

# Innovation and Business Model of Agricultural Machinery Financial Leasing Mechanism: A Case Study of Weichai Lovo and Huiyin

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## Abstract:

Since the “Thirteenth Five-Year Plan”, the level of agricultural mechanization in China has achieved tremendous growth, providing strong support for the comprehensive construction of middle-class society. At the stage of the “Fourteenth Five-Year Plan”, the development of agricultural mechanization is facing many problems. Fourteenth Five-Year Plan” into the current stage of agricultural modernization, the development of agricultural mechanization is facing many problems. Although financial leasing is developing rapidly in recent years, however, it has been carried out in China for less than 10 years, and the development of this kind of business cannot fully adapt to the strategic needs of national economic development. Therefore, this paper will start from the co-operation between two typical companies in the industry, and study the mechanism innovation and business design of financial leasing in the field of agricultural machinery from three aspects, namely, business mechanism, macro-economy and enterprise financial leasing path. In the mechanism innovation and business design should be carried out should improve the risk assessment system, the introduction of digital technology, in line with the development trend of green finance, and seek government support, so as to enable the steady development of financial leasing in the field of agricultural machinery financing.

**Keywords:** Agricultural Machinery; Financial Leasing; Mechanism Innovation; Business Design.

## 1. Introduction

The report of the 19th National Congress of the Communist Party of China points out that „the three rural issues“ is a fundamental issue related to national economy and people’s livelihood, and that the solution of „the three rural issues“ must always be taken as the top priority of the work of the whole Party and the implementation of the Rural revitalization strategy. The report of the 19th National Congress of the Communist Party of China pointed out that „the three rural issues“ is a fundamental issue related to the national economy and people’s livelihood, and it must always take solving the three rural issues as the top priority of the work of the whole party, and implement the Rural revitalization strategy. China Central Document No. 1 (CCD) has clearly pointed out that the development mode of financial leasing in the field of agriculture should be vigorously developed. Although China has successively issued a series of policies to encourage financial innovation of agricultural machinery and support financial leasing companies to actively expand the financial leasing business of agricultural machinery, the development of this business cannot be fully adapted to the strategic needs

of the national economic development due to the weakness of China’s agricultural economic development and the lagging development of the rural financial market.

Weichai LovoL Intelligent Agricultural Technology Co., Ltd. (Weichai Lovo) is one of the few brands in China that can provide the whole mechanization solution for modern agriculture, and its agricultural machinery has led the industry for many years. Huiyin Financial Leasing Co., Ltd. (Huiyin), founded in 2011, is the first company in the industry to improve the financial leasing of agricultural machinery, and has achieved remarkable success in its agricultural machinery financial leasing projects. It is the first company in the industry to improve the financial leasing of agricultural machinery, and has achieved remarkable success in its agricultural machinery financial leasing projects, and has rich relevant business experience.

Therefore, this paper will take the case of cooperation between Weichai Lovo and Huiyin to analyze the mechanism innovation and business design of agricultural machinery financial leasing in the hope of exploring a new path for better combination of agricultural development and financial leasing.

## 2. Literature Review

Agriculture is the foundation of national development, the development of agricultural mechanization is one of the most important cornerstones of guaranteeing national food security, so the Chinese government has also clearly pointed out in the CCD every year that it should promote the development of agricultural mechanization, which has also led to academic research on the development of the development path of agricultural mechanization, methodology and influencing factors.

King and Singh found that subsidies for agricultural credit, agricultural insurance and other purchases help the development of agricultural mechanization [1]. Yang et al. also pointed out through the study that it has a promotional effect on the development of agricultural machinery [2]. Digital inclusive finance can provide sufficient capital elements for the development of agricultural economy, and effectively improve the level of agricultural mechanization [3, 4]. Sun et al. also analyzed the degree of financial impact on agricultural mechanization through models and data analysis [5]. They concluded that digital inclusive finance can not only directly promote agricultural mechanization, but also indirectly promote agricultural mechanization by improving farmers' income and promoting fixed asset investment. However, at the same time the high cost of agricultural machinery and the lack of farmers' own funds and other inherent conditions illustrate the contradiction between the management of agricultural machinery loans and the development of the rural economy, and how to regulate the contradiction between the two has become one of the biggest problems in the process of agricultural mechanization [6].

In recent years, the penetration rate of financial leasing mode in the terminal sales market of agricultural machinery has been increasing. China's agricultural machinery and equipment is mainly large-scale equipment produced by large enterprises and small and medium-sized equipment manufactured by agricultural machinery enterprises. However, these equipment is expensive, high maintenance costs, due to the lack of the farmers' own financing ability and the weak rural financial service system [7]. This results in the acquisition of agricultural machinery, the financial needs of the unsatisfied [8]. Agricultural machinery financial leasing compared to other financial means has a more flexible operating mechanism, so that farmers from the „direct purchase“ to „rent and then buy“, greatly reducing the pressure of a one-time investment, to alleviate the difficulties of farmers to purchase machines, loans to provide a feasible path [9]. Although China has issued a series of policy documents to encourage financial innovation of agricultural machinery and support finan-

cial leasing companies to actively expand the financial leasing business of agricultural machinery, but due to the weakness of China's agricultural economic development, the lagging development of the rural financial market, the development of financial leasing of agricultural machinery is faced with problems such as financial leasing cannot be widely accepted by farmers, the lack of tax policy to make the cost of the business is higher, and the lack of other auxiliary markets [9, 10].

Leasing is one of the most common, credit-related alternatives to obtaining external sources of financing for enterprises [11]. Nataliya et al. analyzed domestic and foreign practices of financial leasing and determined their direct impact on the country's economic development [12]. Financial leasing companies can offer different leasing models according to different subjects such as farmers or farmers' professional co-operatives, as well as their financial strength and repayment ability. Due to the high price of modern agricultural equipment, the cycle of agricultural machinery financial leasing is long, the additional capital of the financial leasing company's own shareholders is limited, and traditional financing channels such as private debt and bank loans are difficult to satisfy the financial leasing company's financial needs due to the growth of its business, which restricts the expansion of the financial leasing business [13].

Generally speaking, since foreign agricultural mechanization and financial leasing have been carried out and researched earlier and better, the development of China's agricultural machinery financial leasing can be localized and innovated by learning from foreign experience and combining with China's national conditions. The research in this paper is based on actual cases to analyze the enterprise practice path of agricultural machinery financial leasing, on the one hand, analyze the feasibility of expanding the financial leasing business to the agricultural large-scale machinery industry, on the other hand, explore the innovation mechanism involved in the related business to come up with a more efficient and reasonable business design direction.

## 3. Case Study

### 3.1 Description of Operational Mechanisms

Agricultural machinery financial leasing refers to the demand for agricultural machinery (referred to as „client“) cannot fully afford the high purchase cost of agricultural machinery, financial leasing company as an intermediary, through the integration of banks, agricultural machinery production companies and other types of resources to provide services. Leaseholders from the one-time purchase of agricultural machinery and equipment to pay a certain

down payment to obtain the right to use, in the subsequent remaining amount and interest paid off after the full ownership of agricultural machinery and equipment, which can reduce the client one-time face the pressure of a large amount of money, improve the efficiency of the use of funds.

Financial leasing of agricultural machinery has been commonly used in agricultural production in developed countries, and has even become the preferred way of purchasing agricultural equipment for farmers in developed countries, and financial leasing has been carried out in other large-scale machinery in China, and at present, China's financial leasing business is mainly divided into the mode of „direct lease“, „sale and leaseback“, „leveraged lease“, „subletting“, in which the financial leasing company only serves as the contributor or one of the contributors of the equipment purchase funds, and the leasing

relationship between the lessee and the financial leasing company exists until the transfer of ownership is eliminated, and the relationship between the financial leasing and the manufacturer is the sale and purchase relationship, and the transfer of its ownership has been completed in the moment of delivery of the product, and the relationship between the lessee and the manufacturer is only the maintenance and the after-sale relationship (except for „sale and leaseback“). The relationship between the lessee and the manufacturer is only one of maintenance and after-sale (except for „sale and leaseback“), i.e. the financial leasing company is not responsible for the damage and depreciation of the equipment during the period of use, and acts only as an intermediary organization for the conduct of business.

### 3.2 Macro-Analysis

**Table 1. Agricultural and mechanization statistics by country**

Country and area	Percentage of population in the agricultural labor force	Share of agriculture in GDP	Cultivated land per capita (ha)	Number of tractors (100 km <sup>2</sup> /unit)	Agricultural mechanization rate
sino	35.0 per cent	7.4 per cent	0.09	83.7	55 per cent
United States of America	2.5 per cent	0.8 per cent	0.48	256.8	>95 per cent
European	4.0 per cent	<2.0 per cent	0.36	688.7	>95 per cent
Japanese	2.5 per cent	1.2 per cent	0,03	4,532.1	70 per cent
Georgia	14.4 per cent	3.5 per cent	0.84	-	85 per cent
India	49.0 per cent	15.4 per cent	0.12	129.9	40 per cent
Brazilian	15.0 per cent	4.4 per cent	0.27	-	75 per cent

Data source: The seventh national population census, China Agricultural Mechanization Network

From Table 1, it can be seen that compared with the western countries, due to the early guidance of the state policy and the mechanization started later and other reasons are still in the state of smallholder economy development, with a high proportion of agricultural laborers, per capita arable land area of the characteristics of the smallholder economy. Therefore, China's smallholder economy is different from the big farm model of the United States, which can concentrate large areas of arable land in the hands of a few people to carry out agricultural mechanization to form a scale effect. And by 2021, China's agricultural

mechanization rate will still be significantly lower than that of Western countries, one of the reasons being the insufficient mechanization of Chinese agriculture.

China's smallholder economy is characterized by poor risk resistance, dispersed distribution areas and low capital, while agricultural machinery, as a kind of large and heavy machinery, has high capital requirements for purchasers and requires a large area of arable land in order to give full play to its role. Although the State has vigorously promoted the development of agricultural mechanization and introduced various preferential subsidy policies, they are still unsatisfactory.

**Table 2. Statistics on Agricultural Financial Leasing Information of Listed Companies in China**

Deadline for statistics	Number of listed companies with financial leasing business	b Number of leasing companies matching business with listed companies	Total planned financing amount (yuan)	Amount of contract signed (yuan)
2017-12-31	0	0	319,300,000	393,718,605
2018-12-31	0	0	596,575,557.5	650,955,568.1
2019-12-31	0	0	3,019,000,000	793,580,000
2020-12-31	0	0	236,000,000	236,000,000
2021-12-31	1	1	475,421,800	510,421,800
2022-12-31	0	0	1,171,904,474	512,504,874
2023-12-31	0	0	105,170,000	135,050,000

Data source: CSMAR database

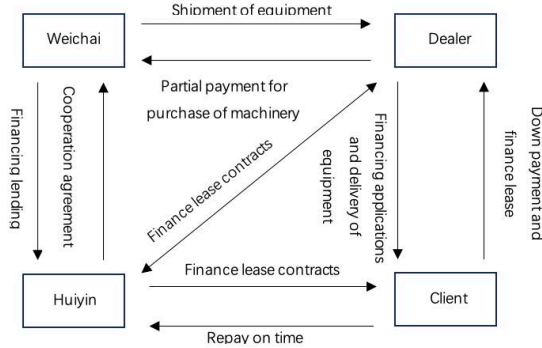
From Table 2, it can be seen that from 2017 to 2023, the number of listed companies carrying out agricultural financial leasing business in China and the number of leasing companies docking with listed companies' business are very few, and the development of financial leasing business in agriculture is relatively scarce. However, from 17 to 19 years, the amount of planned financing and the amount of signed contracts are rising year by year, and from 20 to 23 years in a fluctuating state, the expected development of financial leasing business in agriculture is more considerable, and this model can be widely promoted in the agricultural market, so that more enterprises to implement this business.

Since its inception in China, the financial leasing business has always been aimed at providing services to customers who are short of funds, and this business direction is exactly in line with the needs of farmers to carry out the mechanization of agriculture, which not only improves the rate of agricultural mechanization but also allows for the upgrading of agricultural machinery. Agricultural machinery sales companies cannot sell the high price of machinery directly to the farmers, so you can cooperate with financial leasing companies to carry out agricultural machinery financial leasing business, agricultural machinery leased to the contracted large areas of arable land but do not have sufficient funds in the short term for the customer to share a period of time for the customer to share the cash flow pressure of leasing business, so as to improve the efficiency of agricultural production and economic effect of the industry. This will improve the efficiency of agricultural production and the economic effect of the industry, and promote the deepening of China's agricultural modernization process.

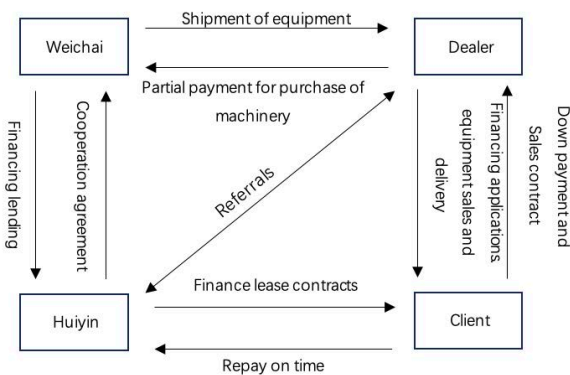
### 3.3 Analysis of Enterprise Finance Leasing Path

Weichai Lovo's agricultural equipment segment financial leasing business is carried out in the mode of sale and leaseback (see Figure 1), and the construction machinery segment financial leasing business is carried out in the mode of sale and leaseback (see Figure 1) and direct lease (see Figure 2). The sales mode of the financial leasing business carried out by the agricultural equipment and engineering machinery business is different from the sales mode of direct cooperation with the financial leasing company in the traditional sense, and the financial leasing company is not the direct customer of the issuer, thus Weichai Lovo itself does not directly carry out all forms of financial leasing sales business, and the financial leasing business is only carried out between the dealer, the client and the financial leasing company. The financial leasing business is only carried out between the dealer, the client and the financial leasing company.

In the sales process, the equipment is shipped by Weichai Lovo to the dealer or picked up by the dealer, and is accounted for as off-market consignment inventory and sold under the check and report that is actually written buyout sales model, whereby the dealer checks and reports that is actually written in the sales system that is actually written by the dealer in the sales system, while the factory recognizes revenue when the dealer obtains control of the relevant goods. In the collection segment, the client purchases the equipment through the finance lease, and usually pays the down payment to the dealer, who pays that part of the purchase price back to the factory's account, and pays the remainder of the purchase price, except for the down payment, directly from the finance lease company to the factory.



**Fig. 1 Illustration of the Sales and Leaseback Model (Photo/Picture credit: Original)**



**Fig. 2 Illustration of the Direct Lease Model (Photo/Picture credit: Original)**

### 3.4 Mechanism Innovation and Operational Design

Establish a perfect risk assessment system. As the financial leasing business is a relatively new financial business in China, the laws and regulations are relatively imperfect, the high value of agricultural machinery and client's own risk-bearing ability is relatively fragile, for the whole process of the business to supervise and alert is one of the ways to effectively control the risk.

The introduction of digital technology, for business, capital and after-sales supervision. The introduction of digital technology can effectively solve the problems of slow access to information and untimely strategy formulation in the traditional production industry, such as agricultural machinery manufacturers, and can also effectively reduce labor costs and improve operational efficiency. Based on the digital platform to establish mathematical models can also be timely follow-up market and risk changes, from Weichai Lovo's investment in the field, it is indeed involved in intelligent agricultural machinery and other intelligent control field, so the combination of digital tech-

nology for the development of the future development of agricultural machinery financing and leasing direction.

Weichai Lovo's involvement in the new energy industry is a good example of how to promote the green development of the agricultural machinery sector. Financial leasing enterprises should take the initiative to promote the „carbon reduction“ process, seek cooperation with enterprises pursuing green development concepts, from the financial leasing industry to push back the green development of the agricultural machinery sector, Weichai Lovo into the new energy industry is also a sign of the future direction of the green development of agricultural machinery financial leasing.

Seek government co-operation and support. The development of financial leasing in China is geographically unbalanced, with Shanghai and Tianjin accounting for most of the financial leasing business. The client of agricultural machinery in China, except for small-sized machinery, is purchased by many people, and government subsidies for agricultural machinery are also a key factor in the process, so how to seek governmental support is one of the keys to open up more markets.

Financial leasing companies should observe the four directions of risk control, green development, digital technology support and government support when conducting business in the future, maintaining strict business norms and risk management internally and positive development externally.

## 4. Conclusion

Although China's level of agricultural mechanization relative to Western countries there is still a certain gap, but the country is also strongly support the development of agricultural mechanization, in the coming period of time agricultural mechanization still has a very objective development prospects. Financial leasing in China's development time is short, the future development potential is huge. It has a low leasing threshold, leasing equipment more professional and other advantages for the development of agricultural machinery can also add emerging power. Due to the financial leasing field legal system in China is not perfect, so compared to the traditional financial industry, financial leasing companies usually need to face a greater policy, credit and financial risks, while client itself does not have a strong anti-risk ability, although the country continues to introduce policies to support the development of agriculture, but smallholder economy for the uncertainty of the risk of the ability to bear Although the state has continuously introduced policies to support the development of agriculture, the smallholder economy's ability to bear uncertain risks is still weak. Only financial leasing

enterprises from both internal and external aspects at the same time to improve their own management level, and actively maintain the mechanism and business innovation, agricultural machinery in the field of financial leasing in the future can develop steadily.

### Authors Contribution

All the authors contributed equally and their names were listed in alphabetical order.

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