Research on the Benefits of Government Purchasing Housekeeping Training Services Based on Evolutionary Game

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Abstract. The government's purchase of housekeeping training services is an important measure to effectively improve the quality and skills of housekeeping practitioners and promote the high-quality development of the housekeeping service industry. It is also an important means to solve people's livelihood problems and promote employment. However, with the advancement of government procurement of services, some problems have also emerged. By constructing a tripartite evolutionary game model of "local government departments-housekeeping training institutions-housekeeping practitioners", the behavior strategy selection and evolution stability of each participant are analyzed, and the factors affecting each participant's strategy choice are analyzed, and the evolution simulation is carried out with Matlab2016b. The results show that the strategy choice of each behavior group is not only affected by their own interest-related factors, but also related to the behavior strategy choice of the other two participants. In order to optimize the government-purchased housekeeping training service mechanism, improve the service quality of the housekeeping industry, improve the efficiency of government-purchased services, and promote the cooperation between local governments and housekeeping training institutions to achieve mutual benefits and win-win results, local government departments should improve the supervision mechanism, standardize purchasing standards and corresponding laws and regulations, Improve the purchase process; at the same time, increase the incentives and punishments for housekeeping training institutions to improve the training level; encourage more housekeeping practitioners to participate in the training to improve their quality and skills.

Keywords: Government purchase · Housekeeping training service · Evolutionary game · Evolutionary stability · Simulation analysis · Countermeasures

1 Introduction

With the rapid development of the economy and the increase in residents' income, the quality of people's life has been improved, and more and more people want to get rid of

the complicated housework and start to enjoy life; Intensification, the introduction of the latest three-child policy, etc., people have more demand for housekeeping services, which has stimulated the huge domestic service market and promoted the rapid development of the housekeeping industry. Data show that the market size of my country's domestic industry has increased from 277.6 billion yuan in 2015 to 878.2 billion yuan in 2020, and the market size is expected to exceed one trillion yuan in 2021. The domestic service industry not only promotes the economic development of the tertiary industry, but also produces huge social benefits of absorbing social surplus labor and transferring labor from poverty-stricken areas to promote social employment. It is one of the key service industries supported by national policies.

The huge demand for domestic services has promoted the rapid development of the industry, and the role of the domestic service industry in absorbing the employment of key groups such as rural transferred labor, urban laid-off workers, women in poverty-stricken areas in the central and western regions, "4050" personnels, and flexible employment personnel has been further strengthened. However, problems such as low skill quality, low service quality and low degree of professionalization of domestic workers are also exposed, which cannot meet the high-quality service needs of those who need domestic services. Liu Linping found through interviews and questionnaires in multiple places in 2019 that domestic workers are mainly female, are generally older, mostly have rural household registration, and have a low level of education overall. Therefore, in order to better meet the high-quality needs of the public and promote the quality and expansion of the domestic service industry, the National Development and Reform Office proposed to carry out the action to improve the training of domestic services, and by the end of 2020, to achieve full coverage of urban domestic service training capabilities with a population of more than 1 million. The number exceeds 5 million (times). Among them, the central departments and local governments at all level will train 1.5 million domestic workers (times) by the end of 2020 through vocational skills training, labor transfer training and other methods to improve the quality of domestic workers. Restricted by local manpower and professional skills, the quality and efficiency of housekeeping training services provided by the government is far below the needs of people's livelihood. Therefore, promoting the government to purchase housekeeping training services to change the supply mode of local government housekeeping training services. By introducing a market mechanism, social organizations can participate together, so as to effectively improve the problems of low quality and low skill level of housekeeping practitioners. The government purchases housekeeping training services. The government transfers the training of housekeeping practitioners to social training institutions through public bidding or entrustment, and signs contracts with them. The government indirectly provides training related to housekeeping services to the public. Entrusting the domestic economic training services to be provided by the government to social training institutions can supplement the problem of limited strength of government institutions; guide the resources of domestic economic training institutions to improve on a more professional and targeted direction.

In 2013, the "Guiding Opinions on Government Purchase of Services from Social Forces" issued by the General Office of the State Council promoted the rapid development of government purchases of services in my country. Government-purchased

services have produced great positive significance of my country's social governance transformation, rapid economic development, and social welfare provision. The implementation of sustainable poverty alleviation services through government-purchased services can optimize the allocation of social poverty alleviation resources and mobilize social forces to participate more precisely and flexibly. Through the government's purchase of vocational training services, the government can provide diversified vocational training services within the scope of the contract to meet the needs of the public's vocational education, and can also reduce the cost of vocational training services and improve the quality of vocational training services. Xu Jianli (2020) analyzed the evolution logic of my country's domestic service vocational training system at different stages of development from the perspective of institutional logic, and found that the continuous improvement on the domestic service vocational training system is a result of the mutual coordination and coordination between the government, training institutions and individuals. Joint action is the result of compromise and balance with interests in various actors [1]. The social function of government procurement of services depends on the good synergistic relationship between the government and social organizations. The two parties should have a mutually beneficial relationship. However, in the actual operation process, the relationship between the subjects contradicts the theory, and there is a non-cooperative game between the government and social organizations. This leads to a waste of financial resources, the formalization of project evaluation results in an increase in operating costs, and the lack of government supports for social organizations results of poor service results. The government, vocational training institutions, and the public are the purchasers of public services, the providers of public services, and the enjoyers of public services, respectively. There is a complex interest cooperation and game relationship among the three parties, which leads to risks in the process of government purchasing vocational services [2].

Government procurement of services is a policy tool for efficiency advantages, but with the advancement of government procurement of services, its operational problems gradually emerge. Wang Congman and Ding Dong (2019) found that the government's purchase of training services has greater economic benefits, thus attract a large number of subjects to participate, resulting in a mixed situation; some vocational training institutions focus on profit-seeking, and do not pay attention to training quality [3]. Yang Shusheng (2015) analyzed the manifestations and causes of the involution tendency of government procurement services based on the consideration of their own interests by the government and social organizations, and found that the procedural process and other norms of government procurement are becoming more and more refined, and most of the norms are more mere formality, and they do not play a role [4]. The effectiveness of the government in optimizing resource allocation and the potential of social organizations to participate in innovative social governance. Government procurement of services should be a partnership based on equal status between public and private parties and a cooperative relationship that takes into account efficiency and fairness. Only in this way can the respective advantages of government departments and training institutions be brought into full play. Xie Qiqin (2017) used cost-benefit analysis tools to analyze the basic structure and functional characteristics of the cost-benefit of government procurement of services, seeking the option to achieve the greatest purchase efficiency with the

smallest cost, and to improve the purchase rate of return of the government's purchase of public services [5].

How to avoid ineffective training conducted by some domestic training institutions for the needs of the number of people, how to effectively improve the quality and professional skills of domestic workers, and how to achieve the greatest social benefits of government-purchased domestic training services at the minimum cost. What restricts the high-quality development of the domestic service industry important question. Based on the relevant literature research, this paper constructs an evolutionary game model of local governments, housekeeping training institutions, and domestic workers, conducts research on housekeeping training services and government purchasing operation modes, enriches the research on government purchasing housekeeping training services, and provides guidance for the government. Provide reference of the healthy development to the housekeeping industry.

2 Evolutionary Game Model Construction

2.1 Game Subject Correlation

The game subjects of the government purchasing housekeeping training services include local government departments, housekeeping training institutions and domestic workers. Local government departments are the buyers of housekeeping training services. They invite housekeeping training institutions to undertake housekeeping training services through public bidding and other forms to meet the public's needs for high-quality domestic workers, and supervise the whole process of training; housekeeping training institutions are the undertakers, through the tender training institutions to obtain government funds according to the number of trainees, hire lecturers, and arrange courses of the registered domestic workers; the domestic workers are the main participants of the training service, they can register for free and the daily attendance assessment by the housekeeping training institutions and skill levels tests.

2.2 Construction of Three-Party Evolutionary Game Model

2.2.1 Game Model Assumptions

H1: Housekeeping training institutions, domestic workers, and local government departments are bounded rationality.

H2: As the party that undertakes the government's purchase of housekeeping training services, housekeeping training institutions can make strategic choices and corresponding probabilities of the maximization of interests: to provide high-quality training, the probability is x; to provide low-quality training, the probability is $1 - x$.

H3: As the object of this housekeeping training service, domestic workers will choose strategies and corresponding probabilities according to training needs, time costs, etc.: participating in the training, the probability is y; not participating in the training, the probability is $1 - y$.

H4: As the purchaser of housekeeping training services, local government departments make strategic choices and corresponding probabilities based on manpower conditions, supervision costs, etc.: strict supervision, the probability is z; no supervision, the probability is 1 − z.

H5: Housekeeping training institutions receive government funds G when they undertake housekeeping training services. Under the supervision of the local government, if housekeeping training institutions continue to provide high-quality training and housekeeping practitioners actively participate in the training, the housekeeping training institutions will receive rewards T of local government departments. When training institutions is less organized, they will suffer losses D; when home economics training institutions provides low-quality training, they will save costs C. If the domestic economics training institution gains profit from speculative training for profit S, it will be punished by relevant departments M.

H6: The normal salary level of domestic workers is W, and the time cost of participating in training is E. Under the supervision of the local government, domestic workers actively participate in high-quality course training to obtain grade certificates, improve their learning enthusiasm, improve their training skills, and increase their salary level by H; otherwise When participating in low-quality course training, the enthusiasm for learning is reduced, the skill level is limited, and the salary increase level is N ($H >> N$).

H7: The normal income of the local government department is Q. When the local government department does not supervise, it will reduce the service quality of domestic workers because the domestic economic training institution provides low-quality training services K; when the local government department strictly supervises, the supervision cost is J, Penalties M will be imposed on domestic training institutions for providing low-quality training, and local government departments will receive additional benefits R from the high-quality training provided by training institutions and the active participation of domestic workers in the training.

2.2.2 Strategy Payoff Matrix

See Table 1.

Table 1. Strategy payoff matrix

Strategy Payoff	Actors		
	Housekeeping training institutions	Domestic workers	Local government
x, y, z	G + T	W + H − E	Q + R − J
x, y, 1 − z	G	W − E	Q
x, 1 − y, z	G − D	W	Q − J

(*continued*)

Table 1. (*continued*)

Strategy Payoff	Actors		
	Housekeeping training institutions	Domestic workers	Local government
x, 1 − y, 1 − z	G − D	W	Q
1 − x, y, z	G + C + S − M	W + N − E	Q + M − J
1 − x, y, 1 − z	G + C + S	W − E	Q − K
1 − x, 1 − y, z	G − M − D	W	Q − J
1 − x, 1 − y, 1 − z	G − D	W	Q − K

3   Game Stability Analysis

3.1   Housekeeping Training Institutions

Assuming that the expected benefit of providing high-quality training strategies for home economics training institutions is L_{11}, the expected benefit of choosing to provide low-quality training strategies is L_{12}, and the average expected benefit of home economics training institutions is L_1, so the replication dynamic equation F(x) of home economics training institutions can be obtained. As follows:

$$\begin{aligned} L_{11} &= yz(G + T) + y(1 − z)G + (1 − y)z(G − D) + (1 − y)(1 − z)(G − D) \\ &= yzT + G − D + yD \end{aligned} \tag{1}$$

$$\begin{aligned} L_{12} &= yz(G + C + S − M) + y(1 − z)(G + C + S) + (1 − y)z(G − M − D) \\ &\quad + (1 − y)(1 − z)(G − D) \\ &= yC + yS + yD + G − zM − D \end{aligned} \tag{2}$$

$$L_1 = xL_{11} + (1 − x)L_{12} \tag{3}$$

$$\begin{aligned} F(x) = \frac{dx}{dt} &= x(L_{11} − L_1) = x(1 − x)(L_{11} − L_{12}) \\ &= x(1 − x)(yzT + zM − yS − yC) \end{aligned} \tag{4}$$

$$F'(x) = \frac{dF(x)}{dx} = (1 − 2x)(yzT + zM − yS − yC) \tag{5}$$

It can be seen from formula (4) that when $z = \frac{yS + yC}{yT + M}$, F(x) = 0, no matter what the value of x is, the game is in a stable state; when $z \neq \frac{yS + yC}{yT + M}$, let F(x) = 0, solve "x = 0, x = 1" is two stable points. According to the differential equation stability theorem: when F(x) = 0 and $\frac{dF(x)}{dx} < 0$, the replica dynamic equation is stable.

It can be seen from formula (5) that when $z < \frac{yS+yC}{yT+M}$, $F'(x)|_{x=1} > 0$, $F'(x)|_{x=0} < 0$, since the equation is in when the first derivative is less than 0, the evolution is stable and $F'(x)|_{x=0} < 0$, so $x = 0$ is an evolutionary stable strategy, that is, the home economics training institution will choose to provide a low-quality training strategy; when $z > \frac{yS+yC}{yT+M}$, $F'(x)|_{x=1} < 0$, $F'(x)|_{x=0} > 0$, the evolution is stable when the first derivative is less than 0, $F'(x)|_{x=1} < 0$, so $x = 1$ is an evolutionary stable strategy, that is, a home economics training institution will choose to provide a high-quality training strategy.

Inference 1: The strategy choice of domestic economic training institutions is related to the probability that local government departments chooses strict supervision strategies and the probability that domestic economic practitioners chooses to participate in training strategies.

According to the influence of local government supervision probability of the strategy selection probability of domestic economic training institutions, the evolution diagram of strategy selection probability of domestic economic training institutions can be obtained as shown in Fig. 1: the cross section is $z = \frac{yS+yC}{yT+M}$; when $z < \frac{yS+yC}{yT+M}$, the volume V_{A1} of the cube A1 area represents the probability that the housekeeping training institution provides low-quality training; when $z > \frac{yS+yC}{yT+M}$, the cube A2 area The volume of V_{A2} represents the probability that a housekeeping training institution provides high-quality training.

$$V_{A1} = \int_0^1 \int_0^1 \frac{yS + yC}{yT + M} dy dx = \frac{(S+C)}{T}\left(1 + \frac{M}{T}ln\frac{M}{M+T}\right) \tag{6}$$

$$V_{A2} = 1 - V_{A1} = 1 - \frac{(S+C)}{T}\left(1 + \frac{M}{T}ln\frac{M}{M+T}\right) \tag{7}$$

According to formula (6), the partial derivatives of the factors affecting the high-quality training provided by domestic training institutions can be obtained: $\partial V_{A2}/\partial T > 0$, $\partial V_{A2}/\partial M > 0$, $\partial V_{A2}/\partial S < 0$, $\partial V_{A2}/\partial C < 0$.
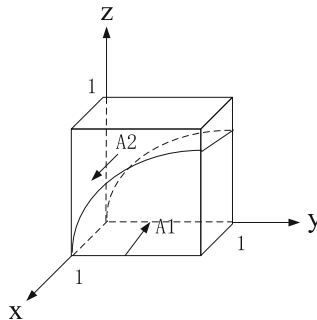

Fig. 1. Probability of strategy selection of housekeeping training institutions (The images are original)

Inference 2: The probability of home economics training institutions providing high-quality training is related to the incentives and punishments of local government departments, the benefits of their own speculative training, and the cost savings of providing different quality training services.

3.2 Domestic Workers

Similarly, the replication dynamic equation F(y) of domestic workers is shown below.

$$F(y) = \frac{dy}{dt} = y(1 - y)(xzH - xzN + zN - E) \tag{8}$$

$$F'(y) = \frac{dF(x)}{dx} = (1 - 2y)[z(xH - xN + N) - E] \tag{9}$$

It can be seen from formula (8) that when $z = \frac{E}{xH-xN+N}$, no matter what value y takes, $F(y) = 0$, the game is in a stable state; when $z \neq \frac{E}{xH-xN+N}$, let $F(y) = 0$, solve "y = 0, y = 1" is two stable points.

According to formula (9), when $z > \frac{E}{x(H-N)+N}$, $F'(y)|_{y=1} < 0$, $F'(y)|_{y=0} > 0$, then $y = 1$ is an evolutionary stability strategy, that is, domestic workers choose to participate in the training strategy; when $z < \frac{E}{x(H-N)+N}$, $F'(y)|_{y=1} > 0$, $F'(y)|_{y=0} < 0$, at this time $y = 0$ is an evolutionary stability strategy, that is, domestic workers choose not to participate in the training strategy.

Inference 3: The strategy choice of domestic workers is related to the probability that local government departments chooses strict supervision strategies, and the probability that domestic training institutions chooses to provide high-quality training strategies.

According to the influence of the local government supervision probability of the strategy selection probability of domestic workers, the evolution diagram of the strategy selection probability of domestic workers can be obtained as shown in Fig. 2: the cross section is $z = \frac{E}{xH-xN+N}$; when $z < \frac{E}{xH-xN+N}$, the volume V_{B1} of the cube B1 area represents the probability that domestic workers do not participate in the training; when $z > \frac{E}{xH-xN+N}$, the cube B2 area The volume V_{B2} represents the probability of domestic workers participating in training.
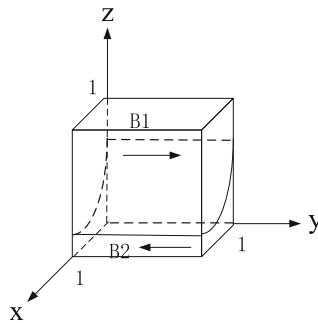

Fig. 2. Probability of strategy selection of domestic workers (The images are original)

$$V_{B2} = \int_0^1 \int_0^1 \frac{E}{xH - xN + N} dxdy = \frac{E}{H - N} ln \frac{H}{N} \tag{10}$$

$$V_{B1} = 1 - V_{A1} = 1 - \frac{E}{H - N} ln \frac{H}{N} \tag{11}$$

According to formula (10), the partial derivatives of the factors affecting the participation of domestic workers in training can be obtained: $\partial V_{B2}/\partial H > 0, \partial V_{B2}/\partial N > 0, \partial V_{B2}/\partial E < 0$.

Inference 4: The probability of domestic workers participating in training is related to their own wage increase after training and the time and cost of training.

3.3 Local Government Department

Similarly, the replication dynamic equation F(z) of local government departments is as follows:

$$F(z) = \frac{dz}{dt} = z(1 - z)(xyR + yM + K - xyM - xK - J) \tag{12}$$

$$F'(z) = (1 - 2z)(xyR + yM + K - xyM - xK - J) \tag{13}$$

It can be seen from formula (12) that when $x = \frac{yM+K-J}{yM+K-yR}$, no matter what the value of z is, $F(z) = 0$, the game is in a stable state; when $x \neq \frac{yM+K-J}{yM+K-yR}$, let $F(z) = 0$, solve "z = 0, z = 1" is two stable points.

According to formula (13), when $x < \frac{yM+K-J}{yM+K-yR}$, $F'(z)|_{z=1} < 0$ $F'(z)|_{z=0} > 0$, this When z = 1, it is an evolutionary stable strategy, that is, the local government department chooses a regulatory strategy; when $x > \frac{yM+K-J}{yM+K-yR}$, $F'(z)|_{z=1} > 0$, $F'(z)|_{z=0} < 0$, at this time, z = 0 is an evolutionary stability strategy, that is, the local government department chooses a loose supervision strategy.

Inference 5: The strategy choices of local government departments are related to the probability that domestic economic training institutions chooses to provide high-quality training, and the probability that domestic economic practitioners chooses to participate in training.

According to the influence of the probability of high-quality training provided by domestic training institutions on the probability of strategy selection of local government departments, the evolution map of strategy selection probability of local government departments can be obtained as shown in Fig. 3: The cross section is $x = \frac{yM+K-J}{yM+K-yR}$; when $x > \frac{yM+K-J}{yM+K-yR}$, the volume V_{C1} of the cube C1 area represents the probability that the local government does not supervise; when $x < \frac{yM+K-J}{yM+K-yR}$, the volume V_{C2} of the cube C2 area represents the probability of strict supervision by local government departments.
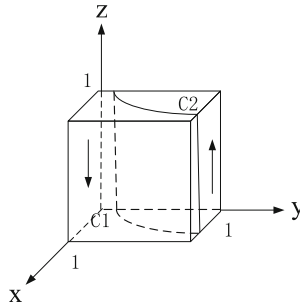
Fig. 3. Probability of strategy selection of local government department (The images are original)

$$V_{C2} = \int_0^1 \int_{\frac{J-K}{M}}^{\frac{J}{R}} \frac{yM + K}{yM + K - yR} dydz + \int_0^1 \int_{\frac{J}{R}}^1 1 dydz \tag{14}$$

$$= \frac{JM + KR - JR}{M - R}\left(\frac{1}{R} - \frac{1}{M - R}ln\frac{M}{R}\right) + 1 - \frac{1}{R}$$

$$V_{C1} = 1 - V_{C1} = \frac{1}{R} - \frac{JM + KR - JR}{M - R}\left(\frac{1}{R} - \frac{1}{M - R}ln\frac{M}{R}\right) \tag{15}$$

According to formula (14), the partial derivatives of the factors affecting the strict supervision of local government departments can be obtained: $\partial V_{C2}/\partial R > 0$, $\partial V_{C2}/\partial M > 0$, $\partial V_{C2}/\partial K > 0$, $\partial V_{C2}/\partial J < 0$.

Inference 6: The probability that local government departments chooses strict supervision is related to the additional social benefits, the amount of fines imposed on domestic training institutions, the amount of service quality loss suffered, and the cost of supervision.

4 Simulation Analysis

This paper uses evolutionary game theory to analyze the stability of the strategic choices of the participants in the government's purchase of housekeeping training services. In order to further to verify the results of evolutionary game analysis and analyze the impact of changes in related factors of the strategic choices of each subject, numerical simulation analysis is carried out. The values are shown in Table 2. According to the above assumptions and replication dynamic equations, using Matlab2016b, the initial strategy values of x, y, and z are fixed at 0.2, 0.4, and 0.8, respectively, and the evolution time t is 30 times. The results are as follows.

Table 2. The values

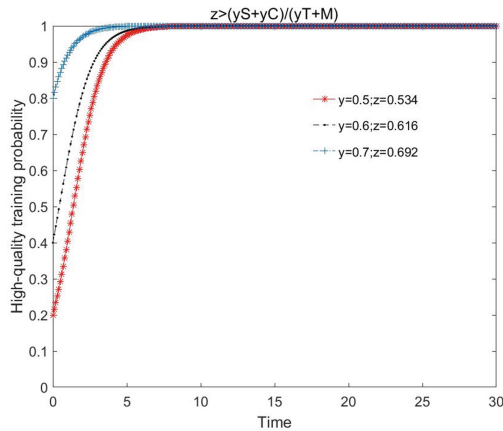| parameter	G	T	C	S	M	E	H	N	J	R	K
values	2400	600	600	1000	1200	200	1000	300	500	600	300

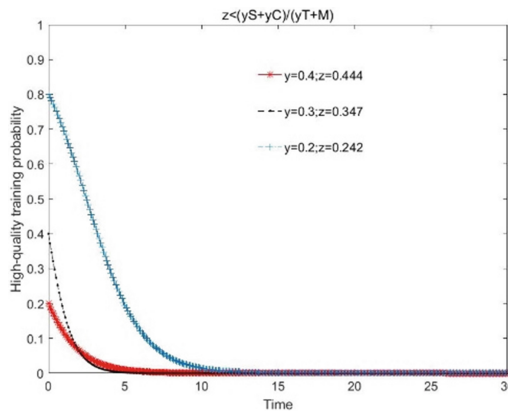**Fig. 4.** High-quality training probability (The images are original)

Fig. 5. High-quality training probability (The images are original)

4.1 Housekeeping Training Institutions

According to the above values, the simulation results of the housekeeping training insti-tution are as shown in Fig. 4 shows that no matter what the initial value of x is, when $z > (yS + yC)/(yT + M)$, with the evolution of time, x gradually approaches $x = 1$; Fig. 5 shows that when $z < (yS + yC)/(yT + M)$, with the evolution of time, x gradually approaches $x = 0$; Fig. 6 shows that within a certain range, with the increase of T and M, x gradually approaches $x = 1$, with the increase in S and C, x gradually approaches $x = 0$..

Conclusion 1: The probability that a home economics training institution chooses a high-quality training strategy is related to the strategy selection probability of the other two parties. When the supervision probability of local government departments is higher than a certain level, in order to establish a good image, no matter what the initial strategy probability value is, housekeeping training institutions will eventually tend to provide high-quality training; when the supervision probability of local government departments is lower than a certain level, Housekeeping training institutions that conduct false training
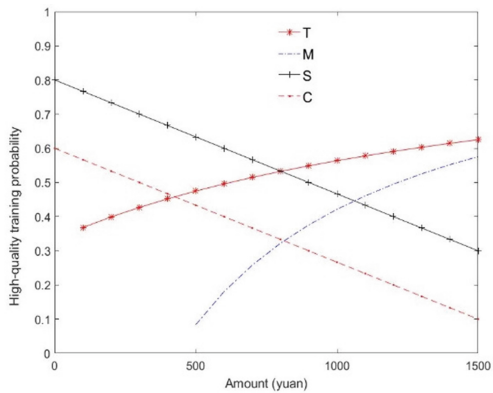
Fig. 6. High-quality training probability (The images are original)
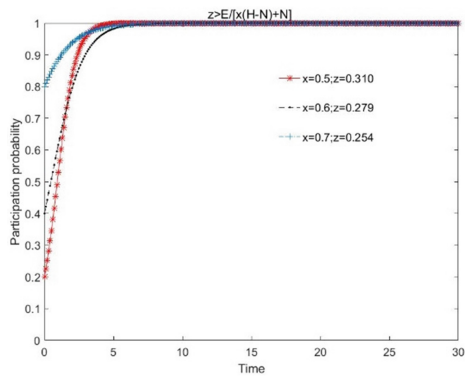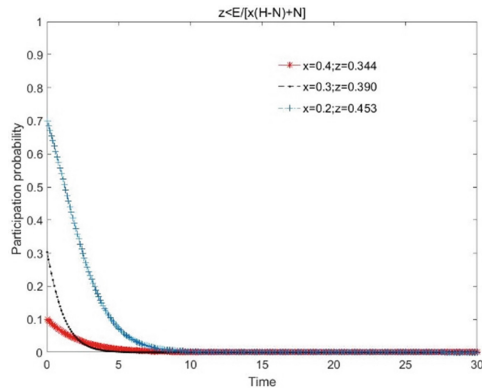

Fig. 7. Participation probability (The images are original)

or illegal training are likely to go unsupervised, and the interests will eventually tend to provide low-quality training.

Conclusion 2: The probability of home economics training institutions providing high-quality training is positively related to the incentives and punishments of local government departments, and negatively related to the benefits of their own speculative training and the cost savings of providing different quality training services.

4.2 Domestic Workers

The simulation results of the domestic workers are as follows.

Figure 7 shows that no matter what the initial value of y is, when $z > E/[x(H - N) + N]$, with the evolution of time, y gradually approaches $y = 1$. Figure 8 shows that when $z < E/[x(H - N) + N]$, with the evolution of time, y gradually approaches $y = 0$. Figure 9 shows that within a certain range, with the increase of H and N, y gradually approaches $y = 1$; with the increase of E, y gradually approaches $y = 0$.

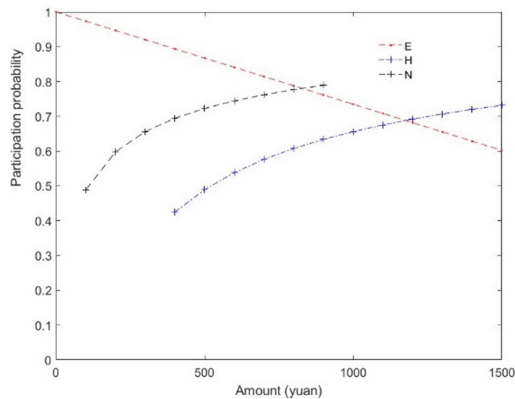**Fig. 8.** Participation probability (The images are original)

Fig. 9. Participation probability (The images are original)

Conclusion 3: The probability that domestic workers chooses to participate in training strategy is related to the strategy choice probability of the other two parties. When the supervision probability of local government departments is higher than a certain level, domestic workers will reduce the negative feedback perception of training and will eventually tend to participate in training; when the supervision probability of local government departments is lower than a certain level, the training quality of domestic workers cannot be guaranteed, will ultimately tend not to participate in training.

Conclusion 4: The probability of domestic workers participating in training is positively correlated with the increase in wages after training provided by domestic training institutions, and is negatively correlated with the cost of their own time.

4.3   Local Government Department

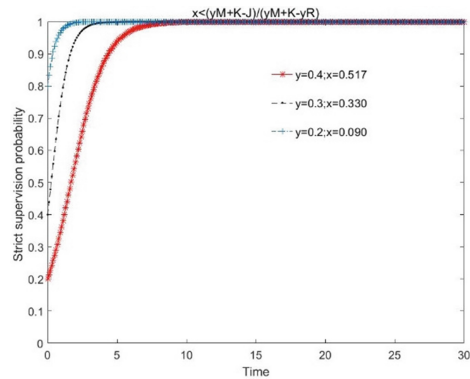The simulation results of the local government department are as shown in Figs. 10, 11 and 12.

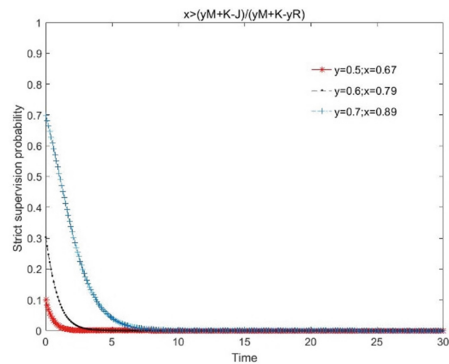**Fig. 10.** Strict supervision probability (The images are original)

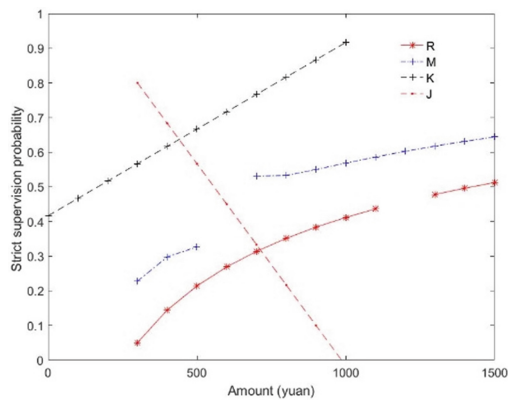**Fig. 11.** Strict supervision probability (The images are original)

Fig. 12. Strict supervision probability (The images are original)

Conclusion 5: The probability that the local government department chooses the strict supervision strategy is related to the strategy choice probability of the other two parties. When the probability of a home economics training institution providing high-quality training is higher than a certain level, local government departments will gradually relax supervision out of their trust in the domestic economics training institution, and eventually tend to not supervising; when the probability of a home economics training institution providing high-quality training When the level is lower than a certain level, in order to reduce the loss of service quality caused by non-supervision, local government departments will increase supervision and eventually tend to be stricter.

Conclusion 6: The probability of strict supervision by local government departments is positively related to the additional social benefits obtained by local government departments, the amount of penalties for low-quality training for domestic economic training institutions, and the loss of service quality suffered by non-supervision, and negatively related to their own supervision costs.

5   Conclusions and Suggestions

From the analysis of the evolutionary game model, it is found that in the process of government purchasing housekeeping training services, local government departments, housekeeping training institutions, and domestic workers influence and restrict each other. Government purchases of services reflects the function of a service-oriented government, but in the actual purchase process, affected by the interests of many parties, the social governance concept of government purchase of services will deviate from the original intention, causing waste of social resources and harming public interests to a certain extent. Therefore, in order to improve the social benefits of government-purchased housekeeping training services and reduce the waste of social resources, promote the more specialized and standardized development of housekeeping training institutions, and ensure the effectiveness of training; In order to better meet the public's demand for high-quality domestic services, the following countermeasures are put forward.

5.1   Optimize the Purchase Process and Improve the Government Supervision System

Establish and improve regulations on government purchases of domestic economic training services. As the main body of the purchase of housekeeping training services, the government should guide and standardize the purchase of housekeeping training services at the macro level, establish and improve the relevant laws and regulations for the purchase of housekeeping training services, and provide legal protection and institutionalized framework of the purchase of housekeeping training services, and actively play the role of strategic guidance and coordination of government policies.

Based on "Internet+", the electronic purchase process is realized. Implement electronic bidding for the whole industry, all regions, and the whole process, simplify the administrative approval process, and reduce ineffective processes, thereby reduces government procurement costs and improving work efficiency.

Mobilize social forces to conduct supervision, mobilize the public and social media to participate in supervision, strengthen the dominant position of public supervision, and establish supervision and feedback channels. In addition, establish an Internet housekeeping training and supervision platform. Government supervision departments give full play to the advantages of "Internet + supervision", and use big data supervision to implement online supervision of the whole process of training in domestic training institutions.

5.2   Standardize the Operation of Domestic Training Institutions

Establish a training demand and feedback mechanism. Government departments should be guided by market demand, establish a market feedback mechanism, and gradually guide consumers to actively participate in the process of government-purchased services. Housekeeping training institutions design training courses based on market demand, and establish feedback channels for trainees.

The government should improve the market accesses mechanism and industry norms for training institutions. Strengthen the institutionalization and internal governance of housekeeping training management to achieve the overall coordinated development of training institutions.

Home economics trainers should develop multi-level training courses of a targeted manner according to the educational level and skills of the trainees, allocate resources reasonably, and cultivate an excellent team of home economics trainers.

5.3   Encourage Active Participation in Domestic Workers

As a dominant force in society, the government can make more people understand the domestic service industry correctly through policy guidance. Domestic service works to require social understanding and deserves respect by all. Home economics education is an important channel to gain social recognition of the home economics profession and to promote the high quality of the home economics industry.

Improve the protection mechanism for the rights of domestic workers, continuously improve the legal protection against the safety rights of domestic workers, vigorously develop employee-based enterprises, pay social insurance and provide benefits of domestic workers, and effectively protect the interests in domestic workers.

References

1. Chen Y, Shou J (2019) Research on the game relationship of government purchasing vocational training services. J Xiangtan Univ (Philos Soc Sci Edn) 43(05):47–52
2. Wang C, Ding D (2019) Research on the quality of human resource supply in Beijing-Tianjin-Hebei housekeeping service from the perspective of supply chain management: Theoretical framework and construction of evaluation index system. Dongyue Lun Cong 40(04):67–75
3. Xie Q, Xu J (2017) Cost-benefit analysis of government purchasing public services. Comparison Econ Soc Syst 04:97–106
4. Xu J (2020) Research on the institutional logic of the vocational training system of home affairs in my country. Shanghai University of Finance and Economics
5. Yang S (2015) Involution tendency and cause analysis of government purchase of services. J. Theory Reform. 03:127–129