Sensitivity analysis of the policy of minimum grain purchase prices

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Abstract. The grain price, the base of all other prices, is relatively sensitive to policy adjustments. The too high minimum purchase prices will lead to the imbalance of the grain market, while the decline of the minimum purchase prices will exert a direct influence on business entities’ expectation of the market prices in the following year. With the early long-grain nonglutinous rice, the middle-late long-grain nonglutinous rice, the round-grain nonglutinous rice and wheat as instances, this article applies the stepwise regression model and the data between 2004 and 2014 to simulate the effect of the minimum grain purchase prices of 2018 on the cultivated area and the yield of the early long-grain nonglutinous rice, the middle long-grain nonglutinous rice, the round-grain nonglutinous rice and wheat as well as farmers’ corresponding revenues. As suggested by the research, the minimum purchase prices play a significantly positive role in the fluctuation of the rice and wheat prices. In case of the same decline rate of minimum purchase prices, the round-grain nonglutinous rice sees the greatest decline rate of the cultivated area and the yield, followed by the middle-late long-grain nonglutinous rice, while the cultivated area and the yield of the early long-grain nonglutinous rice show the smallest decline. However, when deciding to plant rice and wheat, farmers not only consider about the changes of the minimum purchase prices of rice and wheat, but also are subject to the technical input, the revenue and the cost etc. The government may appropriately adjust the minimum purchase prices of rice and wheat to adjust the cultivated area of rice and wheat, thus to stabilize the cultivated area of rice and wheat in China and realize a win-win situation between society and farmers.

1. Introduction

The grain production is typically cyclical, resulting in evident cyclical fluctuations of prices, and is vulnerable to external factors such as the weather and the environment. At the same time, people are sensitive to price fluctuations and supply changes of agricultural products. Therefore, how to avoid “cheap grain hurts farmers” or “expensive grain hurts the people” is always an important issue to be solved by successive Chinese governments. In order to stabilize the grain price and reduce the negative effect brought by the fluctuation of grain prices, the government often adopts administrative measures to intervene in the price fluctuations of the grain market, such as issuing grain coupons,
carrying out the unified purchase and marketing of grain [1] and implementing the policy of minimum grain purchase prices and the policy of temporary grain purchase to support the market. Among these measures, the policy of minimum grain purchase prices implemented in the main rice and wheat producing area in 2004 and 2005 has exerted the greatest influence, which was originally designed to prevent “cheap grain hurts farmers”, stabilize the grain production and guarantee the market supply. However, this policy has run into some difficulties in recent years due to the high yield, high inventory and high import of the grain market in China. The minimum purchase prices for three categories of rice were lowered for the first time in 2017, and will be further lowered in 2018. These actions have proved the government’s determination to guide the prices to reflect the changes of market supply and demand in a more accurate way.

2. Research progress
The policy of minimum grain purchase prices has drawn wide attention from scholars at home and abroad all the time [2]-[5]. Since the data is complicated and hard to acquire, most articles mainly described and analyzed the policy of minimum grain purchase prices from the economic, political and financial perspective [6][7] with only a few empirical analyses and mathematical models. Quite a few scholars studied on the effect and appraisal of the policy of minimum grain purchase prices and affirmed on the positive role of the policy. They believed that the minimum purchase prices contributed to inhibiting the risk of price fluctuations of agricultural products, correctly guided the farmers’ planting activities and motivated them to work, and also discovered that the policy of minimum grain purchase prices evidently influenced on the grain yield and farmers’ incomes and enabled to realize the goal of grain safety and the growth of farmers’ incomes [8]. Meanwhile, many studies pointed out the problem that the price protection by the government may result in a series of issues against the market. For example, some scholars considered that the minimum purchase prices would lead to efficiency loss, distort the market prices and the relation between supply and demand and gave a wrong signal to farmers [9]; some thought that the policy produced very little effect on increasing farmers’ incomes [10]; some held that it had no evident incentive effect on the expansion of the grain area [11]; and they suggested withdraw the policy. According to Du et al. [12], the policy of minimum grain purchase prices was originally designed against the over-capacity situation and had deviated from the current market condition of supply-demand balance, and the market-support purchase would intensify the current supply-over-demand situation, increase the cost of grain inventory and maintenance and gradually weaken the role of market regulation on price fluctuations of grain.

The grain yield is affected by the cultivated area and the grain yield per unit area, and the effect of the policy of minimum grain purchase prices is manifested by its influence on the cultivated area more evidently than its influence on the grain yield. Therefore, the role of the policy can be more accurately reflected by studying its influence on the cultivated area of rice and wheat. Various factors affect the cultivated area of rice and wheat. To study the influence of the policy of minimum grain purchase prices on the cultivated area of rice and wheat, the potential factors that may affect the cultivated area must be identified. Li Wei et al. conducted an empirical analysis of farmers’ inclination to grow rice and the influencing factors and divided the influencing factors into the general environment, the family environment and the personal environment [13]. Xiao Shuangxi analyzed the cultivated area of cotton in some parts of China based on the cost and income factor and concluded that the main factors exerting a great influence on the cultivated area of cotton included the cultivated area in the previous year, the incomes of migrant workers, the revenue of corn per mu (a traditional Chinese area unit, with one mu approximately equal to 666.67 square meters) and the revenue of cotton per mu etc. Studying all grain varieties as a whole will lead to a big error due to the inconsistent planting costs, processes of growth and cyclical price fluctuations of different grain varieties, so the specific study shall be conducted for each variety of grain [14]. With the early long-grain nonglutinous rice, the middle-late long-grain nonglutinous rice, the round-grain nonglutinous rice and wheat as instances, this article applies the stepwise regression model and the data between 2004 and 2014 to simulate the effect of the
minimum grain purchase prices of different policies on the cultivated area and the yield of the early long-grain nonglutinous rice, the middle long-grain nonglutinous rice, the round-grain nonglutinous rice and wheat as well as farmers’ corresponding revenues, and thus provides valuable theoretical references to who make macro-policies on and who participate in the market of the early long-grain nonglutinous rice, the middle-late long-grain nonglutinous rice, the round-grain nonglutinous rice and wheat.

3. Modeling method
In order to conduct a simulation analysis of the influence of the minimum grain purchase princes in China on the cultivated area and the yield of rice and wheat and farmers’ corresponding revenues, the article below mainly summarizes the factors that affect the cultivated area of rice and wheat, establishes the production function relation model, the grain yield model and the production function relation evolution model, performs data conversion and processing for the model using a mathematical method and conducts a sensitivity analysis of the minimum purchase prices of rice and wheat in China.

3.1. The model of factors affecting the cultivated area of rice/wheat
Establish the production function Model \( Y_i = A_i P_i C_i G_i e^e \), among which \( A_i \) represents the factor of technical progress, while \( Y_i \) is a dependent variable, suggesting the proportion of the cultivated area of rice/wheat in the total cultivated area of grain in the ith year [8]. This article regards \( Y_i \) as the dependent variable for two reasons: firstly, the total yield is subject to the effect of the per-unit yield and the area, and, since the per-unit yield largely depends on natural conditions, the cultivated area fully reflects farmers’ initiative to grow grain; and, secondly, the absolute value of the cultivated area cannot fully reflect farmers’ inclination, but the proportion of the cultivated area truly reflects farmers’ arrangement of the planting structure. Also in this model, \( P_i \) means the minimum purchase prices of rice/wheat in the ith year; \( C_i \) means the production cost of rice/wheat per kg in the ith year; and \( G_i \) means the proportion of the net profit of rice and the total income of wheat in the total household income in the ith year. \( e^e \) is a random variable.

For the convenience of the regression analysis, the natural logarithm is generally applied in the production function model. In this case, the model is converted to:

\[
\ln Y_i = \ln A_i + \alpha \ln P_i + \beta \ln C_i + \gamma \ln G_i + \epsilon
\]  

(1)

3.2. The model of factors affecting the total yield of rice/wheat
Based on the calculation formula of the total rice/wheat yield and the analysis of the operation results of the above model, the specific calculation formula of the total rice/wheat yield is listed below:

\[
Production_i = Yield_i \times Area_i
\]  

(2)

In the formula, \( Production_i \) represents the total rice/wheat yield in the ith year; \( Yield_i \) indicates the per-unit yield of rice/wheat in the ith year; and \( Area_i \) suggests the cultivated area of rice/wheat in the ith year.

3.3. The model of factors affecting the rice/wheat incomes
Through the mathematical derivation of the production function model \( Y_i = A_i P_i^C C_i^B G_i^Y e^e \) in the model of factors affecting the cultivated area of rice/wheat, the following production function relation model will be obtained:

\[
\gamma \ln G_i = \ln Y_i - \ln A_i - \alpha \ln P_i - \beta \ln C_i + \epsilon
\]  

(3)

Which can also be converted into the following expression model:

\[
\ln G_i = \alpha' + \beta' \ln Y_i + \gamma' \ln P_i + \delta' \ln C_i + \epsilon'
\]  

(4)

In this model, \( \alpha' \) is a constant factor; \( G_i \) means the proportion of the net profit of rice/the total income of wheat in the total household income in the ith year; \( Y_i \) means the proportion of the cultivated area of rice/wheat in the total cultivated area of grain in the ith year; \( P_i \) means the minimum purchase
prices of rice/wheat in the $i$th year; and $C_i$ means the production cost of rice/wheat per kg in the $i$th year. $e'$ is a random variable.

3.4. Data declaration
The relevant data about the minimum purchase prices of rice (wheat) between 2004 (2006) and 2017 can be summarized based on China Statistical Yearbook of all years, relevant documents and on-line materials. The data about the cultivated area of rice, wheat and grain is introduced from China Statistical Yearbook of all years, the data about the production costs and net profits of rice and wheat comes from the Collection of Statistical Information on the Costs and Benefits of Agricultural Products Nationwide of all years, and the data about the minimum purchase prices of rice and wheat is acquired from the website of the State Administration of Grain.

4. Result analysis

4.1. Sensitivity analysis of the minimum purchase prices of rice

4.1.1. Sensitivity analysis of the minimum purchase price of the early long-grain nonglutinous rice.

The expression of the model of the cultivated area of the early long-grain nonglutinous rice:

$$\ln Y = 3.5325 + 0.0558 \ln P - 0.0288 \ln C + 0.0074 \ln G$$

(5)

If only the factor of the decline of the minimum purchase price of the early long-grain nonglutinous rice is taken into consideration and no other factor such as the per-unit yield of the early long-grain nonglutinous rice is considered, as calculated based on the model, the relation between the proportion of the cultivated area of the early long-grain nonglutinous rice in the total cultivated area of grain and the minimum purchase price, the production cost and the net profit is represented by the expression (5). As the cultivated area of grain in the expression adopts the national cultivated area of grain in 2016, i.e. 30,103 thousand hectares, and the per-unit yield of the early long-grain nonglutinous rice is 5,905 kg/hectare, the relation between the minimum purchase price of the early long-grain nonglutinous rice and the cultivated area and yield of the early long-grain nonglutinous rice can be obtained, as stated in Table 1. We can conclude from the expression (5) that the cultivated area of the early long-grain nonglutinous rice is in proportion to the minimum purchase price and the net profit, and in inverse proportion to the planting cost. When the minimum purchase price of the early long-grain nonglutinous rice is lowered by 0.01 Yuan/half-kg, the cultivated area of the early long-grain nonglutinous rice will be correspondingly reduced by 33.92 thousand hectares and the yield will decline by 232.7 thousand tons.

| Scenario simulation | The minimum purchase price lowered by (Yuan/half-kg) | Coefficient of variation of the cultivated area | Variation of the cultivated area (1,000 hectares) | Variation of the yield (10,000 tons) |
|---------------------|---------------------------------------------|--------------------------|-----------------------------|------------------|
| Scenario 1          | 0.01                                        | -0.0011                  | -33.92                      | -23.27           |

4.1.2. Sensitivity analysis of the minimum purchase price of the middle-late long-grain nonglutinous rice.

The expression of the model of the cultivated area of the middle-late long-grain nonglutinous rice:

$$\ln Y = 3.4100 + 0.0233 \ln P - 0.0077 \ln C + 0.0063 \ln G$$

(6)

If only the factor of the decline of the minimum purchase price of the middle-late long-grain nonglutinous rice is taken into consideration and no other factor such as the per-unit yield of the
middle-late long-grain nonglutinous rice is considered, as calculated based on the model, the relation between the proportion of the cultivated area of the middle-late long-grain nonglutinous rice in the total cultivated area of grain and the minimum purchase price, the production cost and the net profit is represented by the expression (6). As the cultivated area of grain in the expression adopts the national cultivated area of grain in 2016, i.e. 30,103 thousand hectares, and the per-unit yield of the middle-late long-grain nonglutinous rice is 5,920 kg/hectare, the relation between the minimum purchase price of the middle-late long-grain nonglutinous rice and the cultivated area and yield of the middle-late long-grain nonglutinous rice can be obtained, as stated in Table 2. We can conclude from the expression (6) that the cultivated area of the middle-late long-grain nonglutinous rice is in proportion to the minimum purchase price and the net profit, and in inverse proportion to the planting cost. When the minimum purchase price of the middle-late long-grain nonglutinous rice is lowered by 0.01 Yuan/half-kg, the cultivated area of the middle-late long-grain nonglutinous rice will be correspondingly reduced by 14.2 thousand hectares and the yield will decline by 97.4 thousand tons.

4.1.3. Sensitivity analysis of the minimum purchase price of the round-grain nonglutinous rice. The expression of the model of the cultivated area of the round-grain nonglutinous rice:

\[ \ln Y = 3.4766 + 0.0267 \ln P - 0.0212 \ln C + 0.0087 \ln G \]  

(7)

If only the factor of the decline of the minimum purchase price of the round-grain nonglutinous rice is taken into consideration and no other factor such as the per-unit yield of the round-grain nonglutinous rice is considered, as calculated based on the model, the relation between the proportion of the cultivated area of the round-grain nonglutinous rice in the total cultivated area of grain and the minimum purchase price, the production cost and the net profit is represented by the expression (7). As the cultivated area of grain in the expression adopts the national cultivated area of grain in 2016, i.e. 30,103 thousand hectares, and the per-unit yield of the round-grain nonglutinous rice is 7860 kg/hectare, the relation between the minimum purchase price of the round-grain nonglutinous rice and the cultivated area and yield of the round-grain nonglutinous rice can be obtained, as stated in Table 3. We can conclude from the expression (7) that the cultivated area of the round-grain nonglutinous rice is in proportion to the minimum purchase price and the net profit, and in inverse proportion to the planting cost. When the minimum purchase price of the round-grain nonglutinous rice is lowered by 0.02 Yuan/half-kg, the cultivated area of the round-grain nonglutinous rice will be correspondingly reduced by 32.82 thousand hectares and the yield will decline by 225.2 thousand tons.

### Table 2. The sensitivity analysis table of the minimum purchase price of the middle-late long-grain nonglutinous rice.

| Scenario simulation | The minimum purchase price lowered by (Yuan/half-kg) | Coefficient of variation of the cultivated area | Variation of the cultivated area (1,000 hectares) | Variation of the yield (10,000 tons) |
|---------------------|------------------------------------------------------|-----------------------------------------------|-----------------------------------------------|------------------------------------|
| Scenario 1          | 0.01                                                 | -0.0005                                       | -14.20                                        | -9.74                              |

### Table 3. The sensitivity analysis table of the minimum purchase price of the round-grain nonglutinous rice.

| Scenario simulation | The minimum purchase price lowered by (Yuan/half-kg) | Coefficient of variation of the cultivated area | Variation of the cultivated area (1,000 hectares) | Variation of the yield (10,000 tons) |
|---------------------|------------------------------------------------------|-----------------------------------------------|-----------------------------------------------|------------------------------------|
| Scenario 1          | 0.02                                                 | -0.0011                                       | -32.82                                        | -22.52                             |
4.1.4. Sensitivity analysis of the minimum purchase prices of rice. The expression of the model of the rice income:

\[
\ln G = 4.2344 + 6.2693 \ln Y + 1.6661 \ln P - 1.8737 \ln C
\]  

(8)

The sensitivity analysis of the minimum purchase price of rice can be shown in Table 4. considering the sensitivity analysis result of the minimum purchase price of the early long-grain non-glutinous rice, the middle-late long-grain non-glutinous rice and the round-grain non-glutinous rice under the different situation. If only the factor of the decline of the minimum purchase price of rice is taken into consideration and no other factor such as the per-unit yield of rice is considered, as calculated based on the model, the relation between the net profit of rice and the minimum purchase price, the production cost and the cultivated area of rice is represented by the expression (8). We can conclude that the net profit of rice is in proportion to the cultivated area and the minimum purchase price, and in inverse proportion to the planting cost. When the minimum purchase price of the early long-grain non-glutinous rice, the middle-late long-grain non-glutinous rice and the round-grain non-glutinous rice is lowered by 0.01 Yuan/half-kg, the total output of rice will be correspondingly reduced by 441.6 thousand tons, and the net profit of rice will decline by 3.3%. When the minimum purchase price of the early long-grain non-glutinous rice, the middle-late long-grain non-glutinous rice and the round-grain non-glutinous rice is lowered by 0.02 Yuan/half-kg, the total output of rice will be correspondingly reduced by 891.9 thousand tons, and the net profit of rice will decline by 6.6%.

Table 4. The sensitivity analysis table of the minimum purchase price of the rice.

| Scenario simulation | The minimum purchase price lowered by (Yuan/half-kg) | Coefficient of variation of the cultivated area | Variation of the cultivated area (1,000 hectares) | Variation of the yield (10,000 tons) |
|---------------------|-----------------------------------------------|-----------------------------------------------|-----------------------------------------------|-----------------------------------|
| Scenario 1          | 0.01                                         | -44.16                                        | -0.21                                         | -0.033                            |
| Scenario 2          | 0.02                                         | -89.19                                        | -0.43                                         | -0.066                            |

4.2. Sensitivity analysis of the minimum purchase prices of wheat

The expression of the model of the cultivated area of the Wheat (This result is almost as same as the previous study ‘Stimulating effect of minimum grain purchase price on wheat planting area in China under the background of supply side reform’):

\[
\ln Y = 3.0457 + 0.0575 \ln P - 0.0891 \ln C + 0.0366 \ln G
\]  

(9)

If only the factor of the decline of the minimum purchase price of the wheat is taken into consideration and no other factor such as the per-unit yield of the wheat is considered, as calculated based on the model, the relation between the proportion of the cultivated area of the wheat in the total cultivated area of grain and the minimum purchase price, the production cost and the net profit is represented by the expression (9). As the cultivated area of grain in the expression adopts the national cultivated area of grain in 2016, i.e. 24,104 thousand hectares, and the per-unit yield of the wheat is 5,327 kg/hectare, the relation between the minimum purchase price of the wheat and the cultivated area and yield of the wheat can be obtained, as stated in Table 5. We can conclude from the expression (9) that the cultivated area of the wheat is in proportion to the minimum purchase price and the net profit, and in inverse proportion to the planting cost. When the minimum purchase price of the wheat is lowered by 0.03 Yuan/half-kg, the cultivated area of the wheat will be correspondingly reduced by 488.47 thousand hectares, the yield will decline by 2602.3 thousand tons, total production will decline by 2% and the proportion of wheat income account for farmers’ total income will decline by 11.94%.
5. Discussion

The cultivated area and the yield of rice consist of the cultivated area and the yield of the early long-grain nonglutinous rice, the middle-late long-grain nonglutinous rice and the round-grain nonglutinous rice. Based on the model analysis, in case of the same decline rate of minimum purchase prices, the round-grain nonglutinous rice sees the greatest decline rate of the cultivated area and the yield, followed by the middle-late long-grain nonglutinous rice, while the cultivated area and the yield of the early long-grain nonglutinous rice show the smallest decline. Among the current minimum purchases prices of all varieties of grain, the minimum purchase price of the round-grain nonglutinous rice is the highest and sees a large space for decline, but the adjustment of the minimum purchase price of the round-grain nonglutinous rice also exerts the greatest influence on its cultivated area, yield and profit.

As discovered by the research, the policy of the minimum purchase price plays an evidently positive role in regulating on the price fluctuations of rice and wheat. The change of the minimum grain purchase prices shows little effect on the cultivated area of wheat but has a great impact on the cultivated area of rice. Meanwhile, since rice and wheat are the special varieties of strategic stocks, their minimum purchase prices are more strongly affected by national policies than their cultivated area, yield and return [15]. However, when deciding to plant rice and wheat, farmers not only consider about the changes of the minimum purchase prices of rice and wheat, but also are subject to the technical input, the revenue and the cost etc. Therefore, it is necessary for the government to intervene in the grain prices by implementing certain policies under special circumstances. In addition to affirming the positive role of the market-support grain purchase policy [16], the further study can be conducted on how to determine the price for market-support grain purchase and how to give a full play to its guiding role. The government may appropriately adjust the minimum purchase prices of rice and wheat to adjust the cultivated area of rice and wheat, thus to stabilize the cultivated area of rice and wheat in China and realize a win-win situation between society and farmers.

The lower minimum purchase prices will have a certain impact on the cultivated area, the yield and farmers’ incomes [8]. The grain price, the base of all other prices, is relatively sensitive to policy adjustments, and its decline will exert a direct influence on business entities’ expectation of the market prices in the following year. In the light of historical experiences and lessons, China shall focus on the national grain safety, the agricultural product market and farmers’ interests, take all measures to prevent the difficulties to sell grain and help farmers increase their incomes relying less on grain subsidies. Moreover, the study here only considers the impact of the minimum purchase prices on the cultivated area, yield and revenue of the early long-grain nonglutinous rice, the round-grain nonglutinous rice and the middle-late long-grain nonglutinous rice, which, as a matter of fact, is also affected by the planting environment, family environment and per-unit yield. However, the above influencing factors (other than the minimum purchase prices) are deemed to be constant in the simulation. In the future, the further study will be conducted to research on how the minimum purchase prices affect the cultivated area, yield and revenue of grain when above influencing factors are exposed to changes.

### Table 5. The sensitivity analysis table of the minimum purchase price of the wheat.

| Scenario simulation | The minimum purchase price lowered by (Yuan/half-kg) | Coefficient of variation of the cultivated area | Variation of the cultivated area (1,000 hectares) | Variation of the yield (10,000 tons) | Proportion of wheat production variation (%) | Proportion of wheat income variation accounts for total income |
|---------------------|---------------------------------|---------------------------------------------|-----------------------------------------------|---------------------------------|---------------------------------------------|---------------------------------------------------------------|
| Scenario 1          | 0.03                            | -0.0203                                     | 488.47                                       | -260.23                        | -2.00                                       | -0.1194                                                      |
6. Conclusions
In 2018, the government continues to implement and further improves the policy of minimum purchase prices in the main wheat and rice producing area, promote the flexibility of the policy, rationally adjust the minimum purchase prices, establish the subsidy mechanism at the same time and actively carry out the reform of the purchase and storage system and the pricing mechanism of grain.

In view of the production cost, market supply and demand, domestic and foreign market price and industry development of grain, as approved by the State Council, the minimum purchase prices of wheat, the early long-grain nonglutinous rice, the middle-late long-grain nonglutinous rice and the round-grain nonglutinous rice produced in 2018 shall be respectively 115 Yuan, 120 Yuan, 126 Yuan and 130 Yuan per 50 kg, which is respectively 3 Yuan, 10 Yuan, 10 Yuan and 20 Yuan lower than the prices in 2017. According to the research, when the price of wheat is lowered by 3 Yuan for each 50 kg, the total wheat yield will decline by 2%, and the proportion of wheat income in all farmers’ income will decrease by approximately 12%. When the minimum purchase prices of the early long-grain nonglutinous rice, the middle-late long-grain nonglutinous rice and the round-grain nonglutinous rice are respectively lowered by 10 Yuan, 10 Yuan and 20 Yuan per 50 kg, the yield of the early long-grain nonglutinous rice, the middle-late long-grain nonglutinous rice and the round-grain nonglutinous rice will respectively decline by 232.7 thousand tons, 97.4 thousand tons and 225.2 thousand tons, and the total rice yield will drop by about 1%.

The grain price, the base of all other prices, is relatively sensitive to policy adjustments. The too high minimum purchase prices will lead to the imbalance of the grain market, while the decline of the minimum purchase prices will exert a direct influence on business entities’ expectation of the market prices of rice and wheat in the following year. In order to give full play to the positive effect of the minimum purchase prices of grain on the cultivated area of rice and wheat under the current supply-side reform, it is necessary to formulate the appropriate policy of minimum grain purchase prices based on the fundamental realities of China, learn experiences from domestic price regulating mechanism, combine the practices of the implementation of minimum grain purchase prices, thus prepare the scientific and rational policy of minimum purchase prices; and avoid any big fluctuation of the rice and wheat market under the effect of the supply-side structural reform, fully consider the influence of the policy of minimum purchase prices on production of rice and wheat, introduce the market mechanism, reduce the reliance of rice and wheat planting on the policy and relieve the conflicts arising in the rice and wheat market.

Acknowledgments
This research was supported by the National Natural Science Foundation, National Key R&D Program of China and Youth Exploration Project of AII of CAAS (71303238, 2017YFE010460304 and JBYW-AII-2019-17).

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