



# American Journal of Economics and Business Innovation (AJEBI)

ISSN: 2831-5588 (ONLINE), 2832-4862 (PRINT)

VOLUME 3 ISSUE 1 (2024)



**PUBLISHED BY**

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**E-PALLI PUBLISHERS, DELAWARE, USA**

## Stability And Risk Management of Global Supply Chains in Foreign Trade Economy

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### Article Information

**Received:** December 27, 2023

**Accepted:** February 02, 2024

**Published:** February 05, 2024

### Keywords

*Foreign Trade Economy, Global Supply Chain, Stability, Risk Management*

### ABSTRACT

This article provides an in-depth analysis of the key role of global supply chain stability in the international trade economy and the core role of efficient risk management in this process. Driven by the wave of globalization, supply chains have become a key link connecting the economies of various countries. This article provides a comprehensive analysis of the current status of global supply chains and an in-depth exploration of the many factors affecting supply chain stability, including supplier reliability, logistics system efficiency, demand forecast accuracy, and inventory management effectiveness. It further delves into many aspects of supply chain risk management, including risk identification, assessment, mitigation and monitoring. Analyze and formulate contingency plans for emergencies as well as regular monitoring and evaluation strategies and measures to improve the effectiveness and value of risk management. Finally, this study emphasizes the importance of supply chain stability and efficient risk management in the global foreign trade economic system, and provides suggestions for future research directions and possible improvement strategies. This research has far-reaching significance for enhancing the transparency, resilience and sustainability of global supply chains, and is crucial to the stable development of the global economy.

### INTRODUCTION

The global supply chain involves logistics links such as transportation and warehousing operations and the globalization of basic businesses. The impact of globalization on the supply chain has become increasingly obvious, affecting the speed, agility and cost optimization of the global supply chain. Supply chain management technology focuses on supply chain design, supply chain cooperation, supply chain and customer service, and sustainable supply chain. Global supply chain management can optimize corporate services and costs, coordinate corporate value chains, gain value-added capabilities in the value chain, and create more economic value added (EVA).

With the acceleration of globalization, foreign trade economy has become an important part of the global economy. However, the stability of the global supply chain is crucial to the smooth operation of the foreign trade economy. Due to the impact of various factors, the global supply chain may face various risks, which brings certain challenges to the operation and development of foreign trade companies (Bentzen, J., & Broström, N., 2010). Therefore, how to improve the stability and risk management capabilities of the global supply chain has become an urgent issue in the foreign trade economy. This

article aims to explore the stability and risk management issues of the global supply chain in the foreign trade economy. By analyzing the factors affecting the stability of the global supply chain and the risks existing in the current foreign trade economy, corresponding risk management measures are proposed (Chen, Q., Tang, S., et al., 2013). This provides a certain reference value for the risk management of foreign trade enterprises and plays a positive role in promoting the development of foreign trade economy.

### LITERATURE REVIEW

#### The Importance of Global Supply Chain Stability Definition and Influencing Factors of Supply Chain Stability

Supply chain stability refers to the stable and efficient management and processes of each link in the supply chain to ensure the continuity and smoothness of the supply chain (Dimery, N. J., 2014). It focuses on the stable operation of the supply chain itself and whether the management of procurement, production, warehousing, logistics, information flow and other links reaches a certain level. If the quality of the supply chain is stable, it is possible to finally output high-quality products.

Factors affecting supply chain stability include:

Supplier stability	The financial status, production capacity and stability of suppliers all affect the stability of the supply chain. If a supplier goes bankrupt, has production interruptions, or has product quality issues, it can lead to supply chain instability.
Logistics network stability	The logistics network includes transportation, warehousing and distribution. If there are problems in these links, such as transportation interruption, warehouse damage, etc., it will have an impact on the stability of the supply chain.
stability of demand	If market demand is unstable, it will lead to uncertainty in production plans, thus affecting the stability of the supply chain.

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Uncertainty in the political and economic environment	Uncertainty in the political and economic environment, such as changes in trade policies, exchange rate fluctuations, etc., will have an impact on the stability of the supply chain.
Updates to technology and management systems	Updates to supply chain management systems and technologies, such as information system upgrades, equipment updates, etc., may have an impact on the stability of the supply chain.

**Consequences of Global Supply Chain Instability**

The instability of the global supply chain may have a profound impact on the global economy, business operations, people’s lives, and international trade cooperation . First of all, for global economic recovery, supply chain problems will affect the global division of labor and trade cooperation, thus causing a negative impact on the global economy. Secondly, for enterprises, the instability of global supply chains may bring serious operational risks. For example, rising prices of commodities and raw materials, appreciation of the RMB exchange rate, rising labor costs, poor international logistics, insufficient shipping capacity, and high international freight rates may lead to rising corporate costs and erosion of profits. Especially for companies that rely on imported raw materials, disruptions in the upstream supply chain may directly affect their production activities. Furthermore, the instability of the global supply chain may also lead to shortages of retail goods in some countries and skyrocketing prices, which will have a significant impact on people’s daily lives. Finally, the problem of the global supply chain is not just a superficial supply shortage( Ferdows, K., Karimi, K.etl , 2016). The underlying reasons include the epidemic preventing factories from operating in some areas, insufficient global production capacity, frustrated transportation capacity, and low inventory in the downstream of the supply chain. In addition, factors such as rising trade protectionism, obstruction of international economic and trade cooperation, and interference with the industrial chain also played an important role.

**The Impact of Supply Chain Stability on Foreign Trade Economy**

The stability of the supply chain is directly related to the production and development of foreign trade companies . Foreign trade companies need to purchase raw materials from suppliers, go through processing, production, sales and other links, and finally export the products to overseas markets. If the supply chain is interrupted or unstable, it will directly affect the production and delivery plans of foreign trade companies, thereby affecting the company’s

profitability and reputation. Supply chain stability also has an important impact on the sustainable development of the foreign trade economy. Foreign trade companies need to establish long-term and stable cooperative relationships with suppliers and customers to ensure the continuity and smoothness of the supply chain. If the supply chain frequently fluctuates or is unstable, it will have a negative impact on the sustainable development of the foreign trade economy(Goh, M., Lee, H. etl, 2017). Supply chain stability is also related to the global competitiveness of the foreign trade economy. In the context of globalization, foreign trade companies need to continuously reduce costs, improve efficiency, optimize resource allocation, etc., in order to maintain competitiveness in the global market. If the supply chain is frequently interrupted or unstable, it will affect the resource allocation and cost control of foreign trade companies, and in turn affect the company’s global competitiveness.

**MATERIALS AND METHODS**

**Global Supply Chain Risk Management**

**Definition and Objectives of Supply Chain Risk Management**

Supply chain risk management refers to the identification, assessment and response of various potential risks during the supply chain operation process by enterprises to ensure the normal operation and stability of the supply chain. Supply chain risks include but are not limited to natural disasters, supplier closures, quality issues, policy changes, etc.

The main goal of supply chain risk management is to reduce uncertainty in the supply chain, improve the company’s ability to respond to risks, and ensure the efficient operation of the supply chain. At the same time, it is also committed to ensuring the stability and flexibility of the supply chain to respond to emergencies and market changes, and to protect the reputation and financial interests of enterprises to the greatest extent.

**Methods for Supply Chain Risk Identification and Assessment**

Serial number	Identifying factors	Assessment content	Evaluation score %
1	Supply chain situation	Understanding basic information such as the composition and key nodes of the supply chain can help identify potential risk points.	5%
2	Identify potential supply chain risks	Analyze each link in the supply chain, including suppliers, parts, logistics, etc., to identify potential risks. This can be achieved by investigating the supplier's quality, delivery capabilities, credit standing, etc.	15%

3	Analyze key risk factors in your supply chain	Analyze and classify potential risk factors, such as natural disasters, political risks, competitive threats, etc., analyze the possible impact of these factors on the supply chain, and formulate corresponding countermeasures.	15%
4	Assess supplier risk level	Based on the assessment of supplier and supply chain risk factors, develop corresponding risk level assessment methods. This can help procurement departments identify key risk suppliers so that appropriate actions can be taken.	20%
5	Develop a supply chain risk management plan	Develop a supply chain risk management plan based on the assessment results, including how to prevent, respond to and manage potential risks. At the same time, corresponding emergency plans need to be formulated to deal with emergencies.	20%
6	Implement countermeasures	According to the developed response strategy, implement corresponding response measures to reduce or eliminate the impact of risks.	15%
7	Monitor and evaluate effectiveness	Monitor and evaluate the effectiveness of response measures, and timely adjust and improve response strategies and measures to improve the effectiveness and value of risk management.	10%

### Supply Chain Risk Response Strategies and Measures

In order to improve the stability of the supply chain, companies can conduct strategic management and control in five aspects: selecting stable suppliers, establishing a stable logistics network, predicting and managing demand, establishing risk management mechanisms, and updating technology and management systems (Hodgson, D., Lobry, J. et al, 2018). For example: choosing suppliers with stable financial status, guaranteed production capacity and quality to reduce the impact of supplier instability on the supply chain; establishing a reliable transportation, warehousing and distribution network to ensure the timely arrival and safe storage of products; through Market research and analysis, predict changes in market demand, and adopt corresponding production plans and management measures to reduce the impact of demand fluctuations on the supply chain; establish a sound risk management mechanism to promptly discover and respond to risks and problems in the supply chain, To maintain the stability of the supply chain; timely update supply chain management systems and technologies to improve the efficiency and stability of the supply chain.

In response to supply chain risks, companies can take the following measures: First, increase diversified suppliers: select multiple suppliers to reduce dependence on a single supplier and reduce risks caused by supplier problems. At the same time, diversified suppliers can also increase the bargaining power of purchasers and reduce procurement costs. Secondly, establish close partnerships with suppliers to reduce uncertainty and risks in the supply chain through information sharing and collaborative cooperation. At the same time, suppliers' loyalty and stability can be increased by signing long-term contracts. And by strengthening information exchange and sharing among all parties in the supply chain, we can reduce the risks caused by information asymmetry. For example, the use of electronic orders, online communication tools, etc. can improve the transparency and timeliness of information. Then, we will formulate corresponding emergency plans

for possible emergencies and risks, including alternative supplier selection, emergency procurement, inventory preparation and other measures. In the emergency plan, various possible risk factors should also be taken into consideration and corresponding response measures should be formulated. Finally, the supply chain must be evaluated regularly to identify potential risk factors and take appropriate measures in a timely manner to update and improve (Kleyner, A., Ghyssens, J. et al, 2018). In addition, a corresponding risk management team should be established to be responsible for formulating risk management plans and implementing corresponding measures. at the same time, Optimizing logistics management should also reduce risks in the supply chain. For example, using multi-path distribution and backup logistics channels can reduce risks caused by logistics interruptions. At the same time, reasonable planning of transportation time and routes can reduce transportation costs and risks. And by increasing inventory transparency, you can understand the inventory situation in real time and avoid inventory backlogs and out-of-stock phenomena. In addition, reasonable planning of inventory structure and quantity can reduce inventory costs and risks.

### RESULTS AND DISCUSSION

#### The Relationship between Global Supply Chain Stability and Risk Management

#### The Relationship between Supply Chain Stability and Risk Management

There is a close relationship between supply chain stability and risk management. Supply chain stability is one of the important goals of risk management. Supply chain risk management aims to reduce potential risks and uncertainties in the supply chain, thereby maintaining the stability and smoothness of the supply chain. By taking effective risk management measures, companies can predict the occurrence probability and impact of potential risks, and take corresponding measures to reduce the impact of risks on the company, thereby maintaining

the stability of the supply chain. Supply chain stability is the foundation and premise of risk management. Only when the supply chain has a certain degree of stability can companies better deal with risks. By establishing stable supplier relationships and optimizing logistics management, companies can enhance the stability of their supply chains and better respond to emergencies and risks. If the supply chain itself is unstable, it will be difficult for companies to effectively manage risk. Effective risk management can further enhance supply chain stability. By diversifying suppliers and establishing strategic partnerships, companies can reduce their dependence on a single supplier or partner and reduce risks caused by supplier or partner problems. At the same time, effective risk management can also improve the supply stability of enterprises, thereby better responding to factors such as market changes and fluctuations in customer demand.

### **How to Improve Supply Chain Stability and Risk Management Capabilities**

Improving supply chain stability and risk management capabilities can establish a complete risk management mechanism, including risk identification, assessment, early warning and response. By regularly evaluating the supply chain, potential risks and problems are discovered and responded to in a timely manner to maintain the stability and smoothness of the supply chain. Optimizing logistics management can then reduce risks in the supply chain. For example, using multi-path distribution and backup logistics channels can reduce risks caused by logistics interruptions. At the same time, reasonable planning of transportation time and routes can reduce transportation costs and risks. By strengthening information exchange and sharing, risks caused by information asymmetry can be reduced. For example, the use of electronic orders, online communication tools, etc. can improve the transparency and timeliness of information. However, in response to possible emergencies and risks, corresponding emergency plans should be formulated in a timely manner, including measures such as alternative suppliers, emergency procurement, and inventory preparation. In the emergency plan, various possible risk factors should also be taken into consideration and corresponding response measures should be formulated. Of course, employees are an important force in implementing supply chain risk management. By training and improving employees' risk management awareness, employees can better understand and implement risk management measures, thereby better ensuring the stability and smoothness of the supply chain. In short, improving supply chain stability and risk management capabilities requires companies to take a series of measures, including establishing stable supplier relationships, optimizing logistics management, and increasing information transparency. At the same time, enterprises also need to establish complete risk management mechanisms and emergency plans and other measures to deal with possible risks and problems.

### **Risk Response to Global Supply Chain Cost Management**

Develop a reasonable supply chain strategy: Enterprises should formulate a reasonable supply chain strategy based on their own conditions and market environment, including planning and management of procurement, production, logistics, etc. When formulating strategies, companies need to consider supply chain stability and risk management and develop corresponding measures to maintain balance.

### **Improve and Improve Foreign-Related Laws and Regulations for Supply Chain Enterprises Legislative Guarantee**

Improving the legislative basis for transnational management of supply chain enterprises is the key to guiding multinational enterprises' supply chain cost management and promoting the construction of global supply chains. This article believes that on the basis of formal organizational cooperation in countries such as the World Trade Organization, countries can sign international contracts and jointly implement international legislation on enterprise supply chain cost management to standardize and coordinate the economic behavior of multinational enterprises' supply chain cost management and guide multinational enterprises. The development of supply chain cost management has further unleashed the vitality of the global economy.

### **Contract System**

Supply chain enterprises form stable strategic alliances based on contracts. The improvement of the contract system lays the foundation for cooperation among enterprises in the supply chain and the formation of principal-agent relationships, Mulenga, R. (2023). By improving the contract system, we standardize the rights and obligations of each node enterprise and reduce principal-agent conflicts. The contract system is the key to supply chain cost management of multinational enterprises. Through contracts, various stakeholders can be linked to form a stable strategic alliance, and a stable foundation for the supply chain cost management model can be established through legislative and judicial guarantees.

### **Judicial Protection**

On the basis of legislative guarantees, judicial fairness and impartiality are the key to ensuring cooperation among enterprises in global supply chain cost management. On the basis of joint legislation and consensus among member countries, the fairness of law enforcement should be ensured. Therefore, countries tend to favor their own companies in order to avoid facing international litigation. There should be third-party member states that conduct independent judicial trials to ensure the legitimate rights and interests of supply chain cost companies and punish illegal companies to ensure the stability and sustainability of supply chain cost management.

## **Guide the Construction of Supply Chain Multinational Enterprise Governance Mechanisms**

### **Alliance Decision-Making Mechanism (supply chain enterprise board of directors)**

The global supply chain cost management development mechanism is similar to a board of directors. The heads of each node enterprise enter the mechanism and have certain voting rights. It is designed with reference to the corporate board of directors mechanism to ensure effective decision-making by alliance enterprises. At the same time, the alliance decision-making mechanism also serves as a communication mechanism (suggestion function) between supply chain cost companies to enhance communication and value recognition among member companies. The alliance role mechanism realizes the overall management of the supply chain through supervision and suggestion functions, realizes the optimal decision-making for supply chain development through the collective role of the heads of node enterprises, and supervises the behavior of node enterprises.

### **Benefit Distribution Mechanism**

Due to the different positions of node enterprises in the supply chain, unreasonable and unfair natural benefit distribution such as cost and benefit mismatch may occur, affecting the stability of strategic alliances. Therefore, the secondary distribution of interests among alliance enterprises is a dynamic interest allocation mechanism that ensures that enterprise gains match risks and costs. At the same time, the principle of maximizing the common interests of the supply chain should be used to stabilize the strategic alliance and achieve common development of the alliance.

### **Incentive and Restraint Mechanism**

Similar to the incentive and restraint mechanism in the company system, based on the construction of the alliance decision-making mechanism, an effective incentive and restraint mechanism is used to encourage node enterprises to contribute to the supply chain and constrain the behavior of supply chain node enterprises. Enterprises at key nodes in the supply chain can consolidate strategic alliances through cross-shareholding and form a community of interests, allowing enterprises at each node to work together to maximize the benefits of the supply chain. This incentive and restraint mechanism can be constructed with reference to the incentive and restraint mechanism of corporate governance.

### **Improve Enterprise Entry and Exit Mechanisms Access Mechanism**

The prerequisite for supply chain stability is mutual trust and recognition among supply chain companies. Therefore, the access mechanism is to select companies with high value recognition and cooperation recognition as cooperation members to ensure the stability of cooperation between member companies at the source and reduce the information on cross-border cooperation

between companies. Moral hazard and adverse selection under asymmetry can be controlled beforehand. The quality of supply chain enterprise members directly determines the stability and effectiveness of supply chain cooperation. Therefore, the access mechanism needs to be paid attention to.

### **Evaluation Mechanism**

Due to changes in the global macro and corporate micro-environments, the cooperation interests and value recognition of multinational enterprises are also constantly changing, so supply chain enterprises need to be continuously evaluated and managed. Multiple indicators should be constructed to evaluate supply chain node enterprises to ensure stable cooperation among supply chain enterprises and reduce agency risks. As an in-process control, the evaluation mechanism can promptly evaluate and discover some risky enterprises in the supply chain and remove them in a timely manner, which is conducive to reducing the overall stability of the supply chain and achieving long-term stable development of the supply chain.

### **Exit Mechanism**

On the basis of the evaluation mechanism, an exit mechanism is established. Through the evaluation mechanism, the supply chain node enterprises are continuously evaluated on factors including interest objectives, value recognition, organizational strategies, etc. Finally, the supply chain enterprise alliance decision-making mechanism will promptly remove some enterprises that do not meet the supply chain cost management conditions to ensure that Supply chain stability and long-term development. The exit mechanism ensures the effectiveness of the supply chain cost management model and optimizes supply chain cost management by promptly removing companies that do not meet the overall interests.

## **CONCLUSION**

The stability of the supply chain is a key element for the healthy development of the foreign trade economy. In the context of global economic integration, the international community needs to work together to jointly respond to various challenges in order to consolidate and strengthen economic linkage. This goal can be achieved through a variety of strategies: promoting trade liberalization, strengthening inter-regional economic collaboration, promoting the development of the digital economy, advocating green production methods, strengthening international cooperation in financial supervision, protecting intellectual property rights, and supporting multilateralism and The process of economic globalization. These measures will help improve the stability and sustainable development capabilities of the global economy(Qin, Y., & Li, J., 2023).

For foreign trade companies, strengthening supply chain management is crucial. This includes establishing

a solid supplier network and efficient logistics system, improving the ability to respond to various risks, and ensuring the continuity of corporate production and operations (Khawaja, A. H., & Sohail, R2022). At the same time, governments around the world should also strengthen collaboration and work together to maintain the stability and smoothness of the global supply chain, which is of great significance to promoting the healthy development of the global economy.

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