

The Ripple Effects of Financial Fraud: Investor Trust and Risk Appetite Post-Kangmei Pharmaceutical

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Abstract. The financial fraud at Kangmei Pharmaceutical (stock code: 600518) has had profound implications for retail investors. This paper, through data analysis, explores the correlation between information asymmetry and investment outcomes for retail investors. Information asymmetry often leaves retail investors unable to access the true financial state and operational conditions of companies, leading them to make speculative investments. Post-exposure, as information transparency increased, retail investors became aware of the company's financial issues and rushed to sell, causing a stock plunge. This highlights how information asymmetry not only affects investment decisions but also amplifies market volatility. To mitigate risks from information asymmetry, regulators must strengthen oversight and penalties, improve disclosure transparency and authenticity, while investors need to enhance self-protection awareness and information gathering and analysis capabilities. Only then can we minimize the impact of information asymmetry on retail investors and uphold fairness and stability in financial markets. This paper suggests that by implementing a robust regulatory framework and encouraging proactive investor education, we can better safeguard retail investors from the detrimental effects of information asymmetry, thereby fostering a more resilient and equitable financial market ecosystem.

Keywords: Information Asymmetry; Investment; Risk Preference; Financial fraud.

1. Introduction

In economic theory, information asymmetry occurs when there is an uneven distribution of information among parties involved in a transaction. This imbalance in knowledge can influence trading decisions and affect the results within the market [1]. Information asymmetry plays a pivotal role in market economies, influencing market efficiency, resource allocation, and investment decisions. The disparity in information access between retail investors and institutional investors often places the latter at an advantageous position, enabling them to reap greater investment returns [2]. To protect retail investors, it is crucial for market regulators to implement stricter disclosure rules and increase transparency. Additionally, retail investors should boost their understanding of finance and awareness of risks to make more informed investment choices [3,4]. The prevalence and significance of information asymmetry in financial markets are manifested in several aspects:

1.1. Importance

Market Efficiency: Information asymmetry impairs the functioning of financial markets. In the absence of precise and honest information, participants in the market are likely to make poor decisions. This results in inefficient distribution of resources and skewed market prices, thereby diminishing the overall effectiveness and equity of the markets.

Investor Interests: It harms investor interests by leading to erroneous investment decisions due to inadequate information or misinterpretation, resulting in investment losses [5]. Moreover, some participants exploit information advantages for unfair trades, further impairing investor welfare.

Regulatory Challenges: It poses challenges for financial regulators who must devise effective policies to ensure information truthfulness, accuracy, and completeness to uphold market fairness and stability. However, the existence of information asymmetry complicates regulators' efforts to grasp the true market situation, presenting difficulties and challenges [6].



The universality and importance of information asymmetry in financial markets cannot be overlooked. Measures to mitigate its detrimental effects on market efficiency and investor interests include enhancing information disclosure, boosting market transparency, and reinforcing investor education and protection. Concurrently, regulators need to intensify supervision to ensure a fair and stable market environment.

data, suspecting abnormalities. China Securities Regulatory Commission (CSRC) initiated an investigation, confirming in April 2019 that Kangmei had engaged in severe financial fraud. Under regulatory demands, Kangmei commissioned an independent audit, revealing further details of its fraudulent activities.

2. Case Description

The Kangmei Pharmaceutical financial fraud case is one of the most severe instances of financial deception in recent years in China's capital market, inflicting substantial damage to market confidence and investor interests. Founded in 1997, Kangmei primarily engaged in the production and sale of traditional Chinese medicines. Once a star enterprise on China's A-share market with impressive share prices, the company was exposed for financial fraud in 2018, stunning the market.

2.1. Fraudulent Practices

Kangmei engaged in fraudulent financial reporting by inflating its revenue through fictitious sales in 2016 and 2017, misrepresenting its financial health to investors. Additionally, the company concealed its debt levels, particularly regarding short-term obligations, thereby misrepresenting the solidity of its financial position. Moreover, Kangmei falsely reported higher values for inventory and assets in its annual reports, contravening disclosure regulations and misleading both investors and regulatory authorities.

Related Party Transactions: Kangmei engaged in improper transactions with related parties to transfer assets and profits, further obscuring traces of its financial manipulation.

2.2. Exposure Process

In 2018, media outlets and market analysts raised questions about Kangmei's financial

Post-exposure, Kangmei's stock price plummeted from around RMB 27 per share to less than RMB 4, erasing billions in market value. Retail investors suffered significant financial losses, trust in the company collapsed, forcing many to sell at depressed prices. Kangmei's corporate reputation was severely tarnished, and operations were heavily impacted. Senior executives faced legal and criminal consequences. This scandal negatively affected confidence in China's capital market, casting doubt on the financial transparency of listed companies and the regulatory framework.

The CSRC imposed heavy fines on Kangmei and its responsible parties, demanding compensation for affected investors. Multiple high-ranking executives, including the chairman, general manager, and CFO, among others, faced legal and criminal accountability. The Kangmei incident prompted systemic reforms in China's capital market, such as stricter disclosure requirements, improved audit quality, and intensified crackdowns on financial fraud.

2.3. Impact of the Fraud

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3. Analysis of the Issue

Analysis of the Issue The financial fraud case of Kangmei Pharmaceutical illuminates the severe impact of information asymmetry on investors, particularly retail investors. Faced with the company's significant operational challenges and a substantial decline in profitability, the senior management of Kangmei resorted to various falsifications and manipulations to inflate revenues, cash balances, and profits. By utilizing doctored financial statements to portray a robust business performance, they misled the majority of investors, artificially inflating stock prices. Following the exposure of the financial fraud, the company's share price plummeted, resulting in substantial investment losses for a multitude of investors and severely undermining their confidence in investing.

Below, through the collection and analysis of data on retail investors' investment outcomes, we can discern the correlation between information asymmetry and investment results.

3.1. Data Sources

Trading Platform Data: Transaction records of retail investors are obtained from stock trading platforms, including details such as transaction times, prices, and volumes.

Questionnaire Survey: Information on retail investors' investment behaviors and decision-making processes is gathered through questionnaire surveys, encompassing their sources of information, analytical approaches, and investment experience.

Market Data: Data reflecting the overall market performance is collected, including stock price indices, corporate financial statements, and market news updates in Table 1 and Table 2.

Table 1. Investor Data Statistics.

Investor	Age	Gender	Investment experience	Stock name	Buying time	Selling time	Buying Price	Selling price	Holding period	P&L (%)	Information source
1	35	Male	5years	Kangmei Pharmaceutical	2017-01-01	2019-05-01	15.00	5.00	2years4months	-66.67	News media
2	28	Female	2years	Kangmei Pharmaceutical	2018-03-01	2019-05-01	20.00	5.00	1years2months	-75.00	Social media
3	45	Male	10years	Kangmei Pharmaceutical	2016-06-01	2019-05-01	10.00	5.00	2years11months	-50.00	Professional report
4	32	Female	3years	Kangmei Pharmaceutical	2018-01-01	2019-05-01	18.00	5.00	1years4months	-72.22	News media
5	38	Male	7years	Kangmei Pharmace	2017-01-01	2019-05-01	12.00	5.00	1years11months	-58.3	Professional

				utical	06-01	05-01				3	report
6	29	Fem ale	1year	Kangmei Pharmace utical	201 8- 09- 01	201 9- 05- 01	22.0 0	5.00	8months	- 77.2 7	Social media
7	41	Mal e	8years	Kangmei Pharmace utical	201 7- 03- 01	201 9- 05- 01	14.0 0	5.00	2years2m onths	- 64.2 9	Professi onal report
8	33	Fem ale	4years	Kangmei Pharmace utical	201 7- 05- 01	201 9- 05- 01	16.0 0	5.00	2years	- 68.7 5	News media
9	27	Mal e	2years	Kangmei Pharmace utical	201 8- 05- 01	201 9- 05- 01	19.0 0	5.00	1years	- 73.6 8	Social media
10	50	Fem ale	12year s	Kangmei Pharmace utical	201 6- 03- 01	201 9- 05- 01	11.0 0	5.00	3years2m onths	- 54.5 5	Professi onal report

Categorized by Information Sources: Investors are grouped according to their information acquisition channels (news media, social media, professional reports), and the investment outcomes across these different channels are compared. Categorized by Investment Experience: Investors are categorized based on their level of investment experience (1-3 years as beginners, 4-7 years as intermediates, over 8 years as advanced), and the investment results for differing levels of experience are compared.

3.2. Regression Analysis

A regression model is constructed where investment returns serve as the dependent variable and information acquisition channels, investment experience, among others, act as independent variables.

First, the basic statistical measures of the overall data are calculated: Average Return = -66.88%

From this, the descriptive statistical results are derived.

Table 2. Descriptive Statistics

Statistic	Numerical value
Average revenue	-66.88%
Standard deviation	8.64%
Median	-67.5%

Group comparative analysis, grouping by information source and investment experience.

News media: Average revenue = -69.21%

Standard deviation = 2.79%

Social media: Average revenue = -75.32%

Standard deviation = 1.82%

Professional report: Average revenue = -56.79%

Standard deviation=6.06%

The calculation results are shown in Table 3.

Table 3. Grouping by Information Source.

Information source	Average revenue	Standard deviation
News media	-69.21%	2.79%
Social media	-75.32%	1.82%
Professional report	-56.79%	6.06%

New hand(1-3years):Average revenue=-74.04%

Standard deviation=2.22%

Intermediate(4-7years):Average revenue=-64.51%

Standard deviation=4.51%

Expert(8years and above):Average revenue=-56.28%

Standard deviation=6.47%

The calculation results are shown in Table 4.

Table 4. Grouping by investment experience.

Investment experience	Average revenue	Standard deviation
New hand(1-3years)	-74.04%	2.22%
Intermediate(4-7years)	-64.51%	4.51%
Expert(8years and above)	-56.28%	6.47%

Income from Investment= $\beta_0 + \beta_1 \times \text{Information source}(\text{Professional report}=1, \text{Others}=0) + \beta_2 \times \text{Investment experience}(\text{years}) + \epsilon$

Conducting regression analysis using Ordinary Least Squares (OLS): Investment Returns = -75.00 + 18.21 $\times$ Information Source (Professional Reports = 1, Others = 0) + 1.50 $\times$ Investment Experience (Years).

In a regression analysis using Ordinary Least Squares (OLS), the study found that relying on professional reports for investment information results in an average return increase of 18.21%, compared to other sources. Additionally, each year of investment experience contributes to a 1.50% increase in returns. The model's R-squared value is 0.52, suggesting that it accounts for 52% of the variance in investment returns.

3.3. Results Analysis

3.3.1. Descriptive Statistics

The majority of retail investors incurred substantial losses in the financial fraud case of Kangmei Pharmaceutical, with an average return of -66.88%, indicating a relatively concentrated distribution of returns that reflects the losses incurred by most investors under conditions of information asymmetry.

3.3.2. Impact of Information Sources

News Media: The average return stands at -69.21%, with a standard deviation of 2.79%. Investors in this group, relying on news media for information, often obtain delayed news, which may lead to untimely decisions and misjudgments.

Social Media: With an average return of -75.32% and a standard deviation of 1.82%, investors who depend on social media are more susceptible to market sentiment and rumors, resulting in lower accuracy in investment decisions

Professional Reports: This group, with an average return of -56.79% and a standard deviation of 6.06%, performed relatively better. Investors relying on professional reports demonstrate that in-depth analysis and expert insights can provide more reliable information, facilitating wiser investment decisions.

3.3.3. Influence of Investment Experience

Beginners (1-3 years): An average return of -74.04% and a standard deviation of 2.22% suggests that novice investors, lacking experience, are prone to the impacts of market volatility and unfair information, leading to less accurate investment decisions.

Intermediate (4-7 years): Experienced to a moderate degree, this group sees an average return of -64.51% and a standard deviation of 4.51%. Improved analytical skills and interpretation of information result in better investment performance.

Advanced (8+ years): Boasting extensive experience and superior information interpretation abilities, advanced investors achieve an average return of -56.28% with a standard deviation of 6.47%. Their rich experience enables them to make more advantageous investment decisions amidst an environment of costly information, thereby mitigating severe losses.

Both the source of information and the level of investment experience have a significantly positive impact on investment returns, validating the detrimental effect of information asymmetry on investment outcomes. Access to information via professional reports and greater investment experience are shown to significantly enhance investment returns.

4. Recommendations

The financial fraud incident of Kangmei Pharmaceutical reveals the serious impact of information asymmetry on retail investors. Companies mislead investors by falsely increasing income and falsely reporting profits, external audits fail to detect problems in time, and regulators lack supervision. These factors together lead to retail investors being unable to obtain real financial information, thus making wrong investment decisions, and eventually suffering huge economic losses after the exposure of financial fraud. In addition, information asymmetry and financial fraud also triggered a market trust crisis, affecting the stability of the capital market. To solve this problem, it is necessary to improve the transparency of information disclosure, strengthen the independence of external audit, improve the supervision mechanism, and strengthen investor education, so as to comprehensively enhance the information transparency and supervision efficiency [7].

Future studies may further explore the transparency of financial information and investor protection, the independence and responsibility of audit institutions, the improvement of market supervision mechanism, investor education and risk awareness, and the prevention and detection technology of financial fraud [8]. Among them, it is very important to improve the transparency of financial information of listed companies and ensure that investors can get real information. Listed companies should strictly comply with the regulations and requirements of the regulatory authorities for financial accounting information, major business decision information, etc., to achieve timely, accurate, true and complete "should be approved", can not conceal, miss or misreport. At the same time, we should further strengthen the construction of the moral level of the management of listed companies to prevent moral hazard. Most of the financial fraud in listed companies is carried out by the senior management at the command of the grassroots staff. Therefore, the governance of financial fraud needs to attach great importance to the moral level of the management and solve it from the perspective of ideological understanding.

Strengthening the independence and responsibility of audit institutions, optimizing the market supervision mechanism, and enhancing the law enforcement ability of regulators should also be the focus of research [9]. The independence and accountability mechanism of audit institutions should be enhanced to ensure that they can objectively and impartially audit the company's financial situation [10]. To maintain the independence of audit is also the most basic quality that a qualified CPA should have. With the increasing complexity of business and financial information of listed companies, certified public accountants should maintain a skeptical attitude for a long time, guarantee the quality and independence of audit work in essence, and explicitly reject or oppose unreasonable requirements. At the same time, further promote the application of information technology in financial monitoring, use big data and artificial intelligence technology to improve market transparency, further reduce information asymmetry, protect the interests of investors, and better promote the healthy development of the capital market.

Improve the market supervision mechanism, and increase penalties for financial fraud and fraud of listed companies. The law enforcement capacity and strength of regulatory bodies should be further enhanced to detect and stop financial fraud and other violations in a timely manner and severely punish violators. At present, the punishment for financial fraud and other violations of listed companies is not enough, we should learn from foreign advanced management experience, increase the crackdown on illegal acts in the capital market, improve laws and regulations, strengthen law enforcement, increase the cost of illegal acts, and enhance deterrence.

In addition, the education and training of investors, especially retail investors, should be further strengthened. Through education, investors can improve their basic financial knowledge, identification ability of accounting statements information and market risk awareness, and the use of big data and artificial intelligence and other technical means to improve the prevention and detection ability of financial fraud will help comprehensively solve the problem of information asymmetry. Thus improve the investment ability of retail investors, enhance the confidence in the capital market, and promote the healthy and sustainable development of the capital market.

5. Conclusion

As a large enterprise in China's pharmaceutical industry, the financial fraud incident of Kangmei Pharmaceutical has a huge impact and strong social reaction, and also deeply reveals the major impact of information asymmetry on retail investors. This paper first analyzes and describes the concept, characteristics and manifestations of information asymmetry, and selects the financial fraud cases of Kangmei Pharmaceutical to conduct a systematic analysis and research on the means, process and impact of financial fraud, and puts forward suggestions to solve the problem. It is hoped to provide some reference for preventing financial fraud of listed companies, and also hope to solve the problem of information asymmetry in the capital market, improve the investment environment of China's capital market, and promote the healthy development of the capital market.

The problem of information asymmetry in capital market is a chronic disease and an important factor hindering the healthy and sustainable development of capital market. Addressing information asymmetry in capital markets requires the joint efforts of market participants, including listed companies, auditors, government regulators, social media, and investors themselves. In order to reduce the negative impact of information asymmetry on the efficiency of the capital market and the interests of investors, it is necessary to sum up experience and lessons and learn from foreign advanced management experience, increase the determination and intensity of remediation, do a good job in top-level design, and take a series of more effective solutions. These include: further strengthening the information disclosure requirements of listed companies, improving the transparency of the capital market, strengthening the independence and audit quality of audit institutions, strengthening the penalties for violations of laws and regulations, and strengthening investor education and protection. At the same time, government regulators also need to further strengthen supervision to ensure the fairness and stability of the capital market. Only by

comprehensively improving information transparency and regulatory efficiency can we effectively solve the problem of information asymmetry, protect the interests of investors to the greatest extent, enhance investors' investment confidence in the capital market, and continue to promote the healthy and stable development of the capital market.

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