

# Farmers' Decisions on Rural Homestead Land Withdrawal: A Value-Function Framework and Determinants

Natalie Xiaoqi Liu<sup>1</sup>, Boxiao Wu<sup>2</sup>, Helen X. H. Bao<sup>1</sup>, Jie Liu<sup>3</sup>, and Lei Feng<sup>2,\*</sup>

(1. Department of Land Economy, University of Cambridge, CB3 9EP, UK; 2. Department of Land and Real Estate Management, School of Public Administration and Policy, Renmin University of China, Beijing, PR China; 3. School of Civil Engineering and Transportation, Northeast Forestry University, Harbin, Heilongjiang, PR China)

## Abstract:

*Purpose:* The paper aims to clarify the decision-making mechanisms behind voluntary and compensated rural homestead withdrawal in China. Grounded in Prospect Theory, the study constructs a specific value function model to examine how endowment characteristics and institutional factors shape farmers' preferences regarding homestead retention versus exit modes.

*Design/methodology/approach:* The study employs a quantitative research design using empirical data from the 2021 "Thousand Students, Hundred Villages" survey. Methodologically, it applies a value function model derived from Prospect Theory to analyze the trade-offs between gains and losses. The analysis evaluates a wide range of variables, including homestead property values, geographical location, social security functions, formal institutional factors, and subjective belief factors.

*Findings:* Findings reveal that high housing market value and location in urban-rural fringe areas significantly promote withdrawal, especially temporary modes. Conversely, heavy reliance on the production and security functions of homesteads suppresses exit, as the rural social security system remains an insufficient substitute. While formal institutions and positive beliefs encourage withdrawal, emotional attachment acts as a significant psychological barrier. Furthermore, the study identifies a moderating effect where withdrawal policies amplify the influence of property value on

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\* Corresponding author (fenglei@ruc.edu.cn).

exit behavior. Institutional factors are shown to be essential for overcoming the "status quo bias" inherent in farmers' decisions.

*Originality/value:* By balancing the interests of farmers and the government, the study offers a nuanced perspective on how "soft" factors like policy awareness and "hard" factors like market value interact to determine land use efficiency and social stability in rural China.

**Keywords:** rural homestead land withdrawal, Prospect Theory, value function model, moderating effects, "Thousand Students, Hundred Villages"

## 1. Introduction

The issue of homestead exit in China arises from the practical context of large-scale homestead idleness caused by rural population migration to cities during rapid urbanization (Ouyang et al., 2009; Zhao et al., 2024), and it has attracted widespread attention from domestic scholars since 2010. At the end of 2014, the Central Government issued the *Opinions on Pilot Reforms of Rural Land Expropriation, Market Entry of Collective Construction Land for Business Purposes, and the Homestead System*, marking the official launch of the so-called “three land reforms”. These policy documents proposed exploring mechanisms for voluntary and compensated homestead exit and, for the first time at the policy level, clearly expressed support for homestead exit practices. With the continuous advancement of pilot reforms, the revised *Land Administration Law* in 2019 legally recognized farmers’ right to voluntarily and compensatedly exit homesteads, signifying that compensated homestead exit had formally become a key institutional arrangement for improving land-use efficiency and activating the property function of land in China (Fu, 2018).

Despite more than five years of pilot implementation, China’s exploration of homestead reform remains at a relatively early stage and is widely regarded as the “deep-water zone” of the three land reforms (Feng et al., 2020; Zhao et al., 2024). In practice, farm households’ willingness to exit homesteads remains low (Yang et al., 2023), while at the policy level, revisions to the homestead provisions of the *Land Administration Law* are largely principle-based<sup>1</sup>. This relatively slow reform progress has attracted extensive scholarly attention to issues such as households’ willingness to exit homesteads, as well as the influencing factors, mechanisms, and models of homestead exit (Yu et al., 2023; Liu et al., 2021; Chen et al., 2025; Chen et al., 2017). As the starting point of voluntary homestead exit, farm households’ exit willingness is of critical importance for both institutional design and policy effectiveness, and has

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<sup>1</sup> The State Council of the People's Republic of China. *Summary Report on the Pilot Programs for Rural Land Expropriation, Market Entry of Collective Operational Construction Land, and Rural Homestead System Reform*. 2018-12-23, <https://illss.gdufs.edu.cn/info/1098/8598.htm>.

consistently been a core topic in this field (Chen et al., 2017; Cui et al., 2025; Han et al., 2025; Tang et al., 2025; Tian et al., 2025).

A large body of literature has examined the factors influencing farm households' willingness to exit homesteads, gradually forming a relatively consistent analytical framework that includes individual cognitive factors (Chen, 2012; Peng, 2013; Zhang et al., 2022), institutional factors (Jin et al., 2022; Gao et al., 2023; Cui et al., 2025; Song et al., 2021), as well as objective factors such as individual characteristics, household characteristics, and homestead attributes. However, theoretical models explaining the mechanisms through which these factors operate remain insufficiently developed. First, whether based on classical frameworks such as push-pull theory and the theory of planned behavior, or on behavioral economics concepts introduced in recent years (Yang, 2015), existing studies generally rely on questionnaire-based measures of cognition. This approach makes it difficult to explain the formation process of cognition in detail. For example, Zhu and Cai (2016) measured cognition using items such as "overall, do you think exiting the homestead brings more benefits or more costs", and found that households exhibit stronger exit willingness when they perceive benefits to outweigh costs. However, little attention has been paid to how these benefits and costs are actually assessed, why households perceive benefits to exceed costs, and how such perceptions can be shaped, all of which remain key questions requiring further answers.

Second, although some studies have attempted to apply more formal behavioral economics models such as prospect theory (Feng et al., 2014; Bao and Robinson, 2022), such applications remain relatively rare and lack in-depth discussion of critical issues such as the formation of reference points and the evaluation of gains and losses (Zhuang and Qi, 2022). For instance, Zhuang and Qi (2022) set the reference point as the household's total wealth prior to making the homestead exit decision, without considering households' valuation of the homestead itself. Defining reference points at the level of overall wealth does not align well with households' actual decision-making regarding a specific asset.

Third, insufficient attention to deeper psychological mechanisms limits theoretical models in fully examining the endowment and institutional factors underlying cognitive influences. This results both in inconsistent directions of estimated effects and in the absence of an integrated theoretical framework that combines household endowments with institutional factors. For example, with respect to the effects of homestead size and locational attributes on farm households' willingness to exit homesteads, the literature reports both positive and negative relationships, with the number of studies supporting each view being roughly comparable (Wang et al., 2011; Chen, 2012; Peng, 2013; Xu et al., 2013; Xia et al., 2016; Gao et al., 2016). Similarly, although China's land tenure system and social security system are theoretically expected to play a positive role in guiding households toward voluntary homestead exit, empirical evidence remains mixed. Some studies find that households that have completed property rights registration are less willing to exit homesteads (Peng, 2013; Gao et al., 2023). Others show that participation in the New Rural Cooperative Medical Scheme and the New Rural Pension Scheme has failed to significantly increase households' willingness to exit homesteads (Xu et al., 2013), and may even exert a negative effect (Xia et al., 2016; Guo and Ge, 2017). With respect to endowment-related factors, homestead characteristics such as housing value and locational conditions exert a direct and crucial influence on farm households' cognitive evaluation of homestead value (Chen et al., 2025). However, most existing studies have not incorporated these factors as core explanatory variables in a systematic manner. Regarding institutional factors, although prior research has applied different theoretical perspectives depending on specific institutional arrangements (Yang et al., 2019; Jin et al., 2022; Gao et al., 2023), their effects essentially operate through households' valuation of homesteads (Liu et al., 2021). Therefore, it is both feasible and necessary to construct an integrated analytical framework that explicitly and systematically accounts for the role of institutional factors.

Empirical analyses of the determinants of farm households' homestead exit decisions also exhibit several limitations. First, study areas are often concentrated in pilot regions or relatively developed areas, with small sample sizes and limited representativeness. As a result, empirical findings differ substantially across studies (Yu et al., 2023), which

constrains their practical policy relevance. Second, existing research largely focuses on whether households exit homesteads, without sufficiently addressing the diversity of specific exit and retention modes that have emerged in practice. Therefore, it is necessary to employ large-scale, nationally representative survey data and to further examine not only whether households exit, but also how they exit or how they choose to retain homesteads, so as to provide more relevant evidence for promoting voluntary and compensated homestead exit in a context-sensitive manner.

In summary, based on prospect theory, this study constructs an overall value function for farm households' decision-making in the homestead exit process, and analyzes how household endowment factors and institutional factors influence homestead exit decisions. Using nationally representative large-sample survey data from the "Thousand Students, Hundred Villages" program, the study develops econometric models for three key homestead decision processes, namely how households retain homesteads, whether they exit, and how they exit, thereby providing stronger empirical support for the proposed theoretical framework. Apart from the introduction, the remainder of the paper is organized as follows. Section 2 constructs the overall value function and theoretical model and proposes the research hypotheses. Section 3 introduces the survey data, variables, and model specifications. Section 4 presents the econometric results and analysis. The final section concludes the paper.

## 2. Theoretical Model and Research Hypotheses

The value function and probability weighting function in Prospect Theory (PT) provide a normative analytical framework for individual decision-making that differs from neoclassical economics (Tversky and Kahneman, 1992; Tversky and Kahneman, 2000; Kahneman and Tversky, 1979), thereby enriching the behavioral-economic approach to analyzing decision processes (Feng et al., 2014; Yan and Bao, 2018). Prospect Theory (PT) has been extensively applied to diverse rural land-use contexts (Bao and Robinson, 2022; Feng et al., 2014; Tian and Zheng, 2022). In particular, it has distinct advantages for examining Chinese farmers' voluntary withdrawal decisions regarding rural homestead land. To explain the behavioral "anomaly" in which rural homestead land acquired without payment is difficult to relinquish even when idle and even when compensated, it is essential to draw on behavioral economics, relax the "rational actor" assumption, and construct a model that better reflects real-world behavior. In addition, this study incorporates Mental Accounting (MA) as a supplement to PT to further explain how farmers determine reference points and how they make specific decisions regarding whether to retain or withdraw from their homestead land<sup>2</sup>.

Accordingly, we refine the PT value function by integrating MA, and incorporate institutional factors into the model through the probability weighting function, taking into account the influence of formal rules and farmers' beliefs. On this basis, we develop an overall value function for farmers' withdrawal decisions and further elaborate on the three specific decisions involved in rural homestead land exit.

### 2.1 Overall Value Function of Individual Decision-Making

According to Prospect Theory, the overall value function of an individual's decision,  $V(x, p)$ , depends on the value function  $v(x)$  and the decision-weighting function  $\pi(p)$ . The value function  $v(x)$  is given by Equation (1), where  $r$  denotes the reference point,  $\alpha < 1$  and  $\beta < 1$  indicate diminishing sensitivity of the value

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<sup>2</sup> For example, in farmers' decisions between "leasing or equity participation as a form of temporary withdrawal" and "sale or demolition-based permanent withdrawal," the key distinction lies in the timing of compensation. Such intertemporal differences cannot be adequately analyzed using PT alone.

function to gains and losses, respectively, and  $\lambda > 1$  reflects the fact that losses are perceived as more severe than gains within the value function.

$$v(x; r) = \begin{cases} (x - r)^\alpha & \text{if } x \geq r \\ -\lambda(r - x)^\beta & \text{if } x < r \end{cases} \quad (1)$$

When an individual purchases a good with value  $u$  at a price  $x$ , the resulting net utility can be expressed as  $v(u, -x)$ . According to the Hedonic Editing principle, this is equivalent to  $Max[v(u - x), v(u) + v(-x)] = v(u - x)$ . Since purchase and sale correspond to the same economic process, the individual utility in a sale decision can be derived analogously. Therefore, the seller's value function should be expressed as  $v(x - u)$ .

$\pi(p)$  represents the decision-maker's subjective perception of the probability of a prospect occurring. It is a monotonically increasing function of the objective probability  $p$  and may be influenced by various other factors (Kahneman and Tversky, 1979). In the context of farmers' rural homestead land withdrawal decisions, institutional factors—such as formal rules and farmers' beliefs—play a critical role in shaping  $\pi(p)$ . The overall value function can be expressed as follows. In homestead withdrawal-related decisions, the set of possible choices for a farmer is denoted by  $U = (d_1, d_2, \dots, d_n)$ . For analytical simplicity, we assume that for any choice  $d_i (1 \leq i \leq n)$ , the individual faces only two prospects,  $x$  and  $y$ , with  $x$  occurring with probability  $p$ . Accordingly, the overall value function corresponding to any  $d_i$ ,  $V_i(x, p; y, 1 - p)$ , is given by:

$$V_i(x, p; y, 1 - p) = \pi(p)v(x) + \pi(1 - p)v(y) = v(y) + \pi(p)[v(x) - v(y)] \quad (2)$$

Based on the framework outlined above, we next construct refined models for the three types of decision scenarios in farmers' rural homestead land withdrawal process, thereby enabling a detailed analysis.

## ***2.2 Refined Models of Farmers' Homestead Withdrawal Decisions***

In practice, farmers' choices when withdrawing from rural homestead land can be categorized as follows. First, no withdrawal, which includes two subtypes: (i) not undertaking any renovation or utilization, and (ii) renovating for self-use with government subsidies. Second, temporary withdrawal, under the context of the "separation of three rights," involves exiting the use-right while retaining qualification-rights, such as leasing or equity participation (Gao, 2024). Third, permanent withdrawal, which involves relinquishing both the use-right and qualification-right, such as through sale or demolition. Accordingly, farmers' homestead withdrawal involves two main decision types and three decision processes: one type concerns the holding mode of the homestead (analogous to a purchase decision), while the other concerns whether to withdraw and the method of withdrawal (analogous to a sale decision).

The four options, no renovation or utilization, government-subsidized renovation for self-use, temporary withdrawal via leasing or equity participation, and permanent withdrawal via sale or demolition, essentially correspond to progressively higher levels of property-right realization and marketization of rural homesteads (Liu & Xiong, 2019). Specifically, not undertaking any renovation or utilization indicates that relevant property rights of the homestead remain unrealized; government-subsidized renovation for self-use guarantees farmers' residential rights while endowing the qualification-right with property attributes; temporary withdrawal via leasing or equity participation activates the use-right under the "separation of three rights" to generate economic returns; and permanent withdrawal via sale or demolition signifies a full relinquishment of both use-right and qualification-right, representing the most complete realization of homestead property rights.

Therefore, the decisions involved in farmers' homestead withdrawal reflect their preferences for the degree of marketization of rural homestead land in China. These preferences are influenced, on the one hand, by farmers' endowment characteristics, including asset endowments (e.g., housing value, location) and security endowments (e.g., production, retirement, or unemployment guarantees), and, on the other hand, by

institutional factors, such as formal rules (e.g., homestead certification, withdrawal policies) and informal beliefs (e.g., attachment to land, awareness of relevant policies, satisfaction with village committee governance). Moreover, institutional factors may moderate the effects of farmers' endowments on their preferences for homestead marketization.

Based on this, the basic analytical framework for farmers' homestead withdrawal decisions and their determinants is illustrated in Figure I. The left panel corresponds to the three decision types and four choices that farmers may face during the withdrawal process; from no renovation or utilization as a holding mode to permanent withdrawal via sale or demolition, the degree of marketization preference increases. The right panel represents the main factors influencing farmers' homestead withdrawal decisions, including their endowment characteristics, institutional factors, and the interaction between the two, which will be further explored in the research hypotheses presented below.

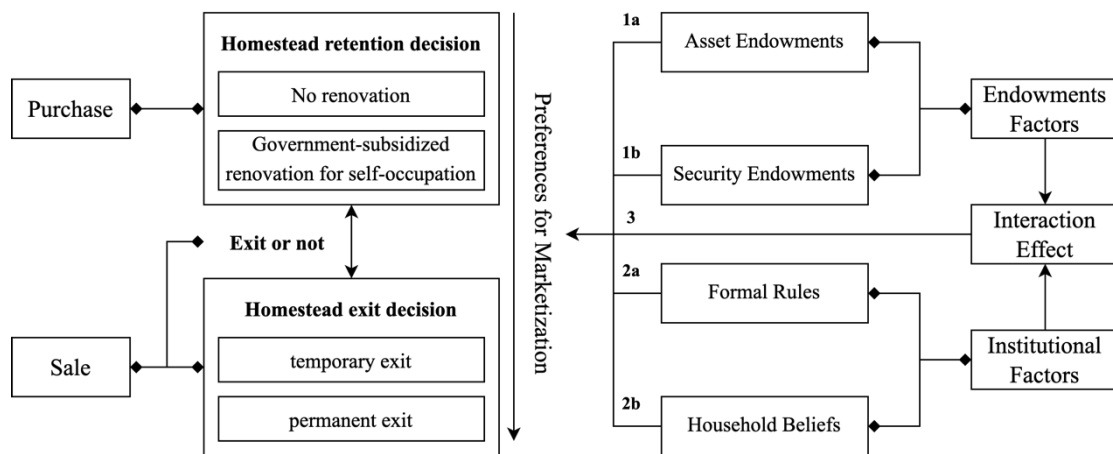


Figure I. Theoretical framework of the refined model of homestead exit decisions

Source: Authors own work

### 2.2.1 Decision on Homestead Holding Mode: Refined Model of the Purchase Behavior

In the decision regarding how to hold rural homestead land, the farmer's choice set  $U$  includes government-subsidized on-site renovation and no renovation or utilization.

Therefore, this decision can be simplified to whether the farmer opts to purchase the renovation service.

When choosing renovation, the farmer faces two prospects: first, with probability  $p$ , the farmer receives the government renovation subsidy  $g$ , in which case the value function is  $v(u + g - x)$ , where  $x$  denotes the actual cost of the renovation and  $u$  represents the value of the renovation service; second, with probability  $1 - p$ , the subsidy is not received, and the farmer's utility includes only the value of the service itself, with a value function of  $v(u - x)$ .

Accordingly, the farmer's overall value function is given by:

$$\begin{aligned} V &= v(u - x) + \pi(p)[v(u + g - x) - v(u - x)] \\ &= (u - x)^{\alpha_1} + \pi(p)[(u - x + g)^{\alpha_1} - (u - x)^{\alpha_1}] \end{aligned} \quad (3)$$

Where  $u$  represents the **value increment of the rural homestead**, defined as  $m\Delta r$ , where  $m$  denotes the market value of the homestead and the above-ground housing, and  $\Delta r$  represents the improvement rate resulting from renovation.  $\pi(p)$  depends on the objective probability  $p$  and the farmer's subjective perception of this probability. The objective probability  $p$  is primarily determined by formal institutional factors, such as whether the homestead has been certified and whether the village has established a homestead withdrawal policy. The farmer's subjective perception is influenced by informal belief factors, including attachment to land, awareness of relevant policies, and satisfaction with village committee governance.

Moreover, farmers' decisions regarding the homestead holding mode are determined by two aspects. Regarding the value function: since  $dV/du > 0$  and  $du/dm > 0$ , it follows that  $dV/dm > 0$ . In other words, the higher the market value  $m$  of the homestead and the above-ground housing, the stronger the farmer's willingness to renovate the homestead on-site.

Regarding the decision-weighting function: because  $(u - x + g)^{\alpha_1} - (u - x)^{\alpha_1} > 0$ , it follows that  $dV/d\pi(p) > 0$ . That is, the higher the level of homestead certification, the more comprehensive the withdrawal policy, and the better the farmer's policy

awareness and satisfaction with government work, the stronger the farmer's willingness to carry out on-site renovation of the homestead.

### 2.2.2 Decision on Whether to Withdraw from Homestead Land: Refined Model of the Sale Behavior

In the decision on whether to withdraw from rural homestead land, the farmer's choice set  $U$  includes only two options: withdraw or not withdraw. Farmers who choose to withdraw may face two prospects: first, with probability  $p$ , they obtain the actual compensation  $x$ ; second, with probability  $1 - p$ , they receive the standard compensation  $\hat{x}$  determined by local governments. In this decision,  $x$  represents the actual compensation the farmer ultimately receives,  $\hat{x}$  represents the general compensation standard formulated by county or township governments, and the difference between the two is defined as  $\Delta x = x - \hat{x}$ . The variable  $u$  denotes the farmer's perceived value of the homestead.

When the farmer receives the actual compensation  $x$ , the value function is  $v(x - u)$ ; when the compensation received is  $\hat{x}$ , the value function becomes  $v(\hat{x} - u)$ .

Accordingly, the farmer's overall value function for deciding whether to withdraw from the homestead is:

$$\begin{aligned} V &= v(\hat{x} - u) + \pi(p)[v(x - u) - v(\hat{x} - u)] \\ &= v(\hat{x} - u) + \pi(p)[v(\hat{x} + \Delta x - u) - v(\hat{x} - u)] \\ &= (\hat{x} - u)^{\alpha_1} + \pi(p)[(\hat{x} + \Delta x - u)^{\alpha_1} - (\hat{x} - u)^{\alpha_1}] \end{aligned} \quad (4)$$

A further interpretation of the variables in Equation (4) is provided as follows.

The standard compensation  $\hat{x}$  consists of the value of both the house and the land. In practice, its determination is increasingly based on market-oriented approaches such as zonal land acquisition price adjustments and third-party appraisals. Therefore,  $\hat{x}$  should be regarded as a monotonically increasing function of the market value of the homestead  $m$ .  $\Delta x$  represents the upward adjustment space in the negotiation between the village collective and farmers, relative to the general compensation standard  $\hat{x}$ , during current pilot programs for homestead withdrawal in China. In most cases,  $\Delta x$  is relatively small when compared with  $\hat{x}$ . The determination of  $u$  must consider the fact that farmers generally regard homesteads as security-oriented assets. Thus,  $u$  is

defined as the sum of the construction cost of the on-site housing  $m_0$  (Seiler, Seiler & Lane, 2012) and the livelihood security value of the homestead  $l$ .

According to Equation (4), farmers' willingness to withdraw from their homestead depends on two aspects. First, in terms of the value function, since  $dV/d\hat{x} > 0$  and  $d\hat{x}/dm > 0$ , it follows that  $dV/dm > 0$ ; that is, the higher the market value  $m$  of the homestead, the stronger the farmer's intention to withdraw. Moreover, because  $du/dl > 0$ , we obtain  $dV/dl < 0$ , indicating that the lower the farmer's demand for the livelihood security value  $l$ , the stronger the intention to withdraw. Second, in terms of the decision weighting function, the analysis of  $\pi(p)$  parallels that of the homestead retention decision. Higher levels of homestead registration and certification, more complete withdrawal policies, better farmer understanding of these policies, and greater satisfaction with village governance all increase the farmer's willingness to withdraw.

### *2.2.3 Decision on Homestead Withdrawal Mode: Refined Sale Model Considering Time Factors*

In the decision regarding how to withdraw from rural homestead land, the farmer's choice set  $U$  includes two options: temporary withdrawal via leasing or equity participation, and permanent withdrawal via sale or demolition. Economically, these options can be regarded as two ways for the farmer to recover withdrawal funds: temporary withdrawal allows the farmer to collect income in installments over a fixed period through rent or dividends, while permanent withdrawal allows the farmer to recover the full property appreciation in a single payment.

The primary difference between these two withdrawal methods lies in the timing of compensation recovery, and each option involves only a single prospect. If the farmer chooses permanent withdrawal via sale or demolition and receives a lump-sum compensation  $X$ , the overall value function is  $V_1 = v(X - u)$ . If the farmer chooses temporary withdrawal via leasing or equity participation, receiving a compensation  $x$  in each of  $n$  periods, and eventually recovering the homestead at the end of the lease or equity term, the overall value function is  $V_2 = v(x - u) + (n - 1)v(x) + v(u')$ .

The difference between the overall value functions of the two withdrawal methods is therefore:

$$\begin{aligned}
V_1 - V_2 &= v(X - u) - v(x - u) - (n - 1)v(x) - v(u') \\
&= (X - u)^\alpha + \lambda(u - x)^\beta - (n - 1)x^\alpha - u'^\alpha \\
&= (X - u)^\alpha + \lambda(u - iX)^\beta - (n - 1)i^\alpha X^\alpha - u'^\alpha
\end{aligned} \tag{5}$$

A further explanation of the variables in Equation (5) is as follows.  $X$  represents the actual lump-sum compensation the farmer receives from selling or demolishing the homestead, and is a monotonically increasing function of the homestead's market value  $m$ .

$u$  denotes the farmer's perceived value of the homestead, which, as analyzed previously, equals  $m_0 + l$ , where  $m_0$  is the construction cost of the on-site housing and  $l$  is the livelihood security value of the homestead.

$x$  represents the periodic return the farmer receives from temporarily withdrawing the homestead via leasing or equity participation. Based on the four-quadrant model, assuming  $i$  is the capitalization rate, we have  $X = x/i$ .

$n$  denotes the duration of the lease or equity participation period.

$u'$  represents the value of the homestead recovered at the end of the lease or equity term, including the depreciated portion of the housing construction cost and the livelihood security value of the homestead. Formally,  $u' = rm_0 + l$ , where  $r$  is the residual value rate, which is inversely proportional to  $n$ .

Based on Equation (5), given the assumption that the prospects associated with each choice are certain, farm households' decisions regarding homestead exit modes primarily depend on the value function. Since  $d(V_1 - V_2)/dX < 0$  and  $dX/dm > 0$ , it follows that  $d(V_1 - V_2)/dm < 0$ . This implies that the higher the value  $m$  that a household assigns to its homestead, the more likely it is to choose temporary exit modes, such as leasing or contributing the homestead as equity. Similarly, because  $d(V_1 - V_2)/du < 0$  and  $du/dl > 0$ , we have  $d(V_1 - V_2)/dl < 0$ . This indicates that the stronger the household's demand for the production and livelihood security value of the homestead, the more inclined it is to exit the homestead temporarily

through leasing or equity participation, rather than choosing permanent exit modes such as sale or demolition. This suggests that, for households with an intention to exit their homestead, a higher demand for the homestead's security function corresponds to a higher overall valuation of the homestead. Consequently, if a temporary exit mode is chosen, households exiting in the first period experience a stronger sense of loss, which in turn leads them to avoid this perceived loss by opting instead for permanent exit.

In addition, the influence of institutional factors on exit-mode choice is mainly reflected in the duration  $n$  of leasing or equity participation. The more well-developed the relevant exit institutions are, the longer the period for which households are willing to lease or contribute their homestead as equity. Given that  $d(V_1 - V_2)/dn < 0$ , households will therefore be more inclined to choose temporary exit modes such as leasing or equity participation.

### ***2.3 Theoretical Hypotheses***

Synthesizing the refined model and the corresponding analysis above, farm households' homestead exit decisions (that is, their preferences regarding the degree of homestead marketization) are determined primarily by the value function and the decision-weighting function. The value function mainly captures the effects of households' own endowments (corresponding to Hypotheses 1a and 1b), while the decision-weighting function mainly reflects the influence of institutional factors (corresponding to Hypotheses 2a and 2b). Specifically:

#### *Hypothesis 1a (Asset Endowment Hypothesis).*

The higher the current market value of on-site housing, the more likely farm households are to renovate and retain the dwelling or to exit the homestead directly; however, conditional on exit, they are more inclined to choose temporary exit modes. Moreover, a homestead located in the urban–rural fringe is more conducive to market-oriented use

and value realization, which in turn promotes households' exit from, or even complete exit from, the homestead.

*Hypothesis 1b (Security Endowment Hypothesis).*

Engagement in crop farming or the absence of migrant workers within the household implies stronger demand for the homestead's production and livelihood security function, making households more inclined not to exit the homestead. By contrast, the more comprehensive other forms of social security (such as pension and unemployment insurance) are, the more likely households are to exit the homestead. However, with respect to exit-mode choice, engagement in crop farming or insufficient social security coverage leads households, seeking to avoid the strong sense of loss experienced in the first period under temporary exit, to prefer permanent exit modes.

*Hypothesis 2a (Formal Rules Hypothesis).*

Standardized homestead rights confirmation and clearly specified homestead exit policies help to increase households' preferences for homestead marketization, thereby making them more inclined to exit the homestead.

*Hypothesis 2b (Household Beliefs Hypothesis).*

The more importance households attach to land, the more likely they are not to exit the homestead. Greater awareness of homestead-related policies and higher satisfaction with the work of the village committee, in contrast, increase households' propensity to choose more market-oriented modes of homestead use.

Furthermore, according to Equations (2-3) to (2-5) in Section (II), the interaction terms between endowment factors (mainly asset endowments) and institutional factors (mainly formal rules) also affect households' preferences regarding the degree of homestead marketization. The direction of this effect is always consistent with that of the endowment factors themselves. In particular, homestead rights confirmation and exit policies exert a reinforcing moderating effect in the process through which the value of on-site housing influences households' preferences for homestead marketization. Based on this analysis, the paper further proposes Hypothesis 3.

*Hypothesis 3 (Interaction Hypothesis).*

Homestead rights confirmation and exit policies strengthen the effect of on-site housing value and thereby indirectly influence households' preferences regarding the degree of homestead marketization.

### **3. Sample, Variable Selection, and Model Specification**

#### ***3.1 Survey Method and Sample Data***

The data used in this study come from the 2021 “Thousand Students, Hundred Villages” Survey conducted by Renmin University of China. In July 2021, over a thousand faculty members and students carried out the survey in 108 administrative villages across 30 provinces, autonomous regions, and municipalities directly under the central government. The survey employed both field qualitative interviews and household questionnaires, with questionnaires designed at two levels: the administrative-village level and the household level<sup>3</sup>. A total of 3,808 household questionnaires were collected from the 108 sample villages. The regional distribution of the sample is presented in Figure II. Among these, 3,399 households owned rural homestead land, accounting for 89.26% of all surveyed households. Most of these households (2,848 households) owned a single homestead, representing 83.79% of the households with rural homestead land.

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<sup>3</sup> A three-stage stratified sampling method was used to ensure the representativeness, randomness, and reliability of the survey sample. First, sample counties were selected using unequal-probability sampling proportional to agricultural population size. Second, sample villages were chosen through simple random sampling. Finally, systematic sampling was applied to select sample households.

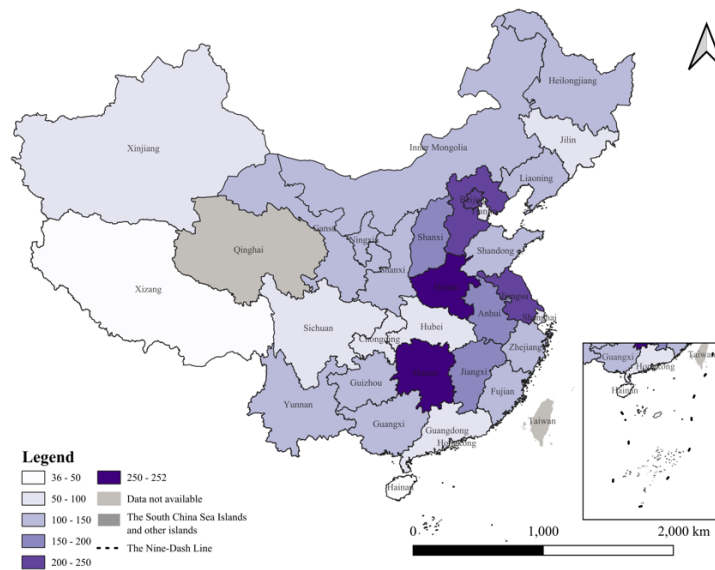


Figure II. Geographic Distribution of Samples from the 2021 “Thousand Students, Hundred Villages” Survey

Source: Authors own work

### 3.2 Variable Selection

This study measures the dependent variable, farmers’ rural homestead withdrawal decisions, using the questionnaire item: “*Regarding the future use of your homestead, which option do you prefer the most?*”

The independent variables consider both farmers’ endowments and institutional influences. Farmers’ endowments include asset endowments and security endowments, while institutional influences encompass formal rules and informal farmer beliefs.

In addition, several control variables at the individual and household levels were included. The variable names, definitions, and basic descriptive statistics are presented in Table I.

*[Insert Table I here]*

### 3.3 Model Specification

Because the dependent variables take binary, ternary, and multinomial ordered values, this study employs **Probit** and **Ordered Probit** models (Wooldridge, 2010). To

simplify the empirical framework, the models are estimated in a linear index form. The specific specifications of the Probit and Ordered Probit models are given in Equations (3-1) and (3-2), respectively.

$$\Phi^{-1}[P(Y = 1)] = \beta_0 + \beta_1 \textit{Asset} + \beta_2 \textit{Insurance} + \beta_3 \textit{Policy} + \beta_4 \textit{Attitude} + I(\cdot) \beta_5 \textit{Asset} \times \textit{Policy} + \delta X + \mu_1 \quad (3 - 1)$$

$$Y^* = \beta_0' + \beta_1' \textit{Asset} + \beta_2' \textit{Insurance} + \beta_3' \textit{Policy} + \beta_4' \textit{Attitude} + I(\cdot) \beta_5' \textit{Asset} \times \textit{Policy} + \delta' X + \mu_2$$

$$Y = 0, \text{ if } Y^* \leq \alpha_1;$$

$$Y = 1 \text{ if } \alpha_1 < Y^* \leq \alpha_2;$$

$$Y = 2 \text{ if } Y^* > \alpha_2 \quad (3 - 2)$$

When the dependent variable is binary, including homestead retention decisions, homestead exit decisions (binary), the econometric analysis adopts the specification in Equation (3-1). When the dependent variable is multivalued, for example, homestead exit decisions (ternary), the specification in Equation (3-2) is employed. The specific definitions and coding of  $Y$  are reported in Table I.

The explanatory variables in Equations (3-1) and (3-2) are defined consistently. *Asset* denotes asset endowments, *Insurance* represents security endowments, *Policy* captures formal rules, and *Attitude* reflects household beliefs. The corresponding variables and their definitions are also provided in Table I.  $I(\cdot)$  is an indicator function taking values of 0 or 1, and is used to control whether interaction terms are included in the model.  $\beta_i$  and  $\beta_i'$  ( $i = 1, \dots, 5$ ) are the coefficients to be estimated.  $\alpha_1 < \alpha_2$  denote unknown threshold parameters.  $\mu_1$  and  $\mu_2$  are random error terms assumed to follow a normal distribution.

## 4. Analysis of Empirical Results

### 4.1 Econometric Estimation Results

The econometric models are next employed to test the proposed hypotheses, and the results are reported in Table II.

**First, the asset endowment hypothesis is supported.** Housing value and location in the urban-rural fringe both exert a significantly positive effect on households' homestead exit decisions, indicating that an improvement in asset endowments promotes a stronger preference for market-oriented use of homesteads (Models 1 and 2). At the same time, housing value is significantly negative in the exit-mode choice models (Models 7 and 8), suggesting that among households with an intention to exit, higher housing value encourages the selection of temporary exit through leasing or equity participation rather than permanent exit. In addition, the year of last renovation has a significantly negative effect on households' preference for homestead marketization due to high sunk costs and asset specificity. Recent improvements create a "lock-in effect," as the subjective utility of the investment has not yet been fully amortized, which discourages exit (Models 3 - 6).

**Second, the security endowment hypothesis is supported.** Households engaged in crop farming exhibit significantly lower willingness to exit homesteads, reflecting stronger demand for the production and livelihood security functions of homesteads (Models 3 - 6). The presence of migrant workers within the household only increases the likelihood of choosing government-subsidized renovation for self-occupation in retention decisions (Models 1 and 2), but does not significantly promote homestead exit. This indicates that migrant work does not substantially reduce households' reliance on homesteads for production and livelihood security. Pension insurance and unemployment insurance also show no significant effects on homestead exit decisions, which to some extent reflects the difficulty of the current rural social security system in effectively complementing or substituting the security function of homesteads, thereby constraining homestead marketization. In the exit-choice model, however, the coefficient is negative, suggesting that a lack of pension and unemployment insurance drives households toward permanent exit. This preference arises as a strategy to mitigate the intense perceived loss during the initial phase of temporary exit.

**Third, both the formal rules hypothesis and the household beliefs hypothesis are supported.** The issuance of homestead use right certificates and the formulation of exit

policies significantly promote homestead exit (Models 3 - 6). A weakening attachment to land, greater awareness of relevant policies, and higher satisfaction with village committee performance also have positive effects. However, a finding that deviates from everyday intuition emerges in the homestead retention decision. Homestead rights confirmation significantly suppresses households' willingness to renovate (Models 1 and 2). Considering current practices in homestead renovation<sup>4</sup>, this may be because after rights confirmation, renovation must comply with approval procedures and village planning requirements, potentially involving higher transaction costs and the risk of reduced allowable building area. As a result, households that have completed rights confirmation are more inclined not to undertake renovation or other forms of use. In homestead exit decisions, the presence of village-level exit policies significantly increases the likelihood of choosing temporary exit. This can be attributed to the institutional context of the three rights separation of homesteads, under which temporary exit that activates only use rights not only helps achieve the policy goal of revitalizing idle homesteads but also reduces the fiscal burden associated with compensation payments. Consequently, this policy orientation encourages households to prefer temporary exit through leasing or equity participation.

**Fourth, the interaction hypothesis receives preliminary support.** Although the interaction term between possession of a homestead use right certificate and housing value is not significant, the interaction between village-level exit policies and housing value significantly strengthens the effect of housing value in both homestead retention decisions (Models 1 and 2) and exit decisions (Models 7 and 8). This indicates that well-designed exit policies help guide households toward outcomes that are mutually acceptable to both households and the government. Specifically, when housing value is relatively high, improved exit policies strengthen households' preference for government-subsidized renovation for self-occupation in retention decisions and for temporary exit through leasing or equity participation in exit decisions.

The models also control for individual and household characteristics, and the estimated effects of these variables are largely consistent with expectations.

*[Insert Table II here]*

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<sup>4</sup> At present, homestead renovation and reconstruction in China must follow the prescribed application and approval procedures, and must comply with the principle of one homestead per household as well as the requirements of territorial spatial planning and village planning. For further details, see: [https://www.moa.gov.cn/govpublic/NCJJTZ/202211/t20221128\\_6416131.htm](https://www.moa.gov.cn/govpublic/NCJJTZ/202211/t20221128_6416131.htm)

## ***4.2 Robustness Checks***

To ensure that the empirical results remain robust in the presence of potential influences such as unobserved omitted variables, a series of robustness checks is conducted. Specifically, regional control variables are incorporated into the baseline regressions, and the models are re-estimated using Logit and Ordinal Logistic specifications.

### **4.2.1 Inclusion of regional control variables**

To account for the potential impact of regional heterogeneities on farmers' land-exit decisions, this study incorporates regional dummy variables as additional controls. Following the standard geographical and economic classification in China, this study introduces dummy variables for the eastern and western regions as additional controls (see Table III). Given the significant disparities in economic development, land market maturity, and social security levels across these regions, controlling for such spatial characteristics helps mitigate omitted variable bias. The estimation results reported in Table III are largely consistent with those of the baseline regressions, indicating that the main findings are robust.

### **4.2.2 Using Logit and Ordinal Logistic Models**

To further verify that the baseline findings are not sensitive to the choice of functional forms or specific estimation techniques, this study employs alternative econometric specifications for re-estimation. Following the approach of Cai and Ru (2016), this study further replaces the baseline models with Logit and Ordinal Logistic regressions for re estimation (see Table IV). As shown in Table IV, while the estimation methods have been varied, the direction and statistical significance of the key coefficients remain largely unchanged.

*[Insert Table III here]*

*[Insert Table IV here]*

## **5. Conclusions and Policy Recommendations**

### ***5.1 Conclusions***

Based on the foregoing econometric results, this paper yields at least two sets of conclusions.

#### ***5.1.1 Household Level***

First, although farm households' willingness to exit homesteads remains generally low at the current stage, this willingness can be significantly enhanced when the value of on-site housing increases and becomes more readily monetizable, or when households' demand for the homestead's security function weakens. This finding suggests that households' willingness to exit homesteads will gradually rise with the advancement of land marketization reforms and the integration of urban–rural social security systems, rather than being persistently constrained by the degree to which households attach importance to homestead rights or perceive their value, as suggested in parts of the existing literature (Zhu and Cai, 2016; Zou et al., 2017; Yang et al., 2018; Hu et al., 2020; Zhang and Xia, 2022).

Second, compared with asset endowments, security endowments exert a markedly weaker effect on households' willingness to exit homesteads. In particular, social insurance programs such as the New Rural Pension Scheme and unemployment insurance have not fully played a complementary or substitutive role with respect to the homestead's security function, and therefore provide only limited impetus for homestead exit.

Third, although some of the above factors are able to promote homestead exit, such effects are largely confined to temporary exit, and facilitating permanent exit will require a longer period of policy experimentation and institutional development.

#### ***5.1.2 Government Level***

First, clearly defined homestead property rights and codified exit policies can effectively promote households' exit from homesteads. However, under the institutional background of the “three rights separation” of homesteads, the policy approach of liberalizing use rights while retaining qualification rights, aimed at simultaneously activating land resources and maintaining rural social stability, has been more attractive to local governments. Accordingly, most pilot programs for homestead exit in China have been conducted along this line, implying that the formulation of exit

policies tends to encourage households to choose temporary exit modes through leasing or equity participation.

Second, the effective implementation of policies also depends on households' subjective cooperation. Whether households hold stronger expectations regarding land marketization at the cognitive level, or have a deeper understanding of policies and greater recognition of village committee performance at the behavioral level, such attitudes increase their preference for more market-oriented modes of homestead use.

Third, well-designed exit policies can strengthen the effect of housing value on households' willingness to exit homesteads. Specifically, choosing "government-subsidized renovation for self-occupation" in homestead retention decisions and "temporary exit through leasing or equity participation" in exit decisions not only accords with households' pursuit of overall value maximization, but also aligns with the policy objectives expected by the government. This result indicates that, in both retention and exit decisions, the option that ultimately prevails in the promotion of voluntary and compensated homestead exit must be one that is jointly acceptable to both households and the government.

## ***5.2 Policy Recommendations***

Based on these conclusions, the paper derives the following policy implications.

First, the ultimate goal of exploring voluntary and compensated homestead exit is to activate idle homesteads, improve land-use efficiency, and unlock the property attributes of land. Therefore, given the currently weak willingness of households to exit homesteads, it is neither advisable nor appropriate to focus excessively on increasing the absolute area or proportion of exited homesteads. For households with exit intentions, full support should be given to their preference for temporary exit, with effective protection of their qualification rights. For households unwilling to exit, while supporting reasonable reconstruction in line with village planning, local governments should also make use of consolidated homestead land to develop characteristic rural industries, thereby avoiding idle land while promoting rural revitalization.

Second, households' concerns regarding post-exit security in terms of housing, employment, and old-age support constitute an important constraint on the enhancement of their willingness to exit homesteads, and the basic social security system for the rural population remains in need of further improvement. Accordingly, extending the security function after homestead exit is a key task for increasing

households' exit willingness. On the one hand, revenues generated from consolidated homestead land, through local industrial development or quota exchange mechanisms, can be used to establish pension and unemployment security funds to meet the basic protection needs of exiting households. On the other hand, greater emphasis should be placed on vocational skills training and on building platforms for industrial matching and labor mobility, so as to help rural residents settle in urban areas and gain access to more comprehensive social security coverage.

Finally, in conjunction with the "three rights separation" of homesteads, further refinement of homestead rights confirmation and exit policies is required. Under current conditions, characterized by relatively limited exit compensation levels and an underdeveloped social security system, the delineation of ownership rights, use rights, and qualification rights not only provides households with opportunities to generate income from homestead use, but also responds to their demand for the homestead's security function, thus serving as a transitional institutional arrangement in the activation of the rural homestead market. Accordingly, it is necessary, on the one hand, to clarify the legal and policy definitions of homestead use rights and qualification rights to ensure a solid legal and institutional foundation. On the other hand, greater detail should be introduced regarding the forms through which use rights can be activated under temporary exit, including the standardization of leasing and equity participation contracts and the exploration of alternative forms of homestead use, so as to safeguard households' rights to generate income from homestead use rights.

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Table I. Variable Definitions and Descriptive Statistics

Category	Variable	Description	Mean	Std. Dev.
<b>Dependent variables</b>	Homestead retention decision	No renovation = 0; government-subsidized renovation for self-occupation = 1	0.377	0.485
	Homestead exit decision (binary)	No exit = 0; exit = 1	0.125	0.331
	Homestead exit decision (ternary)	No exit = 0; temporary exit = 1; permanent exit = 2	0.211	0.582
	Homestead exit mode decision	Temporary exit through leasing or equity participation = 0; complete exit through sale or demolition = 1	0.685	0.465
<b>Asset endowments</b>	Current housing value (winsorized)	Current market value of the household dwelling, ten thousand CNY	46.281	61.458
	Located in the urban–rural fringe	Yes = 1; No = 0	0.104	0.305
	Year of last renovation (winsorized)	Year of renovation of the current dwelling	2005.398	11.691
	Homestead area exceeds 200 square meters	Yes = 1; No = 0	0.581	0.494
<b>Security endowments</b>	Engagement in crop farming	Yes = 1; No = 0	0.499	0.500
	Household member engaged in migrant work	Yes = 1; No = 0	0.579	0.494
	Satisfaction with basic pension insurance	Satisfied = 1; Not satisfied = 0	0.544	0.498
	Coverage by unemployment insurance	Yes = 1; No = 0	0.072	0.259
<b>Formal rules</b>	Possession of homestead use right certificate	Yes = 1; No = 0	0.731	0.443
	Village-level homestead exit policy	Yes = 1; No = 0	0.369	0.483
<b>Household beliefs</b>	Land as a means of subsistence security	Yes = 1; No = 0	0.880	0.325
	Land as an investment asset	Yes = 1; No = 0	0.633	0.482
	Land is dispensable	Yes = 1; No = 0	0.072	0.259
	Land as a burden to farmers	Yes = 1; No = 0	0.122	0.327
	Awareness of homestead policies	Yes = 1; No = 0	0.313	0.464
	Satisfaction with village committee performance	Yes = 1; No = 0	0.675	0.468
<b>Individual characteristics</b>	Age	Age of the respondent, years	54.673	14.618
	Health status	Good = 1; Poor = 0	0.830	0.376
	Education at primary school or above	Yes = 1; No = 0	0.583	0.493
	Village committee member	Yes = 1; No = 0	0.101	0.302

<b>Category</b>	<b>Variable</b>	<b>Description</b>	<b>Mean</b>	<b>Std. Dev.</b>
	Agricultural household registration	Yes = 1; No = 0	0.945	0.228
<b>Household characteristics</b>	Household size	Number of household members	3.770	1.734
	Former poverty alleviation household	Yes = 1; No = 0	0.188	0.391
	Minimum living allowance household	Yes = 1; No = 0	0.095	0.293

Source: Authors own work

Table II. Estimation Results for Farm Households' Homestead Exit Decisions

Category	Variable	Homestead retention decision		Homestead exit decision (binary)		Homestead exit decision (ternary)		Homestead exit mode decision	
		Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Asset endowments	Current housing value	0.002*** [2.933]	0.001* [1.698]	0.002*** [2.992]	0.004*** [3.643]	0.001* [1.904]	0.003*** [3.018]	-0.006*** [-3.333]	-0.004* [-1.653]
	Located in the urban-rural fringe	0.162 [1.171]	0.18 [1.297]	0.435*** [2.968]	0.441*** [2.977]	0.488*** [3.402]	0.486*** [3.354]	1.040** [2.289]	1.036** [2.219]
	Year of last renovation	-0.013*** [-3.228]	-0.013*** [-3.375]	-0.010** [-2.322]	-0.009** [-1.992]	-0.012*** [-2.816]	-0.011** [-2.480]	-0.027** [-2.208]	-0.027** [-2.150]
	Homestead area exceeds 200 square meters	0.238*** [2.632]	0.257*** [2.821]	-0.288*** [-2.934]	-0.307*** [-3.090]	-0.309*** [-3.220]	-0.336*** [-3.454]	-0.231 [-0.841]	-0.394 [-1.361]
	Engagement in crop farming	-0.006 [-0.072]	-0.004 [-0.041]	-0.265*** [-2.624]	-0.275*** [-2.711]	-0.231** [-2.331]	-0.246** [-2.468]	0.577** [1.998]	0.494* [1.651]
Security endowments	Household member engaged in migrant work	0.150* [1.702]	0.152* [1.718]	0.099 [1.003]	0.091 [0.922]	0.094 [0.981]	0.09 [0.927]	0.394 [1.488]	0.447 [1.608]
	Satisfaction with basic pension insurance	0.089 [1.030]	0.077 [0.888]	0.06 [0.611]	0.082 [0.829]	0.026 [0.269]	0.050 [0.523]	-0.651** [-2.222]	-0.730** [-2.340]
	Coverage by unemployment insurance	0.230 [1.487]	0.195 [1.246]	0.032 [0.197]	0.043 [0.262]	0.018 [0.117]	0.035 [0.218]	0.499 [1.187]	0.562 [1.235]
Formal rules	Possession of homestead use right certificate	-0.230** [-2.408]	-0.227** [-2.367]	0.336*** [2.762]	0.355*** [2.878]	0.341*** [2.848]	0.363*** [2.994]	0.338 [0.898]	0.475 [1.208]
	Village-level homestead exit policy	0.463*** [5.057]	0.447*** [4.851]	0.009 [0.087]	0.029 [0.278]	-0.047 [-0.463]	-0.026 [-0.253]	-0.946*** [-3.333]	-0.968*** [-3.169]
Household beliefs	Land as a means of subsistence security	0.389** [2.569]	0.354** [2.325]	-0.332** [-2.326]	-0.315** [-2.192]	-0.327** [-2.337]	-0.301** [-2.136]	0.009 [0.023]	-0.049 [-0.126]
	Land as an investment asset	0.058 [0.625]	0.073 [0.788]	0.148 [1.338]	0.142 [1.287]	0.128 [1.176]	0.120 [1.098]	-0.234 [-0.684]	-0.235 [-0.662]
	Land is dispensable	-0.171	-0.19	-0.248	-0.254	-0.228	-0.243	0.101	-0.198

		[-0.908]	[-1.004]	[-1.168]	[-1.187]	[-1.100]	[-1.159]	[0.193]	[-0.351]
	Land as a burden to farmers	0.139	0.137	0.476***	0.487***	0.446***	0.462***	-0.262	-0.355
		[0.983]	[0.971]	[3.446]	[3.529]	[3.312]	[3.424]	[-0.767]	[-1.002]
	Awareness of homestead policies	0.260***	0.270***	0.165	0.167	0.149	0.152	-0.208	-0.117
		[2.825]	[2.929]	[1.614]	[1.629]	[1.487]	[1.517]	[-0.750]	[-0.404]
	Satisfaction with village committee performance	0.318***	0.329***	-0.054	-0.055	-0.052	-0.057	-0.148	-0.166
		[3.327]	[3.421]	[-0.508]	[-0.515]	[-0.499]	[-0.545]	[-0.511]	[-0.540]
	Current housing value × Possession of homestead use right certificate		-0.033		-0.116		-0.090		0.212
			[-0.420]		[-1.457]		[-1.158]		[1.019]
Interaction terms	Current housing value × Village-level homestead exit policy		0.210**		-0.072		-0.127		-0.767***
			[2.297]		[-0.794]		[-1.422]		[-2.866]
	Individual characteristics	Yes	Yes	Yes	Yes	Yes	Yes		
	Household characteristics	Yes	Yes	Yes	Yes	Yes	Yes		
	_cons	25.399***	26.870***	18.768**	16.067*			52.742**	53.527**
		[3.210]	[3.360]	[2.158]	[1.815]			[2.169]	[2.088]
Constant	cut1					-22.663***	-20.022**		
						[-2.659]	[-2.309]		
	cut2					-22.366***	-19.723**		
						[-2.624]	[-2.274]		
	cut3								
	N	1036	1036	1209	1209	1209	1209	173	173
	pseudo_r2	0.1010	0.1050	0.0934	0.0981	0.0708	0.0757	0.3408	0.3845

Note: \*, \*\*, and \*\*\* indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Source: Authors own work

Table III. Estimation Results of the Farmer Homestead Exit Decision Model with Regional Control Variables

Category	Variable	Homestead retention decision		Homestead exit decision (binary)		Homestead exit decision (ternary)		Homestead exit mode decision	
		Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Asset endowments	Current housing value	0.002***	0.001*	0.002***	0.003***	0.001	0.003***	-0.006***	-0.004*
	Located in the urban-rural fringe	0.220	0.231	0.511***	0.513***	0.575***	0.569***	1.096**	1.117**
	Year of last renovation	-0.013***	-0.013***	-0.009**	-0.008*	-0.011**	-0.010**	-0.028**	-0.029**
	Homestead area exceeds 200 square meters	0.247***	0.265***	-0.265***	-0.284***	-0.284***	-0.311***	-0.231	-0.404
Security endowments	Engagement in crop farming	-0.010	-0.005	-0.252**	-0.262**	-0.222**	-0.236**	0.472	0.347
	Household member engaged in migrant work	0.151*	0.153*	0.110	0.102	0.105	0.1	0.372	0.419
	Satisfaction with basic pension insurance	0.105	0.091	0.091	0.112	0.06	0.084	-0.605**	-0.678**
	Coverage by unemployment insurance	0.236	0.201	0.004	0.014	-0.012	0.003	0.436	0.482
Formal rules	Possession of homestead use right certificate	-0.227**	-0.225**	0.318***	0.335***	0.321***	0.342***	0.302	0.439
	Village-level homestead exit policy	0.483***	0.466***	0.057	0.076	0.007	0.026	-0.883***	-0.883***
Household beliefs	Land as a means of subsistence security	0.392**	0.361**	-0.286**	-0.268*	-0.275*	-0.249*	0.071	0.045
	Land as an investment asset	0.064	0.078	0.163	0.157	0.144	0.134	-0.241	-0.254
	Land is dispensable	-0.161	-0.179	-0.228	-0.235	-0.205	-0.221	0.105	-0.207
	Land as a burden to farmers	0.132	0.131	0.478***	0.489***	0.452***	0.468***	-0.209	-0.293
	Awareness of homestead policies	0.256***	0.266***	0.172*	0.173*	0.158	0.161	-0.174	-0.069

	Satisfaction with village committee performance	0.316***	0.328***	-0.056	-0.056	-0.054	-0.059	-0.186	-0.237
Interaction terms	Current housing value × Possession of homestead use right certificate		-0.034		-0.111		-0.083		0.238
	Current housing value × Village-level homestead exit policy		0.203**		-0.074		-0.13		-0.816***
Control Variables	Other control variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Eastern region	-0.069	-0.049	0.069	0.067	0.052	0.046	-0.146	-0.208
	Western region	-0.15	-0.132	-0.305**	-0.301**	-0.339***	-0.337***	-0.335	-0.491
	N	1036	1036	1209	1209	1209	1209	173	173
	pseudo_r2	0.1024	0.1061	0.1022	0.1066	0.0792	0.0839	0.3442	0.3914

**Notes:** \*, \*\*, and \*\*\* indicate statistical significance at the 10%, 5%, and 1% levels, respectively. To conserve space, the corresponding t statistics of the estimated coefficients are not reported, and the estimation results for control variables are omitted.

Source: Authors own work

Table IV. Estimation Results of the Farmer Homestead Exit Decision Model Using Logit and Ordinal Logistic Models

Category	Variable	Homestead retention decision		Homestead exit decision (binary)		Homestead exit decision (ternary)		Homestead exit mode decision	
		Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Asset endowments	Current housing value	0.004***	0.002*	0.004***	0.006***	0.003**	0.005***	-0.010***	-0.006*
	Located in the urban-rural fringe	0.25	0.279	0.817***	0.834***	0.896***	0.897***	1.890**	1.780**
	Year of last renovation	-	-	-0.018**	-0.015*	-0.020**	-0.018**	-0.044**	-0.045**
	Homestead area exceeds 200 square meters	0.381**	0.415***	-	-	-0.569***	-0.610***	-0.353	-0.613
Security endowments	Engagement in crop farming	-0.002	-0.001	-0.468**	-	-0.440**	-0.456**	1.006**	0.86
	Household member engaged in migrant work	0.261*	0.265*	0.188	0.171	0.178	0.166	0.667	0.776
	Satisfaction with basic pension insurance	0.149	0.127	0.096	0.135	0.057	0.098	-1.136**	-1.227**
	Coverage by unemployment insurance	0.384	0.325	0.06	0.089	0.029	0.066	0.881	0.974
Formal rules	Possession of homestead use right certificate	-0.392**	-0.387**	0.613***	0.668***	0.647***	0.709***	0.56	0.816
	Village-level homestead exit policy	0.762***	0.739***	0.011	0.057	-0.06	-0.006	-1.625***	-1.659***
Household beliefs	Land as a means of subsistence security	0.638**	0.586**	-0.572**	-0.537**	-0.573**	-0.522**	-0.017	-0.103
	Land as an investment asset	0.099	0.126	0.275	0.269	0.254	0.242	-0.395	-0.423
	Land is dispensable	-0.309	-0.346	-0.438	-0.443	-0.369	-0.383	0.092	-0.329
	Land as a burden to farmers	0.232	0.228	0.830***	0.847***	0.808***	0.837***	-0.516	-0.609
	Awareness of homestead policies	0.427***	0.448***	0.279	0.278	0.258	0.258	-0.291	-0.175
	Satisfaction with village committee performance	0.537***	0.552***	-0.114	-0.122	-0.112	-0.126	-0.302	-0.301

Interaction terms	Current housing value × Possession of homestead use right certificate	-0.054		-0.234		-0.198		0.321	
	Current housing value × Village-level homestead exit policy	0.346**		-0.103		-0.166		-1.257***	
	Control Variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	N	1036	1036	1209	1209	1209	1209	173	173
	pseudo_r2	0.1010	0.1051	0.0923	0.0971	0.0723	0.0766	0.3383	0.3786

**Notes:** \*, \*\*, and \*\*\* indicate statistical significance at the 10%, 5%, and 1% levels, respectively. To conserve space, the corresponding t statistics of the estimated coefficients are not reported, and the estimation results for control variables are omitted.

Source: Authors own work