed capital market mechanism, in the Chinese market, institutional investors have not played a role in stabilizing market sentiment during the financial crisis, as shown by the research results in Tables 5 and 6. As a result of this difference, we believe that one is caused by the difference in capital market results. The proportion of institutional investors in the U.S. financial market far exceeds the proportion in the Chinese market. In the Chinese financial market, there are more irrational individual investors. Obviously, more institutional ownership will suppress stock market sentiment and prevent overconfidence caused by the positive feedback effect of irrational investors, thereby reducing the risk of domestic stock market fluctuations. Therefore, optimizing and perfecting the structure of the capital market is a fundamental issue that policymakers must face.

Another reason for the difference in results is due to financial market mechanisms and national development policies. Institutional investors in the Chinese financial market, while paying attention to basic market information, pay more attention to the development policies of the entire country. Changes in national policies have greatly affected the direction of financial markets. This consideration of national policies has had a more direct influence on investors' investment strategies, making them unable to play a role in suppressing stock market sentiment. Therefore, how to improve the financial market mechanism and reduce the impact of national development policies on the financial market is worth deep consideration by policymakers, especially during a financial crisis.

Author Contributions: The authors contributed equally to this work. Conceptualization, S.-L.L.; data curation, J.L.; formal analysis, J.L.; investigation, J.L.; methodology, J.L.; project administration, S.-L.L.; resources, S.-L.L.; supervision, S.-L.L.; visualization, J.L.; writing—original draft, J.L.; writing—review and editing, S.-L.L. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Conflicts of Interest: The authors declare no conflict of interest.

References

1. US Manufacturing Survey Shows Worst Reading in a Decade. Available online: https://www.cnbc.com/2019/10/01/us-manufacturing-economy-contracts-to-worst-level-in-a-decade.html (accessed on 1 October 2019).
2. Carvalho, M.; De Azevedo, A.F.Z.; Massuquetti, A. Emerging Countries and the Effects of the Trade War between US and China. *Economies* **2019**, *7*, 45. [CrossRef]
3. Feng, Z.; Zhou, W.; Ming, Q. Embodied Energy Flow Patterns of the Internal and External Industries of Manufacturing in China. *Sustainability* **2019**, *11*, 438. [CrossRef]
4. Zhang, D.; Lei, L.; Ji, Q.; Kutan, A.M. Economic policy uncertainty in the US and China and their impact on the global markets. *Econ. Model.* **2019**, *79*, 47–56. [CrossRef]
5. ROB Manufacturing Data. Available online: https://www.instituteforsupplymanagement.org/news/content.cfm?ItemNumber=28859&SSO=1 (accessed on 15 October 2019).
6. McNulty, T.; Nordberg, D. Ownership, Activism and Engagement: Institutional Investors as Active Owners. *Corp. Gov. Int. Rev.* **2015**, *24*, 346–358. [CrossRef]
7. Lin, S.L.; Lu, J.; Su, J.-B.; Chen, W.-P. Sustainable Returns: The Effect of Regional Industrial Development Policy on Institutional Investors' Behavior in China. *Sustainability* **2018**, *10*, 2769. [CrossRef]
8. Lu, J. The Behavior of Institutional Investors on Regional Industrial Development Policy and Stock Return Volatility in China. Ph.D. Thesis, National Taipei University of Technology, Taipei, Taiwan, 2019.

9. Lin, S.-L.; Lu, J. Institutional Investors and Corporate Performance: Insights from China. *Sustainability* **2019**, *11*, 6010. [CrossRef]
10. Renault, T. Intraday online investor sentiment and return patterns in the U.S. stock market. *J. Bank. Financ.* **2017**, *84*, 25–40. [CrossRef]
11. Brown, G.W.; Cliff, M.T. Investor Sentiment and Asset Valuation. *J. Bus.* **2005**, *78*, 405–440. [CrossRef]
12. Bandopadhyaya, A.; Jones, A.L. Measuring Investor Sentiment in Equity Markets. *J. Asset Manag.* **2006**, *6*, 258–269. [CrossRef]
13. Eichengreen, B.; Mody, A. Interest Rates in the North and Capital Flows to the South: Is There a Missing Link? *Int. Financ.* **1998**, *1*, 35–57. [CrossRef]
14. Baek, I.; Bandopadhyaya, A.; Du, C. Determinants of market-assessed sovereign risk: Economic fundamentals or market risk appetite? *J. Int. Money Financ.* **2005**, *24*, 533–548. [CrossRef]
15. Feng, X.; Zhou, M.; Chan, K.C. Smart money or dumb money? A study on the selection ability of mutual fund investors in China. *N. Am. J. Econ. Financ.* **2014**, *30*, 154–170. [CrossRef]
16. Hirshleifer, D.; Teoh, S.H. Herd Behaviour and Cascading in Capital Markets: A Review and Synthesis. *Eur. Financ. Manag.* **2003**, *9*, 25–66. [CrossRef]
17. Shleifer, A. Overconfident Investors, Predictable Returns, and Excessive Trading. *J. Econ. Perspect.* **2015**, *29*, 61–88.
18. Foucault, T.; Sraer, D.; Thesmar, D.J. Individual Investors and Volatility. *J. Financ.* **2011**, *66*, 1369–1406. [CrossRef]
19. Naughton, B. *Transitions and Growth*; Massachusetts Institute of Technology Press: Cambridge, MA, USA, 2007; p. 528. ISBN 13: 978-0262640640.
20. Li, N.; Nguyen, Q.N.; Pham, P.K.; Wei, S. Large Foreign Ownership and Firm-Level Stock Return Volatility in Emerging Markets. *J. Financ. Quant. Anal.* **2011**, *46*, 1127–1155. [CrossRef]
21. Gillan, S.L.; Starks, L.T. Corporate Governance, Corporate Ownership, and the Role of Institutional Investors: A Global Perspective. *SSRN Electron. J.* **2003**, *13*, 4–22. [CrossRef]
22. Roach, L. The UK Stewardship Code. *J. Corp. Law Stud.* **2011**, *11*, 463–493. [CrossRef]
23. Lin, J.-C.; Lee, Y.-T.; Liu, Y.-J. IPO auctions and private information. *J. Bank. Financ.* **2007**, *31*, 1483–1500. [CrossRef]
24. West, K.D. Dividend Innovations and Stock Price Volatility. *Econometrica* **1988**, *56*, 37. [CrossRef]
25. Grinblatt, M. The investment behavior and performance of various investor types: A study of Finland's unique data set. *J. Financ. Econ.* **2000**, *55*, 43–67. [CrossRef]
26. Kaniel, R.; Saar, G.; Titman, S. Individual Investor Trading and Stock Returns. *J. Financ.* **2008**, *63*, 273–310. [CrossRef]
27. Ahmed, W. The trading patterns and performance of individualvis-à-visinstitutional investors in the Qatar Exchange. *Rev. Account. Financ.* **2014**, *13*, 24–42. [CrossRef]
28. Panda, B.; Leepsa, N.M. Institutional Ownership Activism, Market Performance, and Financial Crisis: Evidence from an Emerging Market. *Asia Pac. Soc. Sci. Rev.* **2018**, *17*, 44–62.
29. Arora, R.K. The Relation between Investment of Domestic and Foreign Institutional Investors and Stock Returns in India. *Glob. Bus. Rev.* **2016**, *17*, 654–664. [CrossRef]
30. De Long, J.B.; Shleifer, A.; Summers, L.H.; Waldmann, R.J. Positive feedback investment strategies and destabilizing rational speculation. *J. Financ.* **1990**, *45*, 379–395. [CrossRef]
31. Bikhchandani, S.; Hirshleifer, D.; Welch, I. A Theory of Fads, Fashion, Custom, and Cultural Change as Informational Cascades. *J. Political Econ.* **1992**, *100*, 992–1026. [CrossRef]
32. Hirshleifer, D.; Subrahmanyam, A.; Titman, S. Security analysis and trading patterns when some investors receive information before others. *J. Financ.* **1994**, *49*, 1665–1698. [CrossRef]
33. Hong, H.; Stein, J.C. A Unified Theory of Underreaction, Momentum Trading, and Overreaction in Asset Markets. *J. Financ.* **1999**, *54*, 2143–2184. [CrossRef]
34. Gruber, M.J. Another puzzle: The growth in actively managed mutual funds. *J. Financ.* **1996**, *51*, 783–810. [CrossRef]
35. Zheng, L. Is Money Smart? A Study of Mutual Fund Investors' Fund Selection Ability. *J. Financ.* **1999**, *54*, 901–933. [CrossRef]
36. Sapp, T.; Tiwari, A. Does Stock Return Momentum Explain the "Smart Money" Effect? *J. Financ.* **2004**, *59*, 2605–2622. [CrossRef]

37. Munoz, F.; Vargas, M.; Vicente, R. Fund flow bias in market timing skill. Evidence of the clientele effect. *Int. Rev. Econ. Financ.* **2014**, *33*, 257–269. [CrossRef]
38. Zhang, Y.; Cao, X.; He, F.; Zhang, W. Network topology analysis approach on China's QFII stock investment behavior. *Phys. A Stat. Mech. Its Appl.* **2017**, *473*, 77–88. [CrossRef]
39. Feng, X.; Hu, N.; Johansson, A.C. Ownership, analyst coverage, and stock synchronicity in China. *Int. Rev. Financ. Anal.* **2016**, *45*, 79–96. [CrossRef]
40. Korkeamäki, T.; Virk, N.; Wang, H.; Wang, P. Learning Chinese? The changing investment behavior of foreign institutions in the Chinese stock market. *Int. Rev. Financ. Anal.* **2019**, *64*, 190–203. [CrossRef]
41. Zou, L.; Tang, T.; Li, X.-M. The stock preferences of domestic versus foreign investors: Evidence from Qualified Foreign Institutional Investors (QFIIs) in China. *J. Multinatl. Financ. Manag.* **2016**, *37*, 12–28. [CrossRef]
42. Ferreira, M.A.; Matos, P. The colors of investors' money: The role of institutional investors around the world. *J. Financ. Econ.* **2008**, *88*, 499–533. [CrossRef]
43. Aggarwal, R.; Erel, I.; Ferreira, M.A.; Matos, P. Does governance travel around the world? Evidence from institutional investors. *J. Financ. Econ.* **2011**, *100*, 154–181. [CrossRef]
44. Aggarwal, R.; Hu, M.; Yang, J. Fraud, Market Reaction, and the Role of Institutional Investors in Chinese Listed Firms. *J. Portf. Manag.* **2015**, *41*, 92–109. [CrossRef]
45. Almazan, A.; Hartzell, J.C.; Starks, L.T. Active Institutional Shareholders and Costs of Monitoring: Evidence from Executive Compensation. *Financ. Manag.* **2005**, *34*, 5–34. [CrossRef]
46. Baur, D.G.; Lucey, B.M. Is Gold a Hedge or a Safe Haven? An Analysis of Stocks, Bonds and Gold. *Financ. Rev.* **2010**, *45*, 217–229. [CrossRef]
47. Baur, D.G.; McDermott, T.K. Is gold a safe haven? International evidence. *J. Bank. Financ.* **2010**, *34*, 1886–1898. [CrossRef]

© 2020 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (http://creativecommons.org/licenses/by/4.0/).