

# ***The Study of Risks and Countermeasures Based on Supply Chain Finance ABS Model in Real Estate Enterprises***

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**Abstract:** The stable development of the real estate industry lays a crucial foundation in the national economic system, but it is often accompanied by various challenges. The real estate industry is characterized by huge and concentrated capital, as well as extreme sensitivity to market and policy changes. As a result, there is an urgent need for appropriate financing methods, and the ABS model of supply chain finance has emerged. Therefore, it is essential to analyze the risks associated with the ABS model of supply chain finance. This paper selects "Evergrande Real Estate Supply Chain ABS" as the research object and conducts a comprehensive and in-depth analysis of the ABS model of supply chain finance in real estate enterprises. By using the methods of literature analysis and case study, and combining the research of domestic and foreign scholars, the key details of the case are analyzed in detail. The current development status of the ABS model of supply chain finance is comprehensively summarized, and the theoretical basis involved is clearly expounded. Through systematic sorting and summarizing relevant theoretical research, and based on the study of the specific case of "Evergrande Real Estate Supply Chain ABS", corresponding risk identification and assessment are carried out, and each risk point is analyzed to find corresponding countermeasures.

**Keywords:** Supply Chain Finance, Real Estate Enterprises, ABS, Risk Management

## **1. Introduction**

### **1.1. Background**

The real estate industry holds an extremely crucial position in the economic development of New China and has a profound impact on the overall economic trend. In recent years, with the rapid development of the national economy, problems in the development of the real estate industry have emerged. The real estate industry is not only capital-intensive but also highly sensitive to market and policy changes.

During its development, the real estate industry has encountered significant financing difficulties. Due to concerns over the rising risks in the real estate market, regulatory authorities have strengthened the control over banks' real estate-related loans and set policy red lines such as the concentration management of real estate loans, leading to a tightening of bank loans. In addition, with the frequent occurrence of credit risk events in the industry, investors' confidence in real estate bonds has been undermined, and debt financing has been hindered. Moreover, due to issues such as the decline in

real estate profit expectations, the capital market has become increasingly cautious about equity financing for real estate enterprises, and investment willingness has waned. As a result, real estate enterprises have fallen into a severe financing predicament. In recent years, with the wide application of emerging technologies such as big data and artificial intelligence in the financial sector, supply chain finance has gradually evolved into a mature and innovative stage. It is precisely this transformation that has made it increasingly accepted by many real estate enterprises as a suitable and effective solution to the financing predicament.

By 2025, the application of ABS in the real estate sector has shown a diversified development trend, with significant changes in market size, product structure, and policy environment. In 2024, the proportion of ABS financing scale increased, with REIT-like products and CMBS/CMBN (commercial mortgage-backed securities) being the main types. The average term was extended, and issuance resumed in the second half of the year. The ABS financing scale was 213.76 billion yuan, a year-on-year decrease of 13.6%, accounting for 37.8% of the total financing scale [1], significantly increasing its proportion in overall debt financing and becoming one of the important financing channels for real estate enterprises. Moreover, the newly approved scale of real estate holding-type ABS reached 26.358 billion yuan, ranking second among various underlying assets. The scale of ABS invested in infrastructure public REITs reached 169.844 billion yuan, further promoting the expansion of the real estate ABS market. The underlying assets of real estate ABS mainly include commercial mortgage-backed securities (CMBS), REIT-like products, and lease receivables. At the same time, to meet market demands, the product structure design of ABS has become more flexible. For example, REIT-like products adopt a "stock + bond" hybrid structure to achieve asset off-balance sheet and tax optimization.

This article selects "Evergrande Real Estate Supply Chain ABS" as a case study, which has considerable typicality and research value. Evergrande was one of the early real estate enterprises to apply supply chain ABS on a large scale. As of 2021, its cumulative approved supply chain ABS reached 54 billion yuan, with an actual issuance of 23.797 billion yuan and a remaining scale of 991 million yuan. This scale is benchmarking in the industry, and the supply chain ABS models of other real estate enterprises (such as Vanke and Poly) mostly refer to its structural design. This demonstrates the leading role of Evergrande Real Estate. In addition, after the debt crisis of Evergrande broke out in 2021, its supply chain ABS exposed the systemic risks under the high-leverage and high-turnover model of the real estate industry, which is a concentrated manifestation of typical industry risks. As a typical case of risk identification and prevention in supply chain finance ABS, through research, it's effectively recognize that the core enterprise credit risk, underlying asset authenticity risk, and cash flow fluctuation risk may occur in supply chain ABS. At the same time, it provides a reference for other real estate enterprises in designing risk prevention for ABS models, which undoubtedly promotes the reform and development of the ABS model.

## 1.2. Significance

By systematically sorting out the operational logic and risk transmission mechanism of real estate supply chain finance ABS, this study fills the gap in the cross-research between supply chain finance theory and pan-real estate ABS. This paper aims to summarize and summarize a practical case with high quality by referring to the elements and principles of risk management theory, and at the same time evaluate and analyze the risks existing in the case, so as to obtain the corresponding effective measures for risk prevention, and provide reference for the risk prevention and control countermeasures of the ABS model of real estate supply chain finance.

## **2. Relevant theoretical model**

### **2.1. Supply chain finance**

As a financing method born at the end of the last century, supply chain finance relies on the credit of core enterprises in the supply chain, integrates logistics, capital flow and information flow, and provides systematic financing solutions for enterprises up and down the supply chain. Its core objective is to optimize capital allocation, reduce transaction costs, alleviate the financing constraints of small and medium-sized enterprises, and enhance the overall synergy and risk resistance of the supply chain. According to the differences in financing targets and transaction structures, supply chain finance can be divided into five typical operation models: accounts receivable financing, inventory financing, advance payment financing, structured financing, and digital supply chain finance. The supply chain ABS to be studied in this article is one form of structured financing, which is to package the scattered assets (such as accounts receivable and bills) in the supply chain into standardized securities and raise funds through the capital market. With the continuous development of supply chain finance, the real estate industry has gradually begun to choose this financing solution. Due to the large and dense capital, as well as the extremely sensitive to market and policy changes, real estate supply chain finance is characterized by strong core enterprise dominance and high credit concentration, special financing tools and underlying assets, high cyclical and policy sensitivity, and long and hidden risk transmission chain. Supply chain finance is composed of many enterprises, its risk characteristics are different from that of a single enterprise, and its financial risk is transferable. The supply chain from the initial raw material purchase to the final product circulation is jointly participated by different nodal enterprises. Risk will flow through the chain of the supply chain. And because of the pursuit of profit maximization, each enterprise in the supply chain will choose to compete with other enterprises in the supply chain or cooperate with each other according to their known information [2].

### **2.2. Asset Backed Securitization(ABS)**

ABS, as an important form of asset securitization, generally refers to the issuer's combination of various types of underlying assets such as credit card receivables, auto loans, student loans, and lease receivables. The isolation of the collateral pool from the insolvency of the originator, the effective allocation of cash flows, the segmentation of credit risks, and the risk-adjusted yield have driven the demand for these securitizations. Generally speaking, securitization does not have a standard form because each product has different characteristics in terms of asset nature, asset maturity, asset risk profile, transaction structure, etc. Therefore, these differential variables will determine the complexity of the transaction structure [3]. According to the needs of investors and market conditions, the issuer reconfigures and combines the terms, cash flows, and risks of these assets to form a new asset pool. Through certain structural arrangements and credit enhancement measures, the income rights of these assets are transformed into securities that can be traded in the financial market. Due to its unique asset restructuring characteristics, ABS products have features such as risk isolation and credit enhancement leading to high credit ratings, the diversification of the asset pool reducing individual risks, flexible and diverse product structures, and high liquidity. In the concentration of securitized loans, the volume of securitization activities of the initiating banks is not related to the lower loan spreads. The results consistently indicate that, compared with the securitization activities of banks, the broad credit cycle conditions seem to have a greater correlation with the more lenient credit standards (measured by price aggressiveness) [4]. ABS is widely used in building complex financial product systems. Through different combinations and designs, it can meet the differentiated investment needs of various investors. On the financing side, it can break the constraints of traditional

models and achieve more flexible fund raising. On the investment side, it can also meet diverse investment demands with its various structures and income arrangements, making it favored by many investors and market participants.

### 2.3. Risk management theory

Risk management theory is a discipline that systematically studies the essence, causes and response strategies of risks, aiming to minimize potential losses and maximize the value of opportunities through scientific methods to identify, assess, control and monitor the impact of uncertainties on objectives. This paper mainly uses the ISO 31000 standard framework to conduct risk management analysis on the case, that is, first using tools such as SWOT analysis to identify risks in the case, thereby outputting a specific risk list; then through qualitative methods, classified according to the key links of ABS, analyzing the risks of supply chain ABS from the perspectives of supply chain finance, Asset Backed Securitization, and the real estate industry, and combining the characteristics of each link, analyzing the risks of the underlying assets, supply chain finance, market, and legal and operational risks. The introduction of ISO 31000 enables businesses to adopt high standards and processes for risk assessment and mitigation of all their activities. It determines in advance the events that will lead to the risk, calculates the company's losses based on this risk, determines the precautions to be taken to prevent the risk, predicts the acceptable value of the inevitable risk, and knows what to do when the risk occurs [5]. In addition, due to the particularity of supply chain ABS in the real estate industry, this paper, on the basis of this standard framework, adds an analysis of the risk transmission mechanism, briefly analyzes the risk diffusion path from supply chain finance to ABS products, and combines the above content to draw corresponding conclusions, and finally constructs a risk management framework system for real estate supply chain ABS.

## 3. Case analysis

### 3.1. Operation of the company

Evergrande Real Estate Group, founded in 1997, is the core business of China Evergrande Group and was once one of the largest real estate enterprises in the world. Its business covers residential real estate, commercial real estate, cultural tourism real estate and health and wellness real estate, and has formed an ecological system with real estate as the core, and diversified industries such as finance, health and cultural tourism have coordinated development. Evergrande Real Estate has more than 1,300 projects in more than 280 cities in China and strategic cooperation with more than 860 well-known enterprises around the world. Evergrande Real Estate has roots in China and is committed to promoting China's urbanization development. It is the real estate enterprise with the largest construction area under construction and the largest number of real estate enterprises entering provincial capitals in China [6]. In 2021, Evergrande Wealth, a brand of Evergrande Group, was exposed to the risk of product payment, a large number of employees failed to get the due payment on time, and many projects of Evergrande Real Estate across the country defaulted on project payments, and Evergrande Group's capital chain was broken and it was burdened with huge debts [6]. Subsequently, the Guangzhou Municipal People's Government intervened, interviewed Xu Jiayin, the real controller of Evergrande Real Estate, and sent relevant professional working groups to Evergrande Real Estate to investigate and urge the company to resolve debt risks step by step, so as to restore normal operations.

### 3.2. Evergrande supply chain ABS project structure

From the perspective of issuance scale, the Evergrande supply chain ABS adopts a "shelf issuance" mechanism, with an approved shelf quota of 100 billion yuan, supporting "one-time application and phased issuance". The first issuance scale was approximately 1 billion yuan, and subsequent issuances were made flexibly based on market conditions. Before the risk exposure, the cumulative approved quota reached 54 billion yuan, with an actual issuance scale of 23.797 billion yuan and a remaining scale of 0.991 billion yuan [7]. From the perspective of underlying assets, the underlying assets selected for this product are the accounts receivable claims of Evergrande's upstream suppliers, involving real trade contracts such as engineering contracting and building materials supply, with an account period typically ranging from 6 to 12 months. The direct debtor is the project company controlled by Evergrande, and Evergrande becomes a co-debtor by issuing a "Payment Confirmation Letter", undertaking joint and several liability for repayment. Moreover, the simulated asset pool involves 117 suppliers, but the actual debtors are concentrated within Evergrande's project companies, with low industry and regional diversification, presenting concentration risks [7]. From the perspective of transaction structure design, this product mainly adopts the reverse factoring model, using a "factoring company + special plan" structure. After the factoring company (such as a factoring institution in Qianhai, Shenzhen) collects the accounts receivable, it transfers the assets as the original rights holder to the special plan, and the plan manager issues securities. Evergrande embeds its credit into the product through debt assumption (co-debtor) and a difference payment commitment, forming a "quasi-credit bond" attribute. From the perspective of the roles of the participants, the core enterprise assumes joint and several liability for repayment through the "Payment Confirmation Letter", and credit embedding is the core credit enhancement for the product. A difference payment commitment person is set up, and in some projects, a difference make-up obligation is added to further strengthen credit support [7]. Usually, there is also an Evergrande-related factoring company responsible for collecting, transferring accounts receivable, and managing the asset pool.

## 4. Risk analysis of supply chain ABS

### 4.1. Risk identification

At the level of underlying assets, the supply chain ABS of Evergrande faces risks of weakened authenticity of accounts payable and insufficient diversification. The company packages some of its short-term, high-quality and transparent assets to investors (such as accounts receivable) as the underlying asset pool to issue ABS [8]. Since the repayment of ABS comes from the packaged assets supporting the securities rather than from the initiating company, the risks associated with ABS are isolated from the bankruptcy risk of the initiating company [8]. However, as the underlying assets are accounts receivable from upstream suppliers, some assets have problems such as artificially extended payment terms and inflated related-party transactions, which weakens the authenticity and independence of the underlying assets. Meanwhile, although it involves 117 suppliers, the debtors are concentrated in Evergrande's project companies, and the industry is highly concentrated in real estate, lacking geographical and industrial risk diversification. In addition, there are also considerable risks at the core enterprise credit level. At the beginning of the project, Evergrande Real Estate became a co-debtor through the "Payment Confirmation Letter", and its main credit was directly bound to the repayment ability of the ABS. However, after the Evergrande debt crisis broke out in 2021, Evergrande Real Estate's credit rating plummeted (AAA to default level), causing the market confidence in ABS to collapse and triggering a repayment crisis. At the same time, due to the tightening of real estate industry policies (such as the "Three Red Lines"), the liquidity of real estate



companies is generally tight. The industry concentration of Evergrande's ABS has exacerbated the chain effect of risk transmission, that is, the emergence of systemic risks.

This article also attempts to identify the deficiencies in the risk identification of Evergrande's supply chain ABS from the perspective of ABF lenders. For ABF lenders, they conduct a comprehensive analysis of the borrower's repayment ability, focusing on the cash flow obtained by the borrower from accounts receivable and inventory. At the same time, they also pay attention to the borrower's ability to liquidate collateral during the lockdown period, rather than just relying on income and information on the balance sheet [9]. From this unique perspective of ABF lenders, as can be seen, the cash flow assessment of Evergrande's supply chain ABS is insufficient, overly relying on the main credit of Evergrande, and failing to conduct a thorough analysis of the actual recovery ability of the underlying accounts receivable. Moreover, there is no dynamic monitoring of the turnover rate and devaluation cycle of inventory (such as unsold properties), leading to distorted cash flow predictions. Not only that, but there is also an overvaluation of collateral, and the repayment of collateral (accounts receivable) depends on the operating conditions of Evergrande's project companies. However, the assets of project companies (such as land and ongoing construction projects) have extremely poor liquidity during the industry downturn and are difficult to liquidate.

#### 4.2. Risk assessment and analysis

Through qualitative thinking, according to the key links of ABS classification, from the three perspectives of supply chain finance, Asset Backed Securitization and real estate industry, and combined with the characteristics of each link, Evaluate and analyze the underlying asset risk, supply chain finance risk, market risk, and legal and operational risk of supply chain ABS, and make the following table 1 based on the evaluation and analysis results.

Table 1: Supply chain ABS core risk categories

Risk Category	Key Risk Points	Supply Chain Finance Perspective	ABS Structure Perspective	Real Estate Industry Perspective
Underlying Asset Risk	Fraudulent Receivables	Inflated Related-party Transactions Payment	High asset Pool Concentration	Low Project Sell-through Rates
	Cash Flow Mismatch	Term vs. ABS Payment Period Mismatch	Static Cash Flow Modeling	Policy-driven Sales Restrictions
Supply Chain Risk	Core Entity Dependency	Over-reliance on Single Entity Credit	Lack of Independent Credit Enhancement	High Developer Leverage Contagion
	Supplier Fragility	Weak SME Bargaining Power	No substitute Asset Mechanisms	Construction/ Material Supply Delays
Market Risk	Liquidity Crunch	Financing cost Volatility	Fixed-rate ABS Interest Sensitivity	Fire-sale Discounts in Downturns
	Policy Volatility	Regulatory Uncertainty	Not modeled Policy Impacts	Price/Sales Caps Eroding Margins
Legal &	Legal Documentary	Non-compliant	SPV Bankruptcy	Local fund

Table 1: (continued)

Operational Risk	On Flaws	Payment Guarantees	Remoteness Failure	Diversion for Project Completion
	Operational Negligence	Asset Service Monitoring Failures	Opaque Disclosures	Delayed Detection of Project Halts

The table 1 reveals the structural, industrial and systematic characteristics of ABS risk in supply chain. The risk is rooted in the structural nature of ABS design defects such as excessive concentration, static models, etc. Because the policy sensitivity and high leverage characteristics of the real estate industry become risk amplifiers, this is the industry. Finally, the single risk point, such as the core enterprise credit collapse, can be spread through the supply chain, ABS market, industry policies and other channels.

### 4.3. Risk transmission mechanism

The risk transmission mechanism refers to the process where risks start from a certain link or entity and spread to other links or entities through certain paths or channels, thereby triggering a broader crisis. Real estate enterprises connect the entire enterprise into an economic system through the flow of funds. Once a financial relationship within this network generates financial risks, these risks will be transmitted, extended or diffused through specific carriers [10]. Financial risks are transmitted through three channels: first, they are passed among various departments within the enterprise; second, they spread through financial relationships between organizations with direct interests; third, they spread through organizations with indirect interests. The main carriers of financial risks in real estate enterprises are funds, information and financial management personnel [10]. In the case of Evergrande's supply chain ABS, the risk transmission follows a chain path of "core enterprise credit collapse → deterioration of underlying assets → collapse of the ABS market → supply chain disruption → systemic crisis in the industry". That is, first, the credit collapse of Evergrande as a co-debtor directly led to the zero repayment capacity of the underlying assets (accounts payable) of the ABS. Then, due to Evergrande's inability to pay suppliers, the underlying cash flow of the ABS was disrupted, which directly led to investor panic and a large-scale sale of ABS products, resulting in trading freezes. Subsequently, as suppliers were unable to recover their accounts receivable, the project could not proceed normally. Finally, the collapse of confidence in the real estate sector led financial institutions to tighten credit loans to real estate enterprises and more home buyers to adopt a wait-and-see attitude, causing systemic risks to spread. The Evergrande case reveals the "domino effect" of ABS risk transmission in the supply chain from a single point collapse, that is, the collapse of Evergrande's credit, to the linear diffusion from assets to the market to the supply chain, and finally to the surface collapse, that is, the systematic weakening of the industry.

## 5. Conclusion

This paper takes Evergrande supply chain ABS as an example, combines the characteristics of real estate supply chain and ABS financial products, and deeply analyzes the risks existing in this type of project. On the basis of summarizing the relevant experience and enlightenment brought by the case, this paper draws conclusions from many aspects such as enterprise and product design. From the perspective of enterprises, they should strengthen their primary responsibility and supply chain resilience. The first step is to optimize the risk management of core enterprises, establish an internal

credit rating system, promote credit self-discipline, limit excessive leverage, and regularly disclose the payment terms of accounts payable and the structure of suppliers to ensure supply chain transparency. It is also advisable to accept more third-party audits. In addition, a multi-core enterprise ecosystem should be built, and cross-industry and cross-regional core enterprises such as real estate developers and manufacturing leaders should be introduced to jointly issue raft-shaped ABS. From the perspective of product design, the most important core is to reconstruct the risk dispersion and buffer mechanism. Firstly, the asset pool should be designed in a diversified manner, reducing policy sensitivity and avoiding excessive concentration of assets in cities from both industry and regional perspectives. In addition, dynamic credit enhancement and cash flow management mechanisms should be strengthened. Innovative tools such as third-party guarantees should be introduced, and stress tests on cash flow simulations under extreme scenarios should be conducted. From the perspective of regulation and the market, a penetrating governance framework should be proactively established, including incorporating supply chain ABS into the "three red lines" statistics for real estate developers, promoting regulatory coordination and rule upgrades, and setting an upper limit on the issuance scale of ABS in a single industry, such as not exceeding 20% of the total market ABS. In addition, issuers should be required to update the status of underlying assets in real time for timely dynamic disclosure. In summary, the essence of the risk exposure of Evergrande's supply chain ABS is the combination of the abuse of the issuer's credit and the lack of risk mitigation. Therefore, no matter from which aspect to seek risk prevention and control measures, the goals of ensuring enterprise self-discipline, product innovation, and regulatory penetration should be followed, so that supply chain ABS can stably contribute to the healthy interaction between the real economy and the capital market.

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