

# Research on Credit Risk Management of Auto Finance - A Case Study of H Auto Finance Company

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**Abstract:** *With the development of China in recent years, the automobile industry is an important support of economic growth. In the entire automotive industry chain, the automobile finance could make up nearly 20% its profits. Automobile finance not only creates significant profit for auto companies, but also boosts Chinese credit consumption and ease borrowers' credit pressure. At the end of the 2019, there were 25 automobile finances established in China which include local automobile finance and sino-foreign joint venture. The accelerated development of auto financing companies gradually eroded the market share of commercial Banks, therefore automobile finance is attracted much attention. First of all, this essay introduces the main risks faced by automobile finance. Secondly, the essay focuses on the whole approval process of the A automobile finance. It analyzes every potential risk and finds out reasons in pre-loan management, credit, post-lending management deeply as well as strengths in these procedures. The last part of the essay summarized the A credit controlling in order to provide the measures how to strength the capability of controlling of credit risk, operation risk and market risk in current laws environment. Local automobile finances could manage the risks in an reasonable and acceptable range, so these company could enhance competitiveness.*

**Keywords:** Automobile Finance Company, Credit Risk, Finance Risk, Risk Management

## 1. Preface

Automobile Finance refers to that consumers can apply for loans when they need to purchase cars. According to the characteristics of personalized needs, consumers can choose different loan products. The significance of Automobile Finance is that it drives the development of the automobile industry, and organically combines the important automobile sector of the national economy with the financial industry, and brings huge profits to the automobile industry. However, opportunities and risks are co-exist, and Automobile Finance also has certain risks, which are mainly manifested in the difficulty which are Poor risk control ability, fierce competition among peers, poor financial concepts, imperfect mechanism construction and imperfect internal management and so on. In addition, due to the poor social credit environment system, imperfect legal system, imperfect financial products, these internal and external reasons have increased the risk of financial credit.

This paper takes H automobile finance company as an example for in-depth analysis, and provides theoretical support and practical operation methods for Chinese Automobile Finance industry from pre-loan investigation, risk control and post-loan management.

## 2. Main Risks of Automobile Finance Credit

### 2.1 Operational risk

Financial risk generally refers to the uncertainty or possibility that economic subjects suffer losses in financial activities.<sup>[1]</sup> Financial risks also exist in Automobile Finance

credit, among which the three most common risks are operational risk, credit risk and market risk.

Laycock defined operational risk as "operational risk refers to the fluctuation of income or cash flow caused by customers, insufficient internal control, failure of system or control and uncontrollable events".<sup>[2]</sup> Operational risk refers to the loss that cannot be predicted due to the imperfect internal information system and risk control system of Automobile Finance. The front end of the automobile finance agency staff failed to effectively identify the potential risk of customer default, on the one hand, because the staff did not have enough risk awareness, in the process of the qualification examination for the customers is not strict, blindly map quickly failed to implement the loan review process standards, cause shouldn't lend customer success by loan funds review, servicing buried serious hidden danger for the future. On the other hand, in order to seek personal gain, credit operators violate the rules and thus bring losses to financial institutions.

### 2.2. Credit risk

Credit risk, also known as default risk, refers to the possibility that investors or both parties of a transaction may suffer from the failure or inability of both parties to perform the transaction.<sup>[3]</sup> In essence, the borrower's credit risk is caused by incomplete information symmetry, and the information obtained by external institutions is less than the information mastered by the borrower. Therefore, the problem of information asymmetry arises.

Automobile Finance business usually uses vehicles as

collateral to guarantee the safety of the company itself. However, cars belong to movable property, which depreciates rapidly. If the lender is unable to repay the loan with interest, the car will be used as collateral to offset the remaining loan, but the value of the vehicle has already depreciated. Because of the rapid replacement of the car system, forcing the value of the old model quickly evaporate; Vehicle quality problems due to repeated maintenance will also prompt the owner to refuse to repay the loan; In addition, the owner's improper use of the vehicle caused the value of the vehicle evaluation is far lower than the original value. In the above cases, even if the vehicle is auctioned, it cannot make up for the losses caused by the default. In this case, the lender will default rationally and automobile Finance will suffer losses.

### 2.3. Market risk

Market risk, also known as interest rate risk, refers to the risk that the value of interest-bearing assets (such as loans or bonds) will fluctuate due to interest rate fluctuations. When the interest rate fluctuates, the market interest rate decreases and gradually falls below the interest rate of loan products, and the income of automobile consumer credit institutions increases and becomes profitable. The market interest rate increased and gradually higher than the market interest rate, and the income of automobile consumer credit institutions decreased and loss.

Repricing risk, also known as term mismatch risk, is the most important and common form of interest rate risk, arising from the differences between the maturity of bank assets, liabilities and off-balance sheet business (in the case of fixed interest rate) or repricing term (in the case of floating interest rate). This asymmetry of repricing makes the bank's income or intrinsic economic value change with the change of interest rate.<sup>[4]</sup> The financing channels of Automobile Finance company are various, mainly borrowing money from Banks, issuing bonds by dealer groups and issuing additional shares. Debt interest rates followed the market interest rate changes, if the automobile finance institutions to the outside world to raise money lending rate is higher, lending loan interest rates low and long-term fixed, asset rates low debt rate will reduce automobile finance company spreads, will eventually make the automobile finance institutions greatly increase susceptibility to risk and the ability to resist risk weak.

The interest rate of automobile Finance loan products is relatively fixed. Although the product Department and the Finance Department will jointly formulate new loan products every month, the interest rate enjoyed by new customers every month is relatively fixed throughout the repayment term. Therefore, when the market interest rate increases, the price of fixed income financial products will fall. That would expose Automobile Finance to greater uncertainty. In addition, due to the fierce competition among Automobile Finance institutions, many institutions have launched low-interest loan products to reduce profits, which is not conducive to the development of financial and credit

markets.

### 3. The process design of financial risk monitoring of auto finance

By 2019, the total loan business has created a return on capital of 18% for H Group. The personal retail loans of H Finance have reached 81.1 billion euros, becoming the most important source of sales. From 2007 to 2019 in December, H China's retail business has completed 66.3 billion yuan in sales, financial loan process is mainly divided into several parts: the customer advisory - quote - trial batch query - customer application data collection - deposit insurance / registration plates/ mortgage registration arrangements - loan documents delivery vehicles - loan mortgage registration documents - commission settlement.

#### 3.1 Grading and evaluation of the main lender before the loan

First H according to the requirements of PBC's regulatory commission to provide customers with products and services, the system used by dealers is developed by H Finance itself, which integrates application, audit, loan lending and monitoring. In the audit stage, the system will judge whether this customer meets the target customer of H Finance according to the data submitted by financial manager and the input information. The specific scoring content is as follows.

Credit score determines the credit level, according to the credit level can determine the vehicle mortgage rate, according to the formula (release amount = vehicle mortgage rate \* vehicle residual value evaluation) calculate the corresponding release amount. If the score is above 90 points, the customer credit corresponds to Class H, and the vehicle mortgage rate is 100%; A score of 75-89, a credit rating of B, a vehicle mortgage rate of 90%; The score is 60-74, the credit rating is C, and the vehicle mortgage rate is 80%. The score of 50-59, a credit rating of D, and a vehicle mortgage rate of 70%; the score of 45-49, a credit rating of E, and a vehicle mortgage rate of 60%; the score of 40-45, a credit rating of F, and a vehicle mortgage rate of 50%; the score is below 40 and the credit rating is G, which does not meet the requirements of H financial personal credit. Auto loan rating table is divided into these categories: borrower status, asset status, business status (such as business owners), credit status, mortgage status. It mainly depends on the status of personal deposits and house funds, bank credit investigation, the nature of the company, etc. These parameters can account for more than 4 points of the proportion (percentage system). For example, if the loan customer has an unmortgaged property, a property ownership certificate, and purchases the property in full amount, the customer can get a full score of 8 points in the property condition. For example, if the bank credit information status of a customer shows 0 overdue within 24 months, the customer can get a full score of 10. Conversely, if the borrower and his or her company have a record that was executed but not closed, and the amount is significant, the customer is deducted -5 points. Personal comprehensive

assessment will also affect the score, lenders with higher education can get 5 points for postgraduate, junior college can only get 2 points. Credit scores are closely related to credit limits and affect the choice of loan products.

### 3.1.1. Provide different loan products according to qualification and credit status

A car loan has five elements: interest rate, down payment, monthly payment, term and balance payment. The loan products offered by H Finance are divided into two types, standard interest rate loan and promotional interest rate loan. The interest rate of standard loans is mostly 9.95%, the down payment ratio is 20%-60%, the interest rate of promotional loans is mostly lower than 6.88%, and the loan term is mostly controlled within 24 to 36 months. The higher the down payment ratio, the less the elastic balance payment ratio, which is generally controlled at 20%-40%. Promotional rate loans have high down payments, low balance payment and low interest rates.

Customer can pay off loan through 4 kinds of reimbursement. The first choice is reimbursement of principal and interest of equal amount, that is to say the monthly repayment amount is equal, and the interest and the principal decreases month by month. This payment method is very applicable to the customer who are not sensitive to interest customer and hope reimbursement is simple. The second way is flexible loan, that is the down payment and balance payment account for a larger proportion., and monthly payments are low, and the contract can only be terminated if the balance payment is paid off or extended ,which is suitable for borrowers who will have a large amount of extra income in a certain period and have a fashionable attitude towards life. The third payment method is the unique loan of H finance, with low monthly payment and once large annual payment for each issue. It is suitable for customers with large income in a certain period, such as customers with year-end bonus. The fourth way is the unique finance product of H Finance, which is characterized by the decrease of monthly payment year by year and the small amount of total interest. It is very suitable for customers who will pay more in the future, such as those who get married and have children, or those who are about to retire and expect less pressure on subsequent repayment.

### 3.1.2. Lien collateral and guarantor as security

Guaranteed loan is divided into three forms: guaranteed loan, mortgage secured loan and pledged secured loan.<sup>[5]</sup> H auto finance requires the borrower to sign a mortgage contract The insurance policy, purchase invoice and other documents of the car shall be kept by the bank during the loan period. The company keeps the vehicle registration certificate as collateral in order to control the risk and lest the borrower fail to repay the loan. When the borrower to pay off loans, they can cancel their vehicle mortgage registration formalities.

The mortgaged property may be either personal property or real property. When the principal and interest cannot be repaid, the vehicle is auctioned off to pay off the balance.

Houses without loans can also be used as collateral, which can help borrowers to get higher amounts and lower interest rates on loans.

### 3.2 Strictly monitor the operation process in the loan

The finance manager needs to reconfirm that the vehicle information has been entered into the system before signing the contract. Otherwise, the contract will not be printed. The documents the customer needs to prepare include the ID card, the bank card for repayment, and the car sales contract; The finance manager needs to prepare the auto mortgage contract, the original application form, the loan application reapproval letter, and the direct debit authorization letter. If there are co-borrowers or guarantors, they must be present and sign the contract at the same time during the signing process.

After the contract is successfully signed on the spot, the customer can get the auto mortgage contract, loan application reply letter and auto sales contract; The finance manager shall keep the original signed application form, the front copy of the repayment card and two signed auto mortgage contracts for mortgage registration. The dealer issued the sales invoice after receiving the customer's down payment and the loan application reply letter from H Finance, and then assisted the customer to handle the insurance, vehicle registration and mortgage registration procedures locally.

### 3.3 Follow-up investigation on each repayment period after the loan

Analyze the future repayment ability of the principal and co-borrowers. Post-loan management refers to the whole process of credit management from the issuance of loans or other credit operations to the recovery of principal and interest or the end of credit. [6]

H Auto Finance Company strengthened the post-loan management of loans and found that a certain number of applications and loan contracts suspected of fraud caused losses to retail assets through business inspection. Therefore, H Auto Finance has formulated anti-fraud procedures and operation manuals to ensure timely detection of emerging risk cases, and developed a risk model of anti-fraud risk. The system check the repayment status of each installment of customers. In case of high-risk customers, such as lost contact, fraud, death or involvement, so company can file a lawsuit in advance. In addition, an anti-fraud specialist is set up in the approval team, responsible for the review of risk factors, the detection of potential fraud factors and the management of high-risk dealers.

## 4. The risk monitoring measures of H auto finance company can be used for reference for the future development of Auto finance companies in China

### 4.1 Establish the company's internal management system

Chinese auto finance companies need to establish a whole-process management system to ensure that the risk control process is institutionalized and standardized. Firstly, the company needs to strengthen the institutionalized management of the post-loan customer archives and optimize archival registration and storage. The post-loan management specialist should make regular follow-up. Secondly, company need to establish a reasonable visit frequency according to different customers, so as to better discover risks and prevent and control risks. Thirdly, company should pay high attention to customers with bad credit or overdue repayment during the post-loan repayment period, and control risks by interviewing or judicial procedure, so as to prevent the emergence of credit risks.

### 4.2 Improve information management

The auto finance company shall establish a sound internal information management system to strengthen the information exchange and sharing between the company and its cooperative Banks. In particular, the sharing of negative information of credit customers can prevent the success of bad credit customers' loans from causing huge credit risks, which can not only reduce the cost of investigating and examining credit qualifications of credit customers, but also reduce the generation of credit risks and fraud risks of the company. The company regularly publishes risk management briefing, risk management Suggestions, and risk early warning trends on the information platform, so as to facilitate the understanding of the dynamics and timely communication between various departments of the company.

### 4.3 Establish scientific assessment mechanism

The auto finance company should establish reasonable performance appraisal mechanism. First of all, the company should implement the basic salary plus performance salary assessment mechanism. It can effectively match the responsibilities of employees with the business risks, which is conducive to strengthening the risk awareness of employees, as well as the effective implementation of various risk management measures. Secondly, the company should establish a reasonable reward and punishment assessment mechanism, which can assign clear responsibility to the individual. Company should rewarding outstanding employees who have made contributions to the company; The company will make full use of the incentive and punishment mechanism to punish the employees who violate the rules and regulations and bring risks to the company. All employees in the company will act in accordance with the rules and regulations, and the violation will be investigated and carried out due diligence.

### 4.4 Strengthen strategic alliance cooperation and jointly guard against risks

Auto financing risks are systemic risks. It is difficult for auto financing companies to prevent and control risks by themselves. Auto financing companies, cooperative Banks, insurance companies and auto dealers all have their own interest goals.

When choosing cooperative Banks, automobile dealers and other cooperative objects, the company should try its best to choose service institutions who has good reputation and strong capital strength, and specify their respective responsibilities and obligations in the cooperation agreement, so as to guard against fraud risks of insurance companies and automobile dealers. Company should continue to strengthen the cooperation with commercial Banks to launch more financial products so that company could combine their own professional service with adequate capital of bank, which could reduce the liquidity risk. Auto finance company share the same information system with other finance institutions in order to avoid to issue bad loans.

## 5. Conclusion

Risk management is the core issue in the auto finance industry. In this paper, H Auto Finance Company are good at manage credit risks, such as optimizing operation process, strengthen the input of fintech, the introduction of decision data system, putting forward risk decentralization, allocation of human resources and the establishment of risk early warning system and other schemes. It is hoped to comprehensively improve the risk management system of auto financing companies to reduce credit risks and ensure the company's earnings. At the same time, these advices provide some references for the risk prevention measures of China's auto finance industry.

- 1) Enhancing pre-loan approval capacity: The measures of auto finance companies to manage credit risk provide some guidance for the development of auto finance industry. The auto finance company should set up the score card according to the market situation, score according to the basic situation of the lender, the credit information status and the financial index in order to identify the risk customer and detect the repayment situation.
- 2) Accelerating the digitization process of risk control: Automobile finance company should establish the financial information base of clients and background connection, which can make each departments understand the customer contract information to reduce approval time and standardize the approval process. All departments of the company should follow up the customer information timely, in case of need as the basis for handling risks.<sup>[7]</sup>
- 3) Cooperation with banks and insurance companies: Auto-finance companies can shift their risk to banks and insurance companies in a way that controls their exposure and uses capital to gain more market share and profits.

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