

**MANAGEMENT OF LAND RESOURCES AS A FACTOR OF HIGH QUALITY  
AGRICULTURAL DEVELOPMENT OF TERRITORIES**

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Land circulation is mainly to realize the circulation of land management use right, and promote the development of agricultural production to better adapt to the development trend of modern agricultural marketization. Related studies show that the provinces of the land circulation process is inconsistent, the overall performance for the east high west low spatial distribution state, and the process of land circulation difference is not mainly comes from the differences between the region, but mainly from the differences between the regional province units (TengGan, etc., 2022). The main reason for actively advocating land transfer in China is that the scale of rural land transfer in China is still small in the new period, while the scope and term of land transfer are very limited, and the effect of agricultural economy is low.

Many researchers have studied various aspects of land management, namely: Chen Bingpu [10], Chen Yubin[1], Cui Hongzhi [11], Du Bo [13], Fan Huaichao [2], He Lanlan [10], Hou Yongzhi [21], Hu Huaguo [3], Jiao Xingrui [4], Kong Deying [5], Kong Yang [4], Li Chunhua [24], Li Guozhen[8], Li Ya [19], Liao Xiaoping [24], Liu Fan [6], Liu Feixiang [7], Liu Jin[20], Liu Wei [8], Liu Xinni [9], Liu Yang [10], Ma Xiaohe [11], Nie Beng [12], Qi Yudong [13], Qu Haiyan [15], Sun Xinhua [14], Tan Linli [14], Wang Sen [1], Wang Yingrong [9], Wen Feng [17], Xu Guangping [15], Xu Jianguo [16], Xu Qing [20], Yang Ziyan [17], Ye Manfei [18], Yu Fajian [12], Zhang Handong [19], Zhang Jinhua [21], Zhang Junxuan [21], Zhang Lu [22], Zhang Wenming [7], Zhang Xi [23], Zhang Xun [16], Zhang Yingliang [8], Zhang Zhan [24], Zhao Jiaying [9], Zhao Yajiao [25], Zhong Pingying [7], Zhou Zhenfeng [26] and others.

In existing studies, problems such as decentralization of agricultural land management and unscientific ratio of factors have been regarded as the main obstacles to agricultural progress (Han Chaohua, 2017; Liu Qiong et al., 2020). It is precisely because of these realistic backgrounds of agricultural development that the relationship between land circulation, scale management and agricultural development has always been the "agriculture, rural areas" for a long time. After the reform and opening up, the rural land transfer policy has been continuously improved, and the process of land transfer has been accelerated. According to statistics, in 2004, the circulation area of rural contracted land was 58 million mu, but in 2018, it had exceeded 530 million mu. This shows that the land transfer policy has realized the effective radiation at the geographical spatial level. Based on the theoretical perspective of agricultural development stage, the existing relevant literature mainly focuses on two aspects: one is the impact of land circulation on agricultural production efficiency (Qian Long et al., 2016; Chen Binkai et al., 2020), more emphasis on agricultural production increase; the second is the influence of land circulation on agricultural ecological efficiency (Gancone et al., 2017; Sun Jiangchao, 2019), and began to focus on agricultural quality development, especially after the "new development concept" is proposed, ecological security has gradually become an important part of the agricultural research. However, after entering the new stage of development, the research heat on issues related to high-quality agricultural development has also increased (Sun Jiangchao, 2019). In general, the systematic research on the high-quality agricultural development of land circulation is relatively lacking.

This paper thinks that the expansion of land circulation scale level helps to overcome the long-term domestic agricultural production field facing land decentralization, large cost loss and low

economic benefit reality challenges, and by promoting the agricultural increment, quality, effect development to promote agricultural high quality development, namely the land circulation scale expansion of agricultural quality development economic impact, namely the scale effect. Specifically speaking, first, the expansion of land circulation scale has agricultural incremental effect. From the perspective of food security, rural land transfer such as share cooperation and transfer has positive effects on agricultural grain production (Li Shanshan et al., 2022); meanwhile, some studies found that land transfer significantly improves agricultural production efficiency (Zhang, 2018; Shi Changliang et al., 2020). From the perspective of income increase effect, the transfer of land and the non-farm employment decision of rural labor is considered to enhance the per capita income level. Moreover, the participation of farmers in the land transfer is of great significance to effectively consolidate the achievements of poverty alleviation and comprehensively boost rural revitalization (Lu Peilu et al., 2022). From the perspective of poverty reduction effect, the rural land transfer in poor areas can significantly reduce the poverty incidence rate by about 30%, and the average increase of the land transfer level by one unit can effectively reduce the poverty level by 0.718 units (Zhou Li, 2022). Second, the expansion of land circulation scale has the effect of improving agricultural quality. Long Yun et al. (2016) believe that land circulation has a reducing effect on agricultural non-point source pollution. Compared with the stage of banning rural land circulation, the impact of land circulation on the agricultural ecological environment is improved after entering the market development stage of land circulation (Xu Shan et al., 2018). At the same time, based on the perspective of the stability of land transfer contract, the long-term stability of land transfer contract helps to reduce the intensity of agricultural fertilizer application, and then improve the environmental efficiency of agricultural production and operation (Li Bowei, 2019; Zhang Lu et al., 2021). In short, the expansion of land circulation scale has a significant positive effect on the agricultural ecological environment. Third, the expansion of land circulation scale has the efficiency effect. Cai Jian et al. (2016) pointed out that under the condition of stable land rights, land transfer promotes the application of agricultural machinery technology; moreover, Liu Minghui et al. (2019) found that agricultural mechanization service is an important way for land transfer to improve agricultural income. From the perspective of international trade of agricultural products, the expansion of land transfer scale helps to reduce the cost of agricultural production and strengthen the standardized management of agricultural products, so as to improve the competitiveness of China's agricultural products in the international trade market (Shao Guilin et al., 2010). Considering the income distribution effect and welfare level, the expansion of land transfer scale will not only contribute to the improvement of farmers' income level, but also help to reduce the income gap within farmers and urban and rural income gap, so as to improve the income distribution effect and welfare level (Wu Mingming et al., 2022).

It can be seen that the promotion effect of land circulation on agricultural output benefit, agricultural environmental benefit and agricultural technology level has been proved by relevant studies. However, agricultural output benefits, agricultural environmental benefits and agricultural technology level also reflect the goals of "incremental, improving quality and efficiency" of agriculture from different aspects, which meets the requirements of high-quality agricultural development. Therefore, it is not difficult to infer that land circulation is also very likely to have a positive effect on the process of high-quality agricultural development. So, in the domestic under the background of land circulation scale and cycle is limited, need to pay attention to the scale effect of land circulation, through land circulation scale expansion to achieve agricultural incremental quality effect development, and promote the development of agricultural quality, the scale effect is land circulation is one of the process of endogenous power in the development of agricultural high quality.

Based on the above analysis, this paper proposes a research hypothesis:

Hypothesis 3-1: The expansion of land circulation scale can effectively promote the process of high-quality agricultural development.

#### Policy effect

##### 1) Macro level: land transfer policy and high-quality agricultural development

On the one hand, development is background of the land transfer policy. Land circulation is a major agricultural policy in the field of domestic agriculture, in ensuring the ownership of land and

contract right under the condition of long-term stability, its purpose is mainly in the circulation of land, and through the effective use of land resources, promote land scale management, increase food production, improve farmers' income and building beautiful prosperous rural agricultural high quality development. Relevant studies show that China's land transfer policy has obvious phased characteristics, which can be divided into four stages: the initial exploration stage from 1984-1987, the legal licensing stage from 1988-2002, the steady promotion stage from 2003-2009 and the standard implementation stage after 2010, as shown in Table 1.

Table 1. Stage evolution and contents of land transfer policies.

The phased division standard of land transfer policy	The phased content of the land transfer policy
1984-1987: The initial exploration stage	We will allow contracted rural land to subcontract, and encourage contracted land to be concentrated to experts in farming and carry out intensive management
1988-2002: Legal licensing stage	We will allow the transfer of contracted rural land management rights
2003-2009: Steady promotion stage	Farmers are allowed to legally rent and lease land, and rules for handling land lease disputes are formulated
2010-present: Standard implementation stage	To promote the use of the standard text of land transfer contracts, we should strengthen the management and services for the transfer of contracted land management rights, improve the transfer market, and develop various forms of appropriately scaled operations on the basis of voluntary and paid transfer in accordance with the law

Note: The phased classification standards and phased achievements of land transfer policies are mainly based on the research results of Fang Zhen et al. (2022) and Chen Yubin et al. (2022) in this regard, In the initial exploration phase of 1984-1987, In 1984, the No.1 central document began to propose that "allowing the subcontracting of contracted rural land, Encourage contracted land to concentrate on farming experts, Implementation of intensive management " land transfer policy orientation, It is the embryonic embodiment of the system that initially reflects the land transfer policy; During the 1988-2002 legal licensing phase, The Amendment to the Constitution of the People's Republic of China promulgated in 1988 clearly states that the key information of land transfer of "allowing the transfer of contracted rural land management rights", Thus laid the legal foundation for the land transfer policy; During the steady promotion phase of 2003-2009, The Rural Land Contracting Law of the People's Republic of China, promulgated in 2003, emphasized: "Farmers are allowed to legally lease and lease land legally, Formulate rules for handling land lease disputes" and other important expressions of land transfer policy level, This further provides legal protection for both parties to the transfer and transfer of the land; In the standard implementation phase after 2010, In 2010, the No.1 document of the CPC Central Committee issued several Opinions of the CPC Central Committee and The State Council on Strengthening Coordinating Urban and Rural Development and Further Strengthening the Foundation of Agricultural and Rural Development (Zhongfa [2010] No.1), The document clearly states that "to promote the use of the standard text of land transfer contracts, We will strengthen the management and services for the transfer of contracted land management rights, Improve the circulation market, Develop various forms of appropriate scale operation on the basis of voluntary and paid circulation according to law", This is a major turning point in the evolution of land transfer policy (Fang Zhen et al., 2022; Yu-Bin Chen, 2022).

According to "Zhongfa [2010] No.1", this document clearly points out that the standard text of land transfer contract should be promoted, the management and service of land contract management right should be strengthened, the transfer market should be improved, and various forms of moderate scale operation should be developed on the basis of voluntary and paid transfer according to law. In 2005, the former Ministry of Agriculture issued the Measures for the Management of the Transfer of Contracted Rural Land Management Rights, which made preliminary provisions on the principles of land transfer, the rights and obligations of the parties involved in the transfer, and the transfer methods. However, because the land transfer policy was just introduced at that time, the policy system was not

perfect, coupled with the impact of the financial crisis, the actual effect of the policy was not obvious. According to relevant data, in 2005 and 2006, the total area of contracted farmland circulation was 0.547 million mu and 55.5 million mu respectively, with an annual growth rate of only about 1.5%, while the total area in 2010 and 2011 was 186.7 million mu and 227.9 million mu respectively, with an annual growth rate of about 22.1%. It is not difficult to find that after the launch of Zhongfa [2010] 1 in 2010, the annual growth rate in 2011 increased by about 20.6% compared with 2006. Therefore, this paper will implement "Zhongfa [2010] No.1" as a quasi-natural experiment, and then explore the impact of the implementation of land transfer policy on the high-quality development of agriculture.

On the other hand, the theoretical analysis has implications for land turnover policy and the quality of agricultural development. First, let us consider the overall impact of land turnover policy on the quality of agricultural development. The "Zhongfa [2010] No. 1" document clearly proposes to strengthen the management of rural land contracting, stabilize and improve the basic rural operation system, and enhance the management and service of the transfer of contracted land management rights. To be specific, accelerate the cultivation of land transfer service organizations, coordinate the grass-roots land contract management departments, improve the land transfer service system, carry out information release, policy consultation, contract signing, price evaluation and other services, to promote the process of land transfer. However, in the existing studies, the influence of land transfer policy on high-quality agricultural development by promoting the expansion of land transfer scale is mainly reflected in the influence of land transfer on agricultural output benefit, agricultural environmental benefit and agricultural technology level. Specifically, in terms of agricultural output benefits, expanding the scale of land transfer can not only improve agricultural production efficiency (Zhang, 2018), but also help to reduce agricultural production costs (Peng Jiquan, 2021). In terms of agricultural environmental benefits, land transfer not only reduces agricultural non-point source pollution (Longyun, 2016), but also improves the probability of farmers adopting green agricultural production methods (Zhang Zhaohui et al., 2021). In terms of agricultural technology level, on the premise of maintaining the stability of land rights, land transfer promotes the application of agricultural machinery technology (CAI Jian, 2016), and agricultural mechanization service is an important path for agricultural land transfer to improve agricultural income (Liu Minghui, 2019). It can be seen that the promotion effect of land circulation on agricultural output benefit, agricultural environmental benefit and agricultural technology level has been proved by relevant studies. However, agricultural output benefits, agricultural environmental benefits and agricultural technology level also reflect the goal of "incremental, improving quality and efficiency" of agriculture from different aspects, which meets the requirements of high-quality agricultural development. Therefore, the policy effect of land circulation on high-quality agricultural development needs to be verified.

Therefore, this paper holds that there may be significant differences in the effect of land transfer policy on high-quality agricultural development before and after the implementation stage of 2010 standard. According to the above discussion, compared with the implementation stage of the standard, the land transfer policy after the implementation stage of the standard has a more effective positive effect on increasing production, increasing quantity and increasing efficiency of chemical fertilizers and pesticides, and reducing the rural income gap. Therefore, the policy effect is one of the internal driving forces of the macro-level land circulation to promote the high-quality development of agriculture.

## 2) Micro-level: high-standard farmland policy and agricultural carbon emissions

On the one hand, the development background of the high-standard farmland policy. Some domestic land policies, such as the implementation of high-standard farmland construction policy in 2011 (hereinafter referred to as "high-standard farmland policy") and land circulation, which reflects the demands of land transfer policy from a specific level. China has initiated comprehensive agricultural development projects since 1988. Since 1994, integrated agricultural development projects have been divided into two categories, namely land management projects and multiple management projects; since 1999, comprehensive agricultural development projects have been expanded into three categories and added science and technology demonstration projects; however, since 2004, comprehensive agricultural development projects have been adjusted to two categories, namely land management projects and industrial management projects, with no science and technology demonstration projects. High standard

farmland policy as an important content of comprehensive agricultural development "is the construction of high standard basic farmland as the goal, on the basis of overall land use planning and land management planning, in rural land management key areas and major engineering construction area, basic farmland reserves, basic farmland development area of land consolidation activities". China's high-standard farmland policy is mainly manifested in two stages of development: first, the preliminary exploration stage (1997-2010). In 1997, the Notice of the Central Committee of the Communist Party of China and the State Council on Further Strengthening Land Management and Effectively Protecting cultivated Land proposed: "Actively promote land consolidation and improve land construction"; in 2001, the Ministry of Land and Resources organized the preparation of the National Land Development and Consolidation Plan (2001-2010). Although the relevant departments have put forward some preliminary development models and future construction directions of the high-standard farmland policies, no normative documents have been formed for implementation nationwide, so this stage is in the preliminary exploration stage. Second, the standard implementation phase (2011-present). In 2011, the National Land Consolidation Plan (2011-2015) (hereinafter referred to as the Plan) clearly put forward the requirements for the implementation of high-standard farmland policies, and the relevant local departments provided institutional guarantee for the effective promotion of high-standard farmland construction across the country through the connection with the Plan.

In recent years, the national policy level attaches great importance to the actual progress and effectiveness of the construction of high-standard farmland. No.207, "optimize the regional layout, highlight the construction focus, improve the construction standards and investment standards, and strive to build more than 200 million mu of concentrated contiguous, drought and flood protection, stable and high yield and high yield, ecological friendly high-standard farmland during the 13th Five-Year Plan period". In addition, according to the requirements of the National High-standard Farmland Construction Plan (2021-2030), 1.075 billion mu and 1.2 billion mu of high-standard farmland will be built in 2025 and 2030 respectively. Therefore, the construction of high-standard farmland is the core content of comprehensive agricultural development projects, which fully reflects the development requirements of land circulation and scale operation, and the ideas of "small field and field" and "land exchange" reflect the basic demands of land circulation to some extent, and also emphasizes the concept of "ecological first", which has fertilizer reduction effect (Liang Zhihui et al., 2021; Chen Jianghua et al., 2022). Accordingly, under the strategic goal of "double carbon", the reduction of agricultural carbon emission is also the micro embodiment of high-quality agricultural development. Therefore, this paper holds that before and after the implementation of high-standard farmland construction policy. Therefore, the policy effect is also one of the internal driving forces of the micro-level high-standard farmland construction policy to promote the reduction of agricultural carbon emissions.

According to the requirements of National High-standard Farmland Construction Plan (2021-2030), 1.075 billion mu and 1.2 billion mu of high-standard farmland will be built in 2025 and 2030 respectively; meanwhile, the "two-carbon" target strengthens the carbon emission reduction orientation of major industries including agriculture. Therefore, strengthening the policy of high-standard farmland and realizing the goal of agricultural carbon emission reduction are important contents in the process of modern agricultural development. In fact, the impact of high-standard farmland policy on agricultural carbon emission reflects the impact of land transfer policy on high-quality agricultural development from a more micro level of quality improvement. In existing studies, policy effects are widely regarded as one of the effective ways to achieve the agricultural carbon emission reduction target (Some et al., 2019; Costajr et al., 2019; Liu Qiong et al., 2020). From the global experience, in order to achieve the target of agricultural carbon emission reduction, the governments of various countries have formulated corresponding agricultural carbon emission reduction policies according to their place, time and potential. How is the effect of the policy implementation? Scholars at home and abroad have discussed the relevant issues. for example, Some scholars used agricultural fiscal expenditure to characterize agricultural policy variables and found that agricultural policy support was further helped to curb agricultural carbon emissions by stimulating agricultural technological innovation (Hu Chuan et al., 2018); As again, Some scholars have found that, The US carbon tax policy has not only reduced the exports of corn, sorghum and wheat and increased the exports of barley, soybeans and sunflower, And

these changes in trade patterns have also led to the redistribution of land use in other parts of the world, Further fueling global greenhouse gas emissions, Its emissions growth accounted for 1.8% of total U. S. emissions in 2017 (Dumortier et al., 2021). In view of this, the effect of "carbon emission reduction" of agricultural land policy has both theoretical and practical implications.

In fact, the high-standard farmland policy implemented in China in 2011 is an important part of the comprehensive agricultural development investment project, among which "ecological first" is the important thought that the high-standard farmland policy and land consolidation projects must be upheld, which fully embodies the ecological concept of "carbon emission reduction" in agriculture. The purpose of high-standard farmland construction is to build the farmland with high and stable crop yield and convenient field management. In addition, large-scale contiguous plots can be constructed by means of "small field combined field" and "land exchange", so as to improve the utilization efficiency of agricultural production input, realize the scientific ratio and quantity reduction and efficiency increase of carbon emission source factors such as chemical fertilizer, so as to adjust and optimize the input structure of agricultural factors. Therefore, in the context of the construction of the "two-carbon" pattern, will the implementation of the high-standard farmland policy help to reduce agricultural carbon emissions? Will the differences in economic basis, geographical location and agricultural endowment conditions among provincial units lead to heterogeneity in the impact of policy implementation on agricultural carbon emissions? These issues urgently need a scientific assessment.

On the other hand, there is a theoretical analysis of the impact of a policy of high farmland standards on carbon emissions in agriculture. The reduction target of agricultural carbon emission is the practical embodiment of agricultural "quality improvement" development, and also the inherent requirement of high-quality agricultural development in China. As a major agricultural country in the world, China has a long way to go to reduce agricultural carbon emissions. For a long time, domestic "carbon emission reduction" and other environmental policies mainly targeted in the industrial field, while ignoring the relatively backward agricultural field. However, in recent years, with the increasingly prominent negative external effects of excessive greenhouse gas emissions in the agricultural sector, relevant departments have realized the harm of environmental problems such as agricultural carbon emissions, and began to put the agricultural "carbon emission reduction" compensation work in an important position (Wu Haoyue et al., 2020; Tian Yun et al., 2021). As we all know, cultivated farmland not only has grain production value, but also has important ecological value. Therefore, strengthening the awareness of cultivated land quality protection is helpful to improve the ability of agricultural ecological "carbon sink". Although high standard farmland policy is not a complete sense for agricultural carbon emissions reduction target natural experiment, but according to the actual requirements of the construction of high standard farmland, not only in accordance with the "field, tree lines, road, canal, drought, waterlogging can row" standard, large-scale construction guaranteed high standard basic farmland, scientific and effective guide cultivated land concentrated, optimize farmland layout, to strengthen the construction of high standard basic farmland demonstration county, organize the implementation of basic farmland renovation major projects, more to strengthen the quality of supplementary cultivated land construction and management, reasonable guide agricultural structure adjustment, improve the efficiency of farmland utilization. Therefore, it is not difficult to find that its internal requirements reveal that the authorities pay enough attention to agricultural environmental issues such as agricultural carbon emissions.yet, At present, the academic research on high-standard farmland policy mainly focuses on the regional planning of policy implementation (Hu Yecui et al., 2014; Sun Yu, et al., 2016), Construction site selection (Han Shuai, etc., 2015), construction time sequence (Zhang Zhong et al., 2014; Zeng Ya, et al., 2020) and construction suitability (Cui Yong et al., 2014; Tan Shaojun, et al., 2018), etc., Although some studies have begun to focus on the impact of the implementation of the high-standard farmland policy on the agricultural environment, such as the reduction of chemical fertilizer use (Liang Zhihui et al., 2021), But in the current "two-carbon" context, There is still much room for the deepening of the impact of high standard farmland policy on agricultural carbon emissions.

Based on the above analysis, this paper proposes a research hypothesis:

Hypothesis 3-2: At the macro level, the implementation of the land transfer policy (Zhongfa [2010] No.1) helps to promote the high-quality development of agriculture.

Hypothesis 3-3: At the micro level, the implementation of high-standard farmland policies helps to help curb agricultural carbon emissions.

Steric effect.

1) A related theoretical study of the spatial spillover effects.

With the rise of space economics, the research problem of combining geographical space and economic phenomenon has continuously attracted the attention of scholars. At the same time, more and more scholars, especially those in the field of regional economy, have conducted fruitful discussions on the spatial spillover effect or the same group effect (Peer Effects) of economic issues. Spatial spillover effect means that the economic growth of the open subject is influenced by the external environment under the constraints of internal factors, which can be realized through technology diffusion, knowledge dissemination, trade exchange and population flow. In general, a region, such as a province, city or county, as a separate economic unit, often has a close connection channel with its surrounding economic unit, rather than exists in isolation (Talen et al., 1998). Many scholars, starting from the relationship between regional correlation, economic growth and economic convergence, point out that the potential of various driving factors on China's economic growth is greater under the influence of spatial spillover effect. Of course, the driving effect of various growth effects may decrease in the evolution of spatial distance from near to far; at the same time, there is no general convergence or even widening difference between regional economic development, but the convergence within the region is strengthened, showing the convergence characteristics of regional economy (Gallo et al., 2003; Zhang Xiaoxu et al., 2008; Pan Wenqing, 2012).

In the field of agricultural economy, space spillover effect is also common in agricultural production practice. Many scholars have embedded space spillover effect in the study of the influence of agricultural science and technology input, agricultural mechanization and urbanization on agricultural performance indicators (Fang Jiale et al., 2017; Zhang et al., 2017; Hou Mengyang et al., 2018; Zhang Dongling, 2019). Specifically, for example, the spatial spillover effect between the investment in agricultural science and technology and the agricultural development performance. Investment in agricultural science and technology research and development has an obvious poverty reduction effect, And there are geographical differences in this emission reduction effect, The emission reduction effect of agricultural science and technology research and development has the spatial dependence characteristics (Shen Neng et al., 2012); in addition, There is a positive spatial dependence on China's agricultural scientific research technology and agricultural production behavior, The more similar the agricultural research technology, The more obvious the spatial effect of technology spillover between provinces and regions (Scherer, 1982; Xiao Xiaoyong, et al., 2014); Studies have also shown that, Agricultural mechanization services will not only help to improve the total factor productivity of agriculture in the region, Also help to increase agricultural total factor productivity in the surrounding area, There are inter-regional spatial spillover characteristics at the latitude level (Fang Jiale, etc., 2017; Wu Haixia, et al., 2022). Another example is the research level of the spatial spillover effect of urbanization development on agricultural development indicators. Li Wei (2017) found that urbanization can not only promote the development of agricultural modernization in the region, but also have spatial spillover effect; Zhang Dongling (2019) pointed out that the quality of new urbanization and the growth of agricultural economy contribute significantly to the agricultural economic growth in the region, and the space spillover effect is weak.

From this paper the influence of land circulation on the development of agricultural quality research perspective, some scholars explore the rural land approval register the influence of agricultural production efficiency and space spillover effect, and found the agricultural production efficiency is positive space agglomeration phenomenon, a region of land approval registration of the surrounding area has incentive and demonstration effect, which makes the land approval of agricultural production efficiency promotion effect space spillover effect (Zhong Chenglin, 2019). Therefore, this paper holds

that since land circulation, as a major agricultural project, also has spatial spillover effect on the high-quality agricultural development.

2) Theoretical analysis of the spatial spillover effect of the influence of land circulation on high-quality agricultural development.

In the field of agricultural research, similar to the agglomeration effect or dependence phenomenon of the application of new agricultural technology at the spatial level, the decision of the land transfer behavior of the agricultural production subject in a region can bring the spillover effect of knowledge and technology to the agricultural production subject in the adjacent region. Combined with the consensus of relevant studies on spatial spillover effect, it can be seen that the spatial spillover effect of land circulation on high-quality agricultural development involved in this paper can be divided into two types of materialized knowledge and non-materialized knowledge (Jaffe, 1986; Lin et al., 2007). Among them, physical-chemical knowledge mainly refers to the physical carriers such as advanced agricultural equipment, green organic fertilizer and low residue pesticide that overflow and accept in the process of land transfer project and are presented by physical attributes, the non-physical knowledge such as income distribution decision thinking, technology and methods of agricultural production, scale operation and management concept and so on in the form of non-physical attributes.

In order to better understand the actual situation in different agricultural production scenarios, the concept of "same-group effect" has also been widely used to explain the spatial spillover effect in different influence mechanisms. The "same-group effect" originates from the social interaction model, which is a social interaction between individuals making decisions (Manski, 2000). In the open agricultural production system, the majority of farmers act as the same group, and the decision-making behaviors of different farmers influence each other. From the perspective of land circulation affect the development of agricultural high quality, in general, the earliest land circulation and pay attention to the development of agricultural quality benefit experience in farmers groups often can interact, again through competition between farmers imitation, learning imitation makes land circulation scale expansion and agricultural quality development to accelerate the goal, and the space with group effect is not restricted by the administrative boundary. But due to the different spatial geographical location, the process of land circulation in different provinces is not consistent, but the process of the space adjacent between provinces is often more consistent, and the earliest because of land circulation benefit from the development of agricultural high quality area and its production subject to become adjacent area and farmers "with" imitation object. Generally speaking, the geographical distance or economic distance of the imitation, learning and comparison between the neighboring provinces in the distance is stronger, which makes the spatial diffusion effect of the actual impact of the expansion of agricultural land circulation scale on the high-quality agricultural development.

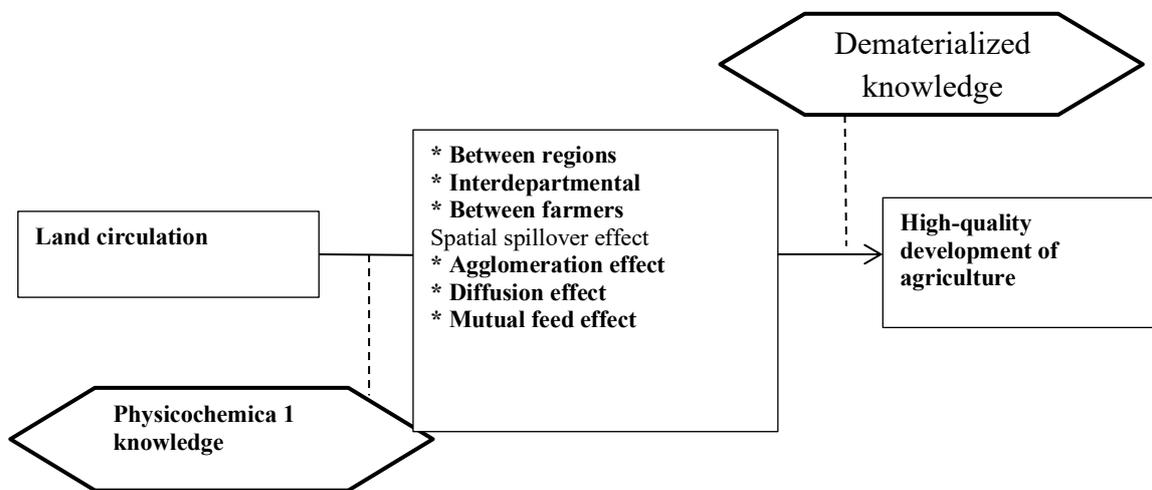
In the background of high-quality development strategy, few studies have systematically analyzed the spatial spillover effect of the impact of land circulation on high-quality agricultural development. Then, what is the specific theoretical logic of the spatial spillover effect of land circulation affecting the high-quality agricultural development? In fact, this is mainly due to the following processes.

First, there is the agglomeration effect. In the early land circulation policy, the domestic market economy development mature, good agricultural basic conditions and convenient transportation area often lead to complete land approval registration and land circulation agglomeration area and the first scale management, green production and open trade and different levels of materialized type of agricultural production experience and materialized type of agricultural production experience knowledge. Therefore, these areas first became the demonstration areas for high-quality agricultural development due to the land circulation and agglomeration.

Second, there is the diffusion effect. According to the theory of "center-periphery", the demonstration effect of the high-quality agricultural development model that emphasizes increment, quality and efficiency formed by the promotion of land transfer can drive the imitation and learning of "adjacent areas" and further form the diffusion effect. Specifically, the experience of high-quality agricultural development driven by land circulation realizes spatial diffusion through competitive imitation and learning imitation between regions, agricultural departments and farmer groups, and the diffusion effect of this species is not limited by administrative boundaries (Deng Huihui et al., 2018).

Although the spatial location, economic development situation is not the same, different areas of the land circulation and agricultural process of high quality development is not consistent, but "adjacent" area, agricultural sector, farmers groups of agricultural development process is often relatively close, and the earliest because of land circulation and realize agricultural high quality development leading areas more likely to become other areas of imitation and learning object.

Third, there is the mutual-feeding effect. In open land circulation market and agricultural production system, through the macro area between, between agricultural sector, micro farmers between these levels of land circulation and agricultural high quality development experience exchange and learning, not only beneficial to promote the regional "with" between benign competition and cooperation, and can use the regional between agricultural communication platform effectively identify the bottleneck in the process of agricultural high quality development. It can be seen that land circulation has agglomeration effect, diffusion effect and mutual feeding effect in the process of high-quality agricultural development, so the spatial spillover effect in the process of this role needs to be verified. The theoretical analysis framework of the spatial spillover effect of land circulation on high-quality agricultural development reflected in the above analysis process is shown in Figure 1.



*Figure 1. Theoretical analysis framework of spatial spillover effects*  
*Source: compiled by the author.*

It can be seen that the experience of land circulation in promoting high-quality agricultural development has agglomeration effect, diffusion effect and mutual feeding effect within the spatial scope, ranging from the spatial spillover effect of land circulation and high-quality agricultural development. Therefore, the spatial effect is also one of the endogenous driving forces for the land circulation to promote the high-quality agricultural development.

Based on the above analysis, this paper proposes a research hypothesis.

Hypothesis 3-4: The positive promotion effect of land circulation on high-quality agricultural development has spatial spillover effect, that is, land circulation not only helps to promote the high-quality agricultural development in the region, but also helps to promote the process of high-quality agricultural development in adjacent areas.

Action path: agricultural scale management.

Large-scale agricultural operation has wide social significance and provides important impetus for local social development. It can improve agricultural production structure, improve agricultural production efficiency, create conditions for sustainable development, ensure sufficient supply of agricultural products, reduce intermediate links, reduce social costs, and realize agricultural transformation and upgrading. Large-scale agricultural operations can also provide higher income for farmers and provide more support for local economic development. Moreover, large-scale agricultural operation is an important direction in the development of agricultural modernization with Chinese

characteristics and a key step to deepen the reform of rural land system at the present stage. It is playing an irreplaceable role in the connection of land circulation in the process of high-quality agricultural development. Therefore, this paper holds that under the scale effect and policy effect of land circulation affecting the high-quality agricultural development, agricultural scale operation is playing a transmission role.

*A) Theoretical analysis of the role path of agricultural scale operation in scale effect.*

Large-scale management is the direction constantly advocated in the process of high-quality agricultural development, and land circulation is the key to promote large-scale agricultural operation. Therefore, under the background of domestic land transfer policy, agricultural scale operation may play a transmission role in the process of land transfer to promote high-quality agricultural development. On the one hand, the land circulation has promoted the agricultural scale management. Specifically, land circulation is the necessary premise and foundation to promote agricultural scale operation, at present in many areas bear the rural land operators, so the voluntary land circulation and follow the rural land management main body of land transfer will principle, land circulation is important role to promote agricultural scale operation (worship, 2019). With the promotion of domestic agricultural modernization, relevant agricultural departments have strengthened the importance to the training of agricultural production. Moreover, relevant departments also strongly advocate agricultural professionals to devote themselves to the field of agricultural production. Therefore, agricultural human capital continues to sink into rural areas, forming a number of new agricultural business entities such as large grain farmers and professional farmers (Zheng Yangyang et al., 2020). Rural land circulation to professional farmers and other new type of agricultural management subject, due to the new agricultural management main body of agricultural knowledge structure than ordinary farmers more complete, so, they tend to adopt modern agricultural production technology and scientific management way, and this process not only promotes the agricultural division of labor and specialization, also help to promote agricultural moderate scale management, so as to improve the agricultural scale (Xu Jiabin, etc., 2020). Land circulation has a reallocation effect on rural land resources, activates abandoned land resources, and promotes the more effective planning and integration of dispersed land and farmland. Not only that, land circulation is not a simple turn or out, it based on prompting field integration, with some agricultural infrastructure construction project policy "combination", help to realize field, road, mountain, water, village, such as different levels of reasonable planning and layout, and form with "field communication", "field" and "tamura financing" and other distinctive characteristics of modern agricultural operation mode. In addition, the national level attaches great importance to the cultivation of new agricultural business entities, which not only helps to stimulate the demand for land transfer in the process of land transfer, but also accumulates a batch of high-quality human capital for the promotion of agricultural scale operation process (Li Jiangyan, 2022).

On the other hand, agricultural scale operation promotes the high-quality development of agriculture. Under the agricultural scale operation system, the input factors of agricultural production can also be recombined and configured. In addition to the injection of agricultural management talents and management knowledge of new agricultural subjects such as professional farmers and large grain farmers, various agricultural performance indicators have been improved and improved. Specifically speaking, first of all, agricultural scale operation helps to promote agricultural incremental development. The establishment of the food supply guarantee mechanism depends on the large-scale agricultural operation, Decentralized agricultural management mode is a major reason for the instability of domestic grain production (Zhu Ying, 2012); Agricultural scale operation has great space for the improvement of farmers' income increase effect and agricultural productivity (Luan Jian et al., 2020); Agricultural scale operation can also improve the income level of farmers by promoting the rationalization of labor force allocation and optimizing agricultural production decisions (Li Ruiqin, 2015; Chen Zhaojiu et al., 2016); besides, Agricultural scale operation mode helps to reduce unnecessary factor input, Thus saving production costs (Zhang Congying, etc., 2018). Secondly, agricultural scale management is conducive to promoting the quality of agricultural development. Agricultural scale operation is conducive to the reduction and efficiency of chemical fertilizer and agricultural pollution emissions, thus improving agricultural ecological environment and agricultural green development level (Wang Qingjun, 2014; Li

Wenhua et al., 2018; Zhao Ning et al., 2022; Chen Yubin, et al., 2022); compared to the fragmented and extensive operation mode before land circulation, agricultural scale operation mode makes the ratio of input factors more scientific, especially the reduction and efficiency of chemical fertilizer, which helps to improve agricultural green efficiency (Lu Shan et al., 2021; Zhu Wei et al., 2021). Finally, agricultural scale operation helps to promote the development of agricultural efficiency. Under the agricultural scale operation mode, traditional problems such as loose contact with the outside world and broken capital chain are easily solved, which are conducive to the management and operation of agricultural production, build agricultural production brand, improve the competitiveness of agricultural products, and promote the integrated development of the primary, secondary and tertiary industries (Zhu Junfeng et al., 2022); moreover, agricultural scale operation promotes agricultural machinery operation service, improve the organic structure of agricultural capitalization, and improve the social benefits of agriculture (Hu Wen et al., 2019; Fang Da et al., 2020). It can be seen that land circulation promotes agricultural scale operation by improving the allocation of land resources, while agricultural scale operation promotes the process of high-quality agricultural development by promoting agricultural incremental quality and efficiency development.

Therefore, the impact of land circulation on the high-quality development of agriculture is not fully achieved in one step. These are large agricultural farmers and other new agricultural business entities. Generally speaking, new agricultural business entities have more complete agricultural knowledge structure than individual farmers, so they prefer to realize scale agricultural land management through modern agricultural production technology and advanced management. Further, the input structure of agricultural elements, also helps to promote specialized agricultural production, thus affecting agricultural economic output, agricultural ecological environment and agricultural social benefits, and ultimately has a comprehensive effect on the process of high-quality agricultural development. Therefore, the land policy support for large-scale agricultural operation is still constantly strengthened, and it is likely to play a significant role in the process of land circulation affecting the high-quality agricultural development.

*B) Theoretical analysis of the role and path of agricultural scale operation in the policy effect.*

At the macro level, agricultural scale operation is playing a role in the process of high-quality agricultural development. Since large-scale agricultural operation is the direction of land transfer policy, and large-scale agricultural operation has a profound role on agricultural development (Li Wenming et al., 2015). Therefore, it is also the core concern of this paper to explore whether the agricultural scale operation assumes the connection mechanism in the process of land transfer policy affecting the high-quality agricultural development (Zhongfa [2010] No.1), it is proposed to accelerate the construction of tangible market for land circulation according to the requirements of clear property rights and smooth circulation, and various forms of moderate scale operation should be promoted on the realistic basis of legal, voluntary and paid circulation. Therefore, the efficiency of agricultural scale operation is likely to play the role of the connection mechanism in the process of the implementation of land transfer policy on the high-quality agricultural development. Specifically, on the one hand, land circulation, driven by policy implementation, promotes the improvement of the efficiency of agricultural scale operation. With the promotion of domestic agricultural modernization, the state attaches more importance to the training of farmers, and also strongly advocates agricultural professional related talents to devote themselves to the agricultural field. Therefore, with the continuous sinking of agricultural human capital to rural areas, a number of new agricultural business entities such as large grain farmers and professional farmers have gathered in the agricultural field (Zheng Yangyang et al., 2020). After the transfer of rural land to the new agricultural management entities, the agricultural knowledge structure of the new agricultural management entities is more complete than that of ordinary farmers, so they are more inclined to adopt modern agricultural production technology and scientific operation and management mode. Moreover, this process not only promotes the division of labor and specialization of agriculture, but also helps to realize the promotion of moderate-scale land operation and improve the efficiency of large-scale agricultural operation (Xu Jiabin et al., 2020). On the other hand, agricultural scale operation has promoted the process of high-quality agricultural development. First, agricultural scale operation helps to save the cost of land planting, There is great room for improvement in agricultural production

efficiency (Luan Jian et al., 2020); Second, compared with the fragmented and extensive management mode before the land transfer, The agricultural scale management mode makes the ratio of input elements more scientific, In particular, chemical fertilizer and other pollution factors to reduce the amount and increase the efficiency significantly, Help to improve the efficiency of resource allocation and agricultural environment (Lu Shan et al., 2021); Third, the scale of land management to promote agricultural management began to agricultural machinery operation services, It is conducive to the realization of the agricultural capitalization path, Improved the organic capital composition of the agricultural sector (Hu Wen, 2019; Fonda, 2020). Therefore, agricultural scale management, to a certain extent, promotes agriculture to the comprehensive "incremental", "quality" and "efficiency" goals and to achieve high-quality agricultural development. In general, whether the implementation of land transfer policy further realizes high-quality agricultural development by improving the efficiency of agricultural scale operation also needs to be verified.

At the micro level, agricultural scale operation is playing a role mechanism in the process of high-standard farmland policy affecting agricultural carbon emission. In fact, after the implementation of the high-standard farmland policy, the progress of comprehensive agricultural development investment, land consolidation and land transfer has been accelerated, and the goal of agricultural "carbon emission reduction" can be achieved by indirectly improving the efficiency of agricultural large-scale operation. The efficiency of agricultural scale operation mainly reflects the scientific ratio relationship between agricultural labor force input and agricultural land operating area and agricultural output. The ideal state should be to minimize the number of agricultural labor force and operating area and realize the maximum agricultural output. Therefore, starting from the logic of agricultural carbon emission reduction in the implementation of high-standard farmland policy, on the one hand, the implementation of high-standard farmland policy helps to improve the efficiency of agricultural scale operation. To be specific, first, the implementation of high-standard farmland policy can improve the efficiency of agricultural scale operation by optimizing the input system of agricultural labor force and cultivated land. The implementation of the policy promotes the "transformation of farmland into parts", the continuous management and the reasonable layout of field roads. In this process, the area of the original farmland is not substantially changed, but it substantially promotes the land circulation and improves the scale management level of agricultural land. And as the agricultural modernization process, in the process of land circulation and continuous management, planting large, professional farmers and other new agricultural operators sinking to rural areas, gradually replaced the individual farmers, this process not only contributes to the liberation of rural redundant labor, also improve the overall quality of agricultural labor force, and improve the efficiency of agricultural scale operation. Second, the implementation of the high-standard farmland policy improves the efficiency of agricultural scale operation by increasing agricultural output. The implementation of high-standard farmland policy will help to promote the improvement of soil quality and achieve agricultural production, and further improve the efficiency of agricultural scale operation. On the other hand, improving the efficiency of agricultural scale operation helps to reduce agricultural carbon emissions. First, compared with the previous fragmented and extensive operation mode, the moderate scale agricultural operation mode driven by the policy makes the ratio of input factors, especially pollution input factors such as chemical fertilizer, more scientific, which helps to achieve the goal of reducing quantity and increasing efficiency, and thus reduce agricultural carbon emissions. Second, agricultural scale operation promotes agricultural production to agricultural machinery operation services, which is conducive to the realization of agricultural capitalization path, improves the organic composition of agricultural capital and the degree of agricultural specialization, and improves the composition of agricultural mechanization technology such as irrigation and tillage (Fang Da, 2020). But it is not hard to guess that the higher level of agricultural mechanization may partly contribute to agricultural carbon emissions. In general, the implementation of the high-standard capital farmland construction policy can further reduce agricultural carbon emissions by improving the efficiency of agricultural large-scale operation.

Based on the above analysis, this paper proposes a research hypothesis:

Hypothesis 3-5: Agricultural scale operation plays a role in the process of land circulation affecting high-quality agricultural development, that is, land circulation indirectly promotes high-quality development of agriculture by promoting large-scale agricultural operation.

Hypothesis 3-6: Agricultural scale operation plays a role in the process of the implementation of land circulation policy (Zhongfa [2010] No. 1), which affects the high-quality agricultural development, and the implementation of land circulation policy indirectly promotes the high-quality agricultural development of agriculture by promoting agricultural scale operation.

Hypothesis 3-7: Agricultural scale operation plays a role in the process of high-standard farmland policy affecting agricultural carbon emission, and the implementation of high-standard farmland policy indirectly suppresses agricultural carbon emission by promoting agricultural scale operation.

External motivation: digital financial inclusion.

1) Identification of external force factors of digital financial inclusion.

Since we need to investigate the external power of the land circulation on the high-quality agricultural development, what are the important external factors that drive the land circulation and further promote the high-quality agricultural development? According to the previous research, there are many factors affecting land circulation, including farmland right confirmation, financial services and their availability, distribution of rights and interests in land circulation, differentiation of peasant class, urbanization process, non-agricultural transfer of rural labor force and agricultural socialization services, etc. Many scholars have also conducted a lot of research on this. Finance, including various activities related to money circulation and bank credit, has always been considered as the core of modern economic development. From the perspective of agricultural development capital demand, the "agriculture, rural areas and farmers" has long faced the real dilemma of financing constraints and financial exclusion. Financing constraints have been regarded as an important factor restricting land circulation, expansion of agricultural scale and agricultural progress (Wang Fei, 2014; Huang Hongguang et al., 2018; Liu Lingyun et al., 2020; Lu Xiaomeng et al., 2021). Specifically, the hindering effect of financing constraints on land circulation and high-quality agricultural development is mainly reflected in the practical difficulties of agricultural operators in terms of condition exclusion, marketing exclusion, price exclusion, evaluation exclusion, geographical exclusion and self-exclusion (Kempson et al., 1999; Wang Xiuhua et al., 2013). And, agricultural operators and information asymmetry between formal financial institutions reduces the problem of agricultural financial services availability, although part of the rural informal financial institutions can provide certain financing channels for agricultural development, but its role is very limited, is not to reduce the threshold of agricultural financial services acquired effective path (He Jing, etc., 2019).

It is worth stressing that after the agricultural economy, industrial economy, digital economy in the current stage has evolved into one of the main social and economic form, so, strengthen the integration of the digital economy and the real economy development, grasp the digital elements and digital technology of agricultural economy, industrial economy and so on the inherent role of traditional economic form is crucial. However, relying on the Internet, 5G, big data and other information technologies, digital inclusive finance emerged at the historic moment. As an important part of the development of digital economy, digital inclusive finance is a highly integrated and organic combination of inclusive finance and digital technology, and is an innovative manifestation of traditional finance in the digital era. At the same time, compared with traditional financial institutions, digital inclusive finance can better realize smooth financing channels by relying on information equipment and digital technology. It by reducing the service cost of traditional financial institutions and further improve the permeability of financial services, expand the coverage of financial services, for rural areas long by financial exclusion of the vulnerable agricultural production groups provide more efficient financing channels, help to promote land circulation, agricultural scale management and agricultural high quality development (wang, etc., 2022). At present, although many domestic studies have made great contributions to the influence of traditional rural finance on land circulation and agricultural development (Lu Shan et al., 2021, Su Lanlan et al., 2021, Wang Xiansheng et al., Lu Xiaomeng et al., 2021, Zhang Yongfeng et al., 2022, 2022, 2022), in the stage of high-quality development, as digital financial elements continue to sink to rural areas, there is still further research

on the influence of digital inclusive finance on land circulation and high-quality agricultural development.

2) Digital inclusive finance, Land transfer and high-quality Development of Agriculture: Theoretical analysis.

Land is regarded as an irreplaceable means of production in agricultural production, which is the focus of "agriculture, rural areas and farmers", and finance, including various activities related to currency circulation and bank credit, is considered to be the core of modern economic development. Under the dual background of the continuous sinking of domestic digital factors and the implementation of land policy, the role of rural land circulation in promoting the promotion of high-quality agricultural development with the help of digital inclusive finance is becoming stronger. Specifically, on the one hand, digital inclusive finance promotes the process of land transfer. Although it is difficult for farmers to obtain financial support from financial institutions under the background of traditional financial institutions "leaving the poor and love the rich", governments at all levels have been preparing digital infrastructure in rural areas and striving to embed digital financial elements into the field of "agriculture, rural areas and farmers". The development of digital inclusive finance provides an effective solution for resolving the difficulties of "financing difficulty and expensive financing" and "where does money come from" restricting agricultural land transfer and agricultural expansion production, which can effectively support the development of land circulation and promote the reasonable and fair distribution of land. Through the support of digital inclusive finance, farmers can obtain loans, realize production expansion, realize the efficient utilization of land resources, promote the development of agriculture and animal husbandry, and promote the improvement of agricultural quality. Although, farmland approval decision gradually for the land mortgage and circulation behavior of clear property rights, thus to some extent, expand the credit effect of farmers (zhou south, 2019), but in the process of professional development, when a large number of agricultural labor began to choose capital intensive career pattern and by the closed village community to modern open town, farmers financing demand will increase dramatically, which in turn may limit the choice of career conversion, thus inhibiting the development trend of land out and expand production (rice, etc., 2017). At the same time, rural financing constraints also limit the decision-making behavior of large growers who want to achieve large-scale operation through land contracting (Lu Xiaomeng, 2021). Digital pratt & whitney financial, however, through the establishment of farmers Shared credit data, focusing on the data credit, truly "and cloud borrowed", "NongXin cloud borrowed" and "borrow also" periodic short digital financial services, forming "agricultural big data + financial" financing mode, from farmers professional non-agricultural pursuit in the process of financing needs to meet and agricultural management scale financing needs to meet two aspects to promote land contracting, land circulation and agricultural engineering. In addition, in the specific effect of digital inclusive finance on land circulation, firstly, as a modern network information dissemination carrier, can effectively reduce related transaction costs and information asymmetry and promote the financial literacy of farmers to accelerate the marketization of land circulation; Thirdly, digital inclusive finance can enhance the timely transmission of network resources, so as to promote land circulation (Zhang Yongqi, 2022).

On the other hand, according to the above information, land circulation helps to promote the high-quality development of agriculture. After the transfer of agricultural land to the hands of new agricultural operators such as large growers, because the agricultural knowledge structure of large growers is more complete than that of individual farmers, they more tend to adopt modern agricultural production technology and scientific operation and management mode. This process not only promotes the division of labor and specialization, but also helps to realize the scientific ratio of agricultural factor input, so as to improve agricultural production efficiency, operation efficiency and environmental efficiency (Yao Zengfu et al., 2017; Shi Changliang et al., 2020; Kuang Yuan et al., 2021). Therefore, digital inclusive finance expands the transfer and transfer scale of agricultural land by alleviating the credit constraints of rural areas, thus promotes agricultural transformation and development, realizes the goal of agricultural increment, quality improvement and efficiency improvement, and promotes the high-quality development of agriculture.

However, from the land circulation of agricultural quality development heterogeneity, digital pratt & whitney financial through regulating the process of land circulation and land circulation on the influence of agricultural quality development differences, namely the digital pratt & whitney financial factors sinking country, under the background of the influence of agricultural quality development strengthening effect mainly reflected in different digital pratt & whitney financial development level of land circulation on the influence of agricultural high quality development may exist heterogeneity. Due to the different economic development level, location conditions and policy orientation in different regions of China, there are significant regional differences in the development of digital inclusive finance. And, with the market economy openness, domestic each provincial system internal digital pratt & whitney financial in dynamic change for a long time, different market economy development degree can obtain the digital financial service strength and efficiency, prompting the land circulation influence on the development of agricultural high quality heterogeneous characteristics. Therefore, the influence of land circulation on high-quality agricultural development under different development levels of digital inclusive finance is highly likely to have interval characteristics, which needs to be further studied.

Therefore, this paper holds that digital inclusive finance, as the external driving force in the process of high-quality agricultural development, drives the land circulation by dredging financing channels, and then regulates the influence characteristics of land circulation on high-quality development of agriculture.

Based on the above analysis, this paper proposes a research hypothesis:

Hypothesis 3-8: There is a threshold effect of digital inclusive-finance in the process of promoting high-quality agricultural development by land circulation, that is, with the improvement of the development level of digital inclusive finance, the role of land circulation in promoting high-quality agricultural development tends to be strengthened.

### **Conclusions.**

This research topic has guiding value of agricultural development theory, the theoretical analysis framework in line with the influence of land circulation on the high-quality development of agriculture is constructed, thus to pave the way for the development of the later research. First of all, from the perspective of this paper, high-quality agricultural development is the role object of land circulation, and land circulation, as the internal driving force to promote high-quality agricultural development, can be embodied in three aspects: scale effect, policy effect and spatial effect. First, there is the scale effect of the impact of land circulation on high-quality agricultural development. Under the background of limited scale and cycle of domestic land circulation, it is necessary to pay attention to the scale effect of land circulation, realize the development of agricultural increment, quality and efficiency through the expansion of the scale of land circulation, and then promote the process of high-quality agricultural development, that is, scale effect is one of the endogenous driving forces for land circulation to promote the high-quality development of agriculture. Second, there is the policy effect of the impact of land circulation on high-quality agricultural development. The policy effect formed by the implementation of land transfer policy and high-standard farmland construction policy is one of the internal driving forces for land transfer to promote high-quality agricultural development at macro level and high-standard farmland construction policy at micro level to promote the reduction of agricultural carbon emission. The third is the spatial effect of land circulation on high-quality agricultural development. The experience of land circulation and high-quality agricultural development has agglomeration effect, diffusion effect and mutual feeding effect within the spatial scope, that is, the spatial effect is also one of the endogenous driving forces for land circulation to promote high-quality agricultural development. Secondly, agricultural scale operation is regarded as the path of action, and its cohesive role of land circulation in the process of high-quality agricultural development is analyzed. Not only at the level of scale effect, land circulation can promote agricultural scale operation and indirectly promote agricultural high quality development process, and in the policy effect level of land circulation policy or high standard farmland construction policy implementation by promoting agricultural scale management and indirectly promote the development of agricultural high quality or agricultural carbon emissions reduction optimization. Finally, digital inclusive finance is systematically studied as an external

dynamic factor in the process of land circulation affecting the process of high-quality agricultural development. Digital inclusive finance, as an external driving force in the process of land circulation affecting the high-quality agricultural development, digital inclusive finance drives the land circulation by dredging financing channels, and then regulates the influence characteristics of land circulation on the high-quality agricultural development.

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