Analysis on Features of Agricultural Structure Change and Agricultural Competitiveness in Hubei Province

TANG Jin-hua[1,2]* **, LIN Jian-yong**[1]

1. Department of Geography，East China Normal University，Shanghai 200062，China；2. School of Resources and Environment，Xianning University，Xianning 437100，China

Abstract   The output data of crop farming，forestry，animal husbandry and fishery in the *Hubei Statistical Yearbook −*2009 is used to analyze the features of agricultural structure change in Hubei Province since 1983；according to the relevant data in *Hubei Statistical Yearbook* and *China Statistical Yearbook* in 2005 and 2009，and adopting the shift-share analysis model，the difference in agricultural economic growth between Hubei and other provinces in Central China as well as the difference among the 17 regions of Hubei Province during 2004 −2008 are analyzed. Results show that，the agriculture in Hubei Province shows significant overall advantages in central China and has stronger competitiveness，but its crop farming and fishery structure are not quite reasonable，and the competitive advantages of its fishery and agricultural services still need to be strengthened；the agricultural structure within Hubei Province sees an obvious regional differences，viewed from the total deviation，Huanggang，Jingmen and Yichang enjoy competitive edge in the whole province，from the viewpoint of industrial sectors，Huanggang is the most competitive in its planting，forestry and animal husbandry，while Jingmen is the strongest in fishery and Xiangfan has a competitive edge over others in its agricultural services. Based on those results above，it is proposed that Hubei Province should fully recognize its natural conditions，resources endowment and current differences in the economic status of each places，work out measures to suit local conditions，take full use of its advantages，extend its production chain and go on the development road with regional characteristics.

Key words   Agricultural structure，Competitiveness，Shift-share analysis model，Hubei Province，China

Agriculture lays the foundation for national economy，and agricultural structure mirrors the agricultural development level. Whether an agricultural structure is reasonable or not，directly affects the sustainable and rapid development of regional agricultural economy. And a reasonable agricultural structure is characterized by the optimal allocation of regional agricultural resources，the full exploitation of geographical advantages and the enhancement of the market competitiveness of regional agriculture[1−3]. Covering an area of 185 900 km², Hubei Province is surrounded on the east，west and north sides by mountains，its landscape resembles a dustpan with its open to the south and low land in the center. 80% of its land is covered by mountains while another 20% is plain[4]. In such a place with significant regional diversity，it should establish an agricultural economic structure exerting its own advantages. Taking into account that Hubei is a national agricultural production base and sticking to the paramount of agricultural structure competitiveness，the study adopts the shift-share analysis model to expose the overall efficiency and regional differences of the agri-

cultural structure in this region so as to provide references for the planning and decisions in promoting the regional division and specialized production of Hubei agriculture.

1   The features of agricultural structure change in Hubei Province

With the continuous economic and social development and the gradual improvement of the living standards，people's food consumption structure has changed dramatically. According to the output data of crop farming，planting，forestry，animal husbandry and fishery in *Hubei Statistical Yearbook*-2009[4] and making certain processing about the data，a bar graph about the Hubei agricultural structure change during 1983 −2008 can be obtained（Fig. 1）. As shown in Fig. 1，since 1980s，Hubei Province appropriately adjusts the direction and structure of agricultural development. The change in the structure of agricultural output is characterized by：（1）during 1983 −2008，the proportion of crop farming，forestry，animal husbandry and fishery changes from 77.74：6.92：13.23：2.11 to 50.43：1.7：34.46：13.4. the change rate of agricultural structure is 65.06%，significantly above that of the whole nation 26.12%，which shows that Hubei is above the average national level in its determination to adjust its agricultural structure. （2）The proportion of crop farming shows a fluctuating decrease with a range of 27.31%，forestry decreases by 5.22%，while the proportions of animal husbandry and fishery see a relative large increase respectively by 21.23% and 11.29%. Although the proportion of crop farm-

ing drops, it is still the most important part of agriculture, animal husbandry and fishery show a rapid development momentum. It can be seen that, with the diversification of people's material needs and food consumption, the proportion of crop farming will inevitably fall, while the status of animal husbandry and fishery will get improved. （3）The ratio of crop farming output to the output of forestry, fishery and animal husbandry was gradually narrowing from 3.5 in 1983 to 1.0 in 2008, which proves that the adjusting of Hubei agricultural structure tends to be stabilizing.
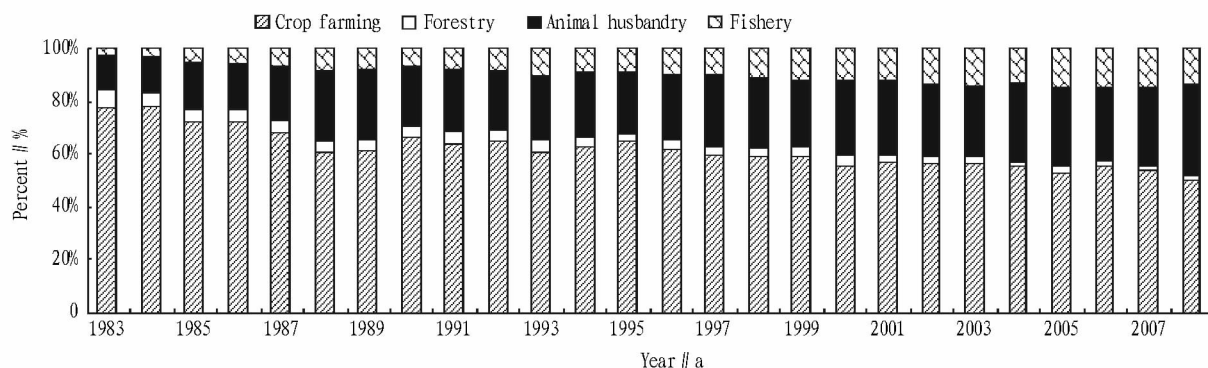

Fig. 1 Agricultural structure change in Hubei Province during 1983 – 2008

2 Research method and data source

2.1 Research method Shift-Share Analysis Method[3] is a method currently widely used in the regional economic research in western countries and focusing on the effectiveness, it breaks the total economic output of a region in a given period down into three components, namely, the growth effect relative to the higher level region N_{ij}, the industrial mix effect P_{ij} and the competitive effect D_{ij}. They are expressed in the following formula：

$$G = N_{ij} + P_{ij} + D_{ij} \qquad (1)$$

In this formula, $N_j = \sum_{i=1}^{n} Y_{ij}^0 \times E^*$; $P_j = \sum_{i=1}^{n} Y_{ij}^0 \times (E_i^* - E^*)$; $D_j = \sum_{i=1}^{n} Y_{ij}^0 \times (Y_{ij}^* - Y_i^*)$; i refers to the NO. i industrial sector of agriculture （$i = 1,2,3,\cdots n$）; Y_{ij}^0 is the NO. j region （$j = 1,2,\cdots m$）; Y_{ij}^0 is the GDP of the NO. i industrial sector in NO. j region during the base period; Y_{ij}^* means the actual GDP growth rate of NO. i industrial department in NO. j region; E^* is the agricultural GDP growth rate of the reference area, E_i^* refers to the GDP growth rate of the industrial sectors in the reference area.

According to the calculation results obtained by the shift-share analysis model, we can make an analysis and judgment of each industrial sector：

N_j is the supposed increment if each industrial sector of the NO. j region is assumed to grow at the rate of the reference area. By comparing this assumed growth rate with the actual growth rate, if it is higher than the actual growth rate, then the total deviation value of this region is positive, otherwise, negative.

P_j represents the difference between the increments of the NO. j region calculated according to the growth rate of the NO. i industrial sector in the reference area and the actual increment achieved at the growth rate of the reference area, which proves that the NO. i industrial sector in this region grows or decreases with the growth and decrease of the NO. i industrial sector in the reference area. $P > 0$ shows that the agricultural structure of this region is better than that of the reference region, and

this region has a reasonable industrial structure which promotes the rapid growth of its economy; on the contrary, if $P < 0$, then the agricultural structure in this region is below the average level of the reference area, which illustrates that its agricultural structure is imbalanced which restricts the development of its economy.

D_j is the difference between the increments of the NO. i industrial sector in NO. j region achieved at the actual growth rate and the increment of the same industrial sector in the reference area, which reflects that, compared with the reference area, this region has the regional advantages or disadvantages in developing the NO. i industry; if the NO. j region has stronger competitiveness than the reference area, then $D_j > 0$; otherwise, $D_j < 0$.

2.2 Data source The research data comes from the *Hubei Statistical Yearbook and China Statistical Yearbook* in 2005 and 2009[4-7].

3 Results and analysis

3.1 The overall benefit of Hubei agriculture in central China According to the shift-share analysis model, the five provinces in Central China are taken as the reference area, 2004 is chosen as the base time period while 2008 is selected as the terminal time or the report year, agriculture is divided into five major sectors, namely, crop farming, forestry, animal husbandry, fishery and agricultural services, and the agricultural GDP is adopted as the measure index, then we can analyze the competitiveness of Hubei agriculture in Central China during this period. According to the original data of each province in Central China gained from the relevant statistical information, and using the formula （1）, we can calculate the shift-share analysis results of the agricultural industrial structure and agricultural industrial sectors in the five provinces of Central China （Table 1 – 2）.

Viewed from the overall derivation situation, as shown in Table 1, during the examination period, in both the increments

and growth rate of its actual increments, regional growth share, industrial mix, the competitive share and the total derivation share, the overall benefit of Hubei agriculture in Central China always ranks the second place, and all values are positive, which shows that the agriculture of Hubei Province enjoys certain superiority and competitiveness. Moreover, only the actual increments of Hunan Province and Hubei Province are above the regional increment, which proves that the agriculture in Hubei Province shows an obvious competitive edge and its agricultural structure has got optimized which could drive the agricultural development of the whole Central China.

Table 1   The shift-share analysis results of agricultural industrial structure in five provinces of central China

Provinces	Actual increment		Regional growth component		Industrial mix component		Competitive component		Total deviation $\times 10^8$ Yuan
	Increment $\times 10^8$ Yuan	Growth rate//%	Increment $\times 10^8$ Yuan	Growth rate//%	Increment $\times 10^8$ Yuan	Growth rate//%	Increment $\times 10^8$ Yuan	Growth rate//%	
Hubei	208.19	0.177	181.88	0.155	0.009	0.000	26.294	0.022	26.303
Hunan	187.24	0.182	159.61	0.155	−2.042	−0.002	29.671	0.029	27.629
Jiangxi	99.43	0.150	102.58	0.155	−0.328	0.000	−2.817	−0.004	−3.146
Anhui	117.00	0.123	147.07	0.155	−0.803	−0.001	−29.267	−0.031	−30.071
Henan	241.49	0.143	262.04	0.155	3.403	0.002	−23.953	−0.014	−20.550

Table 2   The shift-share analysis results of agricultural industrial sectors in five provinces of central China $\times 10^8$ Yuan

Provinces	Crop farming		Forestry		Animal husbandry		Fishery		Agricultural services	
	Industrial mix	Competitive share	Industrial mix	Competitive share	Industrial mix	Competitive share	Industrial mix	Competitive share	Industrial mix	Competitive share
Hubei	−12.07	17.13	1.35	0.19	8.71	11.66	−0.23	−2.67	2.26	−0.02
Hunan	−10.66	1.80	0.33	−0.37	7.21	19.05	−0.41	5.34	1.48	3.85
Jiangxi	−6.21	−10.98	1.11	3.14	3.87	3.88	−0.31	−3.22	1.22	4.37
Anhui	−9.87	−17.40	0.94	−1.96	6.14	−10.84	−0.31	−1.55	2.29	2.49
Henan	−18.09	9.37	0.83	−1.00	14.74	−23.74	−0.06	2.11	5.98	−10.68

To further analyze the derivation situation of each industrial sector in Hubei Province and other provinces in Central China, we can see from Table 2:

(1) So far as the industrial mix effect of crop farming is concerned, Hubei and other provinces all have negative values, which indicate that the structure of crop farming is unreasonable and hampers the development of the regional agriculture to an extent, because the crop farming is always the main body part of the agriculture. As for the competitiveness of crop farming, the output value of crop farming in Hubei Province is 1.713 billion Yuan, far above other four provinces, it shows that the crop farming of Hubei Province still has its competitive edge though with unreasonable structure, which, on the other hand, proves that there is still some potential of the superior agricultural products within the crop farming industry hasn't been fully exploited.

(2) As far as the industrial mix effect of the forestry is concerned, although with the same negative values as other provinces, the value of Hubei Province is much smaller, which shows that the structure of its forestry is more reasonable, however, the competitive effect of Hubei Province is only medium with about 19 000 000 Yuan, just smaller than that of Jiangxi Province, which indicates that the forestry products of Hubei Province have relative stronger competitiveness.

(3) As to the animal husbandry, Hubei Province ranks the second place in both its industrial mix effect and competitive effect, which are all positive. It lays bare that the animal products of Hubei Province show relative stronger competitive advantages.

(4) As for the fishery, Hubei has the negative values in both its industrial mix effect and competitive effect, which shows that the structure of its fishery is unreasonable and its fishery products do not have strong competitive advantages. This is, however, incompatible with its vast water area, whose great power and function hasn't been fully tapped.

(5) So far as the industrial mix effect of agricultural services is concerned, Hubei has the same positive value as other provinces, but its value is centered, which indicates that the structure of its agricultural services is quite reasonable; while the competitive effect of Hubei Province has a negative value, which proves that the agricultural services of Hubei Province does not show strong competitiveness, therefore, Hubei Province should enhance the competence of its agricultural services, actively promote its development and encourage it proceed towards a reasonable direction.

In summary, the agriculture of Hubei Province shows an obvious overall advantages and stronger competiveness in Central China, but the structure of its crop farming and fishery is not quite reasonable, and the competitive advantage of its fishery and agricultural services should be strengthened.

3.2   Analysis on the regional differences in Hubei Province   The shift-share analysis model is still adopted to further analyze the regional differences of the agricultural structure within Hubei Province. Taking the Hubei Province as the reference area and according to the original data, the formula (1) is used to calculate the total amounts change, the industrial mix effect and the competitive effect of each city in Hubei Province during 2004 −2008 (Table 3 −4).

Table 3   The shift-share analysis results of agricultural industrial structure in Hubei Province

Provinces	Actual increment		Regional growth component		Industrial mix component		Competitive component		Total deviation $\times 10^8$ Yuan
	Increment $\times 10^8$ Yuan	Growth rate//%	Increment $\times 10^8$ Yuan	Growth rate//%	Increment $\times 10^8$ Yuan	Growth rate//%	Increment $\times 10^8$ Yuan	Growth rate//%	
Wuhan	10.43	0.101	13.584	0.132	0.200	0.002	−3.357	−0.033	−3.157
Huangshi	3.23	0.113	3.76	0.132	0.245	0.009	−0.782	−0.027	−0.537
Shiyan	5.65	0.160	4.64	0.132	−0.321	−0.009	1.327	0.038	1.006
Jingzhou	14.41	0.111	17.18	0.132	−0.263	−0.002	−2.513	−0.019	−2.776
Yichang	14.47	0.183	10.44	0.132	−0.047	−0.001	4.078	0.052	4.030
Xiangfan	14.42	0.122	15.57	0.132	−1.070	−0.009	−0.087	−0.001	−1.157
Ezhou	4.66	0.206	2.98	0.132	0.740	0.033	0.932	0.041	1.673
Jingmen	12.41	0.156	10.48	0.132	−0.125	−0.002	2.051	0.026	1.927
Xiaogan	10.56	0.118	11.80	0.132	0.794	0.009	−2.043	−0.023	−1.249
Huanggang	20.36	0.183	14.66	0.132	−0.441	−0.004	6.141	0.055	5.701
Xianning	7.70	0.151	6.74	0.132	−0.464	−0.009	1.418	0.028	0.954
Suizhou	5.16	0.103	6.58	0.132	0.159	0.003	−1.585	−0.032	−1.426
Enshizhou	5.31	0.078	9.00	0.132	−0.468	−0.007	−3.222	−0.047	−3.691
Xiantao	2.92	0.088	4.37	0.132	0.595	0.018	−2.046	−0.062	−1.451
Tianmen	4.81	0.174	3.64	0.132	0.095	0.003	1.068	0.039	1.163
Qianjiang	2.44	0.094	3.42	0.132	0.316	0.012	−1.295	−0.050	−0.979
Shennongjia	0.07	0.073	0.12	0.132	−0.002	−0.002	−0.053	−0.057	−0.055

Table 4   The shift-share analysis results of agricultural industrial sectors in Hubei Province $\times 10^8$ Yuan

Provinces	Crop farming		Forestry		Animal husbandry		Fishery		Agricultural services	
	Industrial mix	Competitive share	Industrial mix	Competitive share	Industrial mix	Competitive share	Industrial mix	Competitive share	Industrial mix	Competitive share
Wuhan	−3.8879	0.5548	0.0077	−0.0736	2.2450	−1.4817	1.7348	−2.1371	0.1007	−0.2198
Huangshi	−0.9871	−0.7775	0.0086	−0.1001	0.6290	−0.1604	0.5306	0.3895	0.0641	−0.1337
Shiyan	−1.4590	1.3957	0.0109	−0.0387	0.9801	−0.3147	0.1028	0.3312	0.0445	−0.0468
Jingzhou	−5.1192	−4.2550	0.0112	0.0459	2.2905	0.0022	2.3868	1.7950	0.1674	−0.1013
Yichang	−3.0464	3.3109	0.0130	0.0030	2.5744	0.0848	0.3593	0.6691	0.0523	0.0099
Xiangfan	−4.9366	−0.5789	0.0213	−0.0303	3.2350	1.1755	0.4797	−1.0835	0.1308	0.4298
Ezhou	−0.5762	0.1212	0.0021	−0.0183	0.4975	0.5416	0.8145	0.2831	0.0026	0.0047
Jingmen	−3.0980	0.3256	0.0156	−0.0125	1.7515	1.1900	0.9643	0.6290	0.2420	−0.0810
Xiaogan	−3.1069	−0.3215	0.0183	0.0245	2.6268	−1.0025	1.1249	−0.6904	0.1308	−0.0527
Huanggang	−4.3833	3.1028	0.0316	0.1382	2.4428	2.3917	1.3794	−0.0104	0.0889	0.5189
Xianning	−2.0619	−0.4518	0.0339	0.0270	0.8763	1.7451	0.6315	0.0978	0.0562	−0.0005
Suizhou	−1.8285	0.3114	0.0166	−0.0215	1.5171	−1.4030	0.3544	−0.4544	0.0994	−0.0172
Enshizhou	−2.7742	−0.7517	0.0179	0.0463	2.2243	−2.5332	0.0166	0.0284	0.0471	−0.0121
Xiantao	−1.0500	−0.6701	0.0014	−0.0122	0.5242	−0.2932	1.0240	−0.9287	0.0955	−0.1418
Tianmen	−1.0354	−1.0744	0.0007	0.0014	0.7507	0.8107	0.3123	1.3769	0.0667	−0.0465
Qianjiang	−0.8821	−0.1998	0.0013	0.0242	0.6715	−0.7171	0.4484	−0.2925	0.0772	−0.1100
Shennongjia	−0.0356	−0.0207	0.0005	−0.0032	0.0316	−0.0289	0	0	0.0013	−0.0001

3.2.1   The total deviation. As far as the total deviation is concerned, we can know from Table 3 that:

（1） During 2004 – 2008, the total values of agricultural production in each city increase to varying degrees and their agriculture shows good momentum of development. The absolute quantity of growth in Huanggang is 2.036 billion Yuan, the most among all cities, followed by Yichang, Xiangfan and Jingzhou, Wuhan ranks the seventh place, the last one is the Shennongjia forested area（hereinafter referred to Shennongjia）with only about 7 000 000-Yuan increments; as for the growth rate, Ezhou has the highest growth rate of 0.206% while Shennongjia is the lowest with only 0.073%.

（2） Viewed from the provincial share and total deviation share, the places where the increment of regional share are more than the actual increment include Wuhan, Huangshi,

Jingzhou, Xiangfan, Xiaogan, Suizhou, Enshi, Xiantao, Qianjiang and Shennongjia, and moreover, their total deviation values are negative, which shows that the agricultural growth in these regions is mainly driven by the agricultural increase of the whole province. Meanwhile, the economy of Wuhan, Huangshi and Xiangfan mainly depends on the development of their second and tertiary industry; on account of their natural and geographical limitations, the agricultural economic development of Enshi and Shennongjia is restricted; Xiantao, Qianjiang and Jingzhou are located in the plain of Hanjiang River, their agricultural growth could not keep pace with the agricultural development of the whole province and still needs intensify efforts to adjust. While the increments of the regional share in other seven regions are less than the actual increment, which indicates that the agricultural growth in these areas drives the agricultural

development of the whole Hubei Province.

（3）So far as the industrial mix effect and the competitive effect are concerned, the industrial mix effects of nine regions, including Shiyan, Jingzhou, Yichang, Xiangfan, Jingmen, Huanggang, Xianning, Enshi and Shennongjia are all below zero, which indicates that, compared with the overall level of Hubei Province, in above mentioned regions there are more industrial sectors which develop slowly than those which see a rapid growth, this imbalanced agricultural structure hinders the overall agricultural development level and needs to be adjusted and optimized; while the industrial mix effects of the other eight regions are all above zero, which indicates that they have more industrial sectors which develop fast than those which develop slowly, this shows that the industrial structure in these regions are relatively reasonable and could promote the agricultural economic development of the whole province.

（4）The competitive effect mirrors the competitiveness of regional agriculture. As shown in Table 3, the competitive effect is in a polarized situation, on the one hand, the competitive effects of Yichang, Jingmen, Huanggang and other four regions are bigger positive values, which indicates that the agriculture in these regions has significant competitiveness and could promote the development of regional agricultural economy. But we should note that although with negative industrial mix effect and unreasonable industrial structure, some regions still have strong competitiveness, to be specific, some of their industrial sectors show their advantages; on the other hand, represented by Wuhan, Jingzhou and Xiaogan, their agriculture does not show competitiveness, which may results from the unreasonable agricultural structure (such as Jingzhou in the plain of Jianghan Plain), or affected by their productivity level, management level, investment scale and other factors (such as Xiantao and Qianjiang).

（5）Seen from both the actual increment and the values of each deviation components, the industrial mix effect of Huanggang sees a negative value with relative bigger absolute value （ −0.441）,ranking the 14th place, while its actual growth increment and growth rate respectively rank the first (20.36) and the second (0.183) place, and it has the biggest competitiveness component (6.141), which, to a certain extent, shows that Huanggan hasn't yet optimized the integration of its resources and it still has relative greater development potential and its development should focus on the structural adjustment of each industrial sector; the total increment, regional growth components and structural components of Wuhan all rank the front among all 17 regions, but its agricultural growth rate, competitive effect and total deviation all place the last, which reflects the fact that the agricultural development of Wuhan benefits from its reasonable agricultural industrial structure, but due to its limited agricultural resources, its resources quantity and industrial structure contradictory with each other. Therefore, the agriculture of Wuhan should follow the route of intensive farming on the basis of its current industrial structure and industrial scale, and focus on improving the quality and efficiency of agricultural products and developing urban agriculture.

3.2.2 Internal shift-share analysis. The shift-share analysis within the regional agricultural industrial structure, we can know

from Table 4:

（1）So far as crop farming is concerned, the industrial mix of all regions are all negative, which indicates that the structure of crop farming in the whole province is generally unreasonable, but Wuhan, Shiyan, Yichang, Huanggang and other regions all have relative larger as well as positive competitive effect, which shows that they still have competitive advantages under unreasonable structure of crop farming and they should fully exploit the potential agricultural products within the crop farming.

（2）As far as the industrial mix of forestry is concerned, the values of each region are all positive but too small, which indicates that the structure of forestry is quite reasonable; as for the competitiveness effect, apart from those industrial cities, the values in most regions are positive, among all regions Huanggang has the strongest competitive edge, followed by Enshi.

（3）As animal husbandry and crop farming are opposite to each other, the industrial mix component of each region is above zero. Xiangfan is with the biggest (323.5 million Yuan), Huanggang (244.28 million Yuan) ranks the fourth place, and Wuhan (224.5 million Yuan) ranks the sixth. Viewed from the competitiveness component, Huanggang is with the strongest competitiveness (239.17 million Yuan), followed by Xianning (−253.32 million Yuan), and the weakest are Enshi (−253.32 million Yuan) and Wuhan (−148.17 million Yuan), we can see that Wuhan does not have the advantages in developing dairy industry.

（4）The industrial mix of fishery in all regions are is all positive. Among them Jingzhou is with the biggest (238.68 million Yuan), followed by Wuhan (173.48 million Yuan) and then Huanggang (137.94 million Yuan). This is because that the Yangtze River flows through these regions, but from the perspective of competitiveness, Jingzhou still holds the first place, followed by Tianmen, while Wuhan places the last and its value is negative, all these above show that the structure and competitiveness of fishery in Jingzhou are stronger than any other cities of the province, while Wuhan does not have many fast-growing aquatic products.

（5）As for the industrial mix of agricultural service, all regions saw positive values, the largest of which is Jingmen (24.2 million Yuan), indicating that Jingmen has a reasonable service structure, but the value is slightly smaller, which declares that the agricultural services of Hubei Province still have its development potential unexploited and it should put great efforts to promote it develop towards a reasonable direction. As for the competitiveness component, Huanggang (51.89 million Yuan) ranks the first, followed by Xiangfan (42.98 million Yuan), and Wuhan ranks the last (21.98 million Yuan).

In summary, there are significant regional differences of the agricultural structure within Hubei Province, viewed from the total derivation, Huanggang, Jingmen and Yichang show competitive advantages over others in the province, from the perspective of industrial sectors, the crop farming, forestry and animal husbandry in Huanggang are the strongest, while the fishery in Jingzhou is the most competitive and Xiangfan has the most competitive agricultural services. We can conclude

from the predominance distribution of the competitive effect of crop farming, forestry, animal husbandry and fishery that the agricultural development of a region is inseparable from the full play of its resources advantages.

4 Conclusion and suggestions

4.1 Conclusion After the analysis on the agricultural structure change and agricultural competitiveness, we can conclude that:

(1) Since 1983, the weight of the crop farming in Hubei Province experienced fluctuating reduce, and the animal husbandry and fishery saw continuous increase, the status of animal husbandry and fishery got further strengthened, the weight of the output values of crop farming, forestry, fishery and animal husbandry become gradually less, and the adjustment of agricultural structure in Hubei Province tends to stabilize.

(2) Compared with other four provinces in Central China, Hubei has relative more competitive agriculture, but the structure of crop farming and fishery is unreasonable, the competitiveness of fishery and agricultural services is in an inferior position.

(3) The agricultural industrial structure in nearly half of 17 regions in Hubei Province is unreasonable, the agriculture in over half of the regions are not competitive, their development falls behind the average level of the whole province and hinders the regional economic development, the crop farming and animal husbandry in each region need to be further adjusted, their forestry does not show significant development and hasn't taken full use of its advantages with 4/5 mountainous areas. The agricultural services in each region have low efficiency and are still at a low level.

4.2 Suggestions Through the analysis, I think that, the further development focus and adjustment orientation of the agriculture in Hubei Province should be based on its natural conditions, resources endowment and current differences in the economic status of each places, Hubei should work out measures to suit local conditions, take full use of its advantages, extend its production chain and go on the development road with regional characteristics. For example, in regions with vast water area, we should improve the fish production, optimize the culture structure and enhance the competitiveness of aquatic prod-

ucts brands; in those mountainous areas, in addition to protect the ecological environment, we should also conduct comprehensive development of the mountains, and develop economic forest and fruits as well as herbivorous livestock and poultry and other characteristic industries; while in those plain regions, in the premise of ensuring food production, we should further optimize the planting structure and crop varieties, and improve the competitiveness of agricultural products.

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developed areas, such as Shanghai, Beijing and Guandong, have relatively high expenditure in information. When farmers grasp more information, phenomenon of " Cheap Grain Harms the Farmers" can be reduced and farmers can take their advantages in participating in the market competition.

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