Research on sports industry financing of China

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I. BACKGROUND OF THE STUDY

Now sports industry is a wide-reaching business that spans the field of play--from the food, apparel and memorabilia, to sponsorships and media rights. And at present, sports industry has been brought into tertiary industry in most countries in the world and even has been taken as the pillar industry and a new economic growth point in some countries in the 21st century. The output value of which has been in the top ten and account for 1.5%-3% of GDP. For example, American sports industry had become the 11th largest industry in the United State in the mid-1990s, and the value added accounted for 2% of GDP. By 2012, the value added of American sports industry was up to 435 billion US dollars, accounted for 2.59% of GDP.

In China, since 1980, due to the increasing development of economy, the rising living standard and spare time increase the demand of sports, sports industry gradually germinated and produced. And along with the successful hosting of the 2008 Olympic Games in Beijing, Chinese sports industry developed rapidly that make sit an important force which promotes social and economic progress in regions. Statistics show, in 2014, the value added of Chinese sports industry reached 404.1 billion yuan, accounted for just 0.64% of GDP. But theoretical studies found that although the achievements of Chinese sports industry is huge and proud, it should not ignore the various problems arising in the process of sports industry development.

Therefore, the paper make a serious survey and analysis of sports industry financing from 1992 to 2015 by CNKI database retrieval system of China, and find that so far, many scholars focus attention on the basic theory research of sports industry, such as its current situation, the problems existing in the process of its development, sports industry financing channels, and so on. While the research results about systematically and empirically analyzing the financing environment, financing subject, financing channels of sports industry, the subjects that how to solve the financing predicament, how to break through sports industry at last should attract the attention of the administers of sports administrative department, the managers of sports enterprises, and related scholars.

II. RESEARCH DESIGN AND METHODOLOGY

2.1 Respondent

The research aims to investigate the development status of sports industry financing, finds the problems in the process of sports industry financing, solves the financing difficulties, and ultimately improves the financing efficiency and provides financial support for promoting the healthy development of sports industry in China. Therefore according to above research aims, the respondents mainly consist of three groups as follows:

- (1) The managers and general staff of sports enterprises.
- (2) The managers and general staff of sports administration departments.
- (3) The relevant scholars engaged in research on sports industry and financing.

2.2 Investigation tools

(1) Design of questionnaire

This study adopts questionnaire survey method. The questionnaire contains three parts: (1) In the first part, questions to measure the cognition of respondents to sports industry financing. (2) The second content, the main part of the questionnaire, includes forty-eight questions related to financing environment, financing channels, financing subjects, financing capacity, and financing efficiency of sports industry. (3) In the third part, the questionnaire also sets up some basic questions involving the respondents' background, such as respondents' gender, department and so on.

(2) Reliability and Validity test of questionnaire

Validity test: In order to guarantee the validity of the questionnaire and to study effectively, we invited six relevant experts and scholars to evaluate the validity after finishing the questionnaire. And the result showed that the design of the questionnaire had high effectiveness and could fully and clearly reflect the investigation content.

2.3 Investigation implementation

In order to ensure the rationality and scientific of investigation, the study firstly conducted small sample survey (30 respondents) by using the second questionnaire which has been modified by the experts. And then the study re-modified the structure, contents, and statements of the questionnaire. And at last, the study began to officially launch issuing questionnaires.

Specifically, from July 1, 2016 to July 31, 2016, the questionnaires were mainly distributed in three cities of China—Beijing, Tianjin and Shanghai. Altogether 420 questionnaires were sent out and 402 valid questionnaires were returned. The response rate was 93%, which meant it can effectively meet the needs of analysis and research.

2.4 Data processing methods

(1) Qualitative data

First of all, in this study, related literatures were obtained mainly through searching CNKI (China National Knowledge Infrastructure), Riss (Research Information Sharing Service, Korea), and google. And in the aspect of qualitative data processing, induction and deduction, comparison and analogy, analysis and synthesis methods were used to scientifically and comprehensively evaluate and analyze the related concepts, theories and literature.

(2) Quantitative data

SPSS22.0 for Windows and AMOS22.0 for Windows were used. And specifically, major analysis methods included frequency analysis, descriptive statistics analysis, reliability analysis, factor analysis, correlation analysis, and path analysis (see Table 2-1).

First, the purpose of using frequency analysis is to understand the respondents' demographic characteristics and ensure the comprehensiveness rationality of the sample. Second, and at the same time, the descriptive statistics analysis is used to understand the basic characteristics of measured variables. Third, the purpose of using reliability is to ensure indexes variables' degree of consistency. And in the study, Cronbach's Alpha (internal reliability coefficient) is used to measure whether the questionnaire is reliable and can be confidently used to evaluate research contents. Fourth, the purpose of using confirmatory factor analysis is to evaluate the structure validity of the questionnaire once again through measuring conceptual model's fitting degree. Fifth, in order to understand the relationship between the variables (financing environment, financing channels, financing subjects, financing capacity, and financing efficiency), the study conducted correlation analysis. Sixth, path analysis was performed to test the conceptual model and investigate.

	Analytical contents	Analysis method	
Fundamental analysis	The composition of sample	Frequency analysis	
	The characteristics of variables	Descriptive statistics	
		analysis	
	The validity of variables	Factor analysis	
	The correlation of variables	Correlation analysis	
Hypothesis testing	The hypothesis testing of conceptual model	Path analysis	

Table 2-1 Statistical analysis method

III. STATISTICAL RESULTS

3.1 Exploratory factor analysis

3.1.1 Reliability analysis

Reliability measures were firstly conducted on all variables in the questionnaires. And the internal reliability coefficients (Cronbach's Alpha) of questionnaires is 0.969, therefore the questionnaire is highly believable and can be used to evaluate research contents for the reason that the internal reliability coefficients is over 0.8 (Table 3-1).

Table 3-1 Reliability Statistics

	Cronbach's Alpha	N of Items	N of effective questionnaires
Sports industry financing in China	0.969	47	201

3.1.2 Exploratory factor analysis (EFA)

(1) Financing environment

First of all, the first step of exploratory factor analysis is to evaluate whether the questionnaires' survey results is suitable for making factor analysis or not by means of Kaiser-Meyer-Olkin(KMO) Measure and Barlett Test of Sphericity.

In this study, as shown in Table 3-2, the statistic result showed that the KMO value of 20 items was 0.810, over 0.8, which meant that it was suitable for exploratory factor analysis; and the BTS value was 0.000, less than 0.001, which further meant that it was suitable for exploratory factor analysis.

KMO and Bartlett'sTest						
Kaiser-Meyer-Olkin Measure of Sampling Adequacy810						
Bartlett's Test of	Approx. Chi-Square	2314.364				
	df	190				
Sphericity	Sig.	.000				

Table 3-2 KMO and Bartlett's Test (Financing Environment)

The second step in the process of exploratory factor analysis is to extract common factors. As shown in the Table3-3, the eigenvalue and factor numbers were presented in the table labeled Total Variance Explained. And by means of Principal Component Extraction and Variance Notation, the statistic results revealed six main factors that explained over 71.399% of the total variance with each main factor's eigenvalue greater than 1.00.

	Initial Figenvalues			Extraction Sums of			Rotation Sums of		
Compone	1111	liai Eigen	values	Sq	uared Loa	dings	Sq	uared Loa	dings
nt	Total	% of Varian ce	Cumulati ve %	Total	% of Varian ce	Cumulati ve %	Total	% of Varian ce	Cumulati ve %
1	6.562	32.808	32.808	6.562	32.808	32.808	3.182	15.911	15.911
2	2.053	10.263	43.071	2.053	10.263	43.071	2.509	12.545	28.457
3	1.747	8.736	51.808	1.747	8.736	51.808	2.368	11.842	40.298
4	1.631	8.154	59.961	1.631	8.154	59.961	2.364	11.820	52.119
5	1.287	6.433	66.394	1.287	6.433	66.394	2.192	10.958	63.077
6	1.055	5.275	71.669	1.055	5.275	71.669	1.719	8.593	71.669

Table 3-3 Eigenvalues and total variance explained (Financing Environment)

The third step in the process of exploratory factor analysis is to make sure the items of the six main factors and rename them. On the basis of factor loading, and by observing the characteristics of the factors, the study determined the items of the six main factors and renamed them. Specifically, the six main factors respectively were as follows:

Factor one, sports industry environment (AA1) included six items; factor two, financing policies of sports industry (AA2) included four items; factor three, macroeconomic environment (AA3) included three items; factor four, politics environment of sports industry (AA4) included three items; factor five, financial environment (AA5) included three items; factors six, Legal environment of sports industry (AA6) included five items (Please see Table 3-4).

Table 3-4 M	lain factor's	contents l	oad	capacity	and	names	(Finand	cing	Environment)
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Items	Contents	Load	Main Factor		
A12	The value added of sports industry	.760			
A14	Sports industry structure	.709			
A16	Sports population	.703			
A17	Residents' spending on culture and entertainment	.696	AA1 Sports industry		
A15	Public finance expenditure on sports industry	.642	environment		
A13	The proportion of the value added of sports industry in GDP	.615			
A5	Tax exemption policies related to sports industry financing	.922	A A 2		
A4	Preferential tax rate policies related to sports industry financing	.915	Financing policies		
A6	Tax returns policies related to sports industry financing	.621	of sports industry		
A3	China's per capita disposable income	.823	AA3		
A2	China's Real GDP per capita	.821	Macroeconomic		
A1	China's GDP	.819	environment		
A11	The reform of management system of sports industry	.833	AA4 Politics		
A7	Government work attitude	.789	environment of		
A8	Government work efficiency	.774	sports industry		
A19	The construction of financial platform	.823	AA5		
A20	The development of financial market	.799	Financial		
A18	The financial institutions	.747	environment		
A9	Relevant laws are soundness	.882	AA6		
A10	Relevant laws are fairness	809	Legal environment of sports industry		

(2) Financing channels

First of all, as shown in the Table4-8, the KMO value was 0.889, over 0.8, which meant that it was suitable for exploratory factor analysis; and the BTS value was 0.000, less than 0.001, which further meant that it was suitable for exploratory factor analysis.

KMO and Bartlett'sTest					
Kaiser-Meyer-Olkin Measure of Sampling Adequacy889					
Bartlett's Test of	Bartlett's Test of Approx. Chi-Square				
	df	21			
Sphericity	Sig.	.000			

Table 3-5 KMO and Bartlett's Test (Financing Channels)

In the second step of the exploratory factor analysis, the main factors, the main factors' eigenvalue and the variance contribution rate were calculated. And it can be seen from the Table4-9 that by means of principal component extraction and varimax rotation, only one main factor which could accounted for 68.610% of the total variance was extracted from the original data.

Commonweat	In	itial Eigenvalu	ies	R	otation Sums quared Loadin	of gs
Component To	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.803	68.610	68.610	4.803	68.610	68.610

Table 3-6 Eigenvalues and total variance explained (Financing Channels)

For the reason that there was only one main factor was extracted from the original data. Therefore, in the third step, it just needed to make sure the items on the basis of loading. And it can be seen from the Table 3-7 that the load capacity of the seventh measurement index (issuing bonds) was only 0.409, below 0.5. Therefore, the study decided to delete this factor. And as last, the main factor of financing channels should include six measurement indexes (B1, B2, B3, B6, B5, and B4).

Component	Contents	Load
B1	Sports enterprise's own funds	.924
B2	National finance capital	.916
B3	Bank loan	.907
B6	Issuing stocks	.891
B5	Other enterprises' funds	.836
B4	non-bank financial intermediaries	.793
B7	Issuing bonds	.409

Table 3-7 Factor's contents load capacity (Financing Channels)

(3) Financing subjects

First of all, as shown in the Table4-11, the KMO value was 0.864, over 0.8, which meant that it was suitable for exploratory factor analysis; and the BTS value was 0.000, less than 0.001, which further meant that it was suitable for exploratory factor analysis.

KMO and Bartlett'sTest					
Kaiser-Meyer-Olkin Measure of Sampling Adequacy864					
Bartlett's Test of	Approx. Chi-Square	850.664			
	df	10			
Sphericity	Sig.	.000			

Table 3-8 KMO and Bartlett'sTest (Financing Subjects)

In the second step of the exploratory factor analysis, the main factors, the main factors' eigenvalue and the variance contribution rate were calculated. And it can be seen from Table 3-9 that by means of principal component extraction and varimax rotation, only one main factor which could accounted for 79.328% of the total variance was extracted from the original data.

	Ini	tial Eigenvalı	165	Rotation Sums of		
Component		itiai Eigenvait		Squared Loadings		
1	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.966	79.328	79.328	3.966	79.328	79.328

Table 3-9 Eigenvalues and total variance explained (Financing Subjects)

It can be seen form the Table 3-10 that there was only one main factor was extracted from the original data. Therefore, in the third step, it just needed to make sure the items on the basis of loading. And it can be seen from the Table 4-13 that the load capacities of the first four measurement indexes were all greater than 0.9, which indicates that the first four measurement indexes were more meaningful and must be accepted. And the load capacity of the fifth measurement index was 0.783, almost approximating 0.8, therefore the fifth measurement include five measurement indexes (C4, C5, C2, C3, and C1).

Component	Contents	Load
C4	Sports enterprises' development status	.927
C5	Investment prospective proceeds	.918
C2	The proportion of fixed assets	.912
C3	The proportion of current assets	.906
C1	Large sports enterprises	.783

Table 3-10 Factor's contents load capacity (Financing Subjects)

(4) Financing capacity

First of all, as shown in the Table 3-11, the KMO value was 0.863, over 0.8, which meant that it was suitable for exploratory factor analysis; and the BTS value was 0.000, less than 0.001, which further meant that it was suitable for exploratory factor analysis.

Table 3-11 KMO and Bartlett'sTest (Financing Capacity)

KMO and Bartlett'sTest								
Kaiser-Meyer-Olkin Measure of Sampling Adequacy863								
Bartlett's Test of	Approx. Chi-Square	2362.164						
	df	45						
Sphericity	Sig.	.000						

In the second step of the exploratory factor analysis, the main factor, the main factor's eigenvalue and the variance contribution rate were calculated. And it can be seen from the Table 3-12 that by means of principal component extraction and varimax rotation, only one main factor which could accounted for 70.246% of the total variance was extracted from the original data.

Component	Ini	itial Eigenvalı	ies	Rotation Sums of			
	111	itiai Eigenvait		Squared Loadings			
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	
1	7.025	70.246	70.246	7.025	70.246	70.246	

Table 3-12 Eigenvalues and total variance explained (Financing Capacity)

In the third step, it can be seen from the Table 3-13 that the load capacities of the first five measurement indexes were all greater than 0.9, which indicates that the first four measurement indexes were more meaningful and must be accepted. And the load capacities of the sixth to the ninth measurement indexed were respectively 0.866, 0.806, 0.756, 0.728, which indicated that the four measurement indexes can be accepted. But the result showed that the load capacity of the last measurement index was only 0.393, so the study decided to delete it. And at last, the main factor of financing capacity should include nine measurement indexes (D1, D8, D9, D2, D3, D6, D7, D4 and D10).

Component	Contents	Load
D1	Short-term debt-paying ability	.941
D8	Sales increase	.940
D9	Rate of capital accumulation	.934
D2	Long-term debt-paying ability	.933
D3	Current assets turnover	.926
D6	Return on sales	.866
D7	Profit rate of asset	.806
D4	Fixed asset turnover	.756
D10	Total assets growth rate	.728
D5	Current assets turnover	.390

Table 3-13 Factor's contents load capacity (Financing Capacity)

(5) Financing efficiency

First of all, as shown in the Table 3-14, the KMO value was 0.796, almost approximating 0.8, which meant that it was suitable for exploratory factor analysis; and the BTS value was 0.000, less than 0.001, which further meant that it was suitable for exploratory factor analysis.

KMO and Bartlett'sTest									
Kaiser-Meyer-Olkin Measure of Sampling Adequacy796									
Bartlett's Test of	Approx. Chi-Square	501.995							
	df	10							
Sphericity	Sig.	.000							

Table 3-14 KMO and Bartlett's Test (Financing efficiency)

In the second step of the exploratory factor analysis, the main factor, the main factor's eigenvalue and the variance contribution rate were calculated. And it can be seen from the Table 3-15 that by means of principal component extraction and varimax rotation, only one main factor which could accounted for 66.298% of the total variance was extracted from the original data.

Component	In	itial Eigenvalu	ies	Rotation Sums of			
		e		Squared Loadings			
	TT (1	% of	Cumulative	Tatal	% of	Cumulative	
	Total	Variance	%	Total	Variance	%	
1	3.315	66.298	66.298	3.315	66.298	66.298	

Table 3-15 Eigenvalues and total variance explained (Financing efficiency)

And it can be seen from the Table 3-16 that the load capacities of the first three measurement indexes were all greater than 0.8, which indicates that the first four measurement indexes were more meaningful and should be accepted. And the load capacity of the last two measurement index were 0.781 and 0.748, greater than 0.6, therefore the last two measurement index can be accepted. Therefore, on the whole, the main factor of financing efficiency should include five measurement indexes (E2, E1, E5, E3, and E4).

Table 3-16 Factor's contents load capacity (Financing efficiency)

Component	Contents	Load
E2	Capital cost	.879
E1	Financial charges	.835
E5	Financing speed	.823
E3	Fund utilization rate	.781
E4	Rate of return on capital	.748

3.1.3 Confirmatory factor analysis (CFA)

In statistics, confirmatory factor analysis (CFA) is a special form of factor analysis, which is used to test whether measures of a construct are consistent with a researcher's understanding of the nature of that construct (or factor).

(1) The statistical results of preliminary fit and overall model fit

		N	X ²	р	CMIN /DF	RMR	GFI	AGFI	CFI	NFI	IFI	RMSEA
111	Beginning	6	69.893	0.000	7.766	0.044	0.905	0.778	0.940	0.932	0.941	0.184
пі	End	5	8.965	0.110	1.793	0.014	0.983	0.950	0.995	0.990	0.995	0.063
112	Beginning	6	131.745	0.000	14.638	0.094	0.831	0.606	0.869	0.862	0.870	0.261
п2	End	4	2.699	0.259	1.350	0.011	0.993	0.966	0.999	0.996	0.999	0.042
112	Beginning	5	25.156	0.000	5.031	0.029	0.951	0.852	0.976	0.971	0.976	0.142
пз	End	4	2.246	0.325	1.123	0.008	0.995	0.973	1.000	0.997	1.000	0.025
114	Beginning	9	113.495	0.000	4.204	0.076	0.896	0.827	0.931	0.912	0.932	0.127
H4	End	4	4.464	0.485	0.893	0.012	0.991	0.973	1.000	0.994	1.001	0.000
H5	Beginning	5	44.263	0.000	8.853	0.047	0.921	0.764	0.939	0.932	0.939	0.198
	End	4	4.089	0.129	2.044	0.013	0.990	0.952	0.996	0.992	0.996	0.072

Table 3-17 The results of confirmatory factor analysis

Note: financing environment (H1), financing channels (H2), financing subjects (H3), financing capacity (H4)

(2) The statistical results of the fit of internal structural model

In addition to the information available in the path diagram, the output also displays standard errors, critical ratios (estimate/standard error), and p-values for the regression weights.

It can be seen from Table 3-18 that for each conceptual variable, there is one variable (AA1, B1, C1, D1, and K1), which has no p-value, is listed because it was constrained to one. And three stars (***) mean that the p-value is less than 0.001 and at the same time mean that the corresponding observed variables are significantly different from zero.

Table 3-18 The statistical results of the fit of internal structural model

Factors	Items	Standard Loading	S.E.	t	р	CR	AVE	Cronbach'a
	AA1	0.812	_	_	_			
	AA2	0.928	0.071	16.385	***		0.754	0.938
H1	AA3	0.880	0.074	15.109	***	0.939		
	AA4	0.851	0.075	14.372	***			
	AA5	0.867	0.077	14.763	***			
	B1	0.907	_	—	_			0.924
112	B2	0.900	0.058	19.138	***	0.025	0.756	
H2	B3	0.834	0.060	16.368	***	0.925	0.756	
	B6	0.834	0.061	16.340	***			

	C1	0.849	—	—	-			
112	C2	0.943	0.060	18.641	***	0.028	0.790	0.027
пэ	C3	0.904	0.060	17.314	***	0.938		0.937
	C5	0.857	0.064	15.713	***			
	D1	0.818	_	_	_			0.931
	D2	0.896	0.074	15.568	***	0.931	0.731	
H4	D3	0.879	0.079	15.117	***			
	D8	0.840	0.076	14.134	***			
	D9	0.838	0.075	14.077	***			
	K1	0.830	-	-	-			
Н5	K3	0.839	0.076	13.837	***	0.005	0 705	0.004
	K4	0.822	0.073	13.461	***	0.903	0.703	0.904
	K5	0.866	0.068	14.452	***	1		

3.1.4 Path analysis

(1) Path model construction

The purpose of proposing the path analysis model is to effectively evaluate the development status of sports industry financing in China from five aspects - sports industry financing environment, sports industry financing channels, sports industry financing subjects, sports enterprises' financing capacity and financing efficiency, and then find the existing problems and propose corresponding countermeasures (Please see Figure 3-1).



Figure 3-1 Path analysis model

(2) Path hypothesis

As shown in figure 4-1, the study made the path hypothesis as follows:

- H1-2: Financing environment has positive impact on financing channels.
- H1-3: Financing environment has positive impact on financing subjects.
- H1-4: Financing environment has positive impact on financing capacity.
- H2-3: Financing channels has positive impact on financing subjects.
- H2-4: Financing channels has positive impact on financing capacity.
- H2-5: Financing channels has positive impact on financing efficiency.
- H3-4: Financing subjects has positive impact on financing capacity.
- H3-5: Financing subjects has positive impact on financing efficiency.
- H4-5: Financing capacity has positive impact on financing efficiency.

(3) Path analysis model fit

As shown in Table 3-18, after modification the path model was accepted with the following parameters:

P=0.117, CMIN/DF=2.454, RMR=0.008, GFI=0.995, AGFI=0.927, CFI=0.998, NFI=0.996, IFI=0.998, RMSEA=0.085

Goodness-of-f it indices	Before modification		Fit criteria	After modification		
CMIN/p	0.006	Poor fit	p>0.05	0.117	good fit	
CMIN/DF	5.049	good fit	Greater than 2	2.454	good fit	
RMR	0.021	good fit	Less than 0.05	0.008	good fit	
GFI	0.981	good fit	Greater than 0.9	0.995	good fit	
AGFI	0.854	Poor fit	Greater than 0.9	0.927	good fit	
CFI	0.987	good fit	Greater than 0.9	0.998	good fit	
NFI	0.985	good fit	Greater than 0.9	0.996	good fit	
IFI	0.988	good fit	Greater than 0.9	0.998	good fit	
			Less than 0.05: good fit			
RMSEA	0.142	Poor fit	0.05 to 0.08: reasonable fit	0.085	medipere	
			0.08 to 0.1: mediocre fit			

Table 3-18 Goodness-of-fit of the path analysis model

(4) The estimation of path coefficient

In Figure 3-2, it now displays the standardized regression weights (factor loadings) for each of the conceptual variables.



Figure 3-2 The path diagram after modification

Hypothes is		Path		Regressio n weights	Standardi zed regression weights	t	Accept or Delete
H1-2	Financing environment	→	Financing channels	0.776	0.749	15.998***	Accept
H1-3	Financing environment	→	Financing subjects	0.636	0.646	10.131***	Accept
H1-4	Financing environment	→	Financing capacity	0.343	0.339	3.543***	Accept
H2-3	Financing channels	→	Financing subjects	0.186	0.195	3.063	Delete
H2-4	Financing channels	→	Financing capacity	0.186	0.190	3.063	Delete
H2-5	Financing channels	→	Financing efficiency	0.395	0.431	6.297***	Accept
H3-4	Financing subjects	→	Financing capacity	0.275	0.268	3.222	Delete
Н3-5	Financing subjects	→	Financing efficiency	0.116	0.120	1.564	Delete
H4-5	Financing capacity	\rightarrow	Financing efficiency	0.253	0.269	4.109***	Accept

Table 3-19 The results of path analysis model after modification

IV. CONCLUSION

The research aims to investigate the development status of sports industry financing, finds the problems in the process of sports industry financing, solves the financing difficulties, and ultimately improves the financing efficiency and provides financial support for promoting the healthy development of sports industry in China. Using qualitative and quantitative methods, such as the literature material law, questionnaire survey method, mathematical statistics, through comprehensive analysis and studies, we draw the following conclusions:

(1) Exploratory factor analysis showed that: the main factor of financing environment included five measurement indexes (AA1, AA2, AA3, AA4, and AA5); the main factor of financing channels should include six measurement indexes (B1, B2, B3, B6, B5, and B4); the main factor of financing subjects should include five measurement indexes (C4, C5, C2, C3, and C1); the main factor of financing capacity should include nine measurement indexes (D1, D8, D9, D2, D3, D6, D7, D4 and D10); the main factor of financing efficiency should include five measurement indexes (E2, E1, E5, E3, and E4).

(2) Confirmatory factor analysis (CFA) showed that: financing environment included five measurement indexes (AA1, AA2, AA3, AA4, and AA5); financing channels should include four measurement indexes (B1, B2, B3, B6); the main factor of financing subjects should include four measurement indexes (C1,C2, C3, C5); financing capacity should include five measurement indexes (D1, D2, D3, D8, D9); the main factor of financing efficiency should include five measurement indexes (E1, E3,E4, E5).

(3) Path analysis showed that:

- H1-2: Financing environment has positive impact on financing channels.
- H1-3: Financing environment has positive impact on financing subjects.
- H1-4: Financing environment has positive impact on financing capacity.
- H2-5: Financing channels has positive impact on financing efficiency.
- H4-5: Financing capacity has positive impact on financing efficiency.

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