The Farmers’ Willingness to Enter the Collective Construction Land Market from the Perspective of Transaction Cost Economics: An Empirical Analysis of Nanhai District

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Abstract. Considering the transaction cost of the existing transaction rules of collective construction land, in order to explore the farmers’ willingness to enter the market from the perspective of transaction cost economics, based on Logistic regression model, combined with the field survey data in Nanhai District, quantitatively analyzed the farmers’ willingness to enter the market.

1. Introduction
The current collective construction land market transaction rules of China are mainly based on the policy. The transaction conditions, trading methods, transaction procedures and legal responsibilities of the collective construction land market are stipulated. Through the establishment of the trading and supervision and administration platform of the county [1-2], the supervision right and the property rights and interests of the villagers are fully guaranteed, the corruption of the related staff of the transaction is effectively supervised, and the rent-seeking space is reduced [3-5].

2. Context of the collective construction land market in Nanhai District
2.1. Analysis of characteristics of transaction rules of the collective construction land market in Nanhai District
The stock of collective construction land in Nanhai District is large, covering an area of 250.68 square kilometers, accounting for 47% of the total construction land area. Among them, the collective commercial land is 5.11 square kilometers, and the collective industrial land is 130.70 square kilometers. But the existence of transaction costs in the process of circulation of the right to use collective construction land often leads to market failure when the right to use collective construction land in rural areas enters the market directly. By improving the trading rules of the collective construction land use right, the transaction behavior of the non-economic transaction can be solved,
the uncertainty of the transaction is reduced, and the unfair transaction behavior is adjusted and perfected. The economic value of the collective construction land use right transaction can be improved by reducing the transaction cost and increasing the value.

2.1.1. Characteristics of information cost. From the characteristics of the information disclosure degree of the transferred plot, the information disclosure degree of the circulation result, the degree of the information disclosure of supervision and management, the degree of the information disclosure of the violation of the transaction penalty, etc. understand the intention of the farmers to enter the market and the influencing factors. These influencing factors are mainly to reflect the willingness of farmers to reduce the cost of searching information to the market for collective construction.

2.1.2. Characteristics of bidding cost. Whether the farmers are required to enjoy the decision-making power of the transfer land price, whether there is the lowest price for circulation, whether there is the maximum price of the specified circulation, whether the service fee is reasonable and so on, and the willingness of the farmers to enter the market for the collective construction land and the influencing factors. These factors are mainly to reflect the decision-making power of the farmer to the land price and the rational realization of the land value, to reduce the loss of the value of the land assets and safeguard the realization of the farmer undefined rights and interests.

2.1.3. Characteristics of risk cost. Whether the bidder is qualified for the bidder, the integrity is strictly examined, whether there is a strict regulation and punishment for the operation of the dark box, the unfair transaction, etc. whether the specific reporting window or the reporting route is required to know the willingness of the farmer to enter the market for the collective construction land and the influencing factors. These factors are mainly to reflect the risk of reducing the transaction failure, to reduce transaction costs and establish a fair and just trading environment.

2.2. The basic model
In the design of questionnaire, the behavior of farmers are divided into willingness and unwillingness, which constitutes a two-classification variable. Introduce the Logistic model and define it as:

\[
\log \frac{P}{1 - P} = a + \sum b_i X_i^1 + \sum b_j X_j^2 + \sum b_k X_k^3 + \sum b_l X_l^4 + \epsilon
\] (1)

In the formula: \( P \) is the horizontal probability of the corresponding value of the explained variable \( Y \), \( a \) is a constant term, \( b \) is the regression coefficient of the influencing factors, \( X \) is the explanatory variable (\( X_1 \) represents the individual characteristic variable, \( X_2 \) represents the villagers undefined cognitive variable of the information cost change, \( X_3 \) represents the cognitive variable of the bidding cost change, and \( X_4 \) represents the cognitive variable of the risk cost change). It is the random disturbance term, \( i, j, k \) and \( l \) are the numbers of the influencing factors, respectively. In order to compare the influence of different types of explanatory variables on the behavior willingness of collective construction land to enter the market, five Logistic regression models are constructed: model 1 only considers the characteristic variables of farmers; model 2 considers the cognitive characteristic variables of farmers undefined characteristics and information cost changes; model 3 considers the cognitive characteristic variables of farmers undefined characteristic variables and competitive cost changes; model 4 considers the cognitive characteristic variables of farmers undefined characteristic variables and risk cost changes. Model 5 synthesizes the variables. The binary Logistic regression analysis module in IBM SPSS19.0 version is used to analyze the behavior intention of collective construction land entering the market.

3. Results and analysis
In this context, from the perspective of transaction rules to analyze the farmers’ willingness and influence factors. The farmers are willing to participate in the market of the collective construction
land for which that must to guarantee of their rights and interests, and reduce the uncertainty of the transaction environment, and reduce the transaction cost. The lower the transaction cost, the stronger the farmers’ willingness to enter the collective construction land market.

3.1. Characteristic of farmers interviewed
In this survey sample, the characteristics of farmers interviewed and the policy of collective construction land circulation are investigated. It is found that the farmers who are willing to participate in the entry of collective construction land are as follows: the age of farmers is mainly 25 years old, the education level is mainly junior high school and senior high school, and the average annual income of family is 16.41 million yuan.

3.2. The farmers' cognitive features of searching information cost
From describing the cost of the farmer's search for land, the degree of information disclosure (X5) and the degree of disclosure of the results of the transfer (X6) have a significant impact on the willingness of the collective construction land to enter the market. The degree of disclosure of the land parcel information (X5) in the model 2 is \( P=0.021 \). This shows that the more open the land parcel information is, the less difficult it is for both the supplier and the buyer to search for information, and the less the transaction cost, the more the farmers are willing to participate in the collective construction land. The degree of disclosure of the information of the flow result (X6) in Model 2 and Model 5 is \( P=0.011 \) and \( P=0.046 \), respectively. This indicates that the more open the information of the circulation results, the farmers have full right to know, and the more the farmers' rights and interests can be better protected, the higher the willingness of farmers to participate in collective construction land.

3.3. Cognitive characteristics of farmer's bidding cost
From the description of the farmer's bidding cost for collective construction land, whether the farmer stipulates the right to transfer land price decision (X9) and whether the transaction service fee paid is reasonable (X12) has a significant and negative impact on the willingness of collective construction land. Whether there is a regulation of the lowest price of circulation (X10) has a significant impact on the willingness to transfer land for collective construction. Whether the farmers have the right to decide on the right to transfer land (X9) in Model 3 and Model 5 are \( P=0.037 \) and \( P=0.043 \), respectively. This shows that farmers have greater willingness to participate in and support the collective construction land to enter the market. The collective construction land of the towns in the Nanhai District has been transferred, and the farmers have not fully enjoyed the decision-making power of land transfer land prices. The farmers’ rights and interests are not protected and they are not willing to transfer land for collective construction. Whether the transaction service fee paid is reasonable (X12) is significant in Model 3 and Model 5 as \( P=0.034 \) and \( P=0.049 \), respectively. This indicates that the transaction service fee collection directly affects the change of transaction cost, the transaction service fee collection is reasonable, the farmers are willing to support the collective construction land transfer, and the collection of transaction service fees in Nanhai District, the general villagers report that the collection requirements are unknown, the collection amount is not according to the fact, the cost of the fees paid is too high, and it is more willing to support the private transfer of collective construction land. Is there a stipulation that the lowest price of circulation (X10) is significant in Model 3 and Model 5 as \( P=0.001 \) and \( P=0.072 \) respectively. This shows that the minimum price of circulation is regulated, the value of protecting collective construction land is reasonably manifested, corruption is avoided, and land property rights and interests are lost.

3.4. The farmers' Cognitive Characteristics of Transaction Risk Cost
From the point of view of the farmers' risk of entering the market for collective construction land, whether there are strict regulations and penalties for black box operations and unfair transactions (X14) have a significant and negative impact on the willingness to transfer collective construction land. Are
there strict regulations and penalties for black-box operations, unfair transactions, etc. (X14) The significance degrees in Model 4 and Model 5 are $P=0.028$ and $P=0.007$, respectively. This shows that the more cases of black-box operation and unfair trading, the greater the risk of trading, and the less the farmers are willing to participate in the collective construction land transfer. Whether the specific reporting window or reporting route (X15) is specified in the model 4 is $P=0.034$. This indicates that the transaction management method stipulates a specific reporting window or reporting method. The risk of unfair trading will be relatively low, and the farmers' sense of security in transactions will be enhanced and they will be more willing to support the transfer of collective construction land.

4. Conclusion

| Table 1. Model regression results of farmers’ willingness to enter the collective construction land into the market. |
|---------------------------------------------------------------|
|                        | Model 1 | Model 2 | Model 3 | Model 4 | Model 5 |
|------------------------|---------|---------|---------|---------|---------|
| Coef.                  |         |         |         |         |         |
| Gender (X1)            | 0.191   | 0.221   | 0.381   | 0.481   | 0.471   |
| Age (X2)               | 0.021   | 0.080   | 0.020   | 0.010   | 0.090   |
| Education level (X3)   | -5.953**| 1.202   | -2.126**| 1.879   | 0.240   |
| Annual household income (X4) | 21.950**| 1.399   | 0.021   | 1.399   | 0.021   |
| The degree of disclosure of land parcel information (X5) | 12.034** | 5.292   | 0.021   | 1.399   | 0.021   |
| Circulation result information disclosure degree (X6) | 15.520** | 6.466   | 0.011   | 1.399   | 0.021   |
| Supervision management information disclosure (X7) | 9.253    | 3.688   | 0.110   | 1.399   | 0.021   |
| Disclosure of illegal transaction information (X8) | 7.482    | 2.987   | 0.112   | 1.399   | 0.021   |
| The right to decide on the transfer of land price (X9) | -1.552**| 2.212   | 0.037   | 1.399   | 0.021   |
| A minimum price (X10)  | 1.966***| 3.899   | 0.001   | 1.399   | 0.021   |
| A maximum price (X11)  | 0.081   | 1.085   | 0.903   | 1.399   | 0.021   |
| The service fee paid reasonable (X12) | -1.462**| 2.987   | 0.314   | 1.399   | 0.021   |
| Whether to strictly examine bidders (X13) | 1.015   | 2.249   | 0.179   | 1.399   | 0.021   |
| Strict regulations and penalties for black-box operations (X14) | -2.029**| 0.111   | 0.028   | 1.399   | 0.021   |
| Whether to specify a window for supervision (X15) | 0.015    | 0.050   | 0.010   | 1.399   | 0.021   |
| Loglikelihood          | 203.635 | 158.907 | 163.615 | 113.615 | 104.394 |
| Hosmer-Lemeshow test   | 0.691   | 0.325   | 0.558   | 0.682   | 0.948   |
| Prediction accuracy    | 68.3%   | 78.6%   | 78.9%   | 86.2%   | 88.3%   |

Based on the perspective of transaction cost, this paper analyzes the willingness and influencing factors of collective construction land users to enter the market, and the main conclusions are as follows: (1) Farmers have a clear understanding of the transaction costs under the existing collective construction land transaction rules system. Farmers tend to enter the market with collective construction land when the transaction cost is lower. Farmers in the construction of land for collective construction are more concerned about the uncertainty of transaction information search costs, circulation prices and transaction risks. (2) Land transfer pricing is the most concerned issue for villagers and collective economic organizations. If the land transfer price is too low and the intrinsic value of the land is not reasonably manifested, it will easily lead to the loss of collective assets. If the land transfer price is too high, it is prone to transaction risks such as default. Therefore, it is necessary to establish a reasonable minimum price and maximum price on the basis of scientific land value.
assessment, so that farmers can participate in the decision-making voting of land transfer price, so that farmers' rights and interests can be protected. In addition, it is essential to collect a reasonable amount of transaction service fees, reduce transaction costs, and activate the land market. (3) Strictly impose penalties on black box operations and unfair transactions, and set specific reporting windows or reporting methods to resolutely curb adverse problems such as land corruption and prevent transaction risks and protect farmers' rights and interests. The more open, fair and just the trading rules system of collective construction land market, the more farmers are willing to participate in the collective construction land transfer.

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