

Influences of Farmland Transfer Transaction Costs on Contract Choices from the Perspective of Differential Order Governance

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Abstract

The data of this study come from the survey of farmers in Suiyang District and Yucheng County in Shangqiu City, Yanjin County in Xinxiang City, and Ruyang County in Luoyang City, Henan Province, organized by the research team in July and August 2019. This household survey involved a total of more than 850 farm households in 5 towns and 28 administrative villages, of which 814 were effective farmers. This survey focuses on the theme of farmland transfer, transfer contracts, and agricultural scale management. To ensure the quality of the survey, the main steps of the survey included the following: (1) According to the regional representation and the differences in local farmers' income level, soil and water conditions, geographical location, etc., the four counties and districts under the jurisdiction of the three cities in Henan Province were selected as the research sites, mainly because the economic development level and topography of these four counties and districts were similar. There are obvious differences, which are representative. Suiyang District and Yucheng County of Shangqiu City are located in eastern Henan and are mainly plains. They are the core areas of national high-standard basic farmland construction and the national commodity grain base. Yanjin County, Xinxiang City is located in the Yellow River Basin in the north of Henan Province, and the whole territory is on a plain. It belongs to the national high-quality wheat production base and the main production base of grain and cotton in China. Ruyang County, Luoyang City is located in western Henan, with a mountainous area of more than 900 km², accounting for 70.2% of the total area. (2) To ensure the randomness of sample selection, the research group randomly selected 1-2 townships (towns) in each of the above four counties and districts, and each township (town) selected 3-4 administrative villages. Each village randomly selected approximately 30 households for the household survey. Farmers who participated in this research were also selected randomly within each village. They were members of the family who played a direct role in the decision-making of farmland transfer, and all of them reached the age of 18. After the farmers confirmed the purpose of the survey and signed their consent, the survey was carried out. The investigation was conducted with the purpose of the investigation was informed and consent was obtained. After the survey, respondents were informed about how the data collected might be used and each respondent received a gift valued at 25 Chinese Yuan. The survey was anonymous, and the data was only used for scientific research. The detailed information and privacy of the respondents were protected. (3) To ensure the quality of the survey data, the participants who carried out this survey were all graduate students and senior undergraduates of our school. Before the formal survey, each person was systematically trained, including the content of the questionnaire and the exact meaning of each question. After processing the unsuitable samples, the final selected sample included 258 transfer-out households from 28 administrative villages.

Influences of Farmland Transfer Transaction Costs on Contract Choices from the Perspective of Differential Order Governance—Based on a Survey of Farmers in Henan Province

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Abstract: Based on differential order governance, the impact of farmland transfer transaction costs on contract selection with survey data from 814 farming households in Henan Province was analyzed in the present study. The results show that (1) in the transfer of farmland, farmers' choice of contracts is restricted by their degree of association with the transaction entity, which is the result of differential order governance. (2) The influence of differential order governance on the selection of transfer contracts is constrained by the governance context. Farmers tend to choose formal written contracts in the context of weak ties governance but choose verbal or informal contracts under strong relationship governance. (3) The impact of transaction costs on the selection of farmland transfer contracts is constrained by the three-stage scenarios as before, during, and after the transaction. In different transaction stages, the higher the transaction costs are, the more likely farmers are to choose a formal written contract. The findings show the importance of the rules of human relations in the society of acquaintances in saving transaction costs. The importance of the formal system and informal institutions, such as trust and reputation, and avoiding one-size-fits-all suggestions should be involved in the formulation and implementation of farmland transfer policies.

Keywords: differential order governance, transaction costs, farmland transfer, contract

Introduction

The Chinese economy has shifted from high-speed growth to medium-high-speed growth. In the context of promoting the coordinated development of agricultural modernization, industrialization, informatization, and urbanization, the value of land resources, one of the scarcest resources, has become increasingly prominent. In the early days of reform and opening up, the implementation of the household contract responsibility system made a great contribution to China's agricultural development[1]. However, with the development of nonagricultural industries and the flow of rural young and middle-aged laborers, the contradiction between the highly egalitarian institutional arrangement shown by this property rights structure and the development of the market economy has become increasingly prominent[2,3]. Its inherent disadvantages, such as land fragmentation and insufficient resource allocation efficiency, are gradually becoming apparent. In March 2020, the Central Committee of the Communist Party of China and the State Council issued the "Opinions on Building a More Perfect Market-based Allocation System and Mechanism for Factors", which proposed promoting the market-based reform of factors represented by land. In 2021, Document No. 1 of the CPC Central Committee stated that "Revitalization is a major task to realize the great rejuvenation of the Chinese nation, and the whole party and the whole society should be used to speed up the modernization of agriculture and rural areas... and improve the service system for the transfer of land management rights". Promoting the transfer of farmland management rights in a rational and orderly manner is not only an important carrier for realizing agricultural modernization but also an important starting point for realizing the strategy of rural revitalization and the meaning of the topic of promoting rural construction [4-6]. In 2021, the transfer area of household contracted farmland exceeded 37 million hectares. As an important carrier to connect the two parties, the contract is a commitment made by both parties [7,8], which can promote the surplus of cooperation and help reduce transaction risks and realize benefits [9]. With the acceleration of the process of farmland transfer in China, it is particularly necessary to study the selection of farmland transfer contracts for farmers and determine whether they can effectively perform the contracts[10].

Farmland transfer and its contract options have long been the focus of academic research. Different contract arrangements correspond to different transaction costs[11]. Williamson (2008) discussed the matching between "transaction, contract and governance structure" by distinguishing the nature of the transaction and believed that asset specificity, uncertainty, and transaction frequency are the three dimensions of transaction costs[12,13]. On the other hand, it constitutes an important factor affecting the choice of farmland transfer contracts. Li's (2009) research on farmers in Guangdong Province posits that in market transactions, the farmland transfer contract is not notarized[14], and the intervention of village cadres in farmland transfer greatly increases the uncertainty of farmers' behavior in farmland transfer[15], which in turn increases transaction costs. Some scholars found that the transaction costs of farmers' search for information, price negotiation and contract signing[16], supervision, and performance have a significant negative impact on the

transfer of farmland. Studying farmland transfer and contract selection from the perspective of transaction costs is a recent academic effort[17,18]. As the risk of performance under a formal written contract is relatively small, entering into a written contract may be more conducive to the performance of the contract, but at the same time, there are certain negotiation, signing, and performance costs that can be saved by entering into an oral informal contract. However, the risk of contract performance may be greater for oral contracts than for written contracts. If there is a mechanism (such as a trust) that can effectively reduce the risk of contract performance when farmland transfers occur, farmers may be inclined to choose contracts with lower contract signing and contract performance costs. That is, they may choose an oral informal contract over a formal written contract.

Based on the perspectives of economics and law, the existing studies have paid attention to the composition and influencing factors of farmland transfer transaction costs and the inhibitory effect of transaction costs on farmland transfer[19], which plays an important role in further research. However, in the underdeveloped areas of central and western China, there is still much room for the development of the role of rural social networks. Rural society is still structurally composed of acquaintances and social relations[20]. Based on the perspective of rural sociology, there is a lack of quantitative research on the transaction costs associated with farmland transfer and their impact on contracts from the perspective of differential order governance. Under the premise of the heterogeneity of farmland transfer entities (relatives and friends, farmers in the village, farmers in other villages, large-scale management entities, etc.), few studies consider how to effectively reduce transaction costs through contract optimization selection and successive decisions, namely, contract matching governance, to better promote the rational and orderly transfer of farmland. Based on the above, this study attempts to compensate for the deficiencies of existing research based on survey data of farmers in typical areas of Henan Province, a largely agricultural province in China.

2. Theoretical Basis and Research Hypotheses

2.1. The Connotation of "Differential Order Governance"

Different from the social relations presented under the "group pattern" shaped by the relatively independent individual communication methods in Western society, the concept of the "differential mode of association" has been put forward by Fei Xiaotong (2012): "Our pattern is not a bundle of clear firewood, but rather like the ripples pushed out in circles that occur when a stone is thrown on the water; each person is the center of the circle pushed out by his social influence, and what is pushed out by the ripples in the circle is connected. The circle used by each person at a certain time and place is not necessarily the same" [21]. The conceptual image of the "differential mode of association" deconstructs the relationship between people in Chinese society, especially in the specific context of rural society. The trust relationship takes the individual as the center and gradually spreads to the outer circle in turn. The relationship of trust established by blood, geography, and business relationships between the self and others is divided into closeness and distance[22,23]. On the one hand, the "differential mode of association" is embodied as an important moral paradigm, and on the other hand, it constitutes the way and patterns for allocating scarce social resources (including tangible resources, such as land and currency, and intangible resources, such as prestige, reputation, and rights). The ability to control and allocate various types of tangible and intangible resources determines the process of trust relationships between the parties or the families of parties and others as the center of the social relationship network. Huang Guangguo (2010) described the social trust relationship network as having a strong correlation, acquaintance correlation, weak correlation, and no correlation in turn based on careful analysis[24]. No correlations appeared in strangers. Weak correlations are formed with a general exchange and connections. Because of the existence of frequent communication and communication, it constitutes an acquaintance association. Based on blood and affinity, the relationship of strong association leads to the generation of strong associations.

The role of the legal concept in current China is becoming more perfect, but at the same time, the role of relationships cannot be ignored [25]. In the vast rural areas of China, village communities are still highlighted by the rules of an acquaintance society in a way. According to Fei Xiaotong's differential mode of association and Huang Guangguo's specific situation of classifying the degrees of correlation[21], different correlation

strengths require different governance paradigms to match[24], which is defined as "differential order governance" in the present study. Specifically, the fair rules presented in the specific situations of unrelated and weakly related ties must be realized by means of laws, regulations, policy texts, etc. The situation has strong market-oriented characteristics, and the degree of relationship between the two types of correlations is relatively weak. This situation reflects weak tie governance, so it is named "weak relationship governance". In strong associations, the rules of demand derived from blood and kinship and the rules of human affection in acquaintance associations can give full play to the informal system. The relationship between these two kinds of associations is relatively strong and can be defined as "strong relationship governance" or "human relationship governance". In this study, the connotation of "differential order governance" is reflected in two dimensions. First, in terms of structure, regardless of whether the farmland is transferred out or transferred in, the transferring farmer occupies a dominant central position in the governance network. The strength or controllability of the relationship between farmers and other subjects (relatives and friends, farmers in the same village, farmers outside the village, the main body of scale management, etc.) can be pushed out to form a peripheral layer. In addition, in terms of behavior, the central subject of the governance network (transferring farmers) tends to adopt informal but simple and efficient human interaction logic (strong relationship governance) within the acquaintance society (between relatives and friends and between farmers in the same village). However, the outer circles (farmers in other villages, large-scale management entities, etc.) with weak relationships and control scope tend to choose contracts with certain market-oriented characteristics (weak relationship governance) to strengthen their ability to control the farmland. Transferring farmers, as the center of the governance network, show such a differential social relationship pattern for the interactive games of different subjects in governance, and the differential order relationship pattern becomes increasingly thin depending on the strength of the relationship. It is not difficult to see that differential order governance is essentially relational governance [26,27].

The large-scale business entities represented by enterprises generally do not know the farmers who are transferring their farmland, which is manifested as an unrelated relationship. Due to the lack of mutual trust, opportunistic behavior is easily induced. In the selection of transfer contracts, both parties are more inclined to write formal contracts, and the transfer rent is the highest among these four types of subjects. If a farmer transfers farmland to a farmer in another village, there may be a weak relationship (the transfer-out household and the transfer-in household from the other village belong to different natural villages). However, in most cases, they belong to the same administrative village, as the farmer survey conducted by the author confirms. Therefore, contact can be established by means of "closeness", but there is still a lack of trust compared with the transfer within the natural village. Here, the two sides of transfer may be more likely to use a formal written contract to constrain the behavior of both parties, and the transfer rent is generally lower than that in the case of transfer involving large-scale business entities, such as enterprises. In contexts of no correlation and weak correlation, the two parties in the circulation have a general exchange relationship. In differential order governance, the paradigm of weak relationship governance should be implemented, and correspondingly, formal written contracts should be used to restrain the behavior of both parties. Different from contexts reflecting weak relationship governance, in contexts involving acquaintances and strong ties and under informal systems, such as blood, kinship, geography, reputation, and prestige, oral informal contracts are more likely to be adopted when farmland is transferred because both parties follow the rules of human relations. In differential order governance, it is more appropriate to adopt a strong relationship governance paradigm. When the transfer of farmland occurs within the same natural village, as a social community of acquaintances, villages present a high degree of trust in the context of acquaintances. Since informal systems, such as human relations, reputation, and prestige, have a strong binding force on villagers, oral informality is usually adopted when transferring farmland. By contrast, the rent for transfers within the village is generally higher than that for transfers between relatives and friends. Relatives and friends are related by blood and kinship and belong to the category of strong ties. The rent for the transfer of farmland is usually lower, and in many cases, it is free for relatives and friends to cultivate an individual's farmland. Therefore, compared with transfers within the village, an oral informal contract is more likely to be adopted when farmland is transferred to relatives and friends, and the rent is lower[28,29].

Based on this, **Hypothesis 1 is proposed**: when farmland transfers occur between farmer households and their relatives and friends or among farmer households within a village, farmer households experience the governance paradigm in a strong relationship (human relationship) situation and accordingly are more inclined to conclude oral informal contracts. When the transfer of farmland occurs between large-scale business entities, such as between farmers and enterprises or between farmers in other villages, the governance paradigm in the weak relationship situation is present, and correspondingly, farmers are more inclined to conclude formal written contracts.

2.2. Transaction Costs and the Selection of Farmland Transfer Contracts

Hart et al. (1990) found that due to the objective existence of bounded rationality, opportunistic behavior and transaction costs greater than zero, no matter what kind of transaction is conducted in economic activities, the transaction contract is incomplete[30]. Under the circumstance that the contract is incomplete, to ensure the effective execution of the transaction contract, that is, to ensure that the transaction can be carried out in accordance with the content of the contract, three kinds of costs are indispensable: foreseeing costs, contracting costs, and monitoring performance costs. The three together constitute transaction costs. The transaction costs generated differ according to the different contract methods, which is the main reason for the differences in the efficiency of institutional arrangements. The purpose of the contract between the two parties in the farmland transfer transaction is to obtain as much residual control and net income as possible, and the two parties to the transaction reach an agreement and conclude the contract through negotiation[31]. Whether it is a written contract or an oral contract depends on the level of transaction fees. Because of this, the following inferences can be drawn. (1) Some farmland transfer contracts may not be concluded because the initial transaction cost is too high, which makes one or both parties think that the net income that can be obtained is too small. (2) The farmland transfer contract that has been realized has the characteristic of incompleteness, which makes the transaction cost continue to increase. Therefore, the parties to the transaction are more inclined to select contracts that can reduce their transaction costs as much as possible, for example, an oral contract with a lower signing cost. (3) When performing a farmland transfer contract, the initial contract terms may not be able to fully adapt to changes in the transaction environment and asset specificity. When possible, the two parties to the transaction may negotiate again and agree to change the contract form and the corresponding terms[32-36].

Based on this, **hypothesis 2 is proposed** : before the transaction of farmland transfer, during the transaction and at different stages after the transaction, if faced with relatively high transaction costs, such as administrative intervention, negotiation, contract signing, and monitoring of contract performance, farmers may be more inclined to choose formal written contracts to protect their rights and interests, and vice versa.

Based on the above theoretical analysis, this study selects differential order governance and transaction costs to reflect the impact on the choice of farmland transfer contracts. Since the differential order governance is characterized by strong ties, acquaintance ties, weak ties, and no ties and transaction costs externalized by contract signing and performance are closely related to trust, trust scores are also taken into account. In addition, since the head of household usually has decision-making power over the decision-making of the farm household, to improve the persuasiveness of the empirical results, this paper incorporates characteristics of the household head and the land into the analysis framework.

3. Materials and Methods

3.1. Data Sources

Based on this research, the first author of this paper was supported by the National Social Science Foundation of China (Grant No. 21CJL012). The research has been reviewed and approved by the review board of the National Office of Philosophy and Social Science Work before the farmer surveys involved in this paper were carried out.

The data of this study come from the survey of farmers in Suiyang District and Yucheng County in Shangqiu City, Yanjin County in Xinxiang City, and Ruyang County in Luoyang City, Henan Province, organized by

the research team in July and August 2019. This household survey involved a total of more than 850 farm households in 5 towns and 28 administrative villages, of which 814 were effective farmers. This survey focuses on the theme of farmland transfer, transfer contracts, and agricultural scale management. To ensure the quality of the survey, the main steps of the survey included the following: (1) According to the regional representation and the differences in local farmers' income level, soil and water conditions, geographical location, etc., the four counties and districts under the jurisdiction of the three cities in Henan Province were selected as the research sites, mainly because the economic development level and topography of these four counties and districts were similar. There are obvious differences, which are representative. Suiyang District and Yucheng County of Shangqiu City are located in eastern Henan and are mainly plains. They are the core areas of national high-standard basic farmland construction and the national commodity grain base. Yanjin County, Xinxiang City is located in the Yellow River Basin in the north of Henan Province, and the whole territory is on a plain. It belongs to the national high-quality wheat production base and the main production base of grain and cotton in China. Ruyang County, Luoyang City is located in western Henan, with a mountainous area of more than 900 km², accounting for 70.2% of the total area. (2) To ensure the randomness of sample selection, the research group randomly selected 1-2 townships (towns) in each of the above four counties and districts, and each township (town) selected 3-4 administrative villages. Each village randomly selected approximately 30 households for the household survey. Farmers who participated in this research were also selected randomly within each village. They were members of the family who played a direct role in the decision-making of farmland transfer, and all of them reached the age of 18. After the farmers confirmed the purpose of the survey and signed their consent, the survey was carried out. The investigation was conducted with the purpose of the investigation was informed and consent was obtained. After the survey, respondents were informed about how the data collected might be used and each respondent received a gift valued at 25 Chinese Yuan. The survey was anonymous, and the data was only used for scientific research. The detailed information and privacy of the respondents were protected. (3) To ensure the quality of the survey data, the participants who carried out this survey were all graduate students and senior undergraduates of our school. Before the formal survey, each person was systematically trained, including the content of the questionnaire and the exact meaning of each question. After processing the unsuitable samples, the final selected sample included 258 transfer-out households from 28 administrative villages. See Table 1 for details.

Table 1. Survey locations and questionnaire distribution

Investigated Province	Cities	Counties	Number of Valid Questionnaires	Number of Farmers Transfe
Henan Province	Shangqiu	Yucheng	196	30
	Shangqiu	Suiyang	210	106
	Xinxiang	Yanjin	191	50
	Luoyang	Ruyang	217	72
Total			814	258

3.2. Descriptive Evidence

According to the previous analysis, differential order governance can be subdivided into weak relationship governance and strong relationship (human relationship) governance. The degree of trust varies according to the subject of the transfer. Generally, the degree of trust among relatives, friends, and farmers within the village are higher than that between farmers in different villages and enterprises. For the four types of the subject of transfer, the higher the trust scores between them are, the less likely a formal written contract will be adopted in the transfer of farmland.

Table 2. Differential order governance, trust scores, and the selection of farmland transfer contracts

Objects of Farmland Transfer	Number of Farmers Transferred Out	Proportion (%)	Trust Scores (1-10)	Rent (Yuan)	Number of Formal Written Contracts	Proportion (%)	Number of Defaults	Default Rate (%)
To relatives and friends	55	21.32	8.85	305.26	1	1.82	0	0.00
To farmers within the village	117	45.35	6.68	363.19	16	13.68	1	0.85
To farmers from other villages	42	16.28	4.19	629.46	29	69.05	2	4.76
To scale operations, such as enterprises	44	17.05	4.98	783.87	35	79.55	1	2.27
Total	258	100.00			81	31.40	4	1.55

Table 2 provides a statistical description of the transaction objects, trust scores, contract methods, and rental scale of farmland transfer. The current farmland transfer has largely shaped the feature of "differential order governance", and farmers' trust scores for different participants show a high consistency. In general, when farmland flows to farmers in other villages (weakly related) and large-scale business entities, such as enterprises (unrelated), the trust level is much lower than that associated with the flow to relatives and friends, and farmers within the village. The scores are 4.19 and 4.98, respectively, and the proportion of using formal written contracts is much higher than that between relatives, friends, and farmers in the village, which explains the characteristics of weak relationship governance. The transfer rent, which increases from 305.26 Yuan when farmland flows to relatives and friends to 783.87 Yuan when it flows to large-scale business entities, such as enterprises, also shows a gradual process of transition from humanization to marketization. The overall default rate of 1.55% indicates that regardless of whether oral informal contracts or formal written contracts are adopted in the survey area, contracts present good performance.

3.3. Model Construction

Structural equation models can handle both latent variables and their specific index values. On the basis of existing research, this study selects primary data from household surveys of 814 households in four counties and districts in the three cities of Henan Province and uses a structural equation model to analyze differential order governance, transaction costs, household head and land characteristics, and trust scores. This paper conducts an empirical study on the influence of the choice of farmland transfer contract in four aspects. Structural equation models can handle multiple dependent variables simultaneously. They are suitable for multivariate analysis, which can estimate the factor structure and relationship between factors as well as the reliability and validity of the measurement variables at the same time. Measurement models describe the relationship between latent variables and indicators, while structural models describe the relationship between latent variables.

A measurement equation is usually written as follows:

$$x = \Lambda_x \xi + \delta \quad y = \Lambda_y \eta + \varepsilon$$

The relationship between latent variables is usually described according to the following structural equation:

$$\eta = B \eta + \Gamma \xi + \zeta$$

Among them, x is the exogenous observation variable, y is the endogenous observation variable, ξ is the exogenous latent variable, η is the endogenous latent variable, Λ_x is the factor of the exogenous observation variable on the exogenous latent variable loading matrix, Λ_y is the factor loading matrix of the endogenous observed variables on the endogenous latent variables, B is the relationship between endogenous latent variables, Γ is the influence of exogenous latent variables on endogenous latent variables, and ζ is the residual term of the structural equation, reflecting the unexplained part of the equation.

3.4. Variable Selection

This study selects four aspects, differential order governance, transaction costs, household head, and land characteristics, and trust scores, to discuss the impact on the choice of farmland transfer contracts. Each aspect can be subdivided into several specific factors, described below.

3.4.1. Differential Order Governance

The differential order governance is mainly manifested by the indicator "the destination of the transferred farmland". When a farmer transfers farmland to relatives and friends, farmer households in the village, farmer households in other villages, or enterprises and other large-scale business entities, there may be weak relationship governance and strong relationship governance methods. Correspondingly, the farmland transfer contract will take different forms, such as a formal written contract or an oral informal contract.

3.4.2. Transaction Costs

The transaction cost is reflected by three indicators: "whether the consent of the village collective is required when the farmland is transferred out", "how many negotiations it takes to reach an agreement" and "whether there is a dispute with the transferee after the farmland transfer". "Whether the consent of the village collective is required when the farmland is transferred out" reflects the intervention level of the village collective in the farmland transfer transaction before the transfer transaction. "How many negotiations it takes to reach an agreement" reflects the negotiation and signing costs in the transaction process. "Whether there is a dispute with the transferee after the farmland transfer" is the cost of monitoring the performance of the contract after the transaction is carried out. The above three indicators are intended to reflect the size of transaction costs in the three stages before, during, and after the transaction.

3.4.3. Trust scores

The trust scores are reflected in the "degree of trust in relatives and friends", "degree of trust in farmers within the village", "degree of trust in farmers in other villages", and "degree of trust in enterprises and

other large-scale business entities”. Each indicator is assigned a score of 1-10. Higher scores indicate higher levels of trust. If the two parties to the transaction have a high degree of trust, it is more likely that an oral informal contract will be adopted when farmland transfer occurs.

3.4.4. Household Head and Land Characteristics

Four indicators were selected, including “the education level of the household head”, “whether the household head is a village cadre”, “cultivated land quality” and “whether the contracted land has been adjusted during the second round of contracting” to reflect the characteristics of the household head and the land. As the decision maker of the family in rural society, the household head’s education level and political and ideological consciousness have an important influence on the farmer’s family. The higher the education level and political consciousness of the householder, the more likely the householder will adopt a formal written contract in the transfer of farmland. The quality of arable land is the most important component of resource endowment. When farmland transfer occurs and farmers think that their arable land is of good quality, they may be more inclined to choose a formal written contract than they would be if their land were of lower quality. If the contracted land is frequently adjusted during the second-round contract period, considering the stability of land rights, farmers may prefer to adopt a formal written contract to protect their land rights and interests when the farmland is transferred.

This study contains 4 exogenous latent variables, denoted by the symbol η , which are differential order governance (η_1), transaction costs (η_2), trust scores (η_3), and household head and land characteristics (η_4). There are a total of 12 indicators of exogenous latent variables. X_1 : the destination of the transferred farmland; X_2 : whether the consent of the village collective is required when the farmland is transferred out; X_3 : How many negotiations it takes to reach an agreement; X_4 : whether there is a dispute with the transferee after the farmland transfer; X_5 : degree of trust in relatives and friends; X_6 : degree of trust in farmers in the village; X_7 : degree of trust in farmers in other villages; X_8 : degree of trust in enterprises and other large-scale business entities; X_9 : the education level of the household head; X_{10} : whether the household head is a village cadre; X_{11} : cultivated land quality; X_{12} : whether the contracted land is adjusted during the second round of contracts. Among them, X_1 belongs to factors, X_2 - X_4 belongs to factors, X_5 - X_8 belong to factors, and X_9 - X_{12} belongs to factors. Please refer to Table 3 for the explanation of the variables.

In this study, the endogenous latent variable is the choice of the farmland transfer contract, which is represented by η . There are two indicators of endogenous latent variables. The value of the endogenous latent variable is limited to [1, 2], the verbal informal contract is defined as $Y_1 = 1$, and the formal written contract is defined as $Y_2 = 2$.

Table 3. Variable Description

Exogenous Latent Variable	Observed Variable	Observed Variable Code	Observed Variable Definition	Expected Impact
Differential order governance	The destination of the transferred farmland	X1	Relatives and friends=1; farmers within the village=2; farmers in other villages=3; enterprises and other large-scale business entities=4	+

Transaction costs	Whether the consent of the village collective is required when the farmland is transferred out	X2	no=0; yes=1	+
	How many negotiations does it take to reach an agreement	X3	times	+
	Whether there is a dispute with the transferee after the farmland transfer	X4	no=0; yes=1	+
Trust scores	Degree of trust in relatives and friends	X5	The score is 1-10, the higher the score, the higher the trust.	-
	Degree of trust in farmers in the village	X6	The score is 1-10, the higher the score, the higher the trust.	-
	Degree of trust in farmers in other villages	X7	The score is 1-10, the higher the score, the higher the trust.	-
	Degree of trust in enterprises and other large-scale business entities	X8	The score is 1-10, the higher the score, the higher the trust.	-
Household head and land characteristics	The education level of the household head	X9	Illiteracy=1; elementary school=2; junior high school=3; high school=4; bachelor's degree or above=5	+
	Whether the household head is a village cadre	X10	no=0; yes=1	+
	Cultivated land quality	X11	low=1; medium=2; high=3	+
	Whether the contracted land is adjusted during the second round of contracting	X12	no=0; yes=1	+

4. Results

4.1. Research Results

The Amos24.0 platform software for analyzing structural equation models is used to verify the structural model. After calculation, the fitting degree of the measurement model and the structural model is good. The measurement results of the structural model are estimated as shown in Table 4:

Table 4. Structural model estimation

Influence Path	Influence Path	Symbol of Influence	Path Coefficient	Degree of Significance	Test Conclusion
Structural model	Differential order governance-selection of farmland transfer contracts	+	0.619***	0.008	support
	Transaction costs-selection of farmland transfer contracts	+	0.493**	0.036	support
	Trust scores-selection of farmland transfer contracts	-	-0.817**	0.040	support
	Household head and land characteristics-selection of farmland transfer contracts	+	0.329**	0.028	support

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

On the basis of estimating the structural model, the influence direction and degree of exogenous latent variables (differential order governance, transaction costs, trust scores, household head, and land characteristics) on endogenous latent variables (the selection of farmland transfer contracts) were clarified. On this basis, it is necessary to further calculate the measurement model to obtain the influence direction and degree of the 12 exogenous observation variables on the 4 exogenous latent variables. Table 5 shows the estimation results of the measurement model.

Table 5. Measurement results of the measurement model

Influence Path	Influence Path	Symbol of Influence	Path Coefficient	Degree of Significance	Test results
Measurement model	The destination of the transferred farmland-differential order governance	+	0.527***	0.002	Significant

Whether the consent of the village collective is required when the farmland is transferred out-transaction costs	+	0.678**	0.048	Significant
How many negotiations it takes to reach an agreement-transaction costs	+	0.436**	0.033	Significant
Whether there is a dispute with the transferee after the farmland transfer-transaction costs	+	0.720	0.502	Insignificant
Degree of trust in relatives and friends-trust scores	-	-0.473**	0.030	Significant
Degree of trust in farmers in the village-trust scores	-	-0.564**	0.027	Significant
Degree of trust in farmers in other villages-trust scores	-	-0.979	0.112	Insignificant
Degree of trust in enterprises and other large-scale business entities-trust scores	-	-0.491**	0.033	Significant

The education level of the household head-household head and land characteristics	+	0.455*	0.068	Significant
Whether the household head is a village cadre-household head and land characteristics	+	0.698	0.274	Insignificant
Cultivated land quality-household head and land characteristics	+	0.612**	0.029	Significant
Whether the contracted land is adjusted during the second round of contracting-household head and land characteristics	+	0.730**	0.042	Significant

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

4.2. Analysis of Results

From Table 4, it can be seen that the exogenous latent variables, such as differential order governance, transaction costs, household head, and land characteristics, and trust scores selected in this study, have strong explanatory power on the impact of the endogenous latent variable on the selection of farmland transfer contracts. On the one hand, differential order governance and transaction costs have a positive and significant impact on the selection of farmland transfer contracts at the levels of 1% and 5%, respectively, which is consistent with the hypothesis of this study. On the other hand, the trust scores have a negative and significant impact on the selection of farmland transfer contracts at the level of 5%. This shows that the higher the degree of trust is, the more likely both parties will reject formal written contracts in the transfer of farmland. The influence of household head and land characteristics on endogenous latent variables is also significantly positive at the 5% level.

The measurement results of the measurement model in Table 5 show the influence of exogenous observable variables on exogenous latent variables. The details are given below.

(1) As an observable variable of differential order governance, the destination of farmland transferred out passes the significance test at the 1% level, indicating that it has a positive and significant impact on the selection of farmland transfer contracts. This shows that farmers face different governance methods when they transfer their farmland to subjects with different degrees of connection. When farmers transfer farmland to transaction entities with unrelated (large-scale business entities such as enterprises) and weak

linkages (farmers in other villages), they are more inclined to weak relationship governance and more likely to conclude formal written contracts. In contrast, in the strong relationship governance situation involving farmers within the village and relatives and friends, the two parties to the farmland transfer transaction are more inclined to oral informal contracts.

(2) Among the observable variables that reflect transaction costs, "whether the consent of the village collective is required when the farmland is transferred out" and "how many negotiations will take to reach an agreement" both have obvious positive effects on the selection of transfer contracts at the 5% level. This shows that if the intervention of the village collective is strong before the farmland transfer transaction. The farmers prefer to adopt formal written contracts to protect their own land rights and interests. To complete the transaction, the number of negotiations between the two parties reflects the negotiation cost in the farmland transfer transaction. To reach a transaction, the more times the two parties negotiate, the higher the negotiation cost and the greater the possibility of choosing a formal written contract. The observable variable "whether there is a dispute with the transferee after the farmland transfer" represents the cost of monitoring the performance of the contract after the farmland transfer is completed. The measurement results show that this indicator has a positive impact on the choice of farmland transfer contracts. This result is consistent with the expected sign but not significant, which may be related to the low default rate of farmland transfer in the survey area.

(3) The four observable variables that reflect the trust scores and their influence directions are consistent with the expected symbols. The degree of trust in relatives and friends, the degree of trust in farmers in the village, and the degree of trust in enterprises and other large-scale business entities are all related to agricultural land transfer contracts. Choice showed a significant negative effect at the 5% level, which also showed that as trust increases, an oral informal contract becomes more likely when farmland is transferred, and as trust decreases, a formal written contract becomes the more likely choice.

(4) Among the four observable variables that describe the household head and land characteristics, "the education level of the household head", "cultivated land quality", and "whether the contracted land is adjusted during the second round of contracting" are significant at the levels of 10%, 5%, and 5%, respectively. These characteristics have a positive and significant impact on the choice of farmland transfer contracts, which confirms the research hypothesis.

5. Conclusions and Recommendations

5.1. Research Conclusions

Differential order governance is a kind of relational governance. For differential order governance, theoretical analysis shows that since the objects of farmland transfer involve different subjects, there is a different degree of association between farmers and the objects of transfer and the relationship distance between them. The exchange principle for the unrelated or weak correlations is more applicable to formal systems and tends to be guaranteed through market-oriented policies, regulations, etc., which is manifested as "weak relationship governance". Longer contract terms are matched by higher contract rents. Favor and demand rules in strong ties and acquaintance ties are mostly guaranteed by informal systems, manifested as "strong relationship governance". This situation is more inclined to oral informal contracts, lower contract rents, and correspondingly shorter contract terms.

First, the traditional relationships of blood, geography, and industry in Chinese rural areas have constructed the differential pattern of social trust among farmers and in governance. Moreover, the trust pattern embedded in the social network of acquaintances makes it difficult to transcend the scope of the family and acquaintance society. To a certain extent, it shows a tendency to be personified, but when farmers transfer farmland to subjects outside the acquaintance society, it often shows the characteristics of marketization. Secondly, the empirical results show that differential order governance has a positive and significant impact on the choice of farmland transfer contracts at the 1% level. It means that farmers are more inclined to formal written contracts in the transfer of farmland in the context of weak relationship governance but to choose oral informal contracts in the context of strong relationship (human feelings) governance.

Thirdly, with regard to transaction costs, the theoretical analysis holds that it may be more beneficial to conclude a written contract than an oral contract when farmers transfer farmland because the performance risk under a formal written contract is relatively small. However, there is a higher risk of contract performance under an oral contract. Compared with a formal written contract, an oral contract can save the cost of contracting. The performance risk may be greater than that of a formal written contract in the negotiation, contracting, and fulfillment costs. The empirical results show that the transaction cost has a positive and significant impact on the choice of farmland transfer contracts at the 5% level. It means that the higher the transaction cost is, the more likely the farmers are to sign a formal written contract.

5.2. Countermeasures and Suggestions

According to the results of the present study, some countermeasures and suggestions could be put forward. At first, the rules of human interaction in an acquaintance society and in rural areas cannot be ignored. This kind of local interaction in the social context of rural acquaintances helps promote mutual trust among farmers with the same social background and in the same region. However, the urban-rural differentiated management mode and the interaction logic caused by the institutional structure lead farmers to have low social trust outside the village. Secondly, because the choice of farmland transfer contract involves the comprehensive consideration of transaction costs, risk perception, social trust, and individual decision-making, local governments at all levels should take measures according to local conditions and give farmers full autonomy in contract selection. Otherwise, the transaction cost of farmland transfer will inevitably increase. Thirdly, when the government formulates and implements policies and rules related to the transfer of farmland, it should pay attention not only to the role of the formal system but also to the rationality of the existence of informal institutions such as prestige, reputation, and trust, in the social context of acquaintances.

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References

1. Lin, Y.F. *Interpreting the Chinese Economy*; Peking University Press: Beijing, China, 2013.
2. Gao, L.; Sun, D.; Ma, C. The Impact of Farmland Transfers on Agricultural Investment in China: A Perspective of Transaction Cost Economics. *China & World Economy* 2019, 27, 93-109, doi:<https://doi.org/10.1111/cwe.12269>.
3. Ma, X.; Heerink, N.; van Ierland, E.; van den Berg, M.; Shi, X. Land tenure security and land investments in Northwest China. *China Agricultural Economic Review* 2013, 5, 281-307, doi:10.1108/17561371311331133.
4. Huang, J.; Rozelle, S.; Zhu, X.; Zhao, S.; Sheng, Y. Agricultural and rural development in China during the past four decades: an introduction. *Australian Journal of Agricultural and Resource Economics* 2020, 64, 1-13, doi:<https://doi.org/10.1111/1467-8489.12352>.
5. Deininger, K.; Jin, S. Tenure security and land-related investment: Evidence from Ethiopia. *European Economic Review* 2006, 50, 1245-1277, doi:<https://doi.org/10.1016/j.euroecorev.2005.02.001>.
6. Schulze, W.; Zellweger, T. Property Rights, Owner-Management, and Value Creation. *Academy of Management Review* 2020, 46, 489-511, doi:10.5465/amr.2018.0377.
7. Kung, J.K.-S.; Bai, Y. Induced Institutional Change or Transaction Costs? The Economic Logic of Land Reallocations in Chinese Agriculture. *The Journal of Development Studies* 2011, 47, 1510-1528, doi:10.1080/00220388.2010.506916.
8. Xu, Y.; Huang, X.; Bao, H.X.H.; Ju, X.; Zhong, T.; Chen, Z.; Zhou, Y. Rural land rights reform and agro-environmental sustainability: Empirical evidence from China. *Land Use Policy* 2018, 74, 73-87, doi:<https://doi.org/10.1016/j.landusepol.2017.07.038>.

9. Cheng, Y.S.; Chung, K.S. Designing Property Rights over Land in Rural China. *The Economic Journal* 2018, 128, 2676-2710, doi:10.1111/ecoj.12552.
10. Cheng, W.; Xu, Y.; Zhou, N.; He, Z.; Zhang, L. How did land titling affect China's rural land rental market? Size, composition and efficiency. *Land Use Policy* 2019, 82, 609-619, doi:https://doi.org/10.1016/j.landusepol.2018.12.037.
11. Peng, K.; Yang, C.; Chen, Y. Land transfer in rural China: incentives, influencing factors and income effects. *Applied Economics* 2020, 52, 5477-5490, doi:10.1080/00036846.2020.1764484.
12. Williamson, O.E. OUTSOURCING: TRANSACTION COST ECONOMICS AND SUPPLY CHAIN MANAGEMENT*. *Journal of Supply Chain Management* 2008, 44, 5-16, doi:https://doi.org/10.1111/j.1745-493X.2008.00051.x.
13. Shahzad, K.; Ali, T.; Takala, J.; Helo, P.; Zaefarian, G. The varying roles of governance mechanisms on ex-post transaction costs and relationship commitment in buyer-supplier relationships. *Industrial Marketing Management* 2018, 71, 135-146, doi:https://doi.org/10.1016/j.indmarman.2017.12.012.
14. LI, K.Y. The Effects of the Nature of the Farmland Used for a Special Purpose and the Uncertainty of Transactions in it on the Transaction Costs of Farmland Transfer. *Manag. World* 2009, 3, 92-98, 187. (In Chinese)
15. Hu, C.; Tao, J.; Zhang, D.; Adams, D. Price Signal of Tilled Land in Rural China: An Empirically Oriented Transaction Costs Study Based on Contract Theory. *Land* 2021, 10, doi:10.3390/land10080837.
16. Chen, Z.; Zhuo, Y.; Li, G.; Xu, Z. What Drives Different Governance Modes and Marketization Performance for Collective Commercial Construction Land in Rural China? *Land* 2021, 10, doi:10.3390/land10030319.
17. Xu, J.; Huang, J.; Zhang, Z.; Gu, X. The Impact of Family Capital on Farmers' Participation in Farmland Transfer: Evidence from Rural China. *Land* 2021, 10, doi:10.3390/land10121351.
18. Yang, H.; Huang, K.; Deng, X.; Xu, D. Livelihood Capital and Land Transfer of Different Types of Farmers: Evidence from Panel Data in Sichuan Province, China. *Land* 2021, 10, doi:10.3390/land10050532.
19. Chen, L.; Chen, H.; Zou, C.; Liu, Y. The Impact of Farmland Transfer on Rural Households' Income Structure in the Context of Household Differentiation: A Case Study of Heilongjiang Province, China. *Land* 2021, 10, doi:10.3390/land10040362.
20. Wang, Y. What Affects Participation in the Farmland Rental Market in Rural China? Evidence from CHARLS. *Sustainability* 2019, 11, doi:10.3390/su11247021.
21. Fei, X.T. *Rural China*; Peking University Press: Beijing, China, 2012.
22. Liu, Y.; Yan, B.; Wang, Y.; Zhou, Y. Will land transfer always increase technical efficiency in China?—A land cost perspective. *Land Use Policy* 2019, 82, 414-421, doi:https://doi.org/10.1016/j.landusepol.2018.12.002.
23. Chen, C.; Yu, L.; Choguill, C.L. "Dipiao", Chinese approach to transfer of land development rights: The experiences of Chongqing. *Land Use Policy* 2020, 99, 104870, doi:https://doi.org/10.1016/j.landusepol.2020.104870.
24. Huang, G.G. *Favor and Face: Power Game of Chinese*; Renmin University of China Press: Beijing, China, 2010.
25. Li, L. Improvement in the law on farmland transfer in China from a contract governance perspective. *Journal of Chinese Governance* 2017, 2, 169-193, doi:10.1080/23812346.2017.1286770.
26. Kijima, Y.; Tabetando, R. Efficiency and equity of rural land markets and the impact on income: Evidence in Kenya and Uganda from 2003 to 2015. *Land Use Policy* 2020, 91, 104416,

doi:<https://doi.org/10.1016/j.landusepol.2019.104416>.

27. Wang, Y.; Xin, L.; Zhang, H.; Li, Y. An Estimation of the Extent of Rent-Free Farmland Transfer and Its Driving Forces in Rural China: A Multilevel Logit Model Analysis. *Sustainability* 2019, 11, doi:10.3390/su11113161.
28. Li, X.; Liu, J.; Huo, X. Impacts of tenure security and market-oriented allocation of farmland on agricultural productivity: Evidence from China's apple growers. *Land Use Policy* 2021, 102, 105233, doi:<https://doi.org/10.1016/j.landusepol.2020.105233>.
29. Zhu, W.; Paudel, K.P.; Inoue, S.; Luo, B. Farmland lease, high-rent threat and contract instability: evidence from China. *China Agricultural Economic Review* 2021, 13, 799-831, doi:10.1108/CAER-06-2020-0142.
30. HART O D , MOORE J. Property Rights and the Nature of the Firm. *Journal of political economy* 1990, 6, 1119-1158, doi:<https://doi.org/10.1086/261729>.
31. Li, H.; Zhang, X. The Mechanism Causing an Increase in Farmland Transfer Rent and the Restraining Effect of High Rent on Grain Production. *Discrete Dynamics in Nature and Society* 2021, 2021, 9491240, doi:10.1155/2021/9491240.
32. Han, H.; Li, H. The Distribution of Residual Controls and Risk Sharing: A Case Study of Farmland Transfer in China. *Sustainability* 2018, 10, doi:10.3390/su10062041.
33. Van, L.; Michael, L.; Nazmun, R.; Peter, N. The Rental Market for Farmland in Vietnam's Mountainous North Central Coast Region: Outcomes and Constraints. *Mountain Research and Development* 2013, 33, 416-423, doi:10.1659/MRD-JOURNAL-D-13-00009.1.
34. Jack, W.; Suri, T. Risk Sharing and Transactions Costs: Evidence from Kenya's Mobile Money Revolution. *American Economic Review* 2014, 104, 183-223, doi:10.1257/aer.104.1.183.
35. Cong Xu, Jie Pu, Bo Wen, Min Xia. Potential Ecological Risks of Heavy Metals in Agricultural Soil Alongside Highways and Their Relationship with Landscape. *Agriculture*, 2021, 10.3390/agriculture11080800.
36. Min Xia, Linyan Wang, Bo Wen, Wei Zou, Weixin Ou, Zhongqiong Qu. Land Consolidation Zoning in Coastal Tidal Areas Based on Landscape Security Pattern: A Case Study of Dafeng District, Yancheng, Jiangsu Province, China. *Land*, 2021, 10(2):145. doi.org/10.3390/land10020145.