Asset Specificity on the Intention of Farmers to Continue Land Recuperation: Based on the Perspective of Farmer Differentiation

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Abstract: Land recuperation is an important institutional guarantee for green agricultural development and an important measure to promote rural revitalization. Asset specificity is a crucial factor that affects farmers’ subsequent willingness to participate in land recuperation. Based on the perspective of farmer differentiation, this study uses survey data of 605 farmers in four counties of Gansu Province and employs the entropy method and the double-hurdle model to measure asset specificity and how it affects the subsequent willingness of different types of farmers to participate in land recuperation. The results show that: (1) farmers’ willingness to participate in land recuperation increases with the degree of their part-time occupations; (2) geographical location specificity has a significant negative effect on farmers’ intention and degree of subsequent land recuperations, and the impacts on non-farmers and II part-time farmers are significantly smaller than that on pure farmers and part-time farmers; (3) physical asset specificity has the most negligible influence on farmers’ subsequent willingness to participate; (4) human capital specificity has a significant negative impact on the intention and degree of land recuperation by farmers, and the effect is more significant for pure farmers than non-farmers; (5) factors such as land recuperation compensation satisfaction, land recuperation policy trust, social connection, and off-farm employment willingness promote the subsequent land recuperation willingness and degree of land recuperation of farmers, while the cultivated land area reduces the subsequent degree of participation in land recuperation.

Keywords: subsequent land recuperation willingness; asset specificity; farmer differentiation; double-hurdle model

1. Introduction

Implementing a land recuperation strategy of ‘storing grain on the ground’ is an effective way to consolidate food security, build an ecological civilization, and deepen agricultural reform [1]. Land is a fundamental resource that human beings rely on for survival and development. However, China’s per capita cultivated land area is less than half of the world’s per capita level, and the quality of cultivated land is far from what it used to be. Therefore, China faces two significant challenges: decreasing quantity and quality of cultivated land. Moreover, cultivated land protection is grim in China [2]. Land recuperation is an effective way to protect farmlands and restore the ecological environment [3]. Land recuperation is a measure used by landowners where they leave their land uncultivated for a certain period to improve farming efficiency [4]. According to Document No. 1 of the central government in 2019, the pilot system of crop rotation and land recuperation should be expanded to improve cultivated land recovery in China. In 2018 and 2019, the central government expanded land recuperation. By the end of 2019, China’s total area of recuperated land had reached 5 million mu, spreading across seven provinces (i.e., Hebei, Heilongjiang, Hunan, Guizhou, Yunnan, Gansu, and Xinjiang). The cultivated land recuperation system has become an important measure to promote
sustainable agriculture in China [5]. Farmers’ willingness to allow land recovery is directly related to their enthusiasm in participating in the land recovery process. Farmers’ active participation in the land healing process is a key factor that ensures the orderly promotion of land recovery and proper promotion of the demonstration function [6].

Asset specificity is the extent to which an asset is allocated to other users or used for other purposes without sacrificing its value [7]. Farmland is an asset that makes seasoned farmers face high sunk costs when giving up land for planting and transferring agricultural assets [8], leading to an increase in the opportunity cost of land recuperation, which may lead to a decrease in farmers’ expected income [9]. When faced with the choice of participating in land recuperation, farmers who transfer asset specificity would incur additional sunk costs. As rational beings, farmers seek to evade active risk and can only accept the lowest loss, indicating that asset specificity has important effects on farmer land recuperation intention [10].

Farmer differentiation refers to the differentiation of farmers in a particular area based on their farm management style, which is composed of heterogeneity, such as the farming process. Farmers can be differentiated into pure farmers or part-time farmers [11]. Farmer differentiation has been a prominent phenomenon in rural China in recent years, resulting in different farmers making various decisions on cultivated land use [12]. With the rapid development of the economy and society, the proportion of pure farmers will further decline in the future, part-time farmers will become the main type of farmers, and agriculture will no longer be the only primary source of rural family income. In this context, research on part-time farmers has been widely recognized by the academic community [13,14]. Xi et al. [15] proposed that business farmers have significant differences in their willingness to protect cultivated land, while Yuqin et al. [6] verified through empirical evidence that the factors influencing the intention of farmers to rest their cultivated land significantly vary. Therefore, farmer differentiation also plays a crucial role in promoting land recovery in China.

The study of farmers’ subsequent willingness to participate in land recuperation is crucial to the formation of China’s land recuperation strategy. However, firstly, no study has investigated the intention and degree of subsequent land recuperation of farmers who have already participated in land recuperation. Therefore, this study focuses on this aspect, enriching the research on land recuperation in China. Secondly, only a few studies have investigated the impact of asset specificity on farmers’ willingness to participate in land recuperation. However, land, being an asset of high specificity, will depreciate if it is used for other purposes, which will lead to higher costs for farmers to participate in land recuperation. Moreover, there is no unified method for measuring asset specificity in the academic world. Therefore, using the entropy method (which can effectively avoid subjective factors affecting the evaluation results), we measure asset specificity and investigated its impact on farmers’ willingness to participate in subsequent land recuperations. Thirdly, in the studies investigating farmers’ willingness to participate in land recuperation, no researcher has paid attention to the historical background of farmer differentiation. The majority of researchers have ignored the heterogeneity among farmers caused by the differentiation of their part-time occupations. There may be differences in the willingness of farmers to participate in land recuperation depending on their part-time occupations. Therefore, in this study, we have divided farmers into pure farmers, I part-time farmers, II part-time farmers, and non-farmers depending on their part-time occupations and investigated the willingness of each type to participate in land recuperation.

In conclusion, in this study, we use the data of four counties in Gansu Province and a total of 605 micro-survey data items. First, based on the perspective of farmer differentiation, farmers are divided into pure farmers, part-time farmers, II part-time farmers, and non-farmers. Subsequently, we select the corresponding observed variables of arable land; the geographical position of specificity, physical asset specificity, and human capital specificity scales are used in three dimensions to measure and test the reliability and validity using the entropy method to quantify asset specificity. Then, the
double-hurdle mode is established to explore the differentiation degree of asset specificity for farmers for different development land recuperation to examine whether they will continue to participate in land recuperation and the degree of influence that will encourage farmers to actively participate in land recuperation. This will enable the perfecting of the land recuperation compensation policy and provide theoretical reference to expedite the construction of an ecological civilization in the country.

2. Materials and Methods

2.1. Data Sources

We surveyed farmers’ participation in land recuperation during the second round of land recuperations in Gansu Province, northwest China, from October to November 2019. We selected Gansu Province because (1) it is located on the Loess Plateau, which has a dry climate and little rain, and is therefore a fragile ecological environment; (2) it is one of the three regions where the land recuperation policy has been implemented in China; (3) it is an important dryland agricultural area and the main producing area of dryland food crops in China. Therefore, it is of great practical significance to study farmers’ willingness to participate in subsequent land recuperations in Gansu Province to guarantee food supply in the poor areas in western China.

We used a combination of stratified and random sampling methods to collect data. First, considering the natural climate conditions, ecological degradation typicality, economic development level, and pilot situation (i.e., if the area had been selected for participation in the pilot implementation of the land recuperation policy), Huan, Jingning, Tongwei, and Yongjing counties were selected as research areas. Then, one to three pilot towns were selected from each county according to the pilot situation of each county, and three to four land recuperation pilot villages were randomly selected from each pilot town based on geographical proximity. Finally, 25–30 farmers who had already participated in at least one land recuperation were randomly selected from each village for investigation. The survey involved 24 administrative villages in seven towns and four counties in Gansu Province. A total of 635 questionnaires were sent out, and 605 were collected, with an effective rate of 95.28%.

2.2. Research Methods

2.2.1. Entropy Method

The entropy method is a multi-index comprehensive evaluation method with objective weighting that determines the index’s weight according to each index’s connection degree or the amount of information provided. The method can effectively avoid subjective factors affecting the evaluation results [16]. In this study, when measuring farmer asset specificity, the entropy method is adopted to assign weights to the indicators. The specific steps are as follows.

The first step is to standardize the indicators, considering the dimensional differences among indicators, then eliminate the different units of evaluation indicators in the impact evaluation matrix of extreme values. A unified calculation cannot be carried out directly, and the attribute values of each indicator need to be standardized [17]. Let $x_{ij}$ be the $i$ ($i = 1,2,...$) dimension of the $j$ ($j = 1,2,...N$) index, and the standardized processing is

$$
Z_{ij} = \frac{x_{ij} - \min x_j}{\max x_j - \min x_j}; \text{ the inverse index } : Z_{ij} = \frac{\max x_j - x_{ij}}{\max x_j - \min x_j},
$$

where $Z_{ij}$ is the standardized index value, $x_{ij}$ is the original data of the $j$th index in the $i$th dimension, and $\min x_j$ and $\max x_j$ are the minimum and maximum values of the $j$th index, respectively.

The second step is to calculate the information entropy value of the $j$th index $e_j$: $e_j = -k \sum_{i=1}^{m} y_{ij} \ln y_{ij}$, where $k = 1/\ln m$.

Third step: calculate the difference coefficient of the $j$th index $d_j$: $d_j = 1 - e_j$;
The fourth step: calculate index weight $W_j$: 

$$W_j = \frac{d_j}{\sum_{i=1}^{n} d_i}$$

The fifth step is to calculate asset specificity $A$: 

$$A = \sum_{i=1}^{n} y_{ij} W_j$$

2.2.2. Double-Hurdle Model

In this study, the double-hurdle model [18] was used to analyze the factors influencing the land recuperation two-stage behavioral decision of farmers to continue participating in land recuperation. The double-hurdle model can decompose actors’ decision-making process into two stages of participation and degree of involvement and constitute a complete decision when the two stages are held simultaneously. Unlike the Heckman Model, which is used to estimate the two-stage behavioral decision intention, the double-hurdle model does not require the assumption that the ‘behavioral intention’ equation and the ‘behavioral degree’ equation are associated, and the errors in the former equation are often brought into the latter equation and lead to the deviation of the estimated results [19]. In the double-hurdle model, the two-stage equations are estimated independently to avoid the endogeneity problem. The model is constructed as follows:

$$P(y_i = 0|x_{1i}) = 1 - \phi(x_{1i} \alpha), \quad (1)$$

$$P(y_i > 0|x_{1i}) = \phi(x_{1i} \alpha), \quad (2)$$

$$E(y_i|y_i > 0, x_{2i}) = x_{2i} \beta + \sigma \lambda \left(\frac{x_{2i} \beta}{\sigma}\right). \quad (3)$$

Equation (1) represents the unwillingness of farmers to continue land recuperation in the future. Equation (2) represents the willingness of farmers to carry out land recuperation in the future. Here, $\Phi(\cdot)$ is the cumulative distribution function of the standard normal distribution, $y_i$ is the number of farmers willing to continue land recuperation, $x_{1i}$ is the independent variable, $\alpha$ is the corresponding parameter to be estimated, and $i$ is the $i$th observation sample. In Equation (3), $E(\cdot)$ is the conditional expectation and represents the degree to which the farmers are willing to continue land recuperation in the future. Further, $\lambda(\cdot) = \Psi(\cdot)/\Phi(\cdot)$ is the inverse Mills ratio, where $\Psi(\cdot)$ represents the density function of the standard normal distribution. $x_{2i}$ is another set of independent variables, $\beta$ is the corresponding coefficient to be estimated, and $\sigma$ is the standard deviation of the truncated normal distribution.

According to Equations (1)–(3), the following logarithmic likelihood function can be established:

$$lnL = \sum_{y_i=0} \left\{ \ln[1 - \phi(x_{1i} \alpha)] \right\} + \sum_{y_i>0} \ln \phi(x_{1i} \alpha) - \ln \phi \left( \frac{x_{2i} \beta}{\sigma} \right) - \ln \sigma + \ln \left\{ \phi \left[ y_i - \frac{x_{2i} \beta}{\sigma} \right] \right\} \quad (4)$$

In the formula, $lnL$ represents the value of the logarithmic likelihood function. According to Equation (4), the relevant parameters of the empirical study can be obtained using maximum likelihood estimation.

2.3. Variable Measure and Selection

2.3.1. Measurement of Asset Specificity

Asset specificity refers to the extent to which an asset can be redeployed for alternative uses and redeployed by other users without sacrificing its productive value [20]. Generally, the higher the asset’s specificity, the more difficult or costly it will be for the owner of the specific asset to exit the original market. Specific assets are only suitable for a particular purpose and may depreciate or even become worthless if they are used for other purposes, causing the agricultural operators to pay high ‘sunk costs’ and form exit and industrial barriers [21,22]. Meanwhile, the specificity of assets can have a ‘hold’ effect on agricultural activities. Thus, the role of asset specificity in agriculture cannot be ignored. Williamson [23] proposed that the specificity of assets can be divided into at least four
categories: (1) geographical location specificity, (2) specificity of physical assets, (3) human capital specificity, and (4) assets for specific purposes. Because the conversion of agricultural land into industrial land is not considered in the four aspects of asset specificity, only geographical location specificity, physical asset specificity, and human capital specificity are suitable for cultivated land [24].

Human capital specificity refers to the fact that professional farmers, in the process of long-term engagement in the cultivation of a certain agricultural product, learn relevant knowledge and accumulate experience through technical training, and spend more time in the production of this agricultural product in order to improve agricultural production efficiency, and gradually form a strong specificity [25]. Human capital specificity reflects the farm production and management capacity of specialized farmers [22] while increasing the cost and difficulty of farmers’ conversion to other industries [20, 25, 26]. Human capital specificity can be measured by the number of years of education of the farmer, the number of technical training sessions in each year, and the number of years engaged in producing certain agricultural products [25, 27]. The number of years of education is the basis of the human capital of professional farmers [24]. The number of years of farming and technical training participation is the leading indicator reflecting the farmers’ experience in agriculture [26]. The longer the number of years of education and farming and the more times the farmer participates in technical training, the richer the accumulated professional knowledge and experience related to the production of certain agricultural products, and the more likely it is that the farmer will rely on the land.

Physical asset specificity is the physical asset formed by professional farmers’ sustained investment, which has value only when combined with a specific use [28]. In the production process of certain agricultural products, experienced farmers invest in purchasing agricultural machinery or facilities that match particular attributes of the farming products to improve production efficiency, which is often only applicable to the production of farm products or even a specific production link, and are less likely to be used for other purposes, thus forming the specificity of physical assets [26, 29]. Tangible asset specificity is typically expressed by farmers’ ownership of agricultural machinery [24]. The higher the value of farm machinery owned by farmers, the higher the sunk costs they face during land recovery, and the more unlikely they will be to participate in land recuperation.

Geographical location specificity refers to the natural advantages of regions with unique climatic conditions, better traffic conditions and obvious geographical advantages [30]. In these areas, the climate is suitable for planting and transport infrastructure is convenient for selling, and there are apparent regional advantages; therefore, land recuperation will face high switching costs [21], which is not conducive to strengthening farmers’ willingness for land recuperation. Geographic location specificity refers to the distance from the village committee’s location to the township government’s location and the distance from the village committee’s location to the point of agricultural supply [20, 24] and the convenience of transportation in the village. The higher the specificity of the geographical location, the more willing farmers are to cultivate, and the more unfavorable the promotion of land recuperation policy.

In this study, asset specificity was divided into geographical location specificity, physical asset specificity, and human capital specificity. Different measurement items were selected to measure them respectively, and reliability and validity tests were carried out. Finally, the entropy method was employed to measure the three dimensions of asset specificity mentioned above. The measurement items selected in this paper to measure the specificity of geographical location, physical assets, and human capital are shown in Table 1.
Table 1. Measurement items of the three dimensions of asset specificity.

| Variable                        | Measuring Item                                                                 | Code |
|--------------------------------|-------------------------------------------------------------------------------|------|
| Geographical location specificity | The ecological environment of their farmland                                  | GL1  |
|                                 | The distance between the village and the town seat                            | GL2  |
|                                 | The traffic conditions of the village                                         | GL3  |
|                                 | The convenience of village mailing/receiving express parcels                  | GL4  |
| Physical asset specificity      | Tractors owned by farmers                                                     | PA1  |
|                                 | A rotary tiller owned by a farmer                                             | PA2  |
|                                 | Farmer-owned irrigation pumps                                                 | PA3  |
|                                 | A farm tricycle owned by a farmer                                             | PA4  |
| Human capital specificity       | Years of education                                                           | HC1  |
|                                 | The number of times a family member attends agriculture technical training each year | HC2  |
|                                 | Number of times a family member attends off-farm employment skills training per year | HC3  |
|                                 | Days of farming in a year                                                     | HC4  |

2.3.2. Variable Selection

The dependent variables are land recuperation willingness and degree of land recuperation by pure farmers, I part-time farmers, II part-time, and non-farmers. In this study, the classification of farmers is determined by the proportion of agricultural income to net household income: ‘Pure farmers’, ‘I part-time farmers’, ‘II part-time farmers’, and ‘non-farmers’ refer to farmers whose net household incomes from agriculture are more than 95%, 50–95%, 5–50%, and less than 5%, respectively [31]. Land recuperation willingness refers to whether farmers are willing to continue to participate in land recuperation after the end of the land recuperation pilot. Land recuperation degree refers to the number of acres of arable land that farmers are willing to leave for recuperation if they choose to participate in land recuperation.

The mobilization of farmers’ enthusiasm and initiative of different cultivated land recovery types is vital to improve cultivated land recuperation work and promote the orderly development of cultivated land recuperation [32]. Qun et al. [33] stated that farmers’ differentiation is manifested as the gradual differentiation of farmers from pure farmers operating in agriculture into part-time farmers and non-farmers who are both working and farming, thus forming a situation where pure farmers, part-time farmers, and non-farmers coexist and evolve continuously. As long as some family members get involved in off-farm industries and earn off-farm income, it can be concluded that they are differentiated from traditional farmers [11]. Zhenning et al. [14] found through an empirical study of 428 farmer samples in Jiashan County, Zhejiang Province, that the farmers’ willingness to participate in land recovery increased with the deepening of the degree of part-time employment. In the study of Xingtai City, Hebei Province, Yuqin et al. [6] found that there were differences in the willingness of different types of farmers for land recovery, and the degree of readiness was in the order of non-farmers > II part-time farmers > I part-time farmers > pure farmers. Farmers are the direct executors and beneficiaries of the cultivated land recuperation system, directly impacting the cultivated land recuperation pilot system. However, under the internal and external stimulation of the new ‘four modernizations’ and the reform of the rural economic system, the number of farmers becoming part-time and non-farmers is increasing [34]. The trend of farmers’ differentiation is evident. There are significant differences in the willingness and behavioral responses of different types of farmers to land recuperation; therefore, it is necessary to classify them according to the degree of concurrent business.

The independent variable is asset specificity. Farmland is a particular asset [21]. Compared with other investments, high asset specificity makes cultivated land assets more prone to ‘precipitation’, that is, a lack of liquidity. Therefore, in every adjustment of agricultural production activity, microeconomic subjects will pay high sunk costs because of unique asset input [35]. Similarly, when faced with a choice for land recuperation, due to
asset specificity farmers face high sunk costs when they quit land cultivation and transfer agricultural assets [22]. As a result, asset specificity has an important influence on the intention of farmers for land recuperation. The definition, dimension, and measure of asset specificity have been described in the previous section and do not need to be repeated.

Control variables: In the existing studies on farmers’ land recuperation willingness, Zheng and Jun [36] indicated that cultivated land cognition affects farmers’ land recuperation willingness when analyzing the factors influencing farmers’ land recuperation willingness in the grain-producing area of Boyang Lake. Meanwhile, Hualin and Lingjuan [37] suggested that the cultural level, family labor force, farmers’ trust in government policy, cultivated land area, and land recuperation attitude are also important factors affecting farmers’ willingness to land recuperation. Dan et al. [38] found that the age of respondents, proportion of family labor in the family’s total population, and grade of cultivated land affect farmers’ willingness to carry out land recuperation. Further, Wanfei et al. [39] thought that the degree of approval of the land recuperation policy is the main factor affecting farmers’ willingness to carry out land recuperation. Factors affecting farmers’ willingness to protect cultivated land include family size, degree of family part-time work, educational level, and farmers’ understanding of cultivated land protection. Zhenning et al. [14] found that farmers with fewer plots of arable land, higher policy satisfaction, more social connections, and a stronger inclination for urban employment and life had a higher willingness to participate in land recuperation. Through empirical studies, Xiaoping et al. [40] found that annual family income, cultivated land area, and developed land dependence have significant effects on farmers’ willingness to carry out farmland protection in different regions. Meanwhile, Dan et al. [38] stated that factors such as age and sex are the main factors influencing the land recuperation willingness of farmers. This study also indicated that the government should provide farmers with non-farm jobs and promote the effective implementation of the land recuperation policy. Social opportunities to reduce the economic pressure on farmers’ lives further encourage farmers to go to large cities to get more income. Yuqin et al. [6] proposed that due to farmers’ poor educational level and weak ability to grasp policies, village cadres’ attitude would affect farmers’ awareness and behavioral decisions on farmland land recovery to some extent. Considering the above research results, we chose arable land cognition, land recuperation compensation satisfaction, land recuperation policy satisfaction, land recuperation policy trust, agricultural acreage, the degree to which farmers rely on land, household labor force size, family living standard, social connection, social opportunities, non-farm employment willingness, land recuperation attitude, gender, age, and village cadres’ satisfaction as the control variables.

The meanings, assignment descriptions, and descriptive statistics of the variables in this study are shown in Table 2.

### Table 2. Variable meanings and descriptive statistics.

| Variable Categories         | Variable Name                  | Variable Meaning and Assignment                                                                 | Mean    | Standard Deviation |
|-----------------------------|--------------------------------|--------------------------------------------------------------------------------------------------|---------|--------------------|
| Dependent variable          | Land recuperation intent       | After the land recuperation pilot, whether they are willing to participate in long-term land recuperation. No = 0, yes = 1. | 0.838   | 0.369              |
|                             | Degree of land recuperation    | If willing to continue land recuperation, the number of acres of arable land available for land recuperation. | 16.733  | 16.596             |
| Independent variable        | Geographical location specificity | The location value formed by the different quality of cultivated land and traffic conditions. It is obtained by the entropy method. | 0.313   | 0.107              |
|                             | Physical asset specificity     | Sustained investments by specialist farmers are valuable only if they are linked to a specific use. It is obtained by the entropy method. | 0.541   | 0.160              |
|                             | Human capital specificity      | Agricultural production and management capacity of specialized farmers. It is obtained by the entropy method. | 0.059   | 0.062              |
### Table 2. Cont.

| Variable Categories | Variable Name | Variable Meaning and Assignment                                                                 | Mean   | Standard Deviation |
|---------------------|---------------|------------------------------------------------------------------------------------------------|--------|--------------------|
| Control variable    | Arable land cognition | Whether they familiar the quality of their farmland. Not very familiar with = 1, not familiar with = 2, moderately familiar with = 3, quite familiar with = 4, very familiar with = 5. | 3.344  | 0.984             |
|                     | Land recuperation compensation satisfaction | Satisfaction with the land recuperation compensation standard (amount of compensation). Very dissatisfied = 1, not very satisfied = 2, neutral = 3, relatively satisfied = 4, very satisfied = 5. | 4.036  | 0.866             |
|                     | Land recuperation policy satisfaction | Satisfaction with the overall land recuperation policies (farmers’ participation, management, protection policies, ecological effects, etc.). Very dissatisfied = 1, not very satisfied = 2, generally = 3, relatively satisfied = 4, very satisfied = 5. | 3.810  | 0.918             |
|                     | Land recuperation policy trust | The current land recuperation policy as a whole is in the collective interest of long-term existence. Strongly disagree = 1, somewhat disagree = 2, neutral = 3, somewhat agree = 4, strongly agree = 5. | 3.906  | 0.971             |
|                     | Agricultural acreage | Acreage of farmland actually owned by the family. | 28.882 | 18.221            |
|                     | Degree of reliance on the land | Whether they can continue to live without farming. Not at all = 1, no = 2, neutral = 3, yes = 4, ideally at all = 5. | 2.413  | 1.209             |
|                     | Household labor force size | The number of people in their household who can work. | 4.643  | 1.686             |
|                     | Family living standard | The living standard of the family. Poor = 1, below = 2, average = 3, high = 4, very high = 5. | 2.899  | 0.845             |
|                     | Social connection | Relationship between migrant/employed members and their friends/colleagues in the migrant/off-farm employment area. Never contact = 1, occasionally contact = 2, generally = 3, contact more = 4, often contact = 5. | 3.365  | 1.013             |
|                     | Social opportunities | Satisfaction with local job opportunities. Very dissatisfied = 1, not very satisfied = 2, neutral = 3, relatively satisfied = 4, very satisfied = 5. | 2.474  | 1.027             |
|                     | Non-farm employment willingness | After the land recovery is over, whether the main household labor force intends to be outside for a long time (more than 5 years) for off-farm employment. Never = 1, unlikely = 2, maybe = 3, mostly = 4, definitely = 5. | 3.104  | 1.361             |
|                     | Land recuperation attitude | To protect and enhance land productivity and achieve sustainable farmland use. I feel it is my responsibility to participate in land recuperation. Strongly disagree = 1, roughly disagree = 2, neutral = 3, roughly agree = 4, strongly agree = 5. | 2.904  | 1.236             |
|                     | Gender | Interviewee gender. Female = 0, male = 1. | 0.716  | 0.451             |
|                     | Age | Age of interviewees. | 54.106 | 11.497            |
|                     | Village cadres’ satisfaction | Interviewees’ satisfaction with the work of village cadres. Very dissatisfied = 1, relatively dissatisfied = 2, neutral = 3, relatively satisfied = 4, very satisfied = 5. | 3.403  | 0.913             |

### 3. Results

#### 3.1. Willingness of Farmers with Different Types of Land to Participate in Subsequent Land Recuperation

It can be observed from Table 3 that, in general, part-time farmers (I part-time farmers, II part-time farmers, and non-farmers) accounted for 79.50% of the total number of samples in the study area. Part-time farmers have become a common phenomenon in the study area. They accounted for 48.60% of the total number of sample farmers and were the study area’s primary farmers. Meanwhile, 83.80% (507 farmers) of land recuperation farmers indicated that they were willing to actively participate in the follow-up land recuperation process, while only 16.20% (98 farmers) of land recuperation farmers indicated that the land recuperation policy was more effective at this stage. However, different types of farmers had slightly different willingness to carry out land recovery, and the order of willingness may be as follows: non-farmers > II part-time farmers > I part-time farmers > pure farmers.
Table 3. Subsequent land recuperation intention of different types of farmers.

| Whether to Participate in the Subsequent Land Recuperation | Pure Farmers | I Part-Time Farmers | II Part-Time Farmers | Non-Farmers | Total |
|----------------------------------------------------------|--------------|---------------------|----------------------|-------------|-------|
| Yes                                                      | Number of Farmers | 91 | Number of Farmers Proportion % | 73.39 | Number of Farmers | 117 | Number of Farmers Proportion % | 82.39 | Number of Farmers | 257 | Number of Farmers Proportion % | 87.41 | Number of Farmers | 42 | Number of Farmers Proportion % | 93.33 |
| No                                                       | Number of Farmers | 55 | Number of Farmers Proportion % | 26.61 | Number of Farmers | 25 | Number of Farmers Proportion % | 17.61 | Number of Farmers | 37 | Number of Farmers Proportion % | 12.59 | Number of Farmers | 3 | Number of Farmers Proportion % | 6.67 |
| Total                                                    | Number of Farmers | 124 | 100.00 | Number of Farmers | 142 | 100.00 | Number of Farmers | 294 | 100.00 | Number of Farmers | 45 | 100.00 | Number of Farmers | 605 | 100.00 |

Pure farmers mainly maintain their livelihood through farming, social security, and minimum living allowances; in a certain period, owing to limited funds and technologies, farmers can only meet their family’s production and living needs through traditional agricultural management methods for planting. However, the low comparative income of agriculture and the instability of the agricultural products market lead to a weak economic foundation and significant economic pressure on their families. Therefore, compared with other types of farmers, they have a higher degree of dependence on the land, a sufficient agricultural labor force, and a lower willingness to let the land rest.

For I part-time farmers, agricultural income is the primary source of their families’ income, followed by non-agricultural income; however, the disorder of labor makes such farmers pay more attention to the economic benefits of land. First, long-term engagement in agricultural production by older adults, and both agricultural and non-agricultural engagement in young adults (most young adults work in the local area or within the scope of the county), have caused instability in their source of livelihood. Therefore, their willingness to carry out land recuperation is relatively urgent. After the land recovers, farmers’ income remains lower than the current income from agricultural products. Their source of livelihood is more uncertain; thus, farmers tend to maintain the status quo of agricultural production.

For II part-time farmers, income is mainly non-agricultural, and the basic living needs of the families are met. The response to the land recuperation of cultivated land is relatively positive. However, when they are healthy and energetic, they tend to plant food crops to provide food for the children of migrant workers and reduce expenditure on purchasing food. Meanwhile, some farmers expect to use the existing arable land resources to grow cash crops to obtain agricultural income to increase their family income.

The livelihood of non-farmers is mainly derived from non-agricultural work, livelihood is fully guaranteed, and there is low dependence on land. Compared with other farmers, non-farmers cultivate primarily to provide a specific ration supply and meet their families’ food demand. Therefore, non-farmers will actively respond to land recuperation with the strongest intention of land recovery.

3.2. Reliability Test and Validity Test of the Asset Specificity Measure

To confirm the validity and reliability of the scale, SPSS 23.0 was used to test and analyze the reliability and validity of the measures of geographical location specificity, physical asset specificity, and human capital specificity. The test results are presented in Table 4. The reliability test results showed that the Cronbach’s α coefficient of the total table was 0.737. Meanwhile, the Cronbach’s α coefficient of the geographical location specificity and the physical asset specificity scale was also above 0.7, and that of the human capital specificity scale was greater than 0.6. Therefore, we believe that all indicators passed the reliability test. The validity test results showed that the KMO of the total scale and each subscale were all higher than 0.6, and the Bartlett spherical test was significant at the significance level of 0.1%, indicating that the scale is suitable for factor analysis. Further, the factor load coefficients were all higher than 0.6, implying that the internal consistency is acceptable, and the validity level has passed the test.
Table 4. Reliability test and validity test results.

| Latent Variable | Observational Variable | Factor Loading | Cronbach’s α | KMO | Bartlett’s Test for Sphericity | Significance |
|-----------------|------------------------|----------------|--------------|-----|-------------------------------|--------------|
| Geographical location specificity | GL1 | 0.873 | | 0.816 | 0.795 | 949.538 | 0.000 |
| | GL2 | 0.799 | | 0.860 | 0.720 | 545.071 | 0.000 |
| | GL3 | 0.799 | | 0.860 | 0.720 | 545.071 | 0.000 |
| | GL4 | 0.687 | | 0.816 | 0.795 | 949.538 | 0.000 |
| Physical asset specificity | PA1 | 0.769 | | 0.720 | 0.698 | 545.071 | 0.000 |
| | PA2 | 0.742 | | 0.720 | 0.698 | 545.071 | 0.000 |
| | PA3 | 0.755 | | 0.720 | 0.698 | 545.071 | 0.000 |
| | PA4 | 0.803 | | 0.720 | 0.698 | 545.071 | 0.000 |
| Human capital specificity | HC1 | 0.680 | | 0.654 | 0.669 | 498.112 | 0.000 |
| | HC2 | 0.728 | | 0.654 | 0.669 | 498.112 | 0.000 |
| | HC3 | 0.781 | | 0.654 | 0.669 | 498.112 | 0.000 |
| | HC4 | 0.661 | | 0.654 | 0.669 | 498.112 | 0.000 |
| Total | | | 0.737 | 0.696 | 854.823 | 0.000 |

3.3. Subsequent Land Recuperation Degree of Land Recuperation Farmers

Table 5 lists the distribution of land recuperation farmers’ willingness to participate in subsequent land recuperation. There are significant differences among the land recuperation farmers. Among the farmers with the intention of land recovery, the land recuperation degree corresponding to the maximum adjustment frequency was 10–20 mu (186 samples in total, accounting for 36.69%), followed by 20–30 mu (119 samples in total, accounting for 23.47%). In general, the cumulative frequency of farmers with less than 30 mu land recuperation reached 81.26%.

Table 5. Cumulative frequency distribution of subsequent land recuperation degree of land recuperation farmers in the sample.

| Land Recuperation Degree (level)/mu | Absolute Frequency/person | Relative Frequency % | Adjustment Frequency % | Cumulative Frequency % |
|------------------------------------|---------------------------|----------------------|------------------------|------------------------|
| level < 10                         | 107                       | 17.69                | 21.10                  | 21.10                  |
| 10 ≤ level < 20                    | 186                       | 30.74                | 36.69                  | 57.79                  |
| 20 ≤ level < 30                    | 119                       | 19.67                | 23.47                  | 81.26                  |
| 30 ≤ level < 40                    | 45                        | 7.44                 | 8.88                   | 90.24                  |
| 40 ≤ level < 50                    | 22                        | 3.64                 | 4.34                   | 94.48                  |
| 50 ≤ level < 60                    | 12                        | 1.98                 | 2.37                   | 96.84                  |
| 60 ≤ level < 70                    | 8                         | 1.32                 | 1.58                   | 98.42                  |
| Level ≥ 70                         | 8                         | 1.32                 | 1.58                   | 100.00                 |

Note: Adjustment frequency is the ratio of the absolute frequency of the corresponding willingness to rest the land and the frequency of people who are willing to rest the land (level > 0).

3.4. Influence of Asset Specificity on the Willingness and Degree of Land Recuperation Farmers to Continue Land Recuperation

Before conducting the empirical analysis of the double-hurdle model, considering that there may be some internal correlation among the measurement variables of asset specificity, we conducted a multicollinearity test on the samples, and the test results are shown in Table 6. The mean VIF of the models established for the four types of farmers was less than 10, indicating that there was no significant multicollinearity among the explanatory variables.

Table 6. Multicollinearity test results.

|                  | Pure Farmers | I Part-Time Farmers | II Part-Time Farmers | Non-Farmers |
|------------------|--------------|---------------------|----------------------|-------------|
| Mean VIF         | 1.64         | 2.16                | 1.92                 | 1.75        |
This study analyzes the influence of land recuperation farmers’ willingness to participate in subsequent land recovery from four aspects: geographical location specificity, physical asset specificity, human capital specificity, and control variables.

(1) The influence of geographical location specificity on the intention of land recuperation farmers to continue land recovery has a significant adverse effect on the subsequent land recuperation willingness and land recuperation degree of the four types of land recuperation farmers, and the impact on II part-time farmers and non-farmers is significantly smaller than that on pure and I part-time farmers. For farmers, all have certain emotional factors, such as attachment and dependence on the land, and land recovery will make farmers lose the use of the land. Moreover, due to the immobility of land, agricultural land with an ideal ecological environment and convenient access to transportation is more conducive to the realization of large-scale operations and mechanized operations. Therefore, farmers with a unique geographical location of farmland tend to continue to hold the land, which decreases farmers’ willingness to carry out land recuperation. In contrast, for part-time farmers and non-farmers, cultivated land is no longer the primary source of their income; they are more inclined to go out for employment. Their dependence on land is reduced, so the choice of land recuperation has a relatively small impact on them.
The influence of physical asset specificity on land recuperation farmers’ intention to continue land recuperation: Among the three dimensions of asset specificity, the degree of the negative impact of biological asset specificity on the subsequent land recuperation willingness of land recuperation farmers is the least. It even has no significant effect on the land recuperation willingness of pure farmers, II part-time farmers, and part-time farmers’ land recuperation degree. Farmers often make corresponding specific investments to improve agricultural production efficiency. One is agricultural production investment attached to the land, such as irrigation investment. The other is an investment in agricultural production tools or equipment, such as investment in agricultural machinery, which matches the scale of operation and land type. These agricultural investments and agricultural land are not separable; once farmers opt for land recuperation, the original investment intangible assets will be significantly devalued. Therefore, the specificity of physical assets will inhibit land recuperation farmers’ intention to carry out land recovery in the future. One possible explanation for the minimal effect is that due to their income, the extensive farm tools owned by pure farmers are not large enough to be considered as an essential factor in the choice of land recuperation. For II part-time farmers, non-agricultural means are the primary source of their income. Even if they have some agricultural tools at home, with the improvement of their living standards, they can give up the use of these farming tools and transfer or sell them off. Therefore, the specific use of physical assets has little impact on farmers’ willingness to rest the land.

The influence of human capital specificity on land recuperation farmers’ subsequent land recuperation willingness has a significant negative impact on the intention and degree of land recuperation of pure farmers, I part-time farmers, part-time farmers, and non-farmers, and the effect is more significant for pure farmers and non-farmers. This may be because pure farmers and non-farmers have a relatively single source of income. When choosing whether to opt for land recuperation or not, they will pay more attention to whether they can meet their basic living needs after continuing land recuperation. Farmers with more specific human capital (such as more experience in farming) not only indicate that they have higher agricultural management ability but also that they have a relatively more significant opportunity cost and difficulty in changing jobs (mainly migrant work for non-agricultural work), so they are more likely to continue to engage in agricultural work in the later stage. Therefore, land recuperation farmers with more specific human capital related to agriculture are more likely to choose cultivation to maintain their livelihood after the land recuperation pilot.

Influence of control variables: In terms of the influence of control variables, land recuperation compensation satisfaction significantly affected the degree of land recuperation of pure farmers and II part-time farmers as well as the land recuperation willingness of part-time farmers and non-farmers. The more satisfied the farmers were with the land recuperation compensation at the present stage, the more willing they were to continue land recuperation to get compensation. The degree of trust in the land recuperation policy had a significant positive promoting effect on the land recuperation willingness of pure farmers, II part-time farmers, and the degree of land recuperation of I part-time and II part-time farmers, and farmers’ higher trust in the land recuperation policy itself will promote their willingness and degree of participation; the cultivated land area has a significant adverse effect on the degree of land recuperation of the four types of farmers; the larger the size of arable land, the easier it is to form scale operations, and the income from arable land is more significant for farmers. The cost of farmers giving up arable land will be higher, and farmers’ land recuperation degree will naturally decrease accordingly. Social ties had a positive effect on the land recuperation degree of pure farmers, I part-time farmers, and II part-time farmers, and the land recuperation willingness of II part-time farmers. Farmers with more social connections outside the village are more willing to go out of town to work in other places, making them more positive towards land recuperation. They want to go out for employment and have less demand for cultivated land, and therefore, they are more willing to let the land recuperate. However, off-farm employment willingness has
a significant positive effect on the four types of farmers’ land recuperation willingness. Suppose the farmers themselves have a strong desire for off-farm employment. In that case, they are more inclined to invest labor and capital into off-farm industries to maximize economic benefits, and they have a strong passion for farmland land recuperation. Besides, the arable land cognition, degree of people relying on the land, family labor force, level of family life, social contact, social opportunities, land recuperation attitude, gender, age, and people’s satisfaction with the village committee will increase the subsequent land recuperation willingness of farmers.

To test the robustness of the above-estimated results, ordinary least squares (OLS) was used in this study to re-estimate the robustness of the dependent variables, and the results are shown in Table 8. The results of the OLS regression are highly consistent with the coefficient direction of the results of the double-hurdle model, and the coefficients do not change much, except for the significance of some coefficients. Therefore, we believe that the results obtained by the double-hurdle model have good robustness and pass the robustness test.

| Variable                      | Pure Farmers | I Part-Time Farmers | II Part-Time Farmers | Non-Farmers |
|-------------------------------|--------------|---------------------|----------------------|-------------|
| Geographical location         | -0.316 **    | -2.857 **           | -1.631 ***           | -2.311 **   | -0.347 *** | -0.741 *** | -0.592 *** | -0.662 **  |
| SPECIFICATION                 | (0.118)      | (1.311)             | (0.573)              | (0.934)     | (0.086)    | (0.044)    | (0.181)    | *0.073      |
| Physical asset                | -0.026       | -0.235 **           | -0.126 **            | -0.317 **   | -0.047     | -0.137     | -0.185 *   | -0.266 **   |
| SPECIFICATION                 | (0.147)      | (0.130)             | (0.058)              | (0.130)     | (0.071)    | (0.776)    | (0.102)    | (0.120)     |
| Human capital                 | -0.225 **    | -2.549 **           | -0.157 ***           | -0.620 **   | -0.185 *   | -0.280 *** | -0.548 **   | -0.212 **   |
| SPECIFICATION                 | (0.053)      | (1.352)             | (0.051)              | (0.053)     | (0.097)    | (0.097)    | (0.168)    | (0.087)     |
| Arabable land cognition       | -0.126       | 0.844               | -0.101 *             | -0.329 **   | 0.005      | -0.725     | -0.054     | -1.546      |
| Land recuperation              | 0.013        | 0.455 **            | 0.057                | 0.885       | 0.218 ***  | 1.538      | 0.346 **   | 0.103       |
| compensation satisfaction     | (0.100)      | (0.070)             | (0.041)              | (1.130)     | (0.082)    | (1.055)    | (0.129)    | (0.894)     |
| Land recuperation              | 0.155 **     | 2.664 **            | 0.017                | 2.183       | 0.147 **   | 0.747      | 0.045      | 0.697       |
| policy satisfaction           | (0.055)      | (0.867)             | (0.063)              | (1.739)     | (0.076)    | (0.912)    | (0.171)    | (1.417)     |
| Land recuperation              | 0.221 *      | 1.296               | 0.019                | 0.194 *     | 0.111      | 1.854 **   | 0.005      | 0.340       |
| policy trust                  | (0.175)      | (1.106)             | (0.061)              | (0.102)     | (0.103)    | (0.707)    | (0.009)    | (0.803)     |
| Land recuperation              | 0.008        | -0.321 **           | -0.022               | -0.748      | 0.030      | -0.217 *** | 0.034      | -0.201      |
| Agricultural acreage          | (0.084)      | (0.146)             | (0.039)              | (1.686)     | (0.109)    | (0.080)    | (0.184)    | (1.473)     |
| Degree of reliance on the land| -0.138       | 1.183               | -0.001               | -1.701      | 0.063      | -1.506 *   | -0.442 *** | -1.762      |
| control variable              | (0.201)      | (0.829)             | (0.055)              | (1.556)     | (0.058)    | (0.870)    | (0.122)    | (1.438)     |
| Household labor               | 0.068        | 1.237               | 0.145 **             | 1.218       | 0.092      | 0.097      | 0.271 **   | 0.885       |
| Family living                 | (0.122)      | (1.724)             | (0.048)              | (1.014)     | (0.066)    | (0.716)    | (0.126)    | (0.881)     |
| standard                      | 0.287        | 0.858               | 0.134 **             | 1.138       | 0.104      | 1.563      | 0.362 *    | -0.246      |
| Social connection             | 0.247        | 1.726 *             | 0.095 *              | 1.328       | 0.107 *    | 1.594      | 0.061      | 0.623       |
| Social opportunities          | 0.214        | (0.932)             | (0.056)              | (1.316)     | (0.056)    | (1.727)    | (0.088)    | (0.790)     |
| Non-farm employment           | 0.016        | 1.006               | -0.029               | -0.426      | -0.014     | -1.185     | -0.026     | -0.545      |
| willingness                   | (0.186)      | (2.972)             | (0.037)              | (0.982)     | (0.055)    | (0.737)    | (0.080)    | (0.533)     |
| Land recuperation              | 0.262 **     | 1.020               | 0.086 **             | 0.156       | 0.013 **   | 1.680      | 0.225 **   | 0.075       |
| employment                    | (0.118)      | (2.925)             | (0.036)              | (0.899)     | (0.006)    | (1.414)    | (0.109)    | (0.857)     |
| Land recuperation              | 0.307 **     | 0.663               | 0.092 **             | 0.403       | 0.064      | 0.802      | 0.139 **   | 1.469       |
| attitude                      | (0.119)      | (0.961)             | (0.033)              | (0.296)     | (0.053)    | (0.614)    | (0.068)    | (0.026)     |
| Gender                        | 0.233        | -0.250              | 0.086 *              | 1.353       | 0.033      | 0.602      | -0.060 **  | 0.110       |
| Age                           | (0.269)      | (1.415)             | (0.047)              | (3.003)     | (0.158)    | (0.442)    | (0.027)    | (0.248)     |
| Village cadres’ satisfaction  | -0.010 **    | -1.725 *            | -0.138               | 0.020       | -0.015     | -0.553     | 0.023      | -0.192      |
| (0.014)                       | (0.932)      | (0.109)             | (0.382)              | (0.064)     | (0.066)    | (0.262)    | (0.015)    | *0.103      |

Note: The number in parentheses is the standard error. *, ** and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

4. Conclusions

4.1. Study Conclusions and Implications

From the perspective of farmer differentiation, we focus on the effect of three dimensions of asset specificity on farmers’ intention and willingness to continue participating in land recuperation. The following conclusions and suggestions are obtained:

(1) Farmers taking part-time occupations has become common in China’s rural areas. In general, there are differences in the willingness of farmers of different types to partici-
pate in land recuperation. The willingness of farmers to participate in land recuperation increases with the deepening of the degree of their part-time occupations. Compared with part-time farmers, pure farmers have more robust human capital specificity, physical asset specificity, and geographical location specificity during their long-term engagement in land cultivation. This indicates that although China offers compensation to farmers to participate in land recuperation, there is still insufficient guidance and support for pure farmers to participate in land recuperation. In addition to increasing subsidies, publicity should be done to enable farmers to have a more comprehensive understanding of land recuperation. In the long run, pure farmers should be the farmers who prefer to participate in land recuperation the most.

(2) Geographical location specificity has a significant adverse effect on the intent and willingness to participate in subsequent land recuperation of the four types of farmers. The impact on non-farmers and part-time farmers are significantly smaller than that on pure farmers and part-time farmers. When the geographical location is superior, farmers are more reluctant to participate in land recuperation. Therefore, the government, in its implementation of land recuperation subsidy policy, should first select poor cultivation quality lands and lands located in inaccessible areas. Farmers of these lands are more likely to be willing to participate in multiple land recuperations. The results from these efforts can form a good demonstration and incentivize other farmers to participate in multiple land recuperations.

(3) Among the three dimensions of asset specificity, physical asset specificity has the most negligible influence on willingness to participate in subsequent land recuperations, especially on pure farmers and II part-time farmers. At present, China’s rural economy is developing rapidly, and farmers’ income has increased greatly compared with the previous decades. Therefore, the cost of agricultural physical assets will not have a significant negative impact on farmers. However, for poor families, the specificity of physical assets is still a factor that cannot be ignored. This reminds the government that when implementing the land recuperation subsidy policy, it should not only take into account the loss of farmers’ grain, but also the loss of agricultural machinery and irrigation facilities.

(4) Human capital specificity has a significant negative impact on the intention and degree of land recuperation among the four types of farmers. The effect is more pronounced for pure farmers and non-farmers. While calling upon farmers to participate in land recuperation, the government should also actively organize skills training for farmers. For pure farmers, agricultural training should be strengthened to help them master high-yield and sustainable farming techniques in consideration of their possible reclamation in the future. For non-farmers who prefer to work outside, non-agricultural technical training should be provided, including increasing the frequency of technical training and expanding the coverage of the training, to help them make a living in and adapt to non-agricultural industries, to enhance their willingness and degree of participation in land recuperation.

(5) Factors such as the degree of satisfaction with land recuperation compensation, degree of trust in the land recuperation policy, social connection, and willingness to engage in off-farm employment have a significant positive effect on the intention and degree of farmers to participate in land recuperation. In contrast, the area of cultivated land will inhibit the willingness of farmers. To increase farmers’ willingness to carry out land recuperation, the government needs to improve the land recuperation compensation policy and effectively protect farmers’ losses during land recuperation, to enhance farmers’ trust in the land recuperation policy. The government should also strengthen the construction of rural infrastructure, so that farmers have the opportunity to interact with the environment and society outside the village, provide more job opportunities, and lower the threshold of non-agricultural industries so that opportunities for farmers who want to work in the non-agricultural sector are increased. In land recuperation, priority should be given to farmers with smaller arable land area and more scattered arable land division, and they can influence farmers with larger arable land area by taking the lead and encouraging...
others’ participation by word of mouth, creating a situation of ‘small households with large households’.

4.2. Study Limitations and Future Research

Our research has the following two limitations: (1) in-depth theoretical analysis may reveal that the regional economic level will cause differences among different farmers’ asset specificity, so farmers’ intention and willingness to continue participating in land recuperation may have some differences according to economic development area asset specificity. Therefore, future related studies should choose other places in China and even other countries to conduct field research; (2) we only focused on farmers’ intentions and willingness to participate in subsequent land recuperations; we did not elucidate the actual behavior of farmers during this subsequent participation. When farmers take actual actions, they are often affected by each other’s behavior. This is a more complex problem that needs more investigation and exploration.

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References

1. Liuyang, Y. Social Welfare Evaluation of Land Recuperation; Northwest A & F University: Yangling, China, 2018.
2. Jiaxin, L.; Qingyuan, Y.; Tao, H. Analysis on farmer satisfaction of land recuperation policy and its influencing factors—A case study of Huanxian County, Gansu Province. *Areal Res. Dev.* 2019, 38, 158–162.
3. Chen, Z.; Minjuan, Z.; Liuyang, Y.; Yan, Y. Research on the difference of willingness to pay for land recuperation scheme between urban and rural residents. *J. Northwest. A&F Uniq.* 2017, 17, 90–97.
4. Tingting, L.; Xuerong, Z. Mechanism of abandonment, abandonment, conversion of farmland to forest and land recuperation conversion. *West. Forum* 2015, 25, 40–46.
5. Xianxiong, X.; Minjuan, Z.; Yu, C.; Yue, D. How does farmland land recuperation affect rural households’ income? An empirical analysis based on the panel data collected from 1240 households in the northwest land recuperation pilot areas. *Chin. Rural Econ.* 2020, 11, 62–78.
6. Yuqin, L.; Cheng, W.; Chun, D.; Zhongshu, W.; Suhua, L.; Si, C. Land recuperation willingness of farmers of different types in groundwater funnel area and its influencing factors: Based on a survey of 598 farmers in Xingtai City. *Resour. Sci.* 2017, 39, 1834–1843.
7. Williamon, O.E. Comparative economic organization: The analysis of discrete structural alternatives. *Adm. Sci. Q.* 1991, 36, 269–296. [CrossRef]
8. Dowall, D.E.; Monkkonen, P. Urban development, and land markets in Chennai, India. *Int. Real Estate Rev.* 2008, 11, 142–165.
9. Xiaolong, F.; Mingyue, L.; Huanguang, Q.; Xuexi, H. Asset specificity and adaptation behavior of specialized farmers to climate change: Based on micro evidence of apple growers. *China Rural Obs.* 2018, 04, 74–85.
10. Zhaolin, W.; Qingyuan, Y. Analysis on the impact of farmers’ concurrent business behavior on their cultivated land transfer mode: Based on the survey of 1096 farmers in Chongqing, *China Land Sci.* 2013, 27, 67–74.
11. Xianbao, L.; Qiang, G. Behavior logic, differentiation result, and development prospects—An investigation on the differentiation behavior of rural farmers in China since 1978. *J. Agric. Econ.* 2013, 34, 56–65.
12. Tongshan, L.; Liteng, N. Farmers’ differentiation, willing to quit land and farmers’ choice preference. *China Popul. Resour. Environ.* 2014, 24, 114–120.
13. Lambert, D.M.; Sullivan, P.; Claassen, R.; Foreman, L. Profiles of farm households adopting conservation-compatible practices. *Land Use Policy* 2007, 24, 72–88. [CrossRef]
14. Zhenning, Y.; Yongzhong, T.; Cifang, W.; Xiaobin, Z. Analysis of farmers’ compensation willingness for crop rotation and land recuperation from the perspective of concurrent industry differentiation: A case study of Jiashan County, Zhejiang Province. *China Land Sci.* 2017, 31, 43–51.

15. Xi, W.; Liao, L.; Changyou, C. Analysis on the difference of different types of farmers’ willingness to participate in farmland protection: A case study of Zhoukou City, a traditional agricultural area in Henan Province. *J. Arid Land. Resour. Environ.* 2015, 29, 52–56.

16. Xianxiang, X.; Minjuan, Z.; Cai, Y. Analysis on the impact of livelihood capital on herdsman’s willingness to reduce livestock—Based on the micro-empirical study of 372 herdsmen families in Inner Mongolia. *J. Arid Land Resour. Environ.* 2019, 33, 55–62.

17. Tao, L.; Jixia, L.; Jingjuan, H. Spatio-temporal pattern and influencing factors of high-quality agricultural development in China. *J. Arid Land Resour. Environ.* 2020, 34, 1–8.

18. Cragg, J.G. Some statistical models for limited dependent variables with application to the demand for durable goods. *Econometrica* 1971, 39, 829–844. [CrossRef]

19. Qiang, C. *Advanced Econometrics and Application of Stata*; Higher Education Press: Beijing, China, 2014.

20. Williamson, O.E. *The Mechanisms of Governance*; Oxford University Press: New York, NY, USA, 1996.

21. Dawkins, C.J. Transaction costs and the land use planning process. *J. Plan. Lit.* 2000, 14, 507–518. [CrossRef]

22. Guie, X.; Axing, C. Asset specificity and agricultural structural adjustment risk aspect. *J. Agric. Econ.* 2005, 3, 49–52.

23. Williamson, O.E. *The Economic Institutions of Capitalism*; Free Press: New York, NY, USA, 1985.

24. Kongyue, L. The impact of agricultural land specific assets and transaction uncertainty on transaction costs of agricultural land transfer. *Manag. World* 2009, 3, 92–98.

25. Biliang, L.; Chengxiang, L.; Xiaoli, W. Asset specialization, specialized production, and farmers’ market risks. *J. Agric. Econ.* 2008, 7, 10–15.

26. Wensheng, L.; Ming, Q.; Shi, Z.; Zhigang, W. The influence of asset speciality on agricultural land circulation after confirmation of right. *J. S. China Agric. Univ.* 2016, 15, 1–9.

27. Gottlieb, P.D.; Schilling, B.J.; Sullivan, K.; Esseks, J.D.; Lynch, L.; Duke, J.M. Are preserved farms actively engaged in agriculture and conservation? *Land Use Policy* 2015, 45, 103–116. [CrossRef]

28. Smith, R.B.W.; Shogren, J.F. Voluntary incentive design for endangered species protection. *J. Environ. Econ. Manag.* 2002, 43, 169–187. [CrossRef]

29. Jin, S.; Jayne, T.S. Land rental markets in Kenya: Implications for efficiency, equity, household income, and poverty. *Land Econ.* 2013, 89, 246–271. [CrossRef]

30. Wentao, X. Transaction closure, asset specificity, and rural land transfer. *Acad. Mon.* 2004, 4, 37–42.

31. Chen, Z.; Chao, P.; Xiangzhi, K. Evolutionary logic, historical evolution and future prospect of farmer’s differentiation. *Reform* 2019, 2, 5–16.

32. Xiaojuan, L.; Huina, S. A study on the development of rural areas from the perspective of farmers. *Hum. Geogr.* 2008, 1, 1–6.

33. Qun, S.; Feifei, W.; Jie, C. Rural farmer differentiation and land transfer behavior. *Resour. Sci.* 2016, 38, 377–386.

34. Xin, S.; Qinghai, G. Analysis on the behaviors of China’s part-time farmers from the perspective of rational economic. *J. Jilin Agric. Univ.* 2010, 32, 597–602.

35. Juutinen, A.; Mäntymaa, E.; Mönkkönen, M.; Svento, R. Voluntary agreements in protecting privately owned forests in Finland—To buy or to lease? *For. Policy Econ.* 2008, 10, 230–239. [CrossRef]

36. Zheng, L.; Jun, Y. Study on farmers’ willingness to land recuperation and its influencing factors in Poyang Lake grain-producing area. *Guangdong Agric. Sci.* 2015, 42, 162–167.

37. Hualin, X.; Lingjuan, C. Study on influencing factors and ecological compensation standard of farmers’ willingness to land recuperation winter wheat in groundwater funnel area: A case study of Hengshui, Hebei Province. *J. Nat. Resour.* 2017, 32, 839. [CrossRef]

38. Dan, L.; Wenjie, Y.; Qianwen, G. Analysis on the influencing factors and differences of farmers’ willingness to land recuperation in heavy metal polluted areas: Based on a questionnaire survey of 243 farmers in Hunan Province. *J. China Agric. Univ.* 2019, 24, 215–227.

39. Wanfei, X.; Qi, Y.; Haijun, B. Analysis on the status quo and influencing factors of cultivated land protection in Pengzhou based on farmer’s behavior. *Chin. J. Agric. Resour. Reg. Plan.* 2012, 33, 67–72.

40. Xiaoping, Z.; Yanlong, X.; Ling, Z. Research on influencing factors of farmer’s willingness to protect farmland. *Areal Res. Dev.* 2017, 36, 164–169.