Risk Management Under Market Uncertainty: Literature Review and Case Study

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ABSTRACT
Risk management is the process of identifying, assessing and controlling threats to an organization's capital and earnings. This paper examines the connection between firms' risk management and market uncertainty. Market uncertainty has a significant impact on businesses. Many of the papers offer different perspectives on the reasons for the formation of particular events and businesses' responses. Through the reference review, We aim to examine the specific market uncertainty events and the changes in firms' risk management policies and then explore their relationship. We will also do a case study of company J to explore whether changes in risk management can help companies deal with market uncertainty and give advice on shortcomings.

Keywords: *Market Uncertainty, Risk Management, Lecture review.*

1. INTRODUCTION

1.1. Brief Introduction

This paper examines the connection between the risk management of firms and market uncertainty. Through the reference review and case study of diverse risk management policies of firms, we will advise about ex-ante control to minimize losses. We study recent essays which are related to market uncertainty and risk management in search of whether the existing responses can help the companies and discuss. We then analyze the problems and propose a risk prediction and ex-ante control strategy to help firms reduce losses better.

1.2. Research Significance

The significance of this paper is divided into theory and practice. In theoretical terms， most research focuses only on capital market volatility and gives some ex-post advice. We research the relationship between risk control management and market uncertainty to fill in theoretical gaps.

In a practical sense, recently being affected by the market uncertainty, especially COVID-19, many firms are faced with huge losses and realize the importance of risk management. This paper will make up general recommendations to firms for reference.

1.3. Current Research Status

Since BERNANKE [1] and DIXIT [2] introduced the economic effects of uncertainty, several studies have revealed the significant impact of tension on the real economy [3], investment opportunities [4], and capital prices [5], and financial markets [6], etc. Definition and affectation of market uncertainty have been discussed and investigated in the available literature. Uncertainty means that the outcome of an event or a decision cannot be known in advance, and the performance of the market is a risk to business operations. The main reason for uncertainty in the market is information asymmetry [7]. In association with specific market performance, the economics community has conducted research in the areas of earning guidance [8], investment decisions [9], and investment strategy and development [10].

At the same time, risk management policies for enterprises are discussed in many papers. James Lam sees ERM as the integrated management of operational, financial, and business risks to maximize shareholder value, while AON Website sees ERM as a consistent approach to the identification, measurement, and treatment of risk throughout the organization [11].There are also many papers proposing research on enterprise risk management in the context of specific financial crises and COVID-19, which will be mentioned in section 2.

1.4. Research Content

The paper is structured into four main sections. Firstly, we will discuss the background and significance of the study. Also, a brief introduction to the relevant references and the research methodology of this paper is given.

The second part discusses concepts and theories and reviews risk management policies under market uncertainty, such as the financial crisis and COVID-19.

The third section focuses on analyzing the impact on Company J under market uncertainty and the effectiveness of its existing risk management policies, finding the links between them, and advising on the shortcomings.

The final section will give consequences, pointing out the shortcomings of the paper and expectations for future research.

1.5. Research Methodology

This paper will use the literature research and the case study method to discuss our core ideas. Through extensive literature reading and research into relevant scientific findings, we provide relevant theoretical support for the ideas in this paper. The case studies allow us to analyze the actual situation and give realizable advice to companies, making this paper more informative.

2. INSTITUTION OF BACK

2.1. General Background

The impact of market uncertainty events on businesses is all-encompassing and profound. Ignoring their impact on risk management can result in significant operational risk. The 2008 financial crisis led to the collapse of Lehman Brothers due to $613 billion in debt; the market obsolescence of traditional film cameras led to the destruction of Kodak, and the impact of COVID-19 led to the collapse of countless companies. These failures all emphasize the seriousness of market uncertainty and the importance of risk management to managers.

American doctor A.H.Willett defined risk as "the description of objective things that do not want to happen" in his paper. Risk is considered a summary of uncertain factors in the future, which will make the development of things out of control and ultimately cause losses. Enterprise risk management refers to identifying and controlling potential risk problems in firms, summarized into eight aspects: target setting, internal environment, identifying information, behavior management, risk assessment, improvement of measures, information and data supervision, and maintenance [12].

Market uncertainty refers to the volatility and unpredictability of market changes [13], which is the fluctuation and transformation of the market in the short term and cannot be predicted. The market uncertainty has necessary implications for market concentration economic approaches of countries and firms [14].We will take the 2008 capital crisis and 2020 COVID-10 as examples to figure out the influence of market uncertainty on enterprise operation in this paper.

2.2. Risk Management in The 2008 Financial Crisis

The economic crisis of 2008 began with the sub-prime mortgage crisis in the US and rapidly evolved into a global financial crisis. It has a wide range and profound influence, affecting Europe, Japan, and other developed countries, and has a massive impact on emerging developing countries [15]. Also, it takes on characteristics of more complex causes, more profound harm, lasting longer, and economic slower [16]. Brunnermeier (2009) describes this mechanism in connection with the credit crisis, and Bernanke and Blinder(1988) introduce shocks of this type to the credit supply in a macroeconomic model [17].

The financial crisis has had many effects on business in many aspects. When the economic cycle was down, the asset price of enterprises was damaged, and the debt repayment pressure increased sharply, which would lead to the negative "wealth effect." Enterprises would have a lower loan level and face strong financing constraints [18].Also, firms' business activities were significantly stressful, which led to lower profits. Last but not least, the financial crisis limited the economic growth of importing countries, currency crisis and subprime mortgage crisis occurred frequently, and strained credit relations reduced the circulating capital of exporting enterprises. They were subjected to economic control and other restrictions of importing countries, the capital chain of enterprises was broken, and financial risks were expanded.

In the aftermath of the 2008 financial crisis, there were changes in corporate risk management in response to this market uncertainty event. Firstly, many firms notice the significance of crash utilization and management, which requires firms strictly control cash flow, minimize receivables and inventory, increase circulation, and prevent inventory backlog and a series of problems. Also, the manager will emphasize the use of financial instruments with financial leverage prudently. Before introducing margin trading and stock index futures, management policy should be cautious, which is a "double-edged sword." They can not only play a positive role in activating the market and attracting capital investment but also have the negative role of exacerbating the market shock, inflating the market bubble, or deepening the crisis [19]. Finally, they are aware that they need to change enterprises' business models and establish a particular internal control system, but risk awareness is the core idea of management. Internal managers consciously identify risks in daily operations and give early warning.

2.3. Risk Management Under COVID-19

When it came to 2020, there had been a significant public health emergency-COVID-19, which seriously impacted the national economy [20]. As of 2020, confirmed diagnoses exist in 208 countries worldwide, and COVID-19 has become a global epidemic with severe economic and livelihood implications for people.

Table 1. Daily outbreak report on COVID-19 by WHO, 6 July 2020.

Region	cases	deaths
Globally	11,327,790	532,340
Africa	369,928	6,974
Americas	5,820,840	265,024
Eastern	1,170,720	27,566
Europe	2,791,160	200,238
South-East	947,519	25,036
Western	226,992	7,489

The impact of COVID-19 on the market economy is manifested in the following three aspects. Firstly, economic growth has fallen steeply. In World Economic Outlook, the International Monetary Fund (IMF), published in October 2020, reported that the global economy is expected to grow at -4.4% in 2020, the lowest growth rate since the Second World War. In the face of COVID-19's impact, many enterprises have experienced difficulties resuming production and work, cash flow pressure, and other problems. In such an environment, many businesses suffer, and some are even on the verge of closing down [21]. Secondly, prices fell, and the unemployment rate rose. The CPI was 2.5% in January 2020, fell to 0.1% in May, and rose to 1.2% in November. The situation in Europe and Japan is similar to that in the US. The Eurozone HICP increased by 0.8% in October 2019, falling to -0.2% in August 2020 and -0.3% in September and October, indicating that the Eurozone has experienced deflation. Inflation in the major emerging economies has followed the same trajectory. In China, CPI fell by 0.5 percentage points from November 2019 to November 2020. Even Argentina, where inflation has been high for many years, has seen its CPI fall by 0.5 percentage points from November 2019 to November 2020 [22].Unemployment rates in the world's major economies have fluctuated more, from 3.5% in February 2020 to 14.7% in April and 6.9% in November [23].As a result, companies are likely to incur higher economic costs and face public pressure to cut workers. Thirdly, due to the impact of information disclosure, the force of public opinion and the social responsibility that companies have to take have become more. Under the effect of COVID-19, the companies have taken on a new character, with a greater tendency to focus on staff benefits, consumer benefits, community benefits, and social responsibility [24].

Under the impact of COVID-19, new trends emerge in the management policies of companies. Firstly, the link between firms and the state has deepened. During COVID-19, the government introduced many incentives and subsidies to reduce the epidemic's impact on businesses, including fiscal incentives, increased credit availability, enhanced credit support, reduced financing costs, and many other measures. Many companies focus on using the various incentives introduced by the state to find growth opportunities [25]. At the same time, many enterprises provided epidemic prevention materials to the community, actively fulfilling their social responsibility and creating an excellent corporate reputation [26]. For example, Abbott has increased its investment in research and development to improve the detection of new coronaviruses and introduced the SARS-COV-2 blood antibody test. 3M is expanding its production capacity in response to the global shortage of epidemic prevention materials, expanding its annual production capacity of N95 masks to 1.1 billion shows in January 2020. Also, many companies are focusing more on the use of the internet. With offline sales hampered, online sales can bring profits to companies and alleviate the lack of consumption.

3. CASE ANALYSIS

Market uncertainty plays the role of overseer in enterprise risk control and inspection. Timely reminds firms to adjust their development strategy. Based on the analysis in section 2, we can see the changing trends in risk management for companies under market uncertainty. This section will analyze whether the changed strategy can help companies out of difficult situations in specific business cases and make recommendations for shortcomings.

Tourism is a vulnerability in the industry crisis, which has a strong sensitivity to the uncertainty of the market. This section chooses the leading enterprise in tourism -J company, as a case for analysis.

3.1. The Impact of Market Uncertainty On J

The financial risk of J hotel in the operation process can be evaluated from solvency, operating capacity, and profitability, which can comprehensively reflect the risks faced by the enterprise. Subject to the delayed nature of the market, we choose the 2009 financial crisis period, the 2015 average economic operation period, and the 2021 COVID-19 period for comparison, and the impact of market uncertainty on corporate financial risk is analyzed.

Table 2. Solvency analysis in 2009, 2015, 2021 of J

	2009	2015	2021
Current ratio	4.0455	2.8897	1.2048
Asset-liability ratio	0.1223	0.7453	0.8453

When the current ratio is around 2, the enterprise has sufficient solvency, and the capital can be used effectively. The Asset-liability ratio of 40% to 60% is appropriate. If too low, it means that fewer assets are acquired by debt. The firm is less able to use external funds. If too high, it means the main support of the enterprise finances by borrowing.

Based on the comparison, we can see that J's current ratio in 2009 was much higher than the expected value in 2015, most likely due to the impact of the 2008 financial crisis, which led to a reduction in investment opportunities and difficulties in the efficient use of funds. The high Asset-liability ratio of Company J in 2021 is due to the impact of COVID-19, which has led to the difficulty in raising funds for working capital.

Table 3. Operating capacity analysis in 2009, 2015, 2021 of J

	2009	2015	2021
Accounts receivable	19.1526	21.1627	9.0113
Inventory turnover	19.4068	19.4068	23.9200

J's inventory accounts receivable turnover is less volatile. Because it is in the service sector, inventory does not form a significant part of its assets, which we will not discuss here. However, comparisons show that the inventory turnover is more volatile, with a relative decline following market uncertainty events, indicating a slowdown in the collection and weakened operating capacity.

Table 4. Profitability analysis in 2009, 2015, 2021 of J

	2009	2015	2021
Net profit margin	0.1146	0.3508	0.0111
Cash flow ratio	0.1537	0.6038	0.3674

Overall, J's net profit margin was low, dropping 60% from its average level in 2009 after the emergence of the financial crisis in 2008. Net profit margin plummeted to 1.1% in 2021 due to the impact of COVID-19, which affected operating activities on all sides resulting in a sharp decline in profitability. The decrease in the cash flow ratio was more pronounced after the financial crisis in 2008 when the cash flow of the business was affected by the blow to the capital markets.

3.2. Risk Management Of J

3.2.1. Risk Management Strategies Of 2008

According to the 2008 annual report, the strategies adopted by the business emerged as the revenue-raising and cost-saving features mentioned in section 2.

The company will refine and implement the brand development strategy. Also, the company will pay close attention to the impact of the financial crisis, strengthen support and do an excellent job in maintaining the relationship with the owners. The company will study and formulate hotel operation guidelines under the financial crisis and guide member hotels to do an excellent job increasing revenue and reducing expenditure. Meanwhile, it is significant to increase the promotion of the central booking system, implement centralized procurement of overseas guests, and increase the number of bookings in major customer centers. And the company will take strict control of the new staff and appropriate management of labor costs.

3.2.2. Risk Management Strategies Of 2020

Regarding the 2020 annual report, J risk management focused more on social responsibility and social image maintenance to create an excellent public reputation.

The company will improve the operational procedures for epidemic prevention and increase staff training. Focusing on the company's social image and social responsibility, the company will collect epidemic prevention materials to send to the affected areas. Also, J will follow market changes and adjust marketing strategies on time. It is increasing online sales of related products to reduce the negative impact of the epidemic， which will also be an essential part of risk management policy.

3.3. Risk Management Effectiveness

The line graph below that we have created is based on the corporate profits in J annual financial report for 2008-2021. We use this graph to analyze how effective the above changes in risk management policy can be in an actual business under market uncertainty.

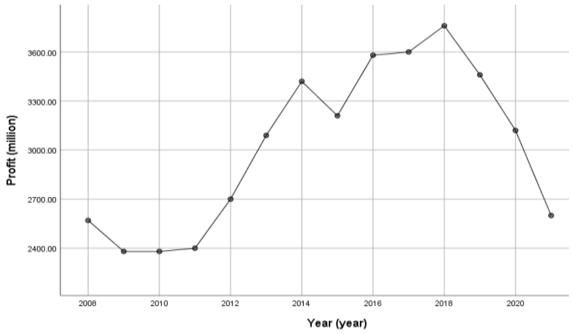

Figure 1 Folding line chart of change in corporate profits 2008-2021

According to the graph above, we can see that the rate of decline in profits slows down after 2008 and 2020 when the changed risk management measures are taken. The risk management adopted by company J after the financial crisis in 2008 stabilizes the rate of decline for a short period. Still, it is not until 2012 that the company returns to its 2008 level. The effect of risk management for COVID-19 in 2020 shows similar characteristics. We can find that timely risk management can make a difference to some extent. But in practice, the company's losses over this period cannot be avoided.

3.4. Suggestions

Ex-ante controls are well placed to identify and respond to risks and minimize losses to the business due to market uncertainty instead of the delayed nature of ex-post powers. Therefore, the focus should be on ex-ante risk management when improving the risk management level. The firms can build a financial risk early warning system from the following aspects:

1. Improve financial information collection and transmission mechanism. The vital premise of a financial early warning system is establishing a mobile and efficient information system. The information system should be able to provide timely and complete operating and financial data.

2. Improve the internal information system of firms. Enterprises should start from all aspects of capital circulation and perfect the internal information system.

3. Improve the risk handling mechanism. Timely and effective measures should be taken to prevent, control, and deal with predicted risks.

4. CONCLUSION

In summary, market uncertainty has a significant impact on the risk management efforts of enterprises.

Market uncertainty is a test of corporate management vulnerabilities. While traditional risk management approaches have a delay in making up for them after the fact, losses are inevitable for companies. Therefore, it is vital that firms continue to strengthen their risk management capabilities and overall ability to respond to emergencies to minimize the impact on their interests. In particular, it is essential to incorporate the idea of ex-ante control, early warning of risks, and timely response. Companies should recognize the situation before deciding on a strategy and adjust their investment plans according to changes in the market.

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